

# IT Special Catalog

Networking and Data Centers



**knürr**  
environments for electronics



■ **Welcome to the catalog.**

This special catalog will help you with your selection and make it easy to pinpoint those products that you really need to meet your requirements in the data center, server and network technology area.

Knürr designs, produces and integrates standardised and customised rack systems, enclosures, thermal management and power supply systems, and applied components and technical furniture systems.

## Data Center Competence



- **0.3 CoolTherm®**
- **0.7 CoolAdd®**
- **0.11 CoolTrans®**
- **0.15 PowerTrans®**
- **0.15 Cold Aisle Containment**

## 19" Rack

# 1



- **1.3 Miracel<sup>PLUS</sup>® Heavy Duty Server Rack**  
Strong points  
Products and accessories
- **1.9 Miracel® Server Rack**  
Strong points  
Products and accessories



- **1.23 Miracel® Network Rack**  
Strong points  
Products and accessories
- **1.65 Miracel® EMC Solutions**  
Strong points  
Products and accessories

## 19" Compact Rack

# 2



- **2.1 Smaract® Compact Rack**  
Strong points  
Products  
Accessories
- **2.7 Smaract® Server Rack**  
Products  
Accessories

## Socket Strips

# 7



- **7.1 DI-STRIP®**  
Strong points  
Products
- **7.6 TriplePower®  
BladePower®  
PizzaPower®**  
Products
- **7.40 Remote PDU**  
Products

## Uninterruptible Power Supplies

# 8



- **8.1 UPS**  
Strong points  
Products
- **8.3 PowerSure PSI**  
Strong points  
Products
- **8.7 GXT2 1000 - 6000 VA**  
Strong points  
Products

## Electro-Mechanical Components

# 9



- **9.1 Electro-Mechanical Components**  
Products

## Active Components

# 10



- **10.1 RMS**  
Strong points  
Products  
Accessories
- **10.7 Fire Detection**  
Strong points  
Products  
Accessories

## 3 19" Enclosure



- **3.1 DoubleProRack®**  
Strong points  
Products  
Accessories

## 4 19" Wall Enclosure



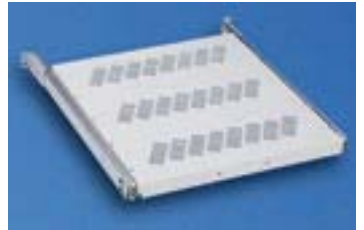
- **4.1 ConAct®**  
Strong points  
Products  
Accessories
- **4.9 SOHO®**  
Strong points  
Products  
Accessories

## 5 Cable Management System Accessories



- **5.1 Cable Management**  
Strong points  
Products

## 6 System Accessories



- **6.1 Shelves  
Chassis Runners  
Drawers**
- **6.15 Front Panels**
- **6.19 Telescopic Slides**
- **6.21 Mounting Material**

## 11 Network Technology



- **11.1 TFT**  
Products  
Accessories
- **11.9 KVM**  
Strong points  
Products  
Accessories

## 12 Thermal Management



- **12.1 CoolBlast® Fan Unit**  
Strong points  
Products  
Accessories
- **12.13 Cooling Systems**  
Strong points  
Products

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- **13.1 Communication/Data  
Network Technology**  
Set-up, components,  
standards/specifications
- **13.17 Service**  
Support services  
Service contracts  
Global presence

- **10.11 @Lock®**  
Strong points  
Products and  
accessories





## ■ Tradition.

Quality is fashionable in a lot of places; with us it is tradition!

Knürr is an international company with a tradition that goes back over 75 years.

## ■ Profile.

Knürr AG is the leader in designing and manufacturing indoor and outdoor rack systems for telecommunications, electronics and computer equipment. The company is based in Arnstorf (Lower Bavaria), operates production sites on three continents, and therefore is well positioned at central locations in the rack manufacturing industry.

Knürr supplies leading original equipment manufacturers ("OEMs") with modified and customized solutions from these facilities on the basis of standardised products. Among these OEMs are well known names such as Siemens, Nortel, Comverse, Ericsson and Alcatel.

These are companies that have chosen Knürr as their preferred supply chain partner. And there are plenty of good reasons why:

The company's global presence; the impressive design; the technical know-how and the standard product range; the customer-specific thermal management and power supply products; the proven integration expertise; outstanding time-to-market results; and above all, Knürr's unsurpassed quality.

Knürr AG is now part of Emerson Network Power, a division of the major US group, Emerson Electric, which enjoys a globally unsurpassed reputation for its first class products, quality, service, and above all its technological innovation. The group closed the 2006 fiscal year with an exceptional overall result of more than 20 billion US dollars in turnover.

## ■ Applications.

You can't have everything!  
Unless you've got the right manufacturer of innovative products on your side.

Knürr's applications portfolio is well-nigh unique in its range and depth - tested, certified and patented numerous times over.

- Thermal Management
- Power Supply Management
- Cable Management
- ESD Management
- Monitoring Management

## ■ Engineering.

Customer-specific solutions with immense scope are very important for Knürr - equipped with high technological complexity and long lifetimes.

These are features that are not coincidental, but rather which highly-qualified Knürr specialists give their absolute everything to produce.

- Supply Chain Management
- Applications
- Project Management
- Prototype Production
- Assembling Management
- System Engineering
- Configuration Management
- Specification Management
- Installation Management
- Documentation Management
- Test Procedure and Certification
- Logistics

## ■ Knürr highlights at a glance...

### **Global presence**

In order to best serve its OEM customers around the globe, Knürr is represented worldwide through a tightly-knit network of subsidiaries, licensees and distributors. Design, production and assembly of Knürr products is performed in eight own or leased facilities. Strategic partnerships function smoothly at four further sites, where products are also manufactured.

On the basis of its flexible outsourcing model, Knürr can very quickly increase production volumes as required. Beyond the scope of its European presence the company is also strongly represented in production in the most important "best cost" countries, including, China, Brazil and Eastern Europe.

### **Modified and customer-specific solutions based on standardised product ranges**

Knürr provides its customers with a transparently structured range of indoor and outdoor rack systems. The company specializes in large metal racks, especially on basic stations for wireless networks.

The basis of Knürr's modified and customer-specific solutions are its standardised product platforms. This shortens time-to-market and often presents the customer with the most cost-effective solution.

Knürr also equips its racks with its own thermal management and power supply systems, which are available in standard versions, or are developed according to customer requests.

Knürr also provides technical workshops that are primarily purchased by customers who also look to Knürr for their rack systems.

### **Design, technical and integration services**

Knürr's product designs and technical expertise rank among the best in the world and qualify the company as a provider of complete solutions for its customers.

Knürr currently employs over 70 engineers and designers and has already registered some 500 patents. Due to its diverse design experience, this innovative company can rapidly adapt its standard range of products to the exact specifications of its customers.

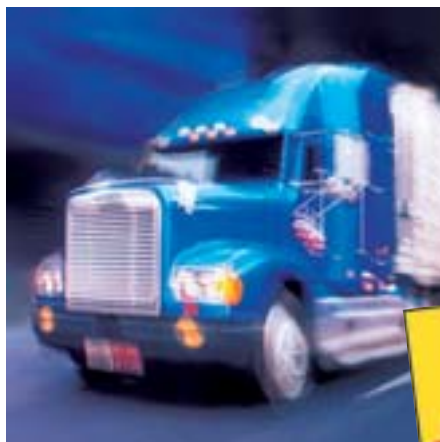
The procedure for adjusting to customer requirements is simplified with the use of customer-specific components, such as those in the thermal management and power supply areas.

Knürr's core competencies extend far beyond the design and manufacture of rack systems.



**knürr**  
environments for electronics

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



### Rapid service

## Express item

Swift express delivery service, smooth ordering process, attractive pricing and a market-oriented offer – that's Knürr reliability!

Each express item that is marked accordingly in this catalog, leaves our European central store 24 hours after your order is received. High-grade quality and standardised solutions that always leave you that decisive step ahead of the competition!

Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world. Don't hesitate to use them to your advantage!

# CoolTherm<sup>®</sup>

Server rack technology,  
water-cooled

0.3 to 0.6



# CoolAdd<sup>®</sup>

Universal server rack  
upgrades

0.7 to 0.10



# CoolTrans<sup>®</sup>

The link between water circulation  
systems in the building and the  
server rack

0.11 to 0.14



# PowerTrans<sup>®</sup>

Power distribution rack

0.15 to 0.17

# Cold Aisle Containment

Optimised use of existing cooling  
power in the data center

0.19 to 0.23







# CoolTherm<sup>®</sup>

Server rack technology,  
water-cooled, up to 35 kW\*

0.4 to 0.6



## CoolTherm® Strong points

### Features

Future-oriented cooling concept for IT applications with high thermal loads – for **blade** and **rack server**.

- V35 high performance air-to-water heat exchanger
- Ducted airflow in the entire rack
- Heat dissipation via cooling water
- Fans with temperature-dependent speed regulation
- Three-way valve for regulating the cooling water flow (optional)
- Fans, n+1 redundant
- Alarm management
- Redundant high-performance power distribution for supplying servers (optional)
- User-friendly and service-optimised
  - Automatic door opening (optional)
  - Mobile plinth (optional)

### Advantages

Autonomous server rack; independent from environmental conditions

- Safe and reliable cooling power of up to 35 kW per CoolTherm® (blade servers)
- Highest packing density for high-performance servers, consequently, up to 80% surface space saving in the data center
  - Low operating costs with optimised pressure losses
- Reduced room and building requirements (thermal management, raised floors, room heights)
- Highest possible leakage safety with strict separation of heat exchangers and server installations
- Up to 30% improved cooling system energy efficiency
- Highest planning reliability with unrestricted scalability
- Significant reduction in TCO (Total Cost of Ownership)



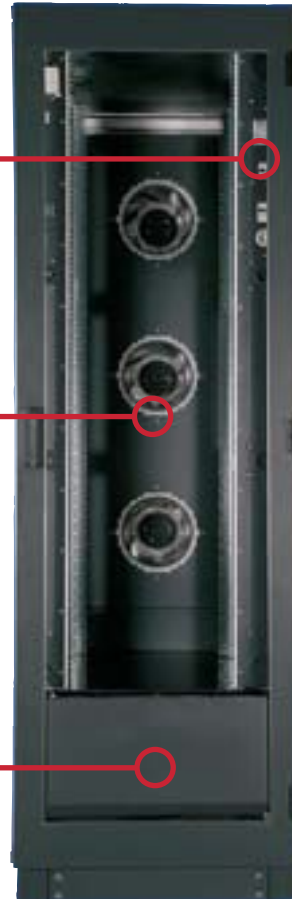
High-performance power supply



Temperature-dependent and speed-controlled



V35® high performance air-to-water heat exchanger



Heat volume to be dissipated: CoolTherm® 25 kW nominal as an example

- Water-side Prerun temp.: 12° C (preferred)  
Postrun temp.: 18° C (preferred)  
Max. pressure loss: 0.5 bar volume flow, 3.58 m³/h  
Ventilation valve
- Air-side Up to 5500 m³/h (dep. on equipment)  
Air outlet: 20° C to 25° C



Easy fan swap-out with closed door



The impressive **CoolTherm®** technical concept:

Closed air circulation with V35 air-to-water heat exchanger. Therefore the dissipated heat is not given off as an additional load on the IT room (as is usual). Connection is made installation-friendly to a building or rack-own chilled water system. Operation and service are performed with no difficulty whatsoever.

(Smaller cross-section shown)





MIR20287

## CoolTherm®

- For fixed 19" installation on the front and rear for components in acc. with IEC 297-3
- Installation of chassis runners and 19" shelves possible
- Flexible installation of components with mounting hole extrusions
- Cable entry via top and bottom cover
- Unused space closed off with blanking panels

### CoolTherm® 12 kW

- 2 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 3 K temperature increase
- V-form high-performance heat exchanger

### CoolTherm® 12 to 17 kW

- 3 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 4 K temperature increase
- V-form high-performance heat exchanger

### CoolTherm® 17 to 25 (35) kW

- 3 EC radial fans, with temperature-dependent stepless speed regulation, installed above one another, n+1 redundant with approx. 4 K temperature increase
- V-form high-performance heat exchanger

### Technical data

- Cooling water spread: 12/18°C (configuration conditions)
- Intake air temperature to the server: 22°C
- Heat exchanger max. operating pressure: 10 bar
- Max. absolute humidity in room: 8g/kg
- Heat exchanger connection: 1" female thread
- Condensation tray connection: 5/8" hose connection

### Load rating

Static load: 1,000 kg (10,000 N)

### Air leakage rate

In acc. with RAL 652

### Tests

- Earthing in acc. with VDE 0100 T 540
- Vibration test in acc. with MIL-STD 810 E

### Colour

**Final digit of order number .1:**

- Visible surface of covers, RAL 7035 light-grey

**Final digit of order number .8:**

- Visible surface of covers, RAL 7021 dark-grey

### How supplied

Fully assembled

Cooling power (kW)	HU (mm)	W (mm)	H (mm)	D (mm)	d (mm)	Weight content (kg)	Water volume (l)	Flow loss (m³/h)	Pressure loss, conn. (bar)	Pressure volume (m³/h)	Air circ. Voltage (V)	Conn. data Frequency (Hz)	Current (A)	Power (W)	Order no.	UP	
12	29	700	1800	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.001.x</b>	1 unit
12	33	700	2000	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.002.x</b>	1 unit
12	38	700	2200	1200	740	290	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.003.x</b>	1 unit
12	29	700	1800	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.001.x</b>	1 unit
12	33	700	2000	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.007.x</b>	1 unit
12	38	700	2200	1300	840	295	5.9	1.72	0.38	0.05	2000	200-264	50, 60	7	1000	<b>08.006.008.x</b>	1 unit
17	35	800	2000	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.012.x</b>	1 unit
17	40	800	2200	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.013.x</b>	1 unit
17	44	800	2400	1200	740	310	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.014.x</b>	1 unit
17	35	800	2000	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.022.x</b>	1 unit
17	40	800	2200	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.023.x</b>	1 unit
17	45	800	2400	1300	840	320	7.9	2.44	0.57	0.09	3100	200-264	50, 60	8	1400	<b>08.006.024.x</b>	1 unit
25	37	800	2200	1200	740	340	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	<b>08.006.033.x</b>	1 unit
25	42	800	2400	1200	740	340	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	<b>08.006.034.x</b>	1 unit
25	37	800	2200	1300	840	350	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	<b>08.006.043.x</b>	1 unit
25	42	800	2400	1300	840	350	9.9	3.58	0.54	0.18	4500	200-264	50, 60	8	1800	<b>08.006.044.x</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



### Note

Information at:

[www.thermalmanagement.de](http://www.thermalmanagement.de)





2 MIR20398



3 MIR20395



4 MIR20392



5 MIR20393

## CoolTherm® Options / Accessories

### 2 A/B switching

The outputs on the plug-in units can be flexibly configured according to customer requirements via various plug connections, type CEE and GST 18.

(E.g. BladePower® or PizzaPower®, DI-STRIP® TriplePower®, and flexible distribution with the GST18i5 distributor block, 3-phase).

### 2 RMS (Rack Monitoring System)

Monitoring, forwarding and visualising parameters, issuing alarms and enabling the introduction of automatic safety/security measures.

- Possible sensors/monitoring:  
Smoke, temperature, humidity, leakage, door monitoring

### 3 Bypass control

The influence of the cooling water flow for energy saving prevents insufficient temperatures with partial heat load.

Version as three-way valve; also optionally with two-way function.

### 4 Automatic door opening

Automatic front and rear door opening to prevent overheating with sub-system failure (e.g. cooling water provision).

### 5 Cooling water connection set

Consists of two flexible high grade steel-coated hoses, ball valve with ventilation, regulating valve and blocking valve, DN 25, hose length - 1,500 mm and 2,500 mm.

### 6 Fast connection

For safe and secure connection and separation of connections, DN 25.

### 7 Fixed and mobile plinth

With 100 mm height. Various cutouts allow supply media without having to install raised floor.



6 MIR20395



7 MIR00414



# CoolAdd<sup>®</sup>

Universal upgrades  
against overheating  
in server racks

0.8 to 0.10



## CoolAdd® Strong points



### Features

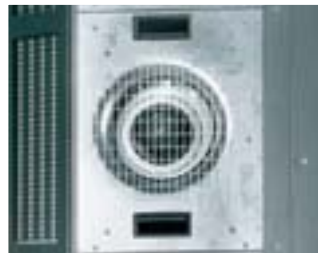
- Installation with adapter kit
- Adjustment of just a few parts
- Thermostatic valve for regulating cooling power
- Manual fan speed setting
- Individual fan monitoring
- Individual fan fuse
- Installation with adapter kit
- Valve for regulating cooling power
- Heat exchanger is connected fixed with the existing rack (no hoses or other connections accessible in the data center)
- Redundant n+1 fan set-up

### Advantages

- CoolAdd® can be used with all standard rack types
- Server rack remains unchanged
- Slim design heat exchanger (85 mm)
- Access to components is always maintained
- Water-carrying components are safely shielded from the rack
- Existing racks can continue to be used
- Existing cabling remains is always maintained
- Quick installation
- Just a few CoolAdd® components have to be adjusted
- Cools the server's warm exhaust air side
- Access to all built-in components is always maintained
- Relieves the data center's thermal management system
- Cools up to an additional 8,000 watts



Shouldered thermostat valve with extensible component (without auxiliary power)



Optimum fans, in own housing



Fan failure display/ four speed levels



Robust and secure 3-point interlock





## CoolAdd® 19" upgrade solution

- 4 AC fans
- 4 manual setting speed levels
- Exhaust temperature control
- All current external makes can be attached
- Chilled water connection, 3/4"
- Min. chilled water flow temp.: 14°C
- Control unit with fan failure monitoring
- LED visualisation
- Alarm forwarding via potential-free contact

### Technical data

- Cooling water spread: 14/20°C
- Chilled water content: 1.6 l
- Cooling water volume flow: 1.15 m³/h
- Exhaust temperature after heat exchanger: 22° C
- Heat exchanger connection: 3/4" male thread
- Pressure loss (water-side): 400 mbar
- Heat exchanger max. operating pressure: 10 bar
- Max. absolute humidity in room: 8 g/kg
- Number of fans: 4
- Air volume flow: 2,500 m³/h
- Electrical connection (fans / fan control):  
230 V / 50 - 60 Hz 525 - 725 W

**Protection rating**  
IP 20

**Material / Finish**  
Cover: aluminium plate/zinc-plated sheet steel, powder-coated texture

**Colour**  
RAL 7021 dark-grey

**Supply schedule**  
1 fan door  
1 heat exchanger  
1 adapter set  
Mounting material

**How supplied**  
Preassembled

W	H	D	kg	power	Rear door stop	Order no.	UP
600	2000	160	41	8 kW	Left	<b>08.000.034.8</b>	1 unit
600	2000	160	41	8 kW	Right	<b>08.000.035.8</b>	1 unit
600	2200	160	43	8 kW	Left	<b>08.000.036.8</b>	1 unit
600	2200	160	43	8 kW	Right	<b>08.000.037.8</b>	1 unit
700	2000	160	43	8 kW	Left	<b>08.000.044.8</b>	1 unit
700	2000	160	43	8 kW	Right	<b>08.000.045.8</b>	1 unit
700	2200	160	45	8 kW	Left	<b>08.000.046.8</b>	1 unit
700	2200	160	45	8 kW	Right	<b>08.000.047.8</b>	1 unit
800	2000	160	45	8 kW	Left	<b>08.000.054.8</b>	1 unit
800	2000	160	45	8 kW	Right	<b>08.000.055.8</b>	1 unit
800	2200	160	47	8 kW	Left	<b>08.000.056.8</b>	1 unit
800	2200	160	47	8 kW	Right	<b>08.000.057.8</b>	1 unit



# CoolTrans<sup>®</sup>

The link between water  
circulation systems in the building  
and the server rack

0.12 to 0.14





**Primary cooling circulation**



**Secondary cooling circulation**



## CoolTrans®50/75/100 – The link between building services and data center

Water in a data center makes special demands on the chilled water system, and extending the existing chilled water circuit in the data center just isn't enough. The CoolTrans® from Knürr separates the primary chilled water circulation of the building from the secondary chilled water circulation in the data center using high performance water-water heat exchangers. This consequently results in ...

... the chilled water supply temperature being regulated above the dew point in the data center. This in turn means that a laborious isolation of the chilled water circuit in the DC is no longer required. Condensation

origin is also ruled out, and drying-out or re-humidifying of the data center is also prevented.

... dispensing with the use of glycol with the secondary circuit, as it is operated frost-protected. The core can be configured smaller, but with the same power, thereby avoiding higher investment costs.

... the water volume in the data center remaining restricted to the secondary circuit.

... balancing of the temperature and pressure fluctuations in the primary circuit (variations).

... the regulation of the secondary circuit, connected with an alarm management system, which ensures constant operation and signals faults in the system. Needless to say all moving parts are provided redundantly.

Furthermore the relatively high supply temperatures of 12°C and more in many thermal areas enable a high degree of free cooling, which generates significant energy savings. Knürr's CoolTrans® facilitates a mixture of chilled water from free cooling and the chilled water system.



## CoolTrans® Strong points

### Features

- Hydraulic separation of the chilled water circulation system in the building from the cooling water in the data center
- Use of top grade quality components of the building technology
- Integration of all thermo-hydraulic components for controlled liquid cooling (pumps, valves, mixers, heat exchangers, expansion tanks)
- Redundant components enable uninterrupted operation, even during servicing
- Connection of individual CoolTherm® and CoolAdd® to the CoolTrans®
- Modular design for heat loads in excess of 100 kW
- Automatic leakage detection

### Advantages

- Energy savings with high performance high-grade steel heat exchanger
- Constant chilled supply water temperature with adjustable reference temperature
- Consistent chilled water volume, regardless of the hydraulic conditions in the building
- Operational reliability with system separation (enables leakage monitoring and prevents corrosive and fouling effects with a defined water quality on the secondary side)
- Operational reliability through redundancy
- Operational reliability with recording and central monitoring of the operational parameters, including warning and alarm signals
- Dew point-dependent chilled water supply temperature increase to prevent condensation water and for piping without insulation
- Option of controlling the emergency operation
- Flange connection for linking up several CoolTrans®

You will find more information on this topic at:  
[www.cool-trans.com](http://www.cool-trans.com)



CoolTrans®100 in modular design. Linking allows heat loads of up to 500 kW to be safely diverted.



CoolTrans® in compact 19" construction. Ideal for installation in data centers or IT rooms.



Distributor for connecting up to 5 consumers units, such as CoolTherm® or CoolAdd®.



## CoolTrans® 19" upgrade solution

- Hydraulic interface between the building-side primary chilled water supply and high density cooling solutions in the secondary circuit
- Provision of constant prerun temperatures
- Monitoring of minimum pressure (leakage) and fall below dew point; station in steel base frame, with powder-coated cover, height adjustable; prepared for transport with hand lift truck, forklift, etc.; pipes ST 37
- Pipes and fittings diffusion-tight, insulated against condensation water build-up
- Redundant pump group (100%) with daily run change, emergency run function of the primary regulating valve (power-off open)
- Connection of two separate chilled water primary supplies is possible; modular coupling of the distributor bars for configuring higher transmission powers of up to 500 kW, as well as additional redundancies; double-sided connection option for setting up a secondary ring line; with plate heat exchanger, ball valve, 4 manometers, 4 thermometers, regulating valve, adapter for primary chilled water meter (option), 2 wet running pumps, 2 back pressure preventers, 2 filters, membrane expansion tank with safety valve - 2.5 bar, two-stage pressure switch, fill, empty and air bleed valve, leakage tray and automatic leakage detection

### Regulation

Freely programmable DDC control, main switch, pump control, dew point monitoring with shouldered room humidity sensor (sensor mounting in the CoolTherm's installation room/connection cables on-site), temperature control according to reference value specification and automatic increase in the chilled water prerun

temperature with enthalpy computer for preventing condensation on the basis of the actual air humidity in the data center.

Centralized alarm with pump failure, valve fault, temperature fault, data backup at least 72 hours, manual control level, optional LON interface and status output as requested with TCP/IP, LAN, warning and fault signals shown via display and potential-free contact, UPS signal reception with potential-free contact.

Distributor (only 75 kW, order no. 08.009.504.8) for connecting up to 5 consumer units, such as CoolTherm and CoolAdd.

CoolTrans®100 in modular design. Linking allows heat loads of up to 500 kW to be safely diverted:  
Up to 300 kW with order number 08.009.503.8 and 08.009.509.8  
Up to 500 kW with order number 08.009.508.8

CoolTrans 100 with free cooling Order number 08.009.509.8  
2 heat exchangers enable free cooling independent of the building's chilled water system.

### Electrical connection

400 VAC, 3-phase, 50 Hz

### Protection rating

IP 54

### Colour

RAL 7021 dark-grey

### How supplied

Assembled

Power (kW)	W (mm)	H (mm)	D (mm)	Weight (kg)	Pipe connection		Diff. pressure		Cooling water temp.		Water volume		Elec. conn. power (kW)	Order no.	UP
					primary (bar)	second. (bar)	primary (°C)	external (°C)	primary (°C)	second. (°C)	primary (m³/h)	external (m³/h)			
50	450	990	820	180	1 1/4"	5x 3/4"	1.00	0.7	6/12	12/18	8.42	7.2	0.4	08.009.504.8	1 unit
75	450	1010	1200	200	1 1/2"	5x 1"	1.00	1.00	6/12	12/18	12.75	10.77	1.80	08.009.504.8	1 unit
100	1620	1840	600	400	4x DN100	4x DN100	1.10	1.30	6/12	12/18	14.3	14.3	1.00	08.009.503.8	1 unit
100	1620	1840	800	450	4x DN125	4x DN100	1.10	1.30	6/12	12/18	14.3	14.3	1.00	08.009.508.8	1 unit
100	2520	1840	800	830	4x DN100	4x DN100	0.20	1.10	13/19	15/21	16.68	14.4	1.00	08.009.509.8	1 unit

# PowerTrans<sup>®</sup>

**New:** Power Distribution Rack

**Central connection unit for power supplies in individual server racks**

**0.16 to 0.17**



**New: Power Distribution Rack**

# PowerTrans®

The new **PowerTrans®** rack is the interface between the low voltage feed and the "Power Distribution Unit of the Unit (PDU)" of DI-STRIP® family, as well as other components for supplying servers and other IT devices.

The power distribution is performed in the individual plug-in units and therefore no longer has to be installed fixed in the building. Up to 8 plug-in units can be integrated. Each plug-in unit is supplied with an A and B feed (redundancy). With max. 250 A/phase loads of up to 329 kVA can be supplied from just one single rack.



1 MIR20388

## PowerTrans® Strong points

- 1 **Equipping and installation**  
The outputs on the plug-in units can be flexibly configured according to customer requirements via various plug connections, type CEE and GST 18. (E.g. BladePower® or PizzaPower®, DI-STRIP® TriplePower®, and flexible distribution with the GST18i5 distributor block, 3-phase).
- 2 **Two 3-phase feeds**
  - Feed A and feed B, both three-phase with 250A/phase L1, L2, L3, N, PE each
  - Ideal for providing feed redundancies
- 3 **Cable management**  
Convenient cable routing from above and below.
- 4 **Costs-conscious**  
Only the main feed on the rack must be installed by an electrician. The individual plug-in units and the PDUs can be connected per Plug & Play installation, thereby allowing later extensions to be performed cost-effectively.



2 MIR20390



3 MIR20391



4 MIR20386



MIR20377

## PowerTrans® 19" Power Distribution Rack

- Feed of 2 separate 3-phase 400V mains, L1, L2, L3, N, PE
- Each with a 250A circuit breaker in the input
- Distribution to the individual plugs via busbars and contact-safe plug-in connections
- Up to 8 plug-in units with A-feed and B-feed possible

### Material / Finish

- Basic rack, extruded aluminium, polished
- Corner piece, die-cast aluminium, polished
- Glass infill front door, single safety glass panel, 4mm
- Covers, zinc-plated sheet steel, powder-coated texture

### Colour

RAL 7021 dark-grey

### Supply schedule

1 rack with covers and front door

- 1 plinth for cable entry on the side and rear with levelling feet (0-25 mm)
- 2 plinth trims for front and rear, with vent slots and fixing for filter mat
- 2 plinth trims, closed
- 1 set of busbars, safe from contact for A-feed and B-feed
- 2 circuit breakers with max. 250 A
- 16 power supply plugs for the plug-in units wired on the busbars
- 5 multifunctional braces with jumper bracket
- 2 19" T-slot extrusions
- 16 chassis runners (for plug-in units)
- 1 complete earthing set
- 1 complete locking set

### How supplied

Assembled

B	H	D	HU	h	d	kg	Model	Order no.	UP
800	2120	1000						<b>03.014.501.8</b>	1 unit



MIR20383

## PowerTrans® 19" Plug-In

- 19" plug-in housing
- Width: 19"
- Height: 3 HU
- Depth: 480 mm
- Colour: RAL7021 dark-grey
- 2 separate 3-phase inputs with max. 63A phase current
- Outputs acc. to variants 1 – 4

### Variant 1 plug-in

- 2 protected 3-phase outputs, 230V/400V 32A via IEC60309 socket, 3Ph/N/PE 6h, red
- Suitable for connecting 2 PizzaPower 3-phase (03.631.021.1) or 2 BladePower 3-phase (03.630.015.1)

### Variant 2 plug-in

- 4 protected 1-phase outputs, 230V 32A via IEC60309 socket, 1Ph/N/PE 6h, blue
- Suitable for connecting 4 PizzaPower 1-phase (03.631.007.1) or 4 BladePower 1-phase (03.630.005.1)

### Variant 3 plug-in

- 6 protected 3-phase outputs, 230V/400V 16A via GST18i5 Euro installed socket, 3 Ph
- Suitable for connecting GST18i5 distributor block, 3-phase (04.000.038.9, for flexible distribution to 1-phase socket strips) as well as connecting a Triple-Power 3-phase (03.600.024.1 or 03.600.048.1)

### Variant 4 plug-in

- Empty housing
- For customer-specific equipping

### How supplied

Assembled



MIR20382

B	H	D	HU	Model	Order no.	UP
19"	479	3		Variant 1	<b>03.014.003.8</b>	1 unit
19"	479	3		Variant 2	<b>03.014.002.8</b>	1 unit
19"	479	3		Variant 3	<b>03.014.001.8</b>	1 unit
19"	479	3		Variant 4	<b>03.014.000.8</b>	1 unit



# Straight from the Source. Competent. Direct.

We focus on your requirements, we speak your language, and we are available for you 24 hours a day. 365 days a year!

With our presence on the World Wide Web we provide you directly with all the information you require regarding:

- The diversity of solutions provided by Knürr products.
- Knürr service and capacities.
- The company and its partners.

Downloads are of course available, which is particularly interesting with regard to our catalog and our wide range of brochures.

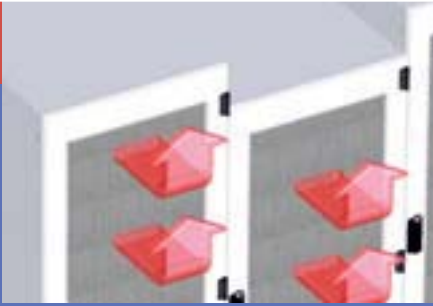
### **Our dialogue with you is extremely important!**

The corresponding options are available for you, whether it be notification per e-mail, or a request for a callback.

[www.knuerr.com](http://www.knuerr.com)

*... just a click away!*





# Cold Aisle Containment

**New:** Optimised use of existing cooling power in the data center

0.20 to 0.23



**New: Chilled Aisle Containment**

# Cold Aisle Containment

**Challenge**

The heat load in servers, and therefore in server racks and ultimately in data centers is constantly rising. Experience shows that room thermal management systems are often overburdened with the cooling of these heat loads. However structural conditions often make the changeover to water cooling impossible.

One conceivable option might be to create more space for each server, i.e. install fewer servers in the rack or fewer racks in the server room. But, as we know, this kind of space is mostly unavailable because of costs or structural restrictions.

Therefore cooling capacity should not be squandered with a conventional room thermal management system with chilled air, i.e. the available cooling capacity should be used optimally.

**The smart way**

One future-oriented and cost-effective option is to consistently separate the chilled air section from the warm air section. This physical separation is performed in the rack using panels. The “chilled aisle” between the rack suites is completely “contained”.

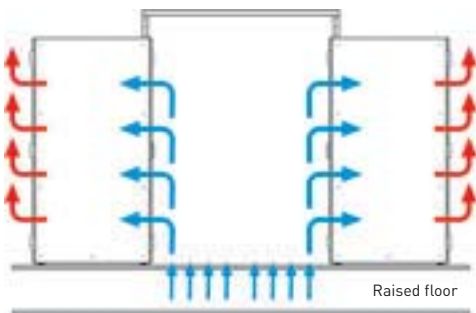
**Cold Aisle Containment** resolves the two biggest challenges in data centers today.

- Loss of cool air
- Hot air short-circuits

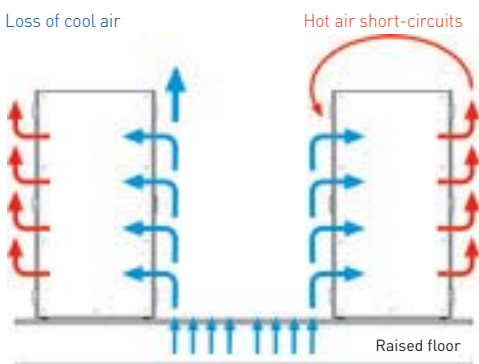
These weak points are avoided by:

- Containing the chilled air until it has passed the servers and other components.
- Preventing the hot air from recirculating over the racks or through the racks.

Sprinkler systems, lights, lamps or the like can be integrated without any expense or effort using the modular system.



LUF20235



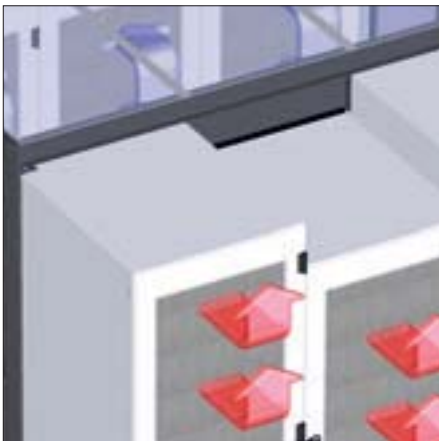
MIR20234



1 LUF20236



2 LUF20239



3 LUF20237

## Cold Aisle Containment Strong points

- Increased cooling capacity to the maximum of the existing data center
- Extended usage period of the conventional data center by several years
- Economical solution
- Higher Delta T, and therefore more cooling power with unchanged thermal management system airflow
- Predictable cooling capacity of each chilled aisle, can be adjusted by changing or replacing perforated bottom covers
- Scalability with the aid of additional cooling (e.g. water cooling or cooling with cooling agents)

### Service

- Solution consultancy, calculation, simulation
- Easy upgrade (regardless of existing server racks' setup)
- Integration into new structure (especially with regard to the cooling requirement of very heterogeneous data centers)
- Temperature and volume flow measurement on-site
- On-site measurements
- Installation

### 1 Top covers

are transparent by default, so that the room's light is used. Halogen-free Plexiglas is used to keep the fire load as low as possible. With higher fire protection requirements laminated wire glass can be used as specified in the project. The top covers can be easily removed for servicing.

**2 The cross braces** are used for sealing and precise positioning. Stability is also guaranteed with a tilt restraint.

### 3 Compensation elements

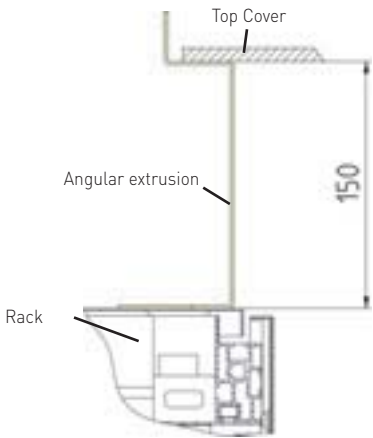
These are used to close areas between the various high racks.

### 4 Safety

The double doors on the front are closed with automatic door closer so that the chilled aisle can be quickly exited in an emergency. (However other locking systems are also used in individual projects.) The double doors are fitted with glass windows.



4 LUF20238



LUF20229

## Angular Extrusions For cold aisle cover

- Adjustable angular extrusions for adjusting the aisle width
- With cable routing ports

**Material**  
Sheet steel

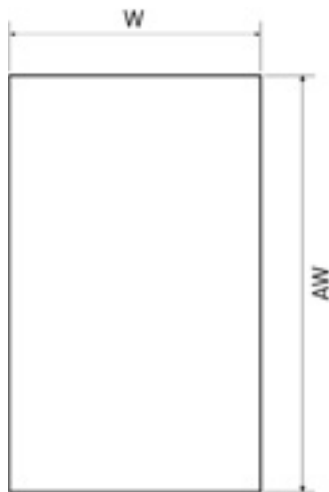
**Finish / Colour**  
Final digit of order number .1:  
Powder-coated texture, RAL 7035 dark-grey  
Final digit of order number .8:  
Powder-coated texture, RAL 7021 dark-grey

**Supply schedule**  
Angular extrusion  
Mounting material

**How supplied**  
In units

**Note**  
The length of the angular extrusions ranges where possible over 2 to 3 racks!

B	H	D	HU	JD	AW	Rack type	Order no.	UP
						Miracel, Miracel <sup>PLUS</sup>	<b>03.028.001.x</b>	1 metre



LUF20230

## Top Cover For cold aisle cover

- Easy handling with light Plexiglas panels
- Transparent Plexiglas panels for sufficient light
- Also available in glass (LSG)

**Material**  
Top cover: Plexiglas, halogen-free, 8.0 mm  
Cross brace: sheet steel

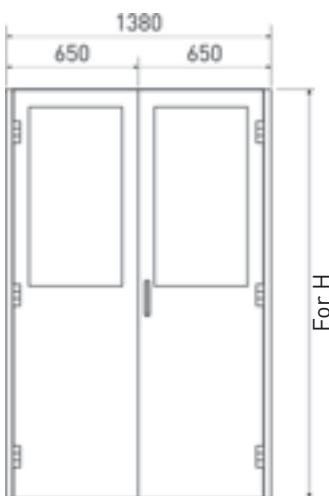
**Cross brace finish/colour**  
Final digit of order number .1:  
Powder-coated texture, RAL 7035 dark-grey

Final digit of order number .8:  
Powder-coated texture, RAL 7021 dark-grey

**Supply schedule**  
1 top cover  
1 cross brace  
Mounting material

**How supplied**  
Flat-packed kit

B	H	D	HU	JD	AW	Rack type	Order no.	UP
600					1200	Miracel, Miracel <sup>PLUS</sup>	<b>03.028.011.x</b>	1 set
700					1200	Miracel, Miracel <sup>PLUS</sup>	<b>03.028.012.x</b>	1 set
800					1200	Miracel, Miracel <sup>PLUS</sup>	<b>03.028.013.x</b>	1 set



LUF20231

## Front elements for chilled aisle With double doors

- With windows in doors
- Automatic door closer enables fast exit in emergency
- Support frame fixed to the floor and on the angular extrusion

**Material**  
Sheet steel

**Cross brace finish/colour**  
Final digit of order number .1:  
Powder-coated texture, RAL 7035 dark-grey

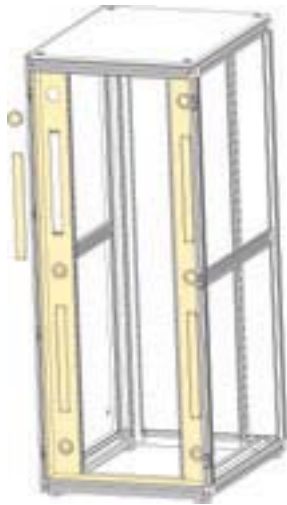
Final digit of order number .8:  
Powder-coated texture, RAL 7021 dark-grey

**Supply schedule**  
1 double door  
1 support frame with cover  
1 end cross brace  
Mounting material

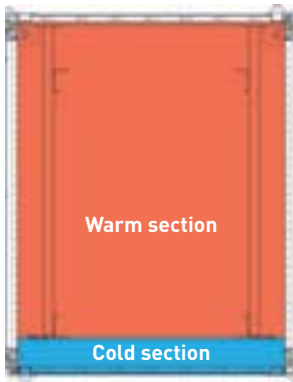
**How supplied**  
Flat-packed kit

B	H	D	HU	JD	AW	Rack type	Order no.	UP
	2000				1200	Miracel, Miracel <sup>PLUS</sup>	<b>03.028.021.x</b>	1 set
	2200				1200	Miracel, Miracel <sup>PLUS</sup>	<b>03.028.022.x</b>	1 set





LUF20232



LUF20233

## Panels in 19" rack For cold/warm area separation

- Quick and easy upgrading in the rack
- Side panels, 2 x 1 HU in the 19" vertical area
- Side panels with 3 cut-outs each for cable routing

**Material**  
Sheet steel

**Cross brace finish/colour**  
Final digit of order number .1:  
Powder-coated texture, RAL 7035  
dark-grey

Final digit of order number .8:  
Powder-coated texture, RAL 7021  
dark-grey


**Supply schedule**  
2 side panels  
(cut-outs covered)  
2 panels, top/bottom  
Mounting material

**How supplied**  
Flat-packed kit

B	H	D	HU	JD	AW	Rack type	Order no.	UP
600	2000	41	41	85.5		Miracel	<b>03.028.036.x</b>	1 set
700	2000	41	41	85.5		Miracel	<b>03.028.037.X</b>	1 set
800	2000	41	41	85.5		Miracel	<b>03.028.038.X</b>	1 set
600	2200	46	46	85.5		Miracel	<b>03.028.056.X</b>	1 set
700	2200	46	46	85.5		Miracel	<b>03.028.057.X</b>	1 set
800	2200	46	46	85.5		Miracel	<b>03.028.058.X</b>	1 set
600	2000	42	42	85.5		Miracel <sup>PLUS</sup>	<b>03.028.076.x</b>	1 set
700	2000	42	42	85.5		Miracel <sup>PLUS</sup>	<b>03.028.077.x</b>	1 set
800	2000	42	42	85.5		Miracel <sup>PLUS</sup>	<b>03.028.078.x</b>	1 set
600	2200	46	46	85.5		Miracel <sup>PLUS</sup>	<b>03.028.096.x</b>	1 set
700	2200	46	46	85.5		Miracel <sup>PLUS</sup>	<b>03.028.097.x</b>	1 set
800	2200	46	46	85.5		Miracel <sup>PLUS</sup>	<b>03.028.098.x</b>	1 set

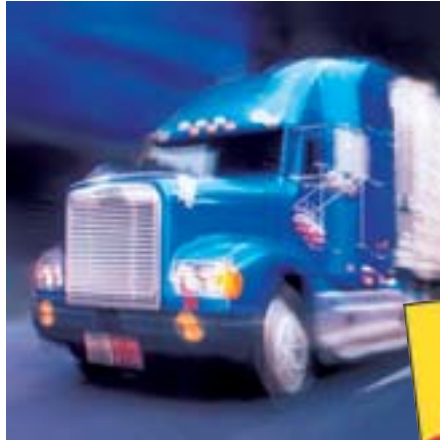
Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
kg = Weight

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
AW = Aisle width  
JD = Jumpering depth

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



## Rapid service

### Express item

Swift express delivery service, smooth ordering process, attractive pricing and a market-oriented offer – that's Knürr reliability!

Each express item that is marked accordingly in this catalog, leaves our European central store 24 hours after your order is received. High-grade quality and standardised solutions that always leave you that decisive step ahead of the competition!

Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world.

Don't hesitate to use them to your advantage!



# Miracel<sup>PLUS</sup><sup>®</sup>

**19" heavy duty server rack  
for data centers**

**1.3 to 1.8**

# Miracel<sup>®</sup>

**19" rack for data centers  
and network applications**

**19" Server Rack**

**1.9 to 1.22**

**19" Network Rack**

**1.23 to 1.64**

# EMC Solutions

**Miracel<sup>®</sup> EMC Rack**

**Double-panelled**

**1.65 to 1.68**

**Miracel<sup>®</sup> EMC Rack**

**Single-panelled**

**1.69 to 1.72**





# Miracel<sup>PLUS</sup><sup>®</sup>

Heavy Duty Server Rack

1.4 to 1.8



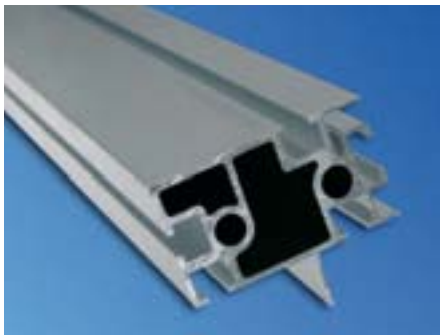




1 MEC20357



1 MIR20354



3 MIR20364

## Miracel<sup>PLUS</sup> Strong points

### 1 New heavy duty rack

Increased stability compared with the classic Miracel<sup>®</sup> for static loads of 1,500 kg and more.

Use of newly designed more stable extrusions and new, heavier duty-corner piece.

### 2 Screw construction

Dismantling the rack guarantees easy accessibility, even to the most restricted areas.

### 3 Aluminium construction

Proven technology based on aluminium extrusions offers high flexibility and stability with low weight. The T-slot system in the frame guarantees freely selectable arrangement of accessories.

### 4 Convenient

Door mounting without tools.

### 5 Improved handling

Mobility provided by castor brackets integrated into the frame.

### 6 Cable management

Guaranteed orderly and space-saving cable management.

Adjustment at installation site, cable management can be selected from extensive range of accessory components.

### 7 Flexible ventilation components

The correct ventilation solution is always provided by the corresponding selection of accessory components.

Still applicable from Miracel: 83% perforation, which guarantees unobstructed airflow of the installed components.



4 MIR20351



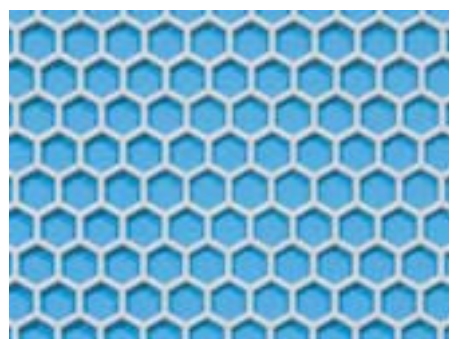
5 MIR20363



6 MIR00143



6 MIR20346



7 MIR20265

## Miracel<sup>PLUS</sup> Strong points

### 8 Modular construction

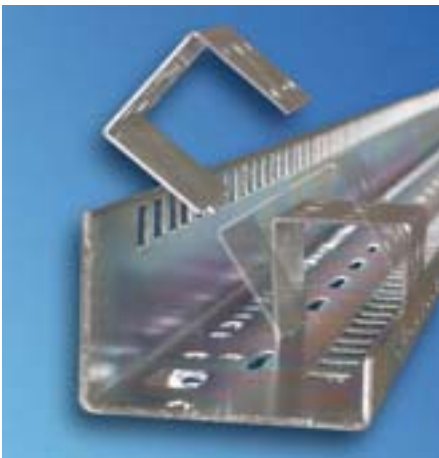
Simple mounting, including all non-standard components – variable and in the integrated 19" or 25 mm increments.

### 8 Proven system accessories

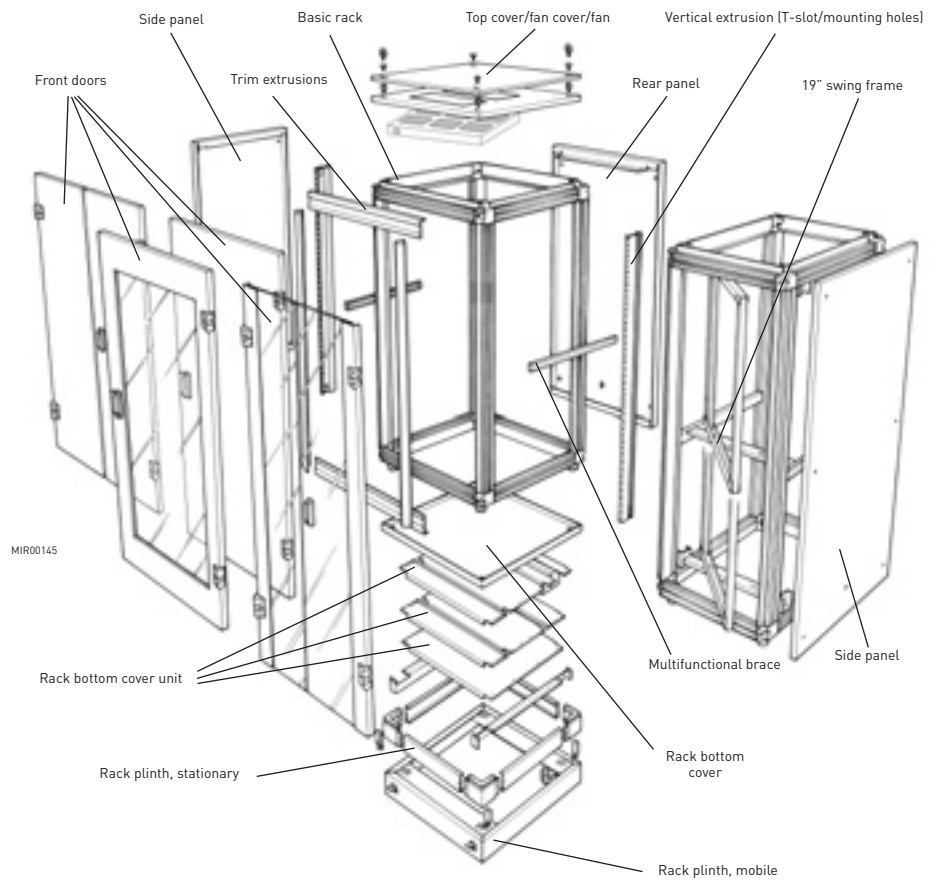
from the wide-ranging standard Miracel® range can, of course, be used.

### 9 Patented server extrusions

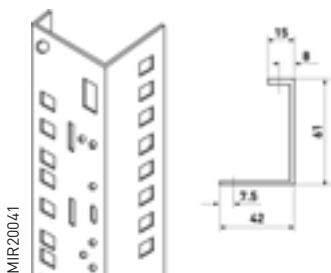
guarantee easy mounting of 19" servers of all manufacturers.



9 MIR20082



8 MIR20329



MIR20041

19" server extrusion

## Miracel<sup>PLUS</sup>® 19" Rack Technical data

### Material

- Extruded aluminium
- Corner piece, die-cast aluminium
- Covers, sheet steel, zinc-plated
- Sheet steel doors

### Installation dimensions in acc. with IEC 60297-1 and IEC 60297-2

- Height: 42 HU / 46 HU  
(1 HU = 44,45 mm)
- Width: 482.6 mm  
(19" construction)

### Space solution

- Front jumpering space, 85.5 mm
- Door opening angle, 130°

### Configurations

- Stationary, on levelling feet
- Mobile with castor bracket and levelling feet

### Finish / Colour

- Basic rack, sheer
- Visible surface of covers, powder-coated, RAL 7021 dark-grey, design door perforation, RAL 9006

### Static load rating

- 15,000 N (stationary model)
- 10,000 N (mobile model)

### Tests according to version

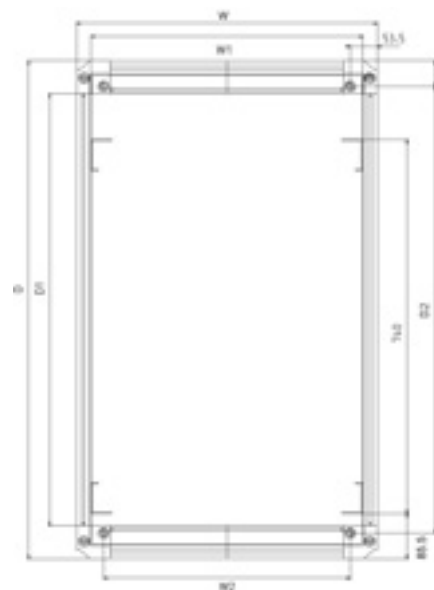
- IP test in acc. with IEC 60529
- Earthing and protective conductor test in acc. with DIN EN 60950

Further standards and tests on request.

### Rack suites

To create a rack suite with "n" racks, you require:

- n-1 racks without side panels and 1 rack with side panels
- In a rack suite, per connection you require one set of suite connectors

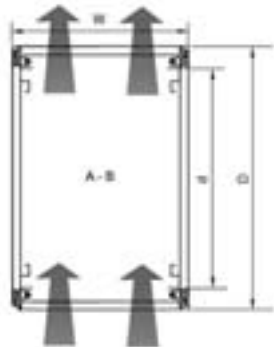


MIR88888

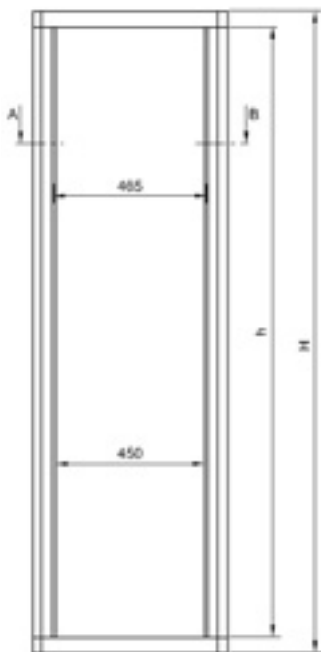
Nom. dimension	W	W <sub>1</sub>	W <sub>2</sub>	D	D <sub>1</sub>	D <sub>2</sub>
W 600 / D 1000	591	535	485	986	856	885
W 600 / D 1100	591	535	485	1086	956	985
W 600 / D 1200	591	535	485	1186	1056	1085
W 700 / D 1000	691	635	585	986	856	885
W 700 / D 1100	691	635	585	1086	956	985
W 700 / D 1200	691	635	585	1186	1056	1085
W 800 / D 1000	791	735	685	986	856	885
W 800 / D 1100	791	735	685	1086	956	985
W 800 / D 1200	791	735	685	1186	1056	1085



MIR20341



MIR20131



MIR20131

Dimensions in mm: W= Width, H= Height, D= Depth, h= Installation height, d= Useable depth, L= Length, HU= Standard height unit, 1 HU= 44.45 mm, UP= Unit of packaging, kg= Weight,  = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

**Miracel<sup>PLUS</sup> Basic, 19" Heavy Duty Server Rack**  
Width 600 and 800, design door perforated at the front, stationary

- Basic version, with perforated single door at the rear
- Special 19" server extrusions for mounting all trade standard 19" servers
- Components in acc. with IEC 60297
- Design door at the front with coloured offset perforation
- Installation of chassis runners and 19" shelves possible
- Cable entry via top cover and bottom cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 130°

**Jumpering space**  
Front, 85.5 mm

**Load rating**  
15,000 N static

**Protection rating**  
IP 20

**Tests**  
- Earth in acc. with DIN EN60950  
- Vibration test in acc. with MIL-STD 810 E  
- IP test in acc. with DIN 40 050 / IEC 60529

**Airflow circulation**  
- Perforation: 83 %

**Material / Finish**  
- Basic rack, extruded aluminium, sheer  
- Corner piece, die-cast aluminium, sheer  
- Doors, sheet steel, powder-coated texture

- Covers, zinc-plated sheet steel, powder-coated texture
- Multifunctional braces, sheet steel, zinc-plated

**Colour**  
**Final digit of order number .8:**  
Visible surface of covers, RAL 7021, dark-grey  
Design door perforated panel, RAL 9006

**Supply schedule**  
1 basic rack  
4 19" server extrusions, sheet steel incl. HU numbering  
4 multifunctional braces for cable clamping and universal mounting options  
2 side panels with quick connectors  
1 top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units  
1 design front door, single, perforated with handle and mounting for cylinder lock  
1 rear door, perforated, sheet steel, with handle and mounting for cylinder lock  
4 levelling feet  
1 complete earthing set DIN EN 60950

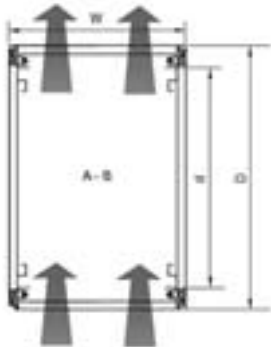
**How supplied**  
Assembled

**Note**  
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)

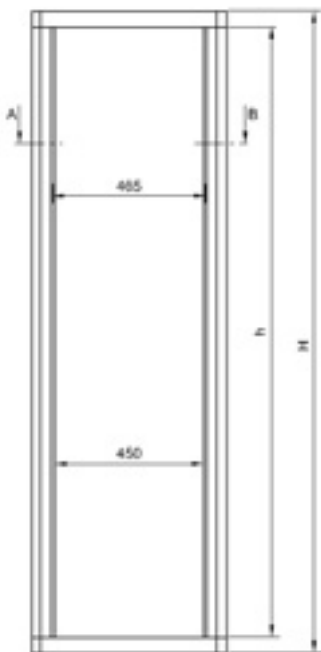
W	H	D	HU	h	d	kg	Model	Order no.	UP
600	2000	1000	42	1872	740		"Basic"	<b>01.147.018.8</b>	1 unit
600	2000	1200	42	1872	740		"Basic"	<b>01.147.020.8</b>	1 unit
600	2200	1000	46	2072	740		"Basic"	<b>01.147.033.8</b>	1 unit
600	2200	1200	46	2072	740		"Basic"	<b>01.147.035.8</b>	1 unit
800	2000	1000	42	1872	740		"Basic"	<b>01.147.028.8</b>	1 unit
800	2000	1200	42	1872	740		"Basic"	<b>01.147.030.8</b>	1 unit
800	2200	1000	46	2072	740		"Basic"	<b>01.147.043.8</b>	1 unit
800	2200	1200	46	2072	740		"Basic"	<b>01.147.045.8</b>	1 unit



MIR20341




MIR20131



MIR20131

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44,45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

## Miracel<sup>PLUS</sup>® Standard, 19" Heavy Duty Server Rack Width 600 and 800, design door perforated at the front, mobile

- Full version with **perforated design front door**
- Special 19" server extrusions for mounting all trade standard 19" servers
- Components in acc. with IEC 60297
- **Double rear door** with perforation
- Mobile
- **Air partitioning**, around the 19" level
- Installation of chassis runners and 19" shelves possible
- Cable entry via top cover and bottom cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 130°

### Jumping space

Front, 85.5 mm

### Load rating

15,000 N static  
 10,000 N mobile in data center with load

### Protection rating

IP 20

### Tests

- Earthing in acc. with DIN EN 60950
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 60529

### Airflow circulation

- Perforation: 83 %

### Material / Finish

- Basic rack, extruded aluminium, sheer
- Corner piece, die-cast aluminium, sheer
- Doors, sheet steel, powder-coated texture

- Covers, zinc-plated sheet steel, powder-coated texture
- Multifunctional braces, sheet steel, zinc-plated

### Colour

#### Final digit of order number .8:

Visible surface of covers,  
 RAL 7021 dark-grey  
 Design door perforated panel, RAL 9006

### Supply schedule

- 1 basic rack
- 4 19" server extrusions, sheet steel incl. HU numbering
- 4 multifunctional braces for cable clamping and universal mounting options
- 2 side panels with quick connectors
- 1 top cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
- 1 design front door, single, perforated with handle and mounting for cylinder lock
- 1 rear door, double, perforated, sheet steel, with handle and mounting for cylinder lock
- 2 Castor brackets with heavy duty castors
- 4 levelling feet
- 1 complete earthing set DIN EN 60950

### How supplied

Assembled

### Note

Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)

B	H	D	HU	h	d	kg	Model	Order no.	UP
600	2000	1000	42	1872	740		"Standard"	<b>01.147.068.8</b>	1 unit
600	2000	1200	42	1872	740		"Standard"	<b>01.147.070.8</b>	1 unit
600	2200	1000	46	2072	740		"Standard"	<b>01.147.083.8</b>	1 unit
600	2200	1200	46	2072	740		"Standard"	<b>01.147.085.8</b>	1 unit
800	2000	1000	42	1872	740		"Standard"	<b>01.147.078.8</b>	1 unit
800	2000	1200	42	1872	740		"Standard"	<b>01.147.080.8</b>	1 unit
800	2200	1000	46	2072	740		"Standard"	<b>01.147.093.8</b>	1 unit
800	2200	1200	46	2072	740		"Standard"	<b>01.147.095.8</b>	1 unit



# Miracel®

19" Server Racks

1.10 to 1.22



# 19" ServerRack

## Miracel®

Strong points 1.11

## Miracel® ASP

ASP/Server Rack 1.14

## Miracel®

Server Rack 1.16

## Miracel® Accessories

Vertical Trim 1.19

Cable Tray 1.19

Support Bracket 1.19

Plinth 1.20

Combi Lock 1.21

Lock Set 1.21

Extension Kit 1.22



DOS20316

**Miracel®**  
Strong points



1 MIR20265



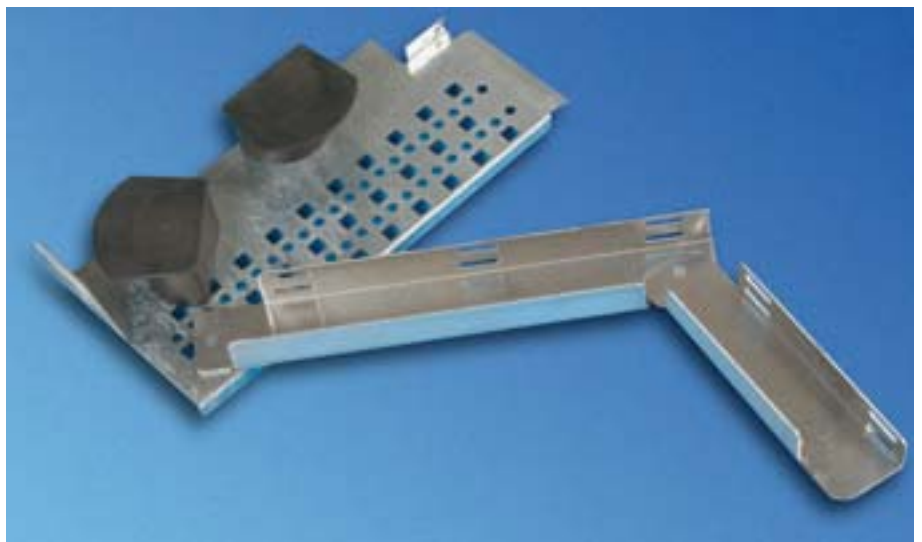
2 MIR20054

- 1 Different concepts and designs for airflow from front to rear. 83% perforation guarantees optimum airflow.
- 2 Optional tilt restraint provides safety for service personnel.
- 3 Different variants for cable management enable adjustment to the set-up conditions.
- 4 New server extrusions guarantee easy mounting of 19" servers of all manufacturers.



Glass door example

1 MIR00407



3 MIR20058



2 MIR20053



4 MIR20082

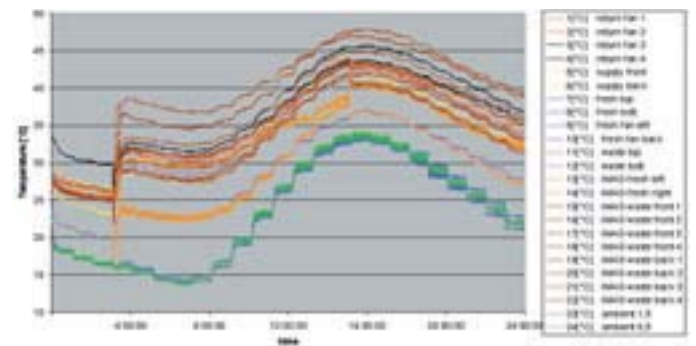
## Proven safety through airflow measurements in the thermal management lab



TEC00279

Knürr products meet the requirements of most environmental influences: climatic, chemical and mechanical

- IP requirements
- Electro-magnetic compatibility
- Corrosive resistance
- Earthquake stability
- Environmental tests

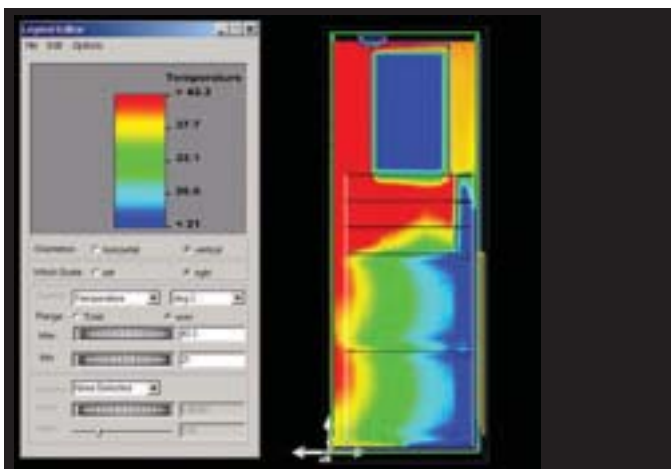


MIR20130

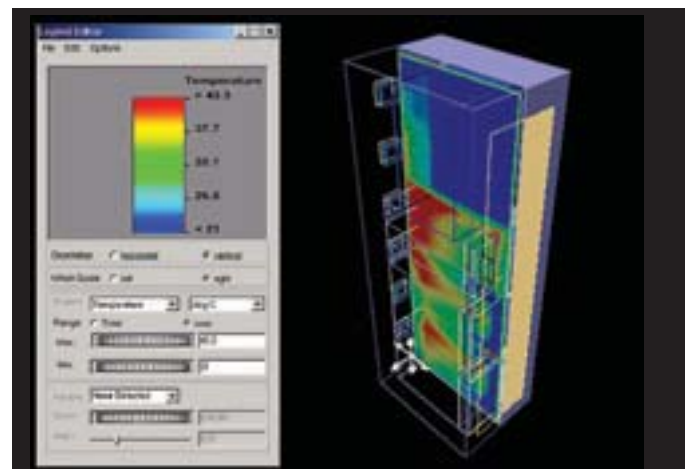
### Knürr Thermal Management Lab Measurements, calculations and tests

- Internal dimensions: (3.0 x 3.0 x 3.0) m<sup>2</sup>
- Temperature range: -45 to +60 °C
- Humidity range: 10% to 95 %

## Airflow and heat simulation



MIR20128



MIR20129



The best 19" technology products and modular, ergonomic and functional workstation systems optimally enhance one another.  
Everything from one source. Everything from Knürr!



MIR20179

### Knürr server racks as requested by the customer (Fujitsu Siemens Computers)



MIR20125





MIR20318

## Miracel® 19" ASP Rack / 19" Server Rack

Widths 600 mm and 800 mm, front door with perforation

- Basic version without plinth; can also be ordered if required
- With special 19" server extrusions for mounting trade standard servers
- With perforated doors on the front and rear for optimal airflow

**Jumping space**  
Front, 85.5 mm

**Load rating**  
5000 N static

**Protection rating**  
IP 20

**Airflow circulation**  
Perforation level: 83%

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN40 050 / IEC 60529

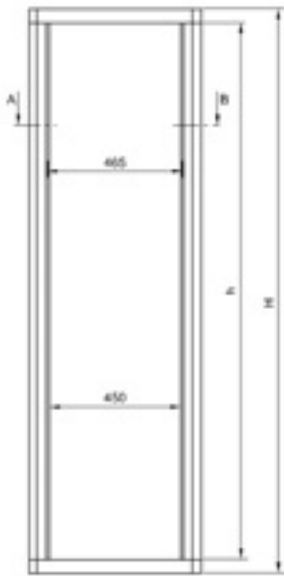
- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium
  - Multifunctional braces and 19" bracket extrusions, sheet steel, zinc-plated
  - Visible surface of covers, powder-coated texture

- Colour**
- Final digit of order number .1:  
- Visible surface of covers, RAL 7035 light-grey
- Final digit of order number .8:  
- Visible surface of covers, RAL 7021 dark-grey

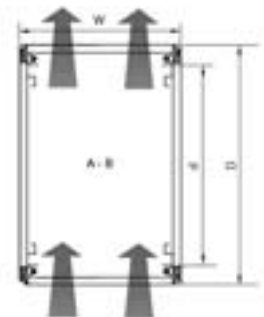
- Supply schedule**
- 1 basic rack
  - 4 19" server sheet steel mounting hole extrusions
  - 2 perforated doors (perforation: 83%)
  - 2 side panels
  - 1 top cover, closed
  - 1 complete earthing set
  - 1 complete locking set

**How supplied**  
Assembled

**Note**  
Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)



MIR20313



MIR20313

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

W	H	D	HU	h	d	kg	Model	Order no	UP
600	2000	900	41	1852	740	87	RAL 7035	<b>01.127.933.1</b>	1 unit
600	2000	900	41	1852	740	87	RAL 7021	<b>01.127.933.8</b>	1 unit
600	2200	900	46	2052	740	93	RAL 7035	<b>01.127.934.1</b>	1 unit
600	2200	900	46	2052	740	93	RAL 7021	<b>01.127.934.8</b>	1 unit
600	2000	1000	41	1852	740	91	RAL 7035	<b>01.127.935.1</b>	1 unit
600	2000	1000	41	1852	740	91	RAL 7021	<b>01.127.935.8</b>	1 unit
600	2200	1000	46	2052	740	97	RAL 7035	<b>01.127.936.1</b>	1 unit
600	2200	1000	46	2050	740	97	RAL 7021	<b>01.127.936.8</b>	1 unit
600	2000	1200	41	1852	740	100	RAL 7035	<b>01.128.310.1</b>	1 unit
600	2000	1200	41	1852	740	100	RAL 7021	<b>01.128.310.8</b>	1 unit
600	2200	1200	46	2052	740	110	RAL 7035	<b>01.128.311.1</b>	1 unit
600	2200	1200	46	2052	740	110	RAL 7021	<b>01.128.311.8</b>	1 unit
600	2000	900	41	1852	740	74	No side panels, RAL 7035	<b>01.127.980.1</b>	1 unit
600	2000	900	41	1852	740	74	No side panels, RAL 7021	<b>01.127.980.8</b>	1 unit
600	2200	900	46	2052	740	79	No side panels, RAL 7035	<b>01.127.981.1</b>	1 unit
600	2200	900	46	2052	740	79	No side panels, RAL 7021	<b>01.127.981.8</b>	1 unit
600	2000	1000	41	1852	740	78	No side panels, RAL 7035	<b>01.127.982.1</b>	1 unit
600	2000	1000	41	1852	740	78	No side panels, RAL 7021	<b>01.127.982.8</b>	1 unit
600	2200	1000	46	2052	740	82	No side panels, RAL 7035	<b>01.127.983.1</b>	1 unit
600	2200	1000	46	2050	740	82	No side panels, RAL 7021	<b>01.127.983.8</b>	1 unit
800	2000	1000	41	1852	740	99	RAL 7035	<b>01.128.314.1</b>	1 unit
800	2000	1000	41	1852	740	99	RAL 7021	<b>01.128.314.8</b>	1 unit
800	2200	1000	46	2052	740	108	RAL 7035	<b>01.128.315.1</b>	1 unit
800	2200	1000	46	2052	740	108	RAL 7021	<b>01.128.315.8</b>	1 unit
800	2000	1200	41	1852	740	108	RAL 7035	<b>01.128.316.1</b>	1 unit
800	2000	1200	41	1852	740	108	RAL 7021	<b>01.128.316.8</b>	1 unit
800	2200	1200	46	2052	740	116	RAL 7035	<b>01.128.317.1</b>	1 unit
800	2200	1200	46	2052	740	116	RAL 7021	<b>01.128.317.8</b>	1 unit



MIR20319

**Miracel® 19" ASP Rack, Server Rack**  
**Width 600 mm, doors with perforation, with mobile plinth and tilt restraint**

- Basic version with mobile plinth, integrated pull-out tilt restraint
- With special 19" server extrusions for mounting trade standard servers, such as Compaq, Dell, Sun, IBM
- With perforated doors on the front and rear for optimal airflow, honeycomb shaped, perforation, 83% airflow

**Jumping space**  
 Front, 85.5 mm

**Load rating**  
 5000 N static

**Protection rating**  
 IP 20

**Airflow circulation**  
 Perforation level: 83%

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN 40 050 / IEC 60529

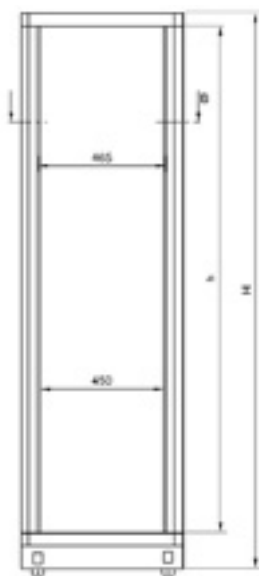
- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated
  - Visible surface of covers, powder-coated texture

- Colour**
- Final digit of order number .1:  
 - Visible surface of covers, RAL 7035 light-grey
  - Final digit of order number .8:  
 - Visible surface of covers, RAL 7021 dark-grey

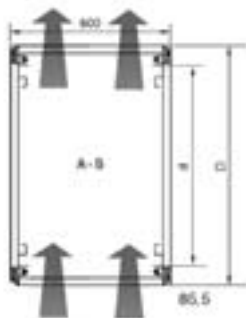
- Supply schedule**
- 1 basic rack
  - 4 19" server sheet steel mounting hole extrusions
  - 2 perforated doors (perforation: 83%)
  - 2 side panels
  - 1 top cover with cable entry
  - 1 complete earthing set
  - 1 mobile plinth with tilt restraint

**How supplied**  
 Assembled

**Note**  
 Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)




MIR20186




MIR20186

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

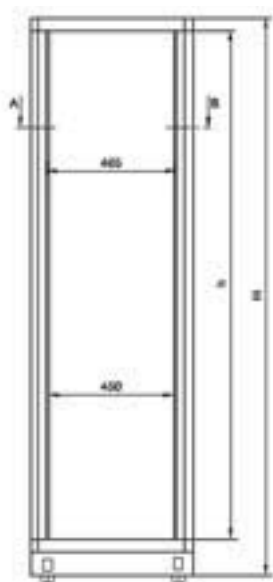
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

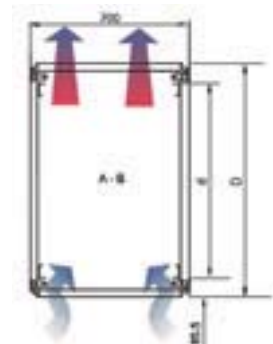
W	H	D	HU	h	d	kg	Model	Order no.	UP
600	2100	900	41	1852	740	97	With side panels, RAL 7035	<b>01.127.925.1</b>	1 unit
600	2100	900	41	1852	740	97	With side panels, RAL 7021	<b>01.127.925.8</b>	1 unit
600	2100	1000	41	1852	740	102	With side panels, RAL 7035	<b>01.127.926.1</b> 	1 unit
600	2100	1000	41	1852	740	102	With side panels, RAL 7021	<b>01.127.926.8</b>	1 unit
600	2100	900	41	1852	740	84	No side panels, RAL 7035	<b>01.127.928.1</b>	1 unit
600	2100	900	41	1852	740	84	No side panels, RAL 7021	<b>01.127.928.8</b>	1 unit
600	2100	1000	41	1852	740	89	No side panels, RAL 7035	<b>01.127.929.1</b>	1 unit
600	2100	1000	41	1852	740	89	No side panels, RAL 7021	<b>01.127.929.8</b>	1 unit



MIR20262



MIR20288



MIR20288

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

## Miracel® 19" Server Rack Width 600, mobile, glass front door

- With fixed 19" installation on the front and rear for components in acc. with IEC 60297-3
- Prepared for mounting trade standard servers with special server extrusions
- Cable entry via plinth
- Door opening angle, 180
- Airflow from the front to the rear with recessed glass pane on the front door and perforations on the rear doors

**Jumpering space**  
 Front, 85.5 mm

**Load rating**  
 5000 N static

**Airflow circulation**  
 1500 cm<sup>2</sup> with 41 HU  
 1700 cm<sup>2</sup> with 46 HU

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN40 050 / IEC 60529

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
  - Multifunctional braces, sheet steel, zinc-plated

- Colour**
- Final digit of order number .1:  
 - Visible surface of covers, RAL 7035 light-grey
- Final digit of order number .8:  
 - Visible surface of covers, RAL 7021 dark-grey

- Supply schedule**
- 1 basic rack
  - 4 19" sheet steel server extrusions
  - 2 side panels with quick connectors
  - 1 top cover, closed
  - 1 front door with single safety glass panel
  - 1 rear door, sheet steel with perforation, large air intake cross section
  - 1 mobile plinth with cable entry rear and levelling feet
  - 1 complete earthing set
  - 1 complete locking set

**How supplied**  
 Assembled

**Note**  
 Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)

B	H	D	HU	h	d	kg	Model	Order no.	UP
600	2100	900	41	1852	740	120	RAL7035	<b>01.128.300.1</b>	1 unit
600	2100	900	41	1852	740	120	RAL7021	<b>01.128.300.8</b>	1 unit
600	2300	900	46	2052	740	135	RAL7035	<b>01.128.301.1</b>	1 unit
600	2300	900	46	2052	740	135	RAL7021	<b>01.128.301.8</b>	1 unit
600	2100	1000	41	1852	740	127	RAL7035	<b>01.128.302.1</b>	1 unit
600	2100	1000	41	1852	740	127	RAL7021	<b>01.128.302.8</b>	1 unit
600	2300	1000	46	2052	740	144	RAL7035	<b>01.128.303.1</b>	1 unit
600	2300	1000	46	2052	740	144	RAL7021	<b>01.128.303.8</b>	1 unit



Also in  
RAL 7021 dark-grey

MIR20319

### Miracel® 19" Server Rack Width 700, doors with perforation

- Front door with large area perforation for air intake
- Prepared for side cable management with asymmetric layout of the extrusions
- Front, on the side, 3 x 2 HU additional 19" installation space

**Jumping space**  
Front, 85.5 mm

**Protection rating**  
IP 20

**Airflow circulation**  
Perforation level: 83%

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated

**Colour**

- Final digit of order number .1:  
- Visible surface of covers, RAL 7035 light-grey
- Final digit of order number .8:  
- Visible surface of covers, RAL 7021 dark-grey

**Supply schedule**

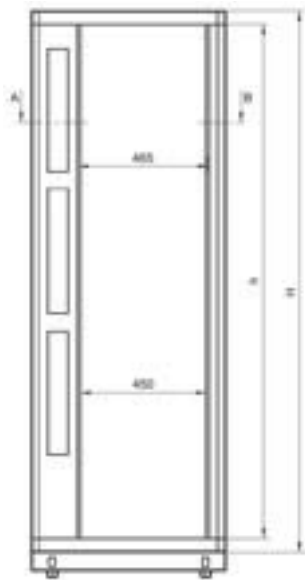
- 1 basic rack
- 4 19" sheet steel server extrusions
- 1 trim, lateral with 3 x 2 HU vertical installation space
- 2 side panels
- 1 top cover, closed
- 1 front door with large area perforation
- 1 rear door with large area perforation
- 1 mobile plinth with rear cable entry and levelling feet
- 1 complete earthing set
- 1 complete locking set

**How supplied**

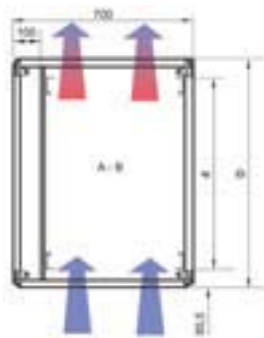
Assembled

**Note**

Also order mounting adapter for 19" server extrusion for mounting Knürr accessories (see page 1.39)



MIR20279



MIR20279

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

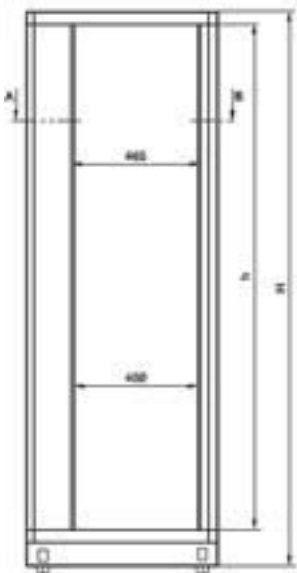
= Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

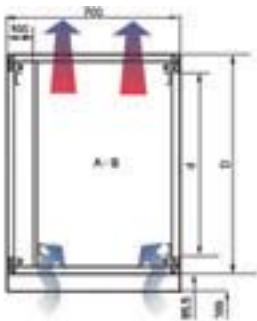
W	H	D	HU	h	d	kg	Model	Order no.	UP
700	2100	900	41	1852	740	100	RAL 7035	<b>01.127.960.1</b>	1 unit
700	2100	900	41	1852	740	100	RAL 7021	<b>01.127.960.8</b>	1 unit
700	2300	900	46	2052	740	107	RAL 7035	<b>01.127.961.1</b>	1 unit
700	2300	900	46	2052	740	107	RAL 7021	<b>01.127.961.8</b>	1 unit
700	2100	1000	41	1852	740	104	RAL 7035	<b>01.127.962.1</b>	1 unit
700	2100	1000	41	1852	740	104	RAL 7021	<b>01.127.962.8</b>	1 unit
700	2300	1000	46	2052	740	111	RAL 7035	<b>01.127.963.1</b>	1 unit
700	2300	1000	46	2052	740	111	RAL 7021	<b>01.127.963.8</b>	1 unit



MIR20320




MIR20280



MIR20280

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

## Miracel® 19" Server Rack Width 700, front glass door

- Front door with single safety glass panel and openings for air intake
- Prepared for side cable management with asymmetric layout of the extrusions
- Lateral, patented cable management saves on a high portion of the cable lengths required for extension
- Support brackets are required at the respective positions for mounting chassis
- The cable trays with swivel arm are prepared for mounting and routing cables without cable ties

**Jumpering space**  
 Front, 85.5 mm

**Protection rating**  
 IP 20

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated

**Colour**  
 RAL 7035 light-grey

- Supply schedule**
- 1 basic rack
  - 4 19" sheet steel mounting hole server extrusions
  - 2 side panels
  - 1 top cover, closed
  - 1 front door with single safety glass panel and openings for air intake
  - 1 rear door with large area perforation
  - 1 mobile plinth with rear cable entry and levelling feet
  - 6 cable trays with swivel arm (7 with 46 HU)
  - 4 19" support brackets, 2 HU (5 with 46 HU) (BN 01.132.053.9)
  - 2 19" support brackets, 3 HU (2 with 46 HU) (BN 01.132.054.9)
  - 1 complete earthing set
  - 1 complete locking set

**How supplied**  
 Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
700	2100	900	41	1852	740	124		<b>01.132.043.1</b>	1 unit
700	2300	900	46	2052	740	133		<b>01.132.044.1</b>	1 unit



See also: The current  
**Telecom Special Catalogue!**

Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management



MIR20059

### Trim for 19" vertical installation, 3 x 2 HU

- For installation in W 700 server racks with asymmetric layout of the 19" extrusions

**Material**  
Sheet steel, 1.5 mm

**Finish**  
Powder-coated, RAL 7035

**Installation**  
Can be mounted on the left rack side  
19" vertical installation, 3 x 2 HU  
Max. depth of installation components, 300 mm  
(only for installation in server rack  
BN 01.132.043.1 / 01.132.044.1)

**Supply schedule**  
1 trim  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
			41				Left	<b>01.132.048.1</b>	1 unit
			46				Left	<b>01.132.049.1</b>	1 unit



MIR20058

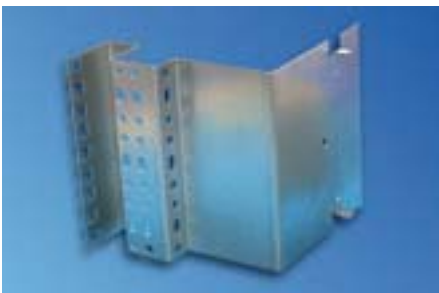
### Cable Tray

- For carrying light installation equipment (max. 5 kg)  
- For orderly storage of excess cables  
- Only for installation in server rack  
BN 01.132.043.1 / 01.132.044.1

**Supply schedule**  
1 storage tray  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.132.050.9</b>	1 unit
							With swivel arm	<b>01.132.051.9</b>	1 unit



MIR20106

### Support Bracket

- For W 700 server racks with BN 01.132.043.1 and 01.132.044.1  
- For mounting chassis' on the 19" level with 4 fixing points

W	H	D	HU	h	d	kg	Model	Order no.	UP
			2					<b>01.132.053.9</b>	1 unit
			3					<b>01.132.054.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
📦 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

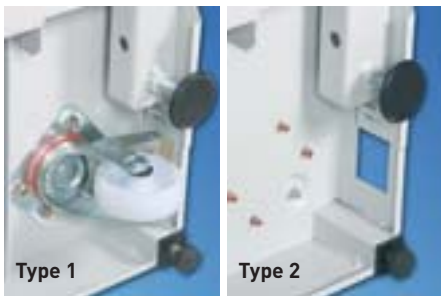




MIR20050



MIR20053



MIR20260

MIR20261

## Miracel® Plinth

Mobile and stationary with tilt restraint, height 100 mm

- **Type 1:** Mobile  
**Type 2:** Stationary
- Cable entry possible on the rear
- **Load rating**  
5000 N static
- **Material**  
Sheet steel, 2 mm
- **Finish / Colour**  
Powder-coated texture, RAL 7035 light-grey
- **Supply schedule, type 1:**  
1 plinth frame  
2 fixed castors with snib  
2 swivel castors  
4 levelling feet  
1 tilt restraint  
Mounting material
- **Supply schedule, type 2:**  
1 plinth frame  
4 levelling feet  
1 tilt restraint  
Mounting material
- **How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	100	900					Type 1, mobile	<b>01.127.260.1</b>	1 unit
700	100	900					Type 1, mobile	<b>01.127.261.1</b>	1 unit
800	100	900					Type 1, mobile	<b>01.127.262.1</b>	1 unit
600	100	1000					Type 1, mobile	<b>01.127.263.1</b>	1 unit
700	100	1000					Type 1, mobile	<b>01.127.264.1</b>	1 unit
800	100	1000					Type 1, mobile	<b>01.127.265.1</b>	1 unit
600	100	1200					Type 1, mobile	<b>01.127.266.1</b>	1 unit
800	100	1200					Type 1, mobile	<b>01.127.268.1</b>	1 unit
600	100	900					Type 2, stationary	<b>01.127.270.1</b>	1 unit
700	100	900					Type 2, stationary	<b>01.127.271.1</b>	1 unit
800	100	900					Type 2, stationary	<b>01.127.272.1</b>	1 unit
600	100	1000					Type 2, stationary	<b>01.127.273.1</b>	1 unit
700	100	1000					Type 2, stationary	<b>01.127.274.1</b>	1 unit
800	100	1000					Type 2, stationary	<b>01.127.275.1</b>	1 unit
600	100	1200					Type 2, stationary	<b>01.127.276.1</b>	1 unit
800	100	1200					Type 2, stationary	<b>01.127.278.1</b>	1 unit



MIR20051

## Tilt Restraint for Miracel® Racks

Quick assembly system

- For fixing on the front vertical posts of all variants of MIRACEL racks
- Quick and easy mounting and removal without tools
- Use only as required
- **Supply schedule**  
2 anti-tilt restrainers
- **How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
							Miracel	<b>01.127.310.9</b>	1 unit
							Miracel <sup>PLUS</sup>	<b>01.147.110.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR20095

### Combi Lock

- Mechanical solution for a high-grade lock system
- Access either via a three digit code that can be individually set on the handle or via a master key that enables access to the rack independently of the code setting
- Suitable for Miracel rack single doors with swing handle
- Later upgrade without mechanical alteration also possible

**Note**  
Further electronic locks, see chapter 10, Active Components

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.137.013.9</b>	1 unit



MIR00066

### Door Locking Set

**Supply schedule**  
1 lock set  
2 keys (half-cylinder)

**Note**  
Further cylinder locks on request!

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>05.041.299.9</b>	1 unit



MIR00069

### Locking Set, Complete

**Supply schedule**  
2 cylinders with 2 keys each  
2 lockable fasteners for side panel with 2 keys each

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.940.9</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR20092



MIR20273



MIR20274

## Miracel® Extension Kit, 100 mm

- For extending rack depths, even at later stages
- Can be used in combination with doors (cannot be used for rear panel)
- Additional cabling space, space for airflow etc. can be easily generated

**Material**  
Sheet steel

**Finish / Colour**  
Powder-coated texture, RAL 7035

**Supply schedule**  
2 trims, vertical  
1 horizontal trim, top  
Extension adapter  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
With use of double doors, please also order lock bracket set: order no. 01.127.649.9

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200		23					<b>01.127.550.1</b>	1 unit
600	1800		37					<b>01.127.553.1</b>	1 unit
600	2000		41					<b>01.127.554.1</b>	1 unit
600	2200		46					<b>01.127.555.1</b>	1 unit
700	1800		37					<b>01.127.559.1</b>	1 unit
700	2000		41					<b>01.127.560.1</b>	1 unit
700	2200		46					<b>01.127.561.1</b>	1 unit
800	1200		23					<b>01.127.562.1</b>	1 unit
800	1800		37					<b>01.127.565.1</b>	1 unit
800	2000		41					<b>01.127.566.1</b>	1 unit
800	2200		46					<b>01.127.567.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



See also: The current  
**Telecom Special Catalogue!**

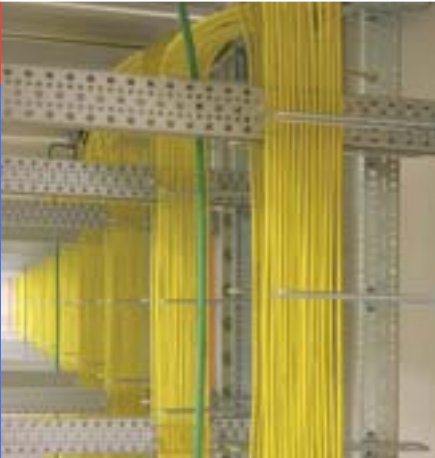
Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management

# Miracel®

19" Rack for  
Network Applications

1.24 to 1.64



# 19" Network Rack

## Miracel®

Strong points 1.25

### Distribution Rack

Miracel® NS 25 1.28

Miracel® NS 26 1.29

Miracel® NS 19.8 1.30

Miracel® NS 19.6 1.31

## Miracel® NO 19

Lab Rack 1.32

## Miracel®

Basic Rack 1.33

Miracel® NS 19.8 D 1.34

## Miracel®

Without front door 1.35

Miracel® IP 55 1.36

## Miracel® Accessories

Rack Connector 1.37

Extrusions 1.38

HU Tape Measure 1.39

Swing Frame 1.40

Design Doors 1.45

Doors 1.46

Locking Set 1.49

Earthing Set 1.49

Plinth 1.50

Bottom Cover 1.52

Side Panel 1.53

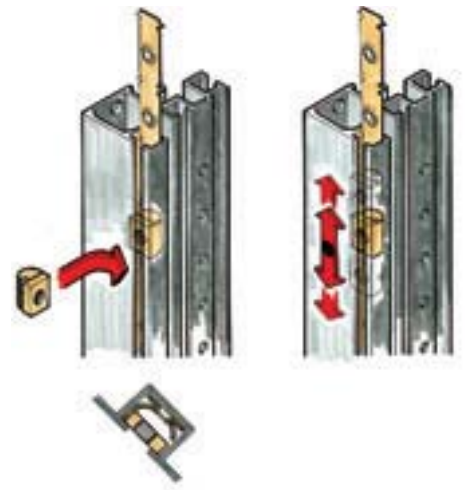
Rear Panel 1.54

Top Cover, IP 55 1.55

Front Panel, Adjustable 1.55

### Fan Unit

CoolBlast® 1.56



1 MIR00139

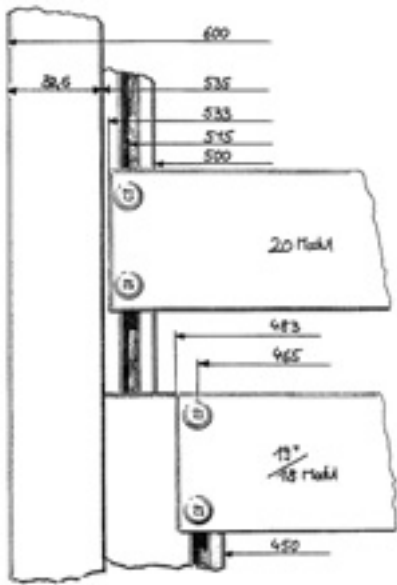


3 TEC00028





**Miracel®**  
Strong points



2 MIR20122

- 1 Modular construction**  
Easy mounting, including all non-standard components – variable and in integrated 19" or 25 mm increments.
- 2 Forward-thinking**  
Security for the future and flexibility with integration of 19" and metric technology.
- 3 Expandable at all times**  
System expansions can be easily implemented while maintaining the IP protection rating.

- 4 Cable management**  
Guaranteed orderly and space-saving cable management. Adjustment at installation site, cable management can be selected from extensive range of accessory components.

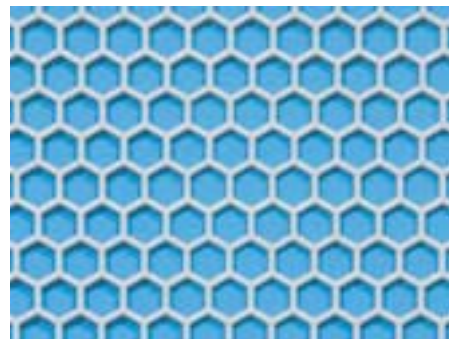
- 5 Flexible ventilation components**  
The correct ventilation solution is always provided by the corresponding selection of accessory components. This allows the air-flow to be specially adapted to the built-in components. Through the perforated bottom covers, top covers and doors, for example.



4 MEC20084



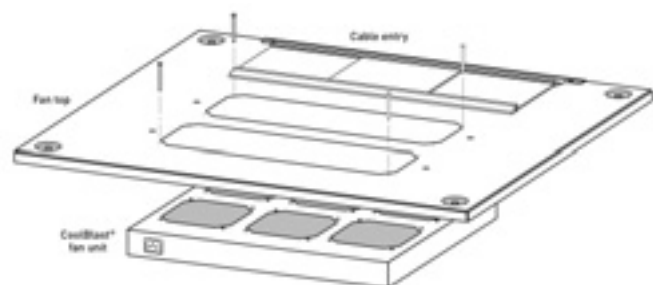
4 MIR00143



5 MIR20265



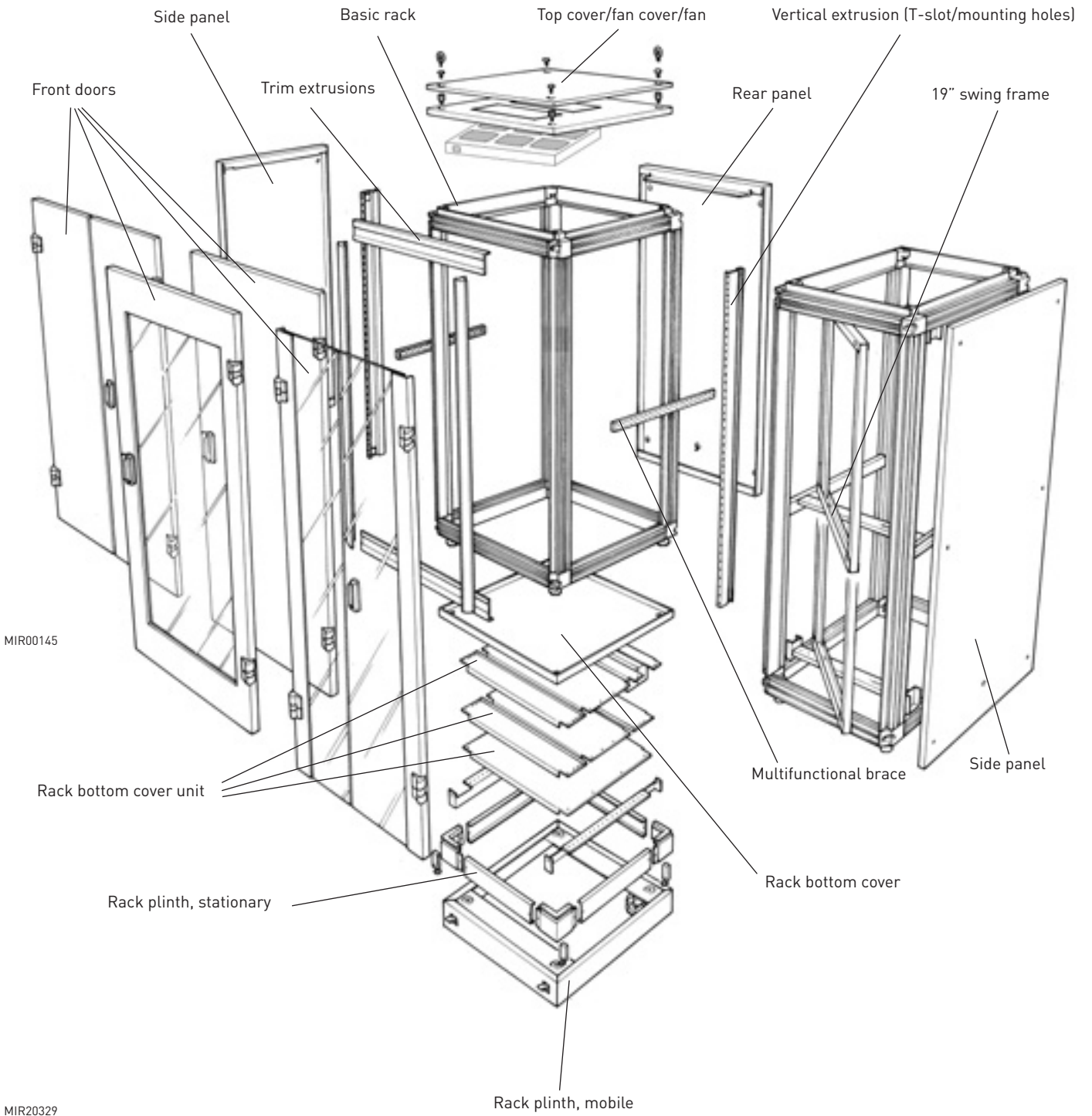
5 LUF20124

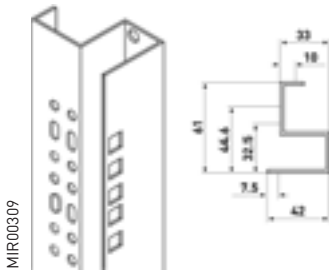


5 LUF20175

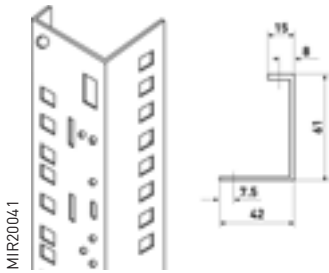


# 19" RACK

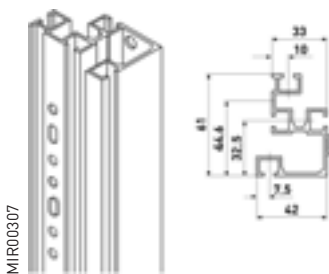




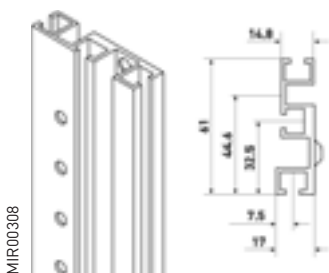
**Vertical extrusion with mounting holes**  
Steel for 19" racks



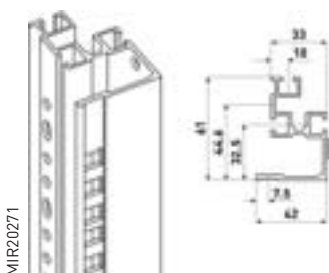
**19" server extrusion**



**Vertical extrusion with T-slot**  
Aluminium for 19" construction



**Vertical extrusion with T-slot**  
Aluminium for metric construction, 20 module



**Vertical extrusion with mounting holes**  
Aluminium for 19" racks

## Miracel® 19" Rack Technical data

### Material

- Extruded aluminium
- Corner piece, die-cast aluminium
- Covers, sheet steel, zinc-plated
- Doors, sheet steel or with single safety glass panel, 4 mm or 6 mm (double doors)

- Visible surface of covers, powder-coated, light-grey RAL 7035 or dark-grey RAL 7021

### Static load rating

- 5000 N with stationary version
- 3000 N with mobile plinth

### Installation dimensions in acc. with IEC 60297 and IEC 60917

- Height: 23 HU / 37 HU / 41 HU / 46 HU  
(1 HU = 44.45 mm)  
66 module / 74 module / 82 module  
(1 module = 25 mm)
- Width: 482.6 mm (19" construction)  
535 mm (20" module construction)

### Heat dissipation

- Power loss with:
- Closed top cover, up to 500 W
  - Vent lid, up to 700 W

### Tests according to version

- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with IEC 60529
- UL test 1244
- NEMA 12 Standard
- EMC shielding attenuation in acc. with MIL-STD 285 (10 MHz - 30 MHz) and VG 95 373 Part 15 (30 MHz-1GHz)
- Vibration and shock test in acc. with ETS 300 019
- Seismic test, Bellcore (NEBS) TR-NWT 000063 Zone 4
- Earthing, DIN EN 60950

### Space solution

- 82% of the basic surface can be used as space for installation and cable routing
- Front jumpering space, 123 mm or 73 mm
- Door opening angle, 180°

Further standards and tests on request.

### Configurations

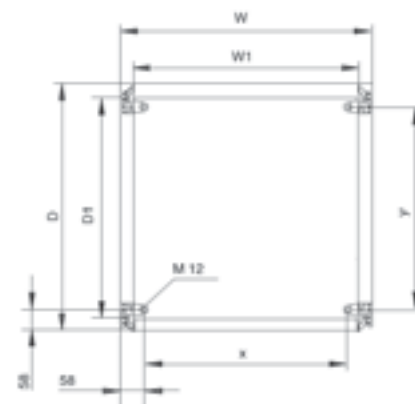
- Stationary, on levelling feet
- Stationary with plinth
- Mobile with plinth and snib

### Rack suites

- To create a rack suite with "n" racks, you require:
- n-1 racks without side panels and 1 rack with side panels
  - In a rack suite, per connection you require one set of suite connectors

### Finish / Colour

- Basic rack, sheer
- Optional: Door trim, black, RAL 9011



MIR00332

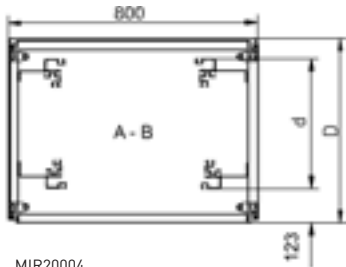
W [mm]	W1 [mm]	X [mm]
600	535	485
700	635	585
800	735	685
900	835	785

D [mm]	D1 [mm]	Y [mm]
600	530	485
800	730	685
900	830	785
1000	930	885
1200	1130	1085

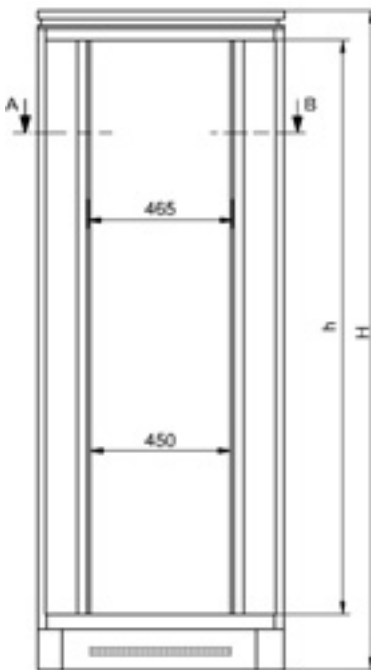


Also in RAL 7021 dark-grey

MIR20301



MIR20004



MIR20004

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, kg = Weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

## Miracel® 19" Distribution Rack, NS 25 Width 800, front glass door, T-slot extrusions

- With fixed 19" installation on the front and rear for components in acc. with IEC 60297
- Installation of chassis runners and 19" shelves possible
- Flexible assembly of the built-in units with T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Heat loss discharge via raised fan top
- Top cover prepared for upgrading with Cool-Blast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

**Jumping space**  
Front, 123 mm

**Load rating**  
5000 N static

**Protection rating**  
IP 40

**Tests**

- Earthing in acc. with DIN EN 60950
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 60529

**Material / Finish**

- Basic rack, extruded aluminium, sheer
- Corner piece, die-cast aluminium, sheer
- Doors, sheet steel, powder-coated texture
- Covers, zinc-plated sheet steel, powder-coated texture

- Glass infill front door, single safety glass panel, 4 mm
- Multifunctional braces, sheet steel, zinc-plated

**Colour**  
**Final digit of order number .1:**  
Visible surface of covers, RAL 7035 light-grey  
**Final digit of order number .8:**  
Visible surface of covers, RAL 7021, dark-grey

**Supply schedule**

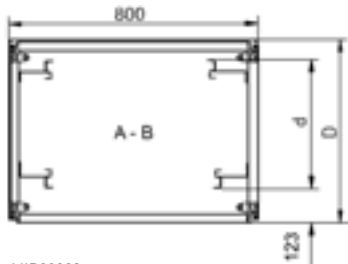
- 1 basic rack
- 4 aluminium vertical extrusions with T-slot and increment slide for spring nut M5
- 2 multifunctional braces for cable clamping and universal mounting options
- 2 side panels with quick connectors
- 1 raised fan cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
- 1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
- 1 rear door, single, sheet steel, with handle and mounting for cylinder lock
- 1 plinth for cable management on the side and rear with levelling feet (0-25 mm)
- 2 plinth trims for front and rear, with vent slots and fixing for filter mat
- 2 plinth trims, closed
- 1 complete earthing set DIN EN 60950

**How supplied**  
Assembled

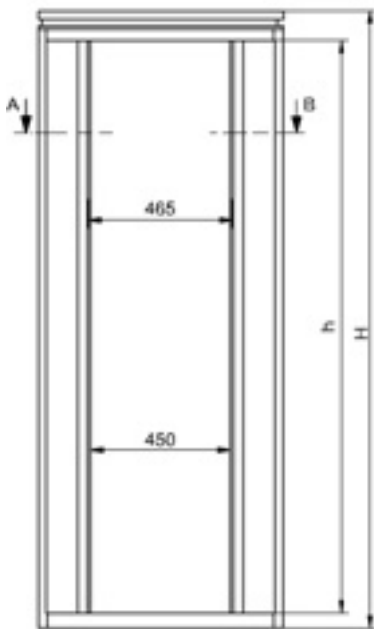
W	H	D	HU	h	d	kg	Model	Order no.	UP
800	2120	600	41	1852	365	112	With side panels/RAL 7035	<b>01.136.044.1</b>	1 unit
800	2120	600	41	1852	365	112	With side panels/RAL 7021	<b>01.136.044.8</b>	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7035	<b>01.136.050.1</b>	1 unit
800	2120	800	41	1852	565	120	With side panels/RAL 7021	<b>01.136.050.8</b>	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7035	<b>01.136.051.1</b>	1 unit
800	2320	800	46	2052	565	130	With side panels/RAL 7021	<b>01.136.051.8</b>	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7035	<b>01.136.056.1</b>	1 unit
800	2120	900	41	1852	665	124	With side panels/RAL 7021	<b>01.136.056.8</b>	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7035	<b>01.136.057.1</b>	1 unit
800	2320	900	46	2052	665	134	With side panels/RAL 7021	<b>01.136.057.8</b>	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7035	<b>01.127.970.1</b>	1 unit
800	2120	1000	41	1852	740	140	With side panels/RAL 7021	<b>01.127.970.8</b>	1 unit
800	2120	600	41	1852	365	103	No side panels, RAL 7035	<b>01.136.244.1</b>	1 unit
800	2120	600	41	1852	365	103	No side panels, RAL 7021	<b>01.136.244.8</b>	1 unit
800	2120	800	41	1852	565	109	No side panels, RAL 7035	<b>01.136.250.1</b>	1 unit
800	2120	800	41	1852	565	109	No side panels, RAL 7021	<b>01.136.250.8</b>	1 unit
800	2120	900	41	1852	665	118	No side panels, RAL 7035	<b>01.136.256.1</b>	1 unit
800	2120	900	41	1852	665	118	No side panels, RAL 7021	<b>01.136.256.8</b>	1 unit
800	2120	1000	41	1852	740	128	No side panels, RAL 7035	<b>01.127.975.1</b>	1 unit
800	2120	1000	41	1852	740	128	No side panels, RAL 7021	<b>01.127.975.8</b>	1 unit



MIR20302



MIR20223



MIR20223

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

## Miracel® 19" Distribution Rack, NS 26 Width 800, front glass door, mounting hole extrusions

- With fixed 19" installation on the front and rear for components in acc. with IEC 60297
- Installation of chassis runners and 19" shelves possible
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

**Jumpering space**  
 Front, 123 mm

**Load rating**  
 5000 N static

**Protection rating**  
 IP 40

**Tests**  
 - Earthing in acc. with DIN EN 60950  
 - IP test in acc. with DIN 40 050 / IEC 60529

**Material / Finish**  
 - Basic rack, extruded aluminium, sheer  
 - Corner piece, die-cast aluminium, sheer  
 - Covers, zinc-plated sheet steel, powder-coated texture  
 - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm  
 - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated

**Colour**  
**Final digit of order number .1:**  
 Visible surface of covers, RAL 7035 light-grey  
**Final digit of order number .8:**  
 Visible surface of covers, RAL 7021, dark-grey

**Supply schedule**  
 1 basic rack  
 4 19" vertical extrusions, sheet steel with mounting holes  
 2 multifunctional braces for cable clamping and universal mounting options  
 2 side panels with quick connectors  
 1 raised fan cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units  
 1 front door, single, single safety glass panel, with handle and mounting for cylinder lock  
 1 rear door, single, sheet steel, with handle and mounting for cylinder lock  
 1 complete earthing set DIN EN 60950  
 4 levelling feet

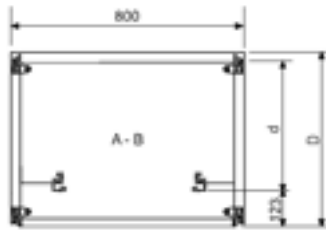
**How supplied**  
 Assembled

**Note**  
 - Not available with double doors  
 - Not available with bottom covers

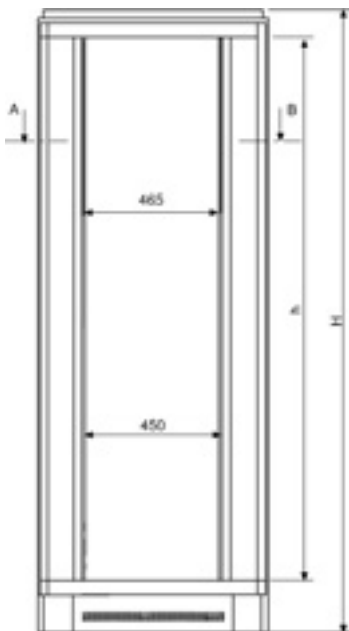
W	H	D	HU	h	d	kg	Model	Order no.	UP
800	2000	600	42	1900	365	108	With side panels/RAL 7035	<b>01.136.274.1</b>	1 unit
800	2000	600	42	1900	365	108	With side panels/RAL 7021	<b>01.136.274.8</b>	1 unit
800	2000	800	42	1900	565	116	With side panels/RAL 7035	<b>01.136.280.1</b>	1 unit
800	2000	800	42	1900	565	116	With side panels/RAL 7021	<b>01.136.280.8</b>	1 unit
800	2200	800	47	2100	565	126	With side panels/RAL 7035	<b>01.136.281.1</b>	1 unit
800	2200	800	47	2100	565	126	With side panels/RAL 7021	<b>01.136.281.8</b>	1 unit
800	2000	900	42	1900	665	120	With side panels/RAL 7035	<b>01.136.286.1</b>	1 unit
800	2000	900	42	1900	665	120	With side panels/RAL 7021	<b>01.136.286.8</b>	1 unit
800	2200	900	47	2100	665	130	With side panels/RAL 7035	<b>01.136.287.1</b>	1 unit
800	2200	900	47	2100	665	130	With side panels/RAL 7021	<b>01.136.287.8</b>	1 unit
800	2000	600	42	1900	365	99	No side panels, RAL 7035	<b>01.136.300.1</b>	1 unit
800	2000	600	42	1900	365	99	No side panels, RAL 7021	<b>01.136.300.8</b>	1 unit
800	2000	800	42	1900	565	105	No side panels, RAL 7035	<b>01.130.306.1</b>	1 unit
800	2000	800	42	1900	565	105	No side panels, RAL 7021	<b>01.136.306.8</b>	1 unit
800	2000	900	42	1900	665	116	No side panels, RAL 7035	<b>01.136.312.1</b>	1 unit
800	2000	900	42	1900	665	116	No side panels, RAL 7021	<b>01.136.312.8</b>	1 unit



MIR20303



MIR00607



MIR00607

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

## Miracel® 19" Distribution Rack, NS 19.8 Width 800, front glass door

- With fixed 19" installation on the front for components in acc. with 60297
- Flexible assembly of the built-in units using T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Heat loss discharge via raised fan top
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

**Jumping space**  
 Front, 123 mm

**Load rating**  
 5000 N static

**Protection rating**  
 IP 40

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN 40 050 / IEC 60529

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel
  - Multifunctional braces, sheet steel, zinc-plated

**Colour**  
 - Visible surface of covers, RAL 7035 light-grey

- Supply schedule**
- 1 basic rack
  - 2 19" aluminium vertical extrusions with T-slot and increment slide for spring nut M5
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 1 raised fan cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
  - 1 front door, single or double, single safety glass panel, with handle and mounting for cylinder lock
  - 1 rear door, single or double, sheet steel, with handle and mounting for cylinder lock
  - 2 side panels with quick connectors (according to model)
  - 1 plinth for cable management on the side and rear with levelling feet (0-25 mm)
  - 2 lateral plinth trims, closed (according to model)
  - 2 plinth trims for front and rear, with vent slots and fixing for filter mat
  - 1 complete earthing test DIN EN 60950

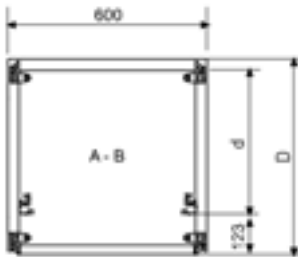
**How supplied**  
 Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
800	1320	600	23	1052	435	78	Glass door, side panel.	<b>01.135.001.1</b>	1 unit
800	1920	600	37	1652	435	103	Glass door, side panel	<b>01.135.003.1</b>	1 unit
800	2120	600	41	1852	435	112	Glass door, side panel	<b>01.135.004.1</b>	1 unit
800	2320	600	46	2052	435	121	Glass door, side panel	<b>01.135.005.1</b>	1 unit
800	1320	800	23	1052	635	80	Glass door, side panel	<b>01.135.019.1</b>	1 unit
800	1920	800	37	1652	635	111	Glass door, side panel	<b>01.135.021.1</b>	1 unit
800	2120	800	41	1852	635	120	Glass door, side panel	<b>01.135.022.1</b>	1 unit
800	2320	800	46	2052	635	129	Glass door, side panel	<b>01.135.023.1</b>	1 unit
800	1320	600	23	1052	435	70	Glass door, no side panel	<b>01.135.007.1</b>	1 unit
800	1920	600	37	1652	435	95	Glass door, no side panel	<b>01.135.009.1</b>	1 unit
800	2120	600	41	1852	435	103	Glass door, no side panel	<b>01.135.010.1</b>	1 unit
800	2320	600	46	2052	435	112	Glass door, no side panel	<b>01.135.011.1</b>	1 unit
800	1320	800	23	1052	635	73	Glass door, no side panel	<b>01.135.025.1</b>	1 unit
800	1920	800	37	1652	635	101	Glass door, no side panel	<b>01.135.027.1</b>	1 unit
800	2120	800	41	1852	635	109	Glass door, no side panel	<b>01.135.028.1</b>	1 unit
800	2320	800	46	2052	635	118	Glass door, no side panel	<b>01.135.029.1</b>	1 unit
800	1320	800	23	1052	635	80	Double glass door, side panel	<b>01.135.037.1</b>	1 unit
800	1920	800	37	1652	635	111	Double glass door, side panel	<b>01.135.039.1</b>	1 unit
800	2120	800	41	1852	635	120	Double glass door, side panel	<b>01.135.040.1</b>	1 unit
800	2320	800	46	2052	635	121	Double glass door, side panel	<b>01.135.041.1</b>	1 unit
800	1320	800	23	1052	635	73	Double glass door, no side panel	<b>01.135.043.1</b>	1 unit
800	1920	800	37	1652	635	101	Double glass door, no side panel	<b>01.135.045.1</b>	1 unit
800	2120	800	41	1852	635	109	Double glass door, no side panel	<b>01.135.046.1</b>	1 unit
800	2320	800	46	2052	635	118	Double glass door, no side panel	<b>01.135.047.1</b>	1 unit

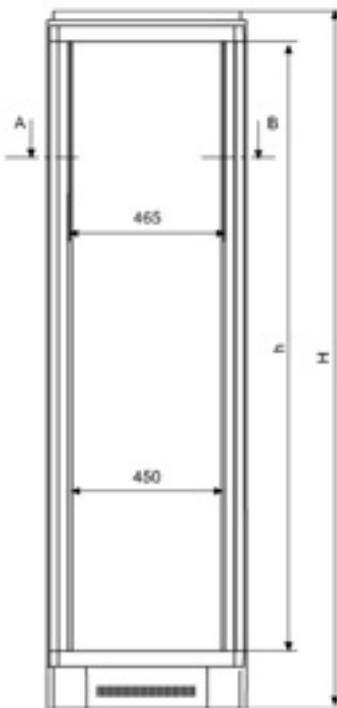




MIR20304



MIR00056



MIR00031

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit, 1 HU = 44.45 mm, UP = Unit of packaging, kg = Weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

## Miracel® 19" Distribution Rack, NS 19.6 Width 600, with front glass door

- With fixed 19" installation on the front for components in acc. with IEC 60297
- Flexible assembly of the built-in units using T-slot
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Heat loss discharge via raised fan top
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

**Jumping space**  
Front, 123 mm

**Load rating**  
5000 N static

**Protection rating**  
IP 40

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN 40 050 / IEC 60 529

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
  - Multifunctional braces, sheet steel, zinc-plated

**Colour**  
- Visible surface of covers, RAL 7035 light-grey

- Supply schedule**
- 1 basic rack
  - 2 19" aluminium vertical extrusions with T-slot and increment slide for spring nut M5
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 1 raised fan cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
  - 1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
  - 1 rear door, single, sheet steel, with handle and mounting for cylinder lock
  - 2 side panels with quick connectors
  - 1 plinth for cable management on the side and rear with levelling feet (0-25 mm)
  - 2 lateral plinth trims, closed
  - 2 plinth trims for front and rear, with vent slots and fixing for filter mat
  - 1 complete earthing test DIN EN 60950

**How supplied**  
Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1320	600	23	1052	435	72	With side panel	<b>01.135.109.1</b>	1 unit
600	1920	600	37	1652	435	95	With side panel	<b>01.135.111.1</b>	1 unit
600	2120	600	41	1852	435	103	With side panel	<b>01.135.112.1</b>	1 unit
600	2320	600	46	2052	435	112	With side panel	<b>01.135.113.1</b>	1 unit
600	1320	800	23	1052	635	74	With side panel	<b>01.135.127.1</b>	1 unit
600	1920	800	37	1652	635	102	With side panel	<b>01.135.129.1</b>	1 unit
600	2120	800	41	1852	635	110	With side panel	<b>01.135.130.1</b>	1 unit
600	2320	800	46	2052	635	119	With side panel	<b>01.135.131.1</b>	1 unit
600	1320	600	23	1052	435	66	Without side panel	<b>01.135.115.1</b>	1 unit
600	1920	600	37	1652	435	89	Without side panel	<b>01.135.117.1</b>	1 unit
600	2120	600	41	1852	435	93	Without side panel	<b>01.135.118.1</b>	1 unit
600	2320	600	46	2052	435	100	Without side panel	<b>01.135.119.1</b>	1 unit
600	1320	800	23	1052	635	68	Without side panel	<b>01.135.133.1</b>	1 unit
600	1920	800	37	1652	635	94	Without side panel	<b>01.135.135.1</b>	1 unit
600	2120	800	41	1852	635	99	Without side panel	<b>01.135.136.1</b>	1 unit
600	2320	800	46	2052	635	106	Without side panel	<b>01.135.137.1</b>	1 unit

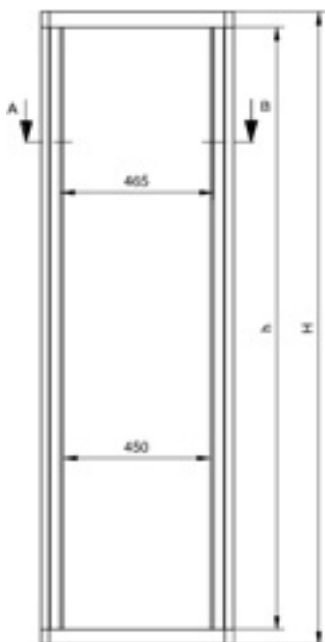




MIR20307



MIR00043a



MIR20002

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

## Miracel® 19" Lab Rack, NO 19 With 2 x 19" T-slot extrusions, width, 600 / 700 / 800

- With fixed 19" installation on the front for components in acc. with IEC 60297
- Flexible assembly of the components using T-slot

**Jumpering space**  
 Front, 123 mm



**Load rating**  
 5000 N static

- Tests**
- Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium
  - Multifunctional braces, sheet steel, zinc-plated

- Supply schedule**
- 1 basic rack
  - 2 19" aluminium vertical extrusions with T-slot and increment slide for spring nut M5
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 4 levelling feet (0-25 mm)

**How supplied**  
 Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
591	1196	585	23	1052	435	14		<b>01.135.793.3</b>	1 unit
591	1796	585	37	1652	435	16		<b>01.135.795.3</b>	1 unit
591	1996	585	41	1852	435	17		<b>01.135.796.3</b>	1 unit
591	2196	585	46	2052	435	18		<b>01.135.797.3</b>	1 unit
591	1196	785	23	1052	635	16		<b>01.135.817.3</b>	1 unit
591	1796	785	37	1652	635	18		<b>01.135.819.3</b>	1 unit
591	1996	785	41	1852	635	19		<b>01.135.820.3</b>	1 unit 
591	2196	785	46	2052	635	20		<b>01.135.821.3</b>	1 unit 
591	1196	885	37	1652	735	19		<b>01.135.842.0</b>	1 unit
591	1996	885	41	1852	735	20		<b>01.135.843.0</b>	1 unit
591	2196	885	46	2052	735	21		<b>01.135.844.0</b>	1 unit
591	1796	985	37	1652	835	20		<b>01.133.600.0</b>	1 unit
591	1996	985	41	1852	835	21		<b>01.133.610.0</b>	1 unit
591	2196	985	46	2052	835	22		<b>01.133.620.0</b>	1 unit
591	1796	1185	37	1652	1035	22		<b>01.133.605.0</b>	1 unit
591	1996	1185	41	1852	1035	23		<b>01.133.615.0</b>	1 unit
591	2196	1185	46	2052	1035	24		<b>01.133.625.0</b>	1 unit
691	1196	585	23	1052	435	15		<b>01.135.799.3</b>	1 unit
691	1796	585	37	1652	435	17		<b>01.135.801.3</b>	1 unit
691	1996	585	41	1852	435	18		<b>01.135.802.3</b>	1 unit
691	2196	585	46	2052	435	19		<b>01.135.803.3</b>	1 unit
691	1196	785	23	1052	635	17		<b>01.135.823.3</b>	1 unit
691	1796	785	37	1652	635	19		<b>01.135.825.3</b>	1 unit
691	1996	785	41	1852	635	20		<b>01.135.826.3</b>	1 unit
691	2196	785	46	2052	635	21		<b>01.135.827.3</b>	1 unit
691	1796	885	37	1652	735	19		<b>01.133.630.0</b>	1 unit
691	1996	885	41	1852	735	20		<b>01.133.645.0</b>	1 unit
691	2196	885	46	2052	735	22		<b>01.133.660.0</b>	1 unit
691	1796	985	37	1652	835	21		<b>01.133.635.0</b>	1 unit
691	1996	985	41	1852	835	22		<b>01.133.650.0</b>	1 unit
691	2196	985	46	2052	835	23		<b>01.133.665.0</b>	1 unit
691	1796	1185	37	1652	1035	23		<b>01.133.640.0</b>	1 unit
691	1996	1185	41	1852	1035	24		<b>01.133.655.0</b>	1 unit
691	2196	1185	46	2052	1035	25		<b>01.133.670.0</b>	1 unit
791	1196	585	23	1052	435	16		<b>01.135.805.3</b>	1 unit
791	1796	585	37	1652	435	18		<b>01.135.807.3</b>	1 unit
791	1996	585	41	1852	435	19		<b>01.135.808.3</b>	1 unit
791	2196	585	46	2052	435	20		<b>01.135.809.3</b>	1 unit

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W	H	D	HU	h	d	kg	Model	Order no.	UP
791	1196	785	23	1052	635	18		<b>01.135.829.3</b>	1 unit
791	1796	785	37	1652	635	20		<b>01.135.831.3</b>	1 unit
791	1996	785	41	1852	635	21		<b>01.135.832.3</b>	1 unit
791	2196	785	46	2052	635	22		<b>01.135.833.3</b>	1 unit
791	1796	885	37	1652	735	21		<b>01.135.847.0</b>	1 unit
791	1996	885	41	1852	735	22		<b>01.135.848.0</b>	1 unit
791	2196	885	46	2052	735	23		<b>01.135.849.0</b>	1 unit
791	1796	985	37	1652	835	20		<b>01.133.675.0</b>	1 unit
791	1996	985	41	1852	835	22		<b>01.133.685.0</b>	1 unit
791	2196	985	46	2052	835	24		<b>01.133.695.0</b>	1 unit
791	1796	1185	37	1652	1035	22		<b>01.133.680.0</b>	1 unit
791	1996	1185	41	1852	1035	24		<b>01.133.690.0</b>	1 unit
791	2196	1185	46	2052	1035	26		<b>01.133.700.0</b>	1 unit

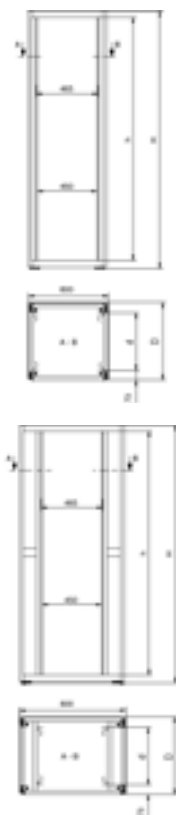


MIR20308

## Miracel® 19" Basic Rack

Width 600 mm and 800 mm with 4 x 19" mounting hole extrusions

- With fixed 19" installation on the front and rear
- Installation of chassis runners and 19" shelves possible
- For components in acc. with IEC 60297
- **For installing:**
  - 19" components on the front and rear
  - Components with maximum width of 450 mm
  - Installation accessories
- **Jumpering space**
  - Front, 73 mm
- **Load rating**
  - 5000 N static
- **Tests**
  - Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
- **Material / Finish**
  - Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium
  - Multifunctional braces and 19" angular extrusions, sheet steel, zinc-plated
- **Supply schedule**
  - 1 basic rack
  - 4 19" sheet steel angular extrusions with mounting holes
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 4 levelling feet (0-25 mm)
- **How supplied**
  - Assembled
- **Note**  
**Rack suites**  
In a rack suite, per connection you require a set of suite connectors BN 01.130.935.7.

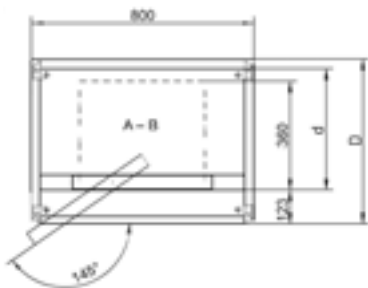


MIR00300

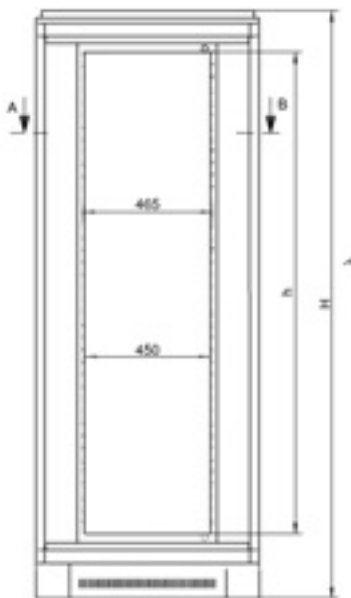
W	H	D	HU	h	d	kg	Model	Order no.	UP
591	1196	585	23	1052	440	14		<b>01.130.190.0</b>	1 unit
591	1796	585	37	1652	440	16		<b>01.130.193.0</b>	1 unit
591	1996	585	41	1852	440	17		<b>01.130.194.0</b>	1 unit
591	2196	585	46	2052	440	18		<b>01.130.195.0</b>	1 unit
591	1196	785	23	1052	640	16		<b>01.130.280.0</b>	1 unit
591	1796	785	37	1652	640	18		<b>01.130.283.0</b>	1 unit
591	1996	785	41	1852	640	19		<b>01.130.284.0</b>	1 unit
591	2196	785	46	2052	640	20		<b>01.130.285.0</b>	1 unit
791	1196	585	23	1052	440	16		<b>01.130.226.0</b>	1 unit
791	1796	585	37	1652	440	18		<b>01.130.229.0</b>	1 unit
791	1996	585	41	1852	440	19		<b>01.130.230.0</b>	1 unit
791	2196	585	46	2052	440	20		<b>01.130.231.0</b>	1 unit
791	1196	785	23	1052	640	18		<b>01.130.316.0</b>	1 unit
791	1796	785	37	1652	640	20		<b>01.130.319.0</b>	1 unit
791	1996	785	41	1852	640	21		<b>01.130.320.0</b>	1 unit
791	2196	785	46	2052	640	22		<b>01.130.321.0</b>	1 unit



MIR20305



MIR00047



MIR00047

## Miracel® 19" Distribution Rack with Swing Frame, NS 19.8 D Width 800, with front glass door, single

- With 19" swing frame for components in acc. with IEC 60297
- Cable entry via plinth and top cover
- Cable entry on the top cover, can be completely removed at the rear, allowing top cover removal and replacement after cabling
- Heat loss discharge via raised fan top
- Top cover prepared for upgrading with CoolBlast® range fan units. This enables flexible adjustments to customer requirements.
- Door opening angle, 180°

### Load rating

- 800 N static in the swing frame
- 5000 N static in total

### Protection rating

IP 40

### Tests

- Earthing in acc. with DIN EN 60950
- Vibration test in acc. with MIL-STD 810 E
- IP test in acc. with DIN 40 050 / IEC 60529

### Material / Finish

- Extruded aluminium
- Corner piece, die-cast aluminium
- Covers, zinc-plated sheet steel, powder-coated texture
- Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
- Swing frame, sheet steel, powder-coated, front board support, zinc-plated
- Multifunctional braces and 19" swing frame, sheet steel, zinc-plated

### Colour

- Visible surface of covers, RAL 7035 light-grey

### Supply schedule

- 1 basic rack
- 1 19" swing frame with mounting holes for caged nuts M5
- 2 multifunctional braces for cable clamping and universal mounting options
- 1 raised fan cover with cable entry (three-piece sliding plates, can also be opened completely), prepared for upgrading CoolBlast® fan units
- 1 front door, single, single safety glass panel, with handle and mounting for cylinder lock
- 1 rear panel with quick connectors
- 2 side panels with quick connectors
- 1 plinth for cable entry on the side and rear with levelling feet (0-25mm)
- 2 plinth trims for front and rear, with vent slots and fixing for filter mat
- 1 complete earthing set DIN EN 60950

### How supplied

Assembled

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, kg = Weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

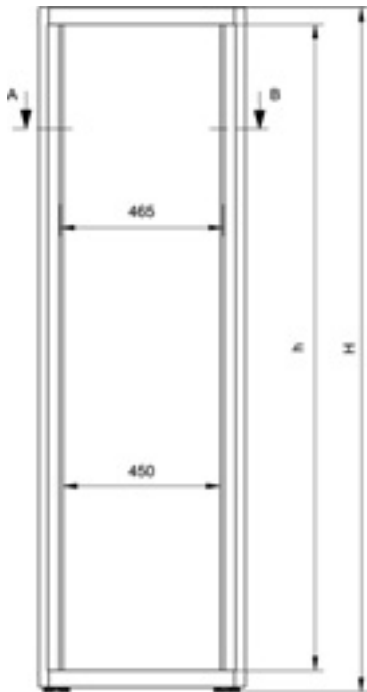
W	H	D	HU	h	d	kg	Model	Order no.	UP
800	2120	600	38	1692.8	435	111	With side panels	<b>01.135.274.1</b>	1 unit
800	2320	600	42	1870.6	435	120	With side panels	<b>01.135.275.1</b>	1 unit
800	2120	800	38	1692.8	635	119	With side panels	<b>01.135.292.1</b>	1 unit
800	2320	800	42	1870.6	635	128	With side panels	<b>01.135.293.1</b>	1 unit



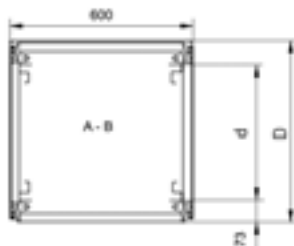
MIR20309

## Miracel® Without front door, width 600 mm

- With fixed 19" installation on the front and rear
- Installation of chassis runners and 19" shelves possible
- For components in acc. with IEC 60297
- **For installing:**
  - 19" components on the front and rear
  - Components with maximum width of 450 mm
  - Installation accessories
- **Jumping space**
  - Front, 73 mm
- **Load rating**
  - 5000 N static
- **Tests**
  - Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
- **Material / Finish**
  - Basic rack, extruded aluminium
  - Corner piece, die-cast aluminium
  - Covers and trim extrusions, zinc-plated sheet steel, powder-coated texture
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated
- **Colour**
  - Basic rack, sheer
  - Visible surface of covers, RAL 7035 light-grey
  - Trim extrusions: RAL 5008 grey-blue
- **Supply schedule**
  - 1 basic rack
  - 4 19" sheet steel angular extrusions with mounting holes
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 1 top cover, closed
  - 1 rear panel with quick connectors
  - 2 side panels with quick connectors
  - 2 horizontal trim extrusions, front
  - 2 vertical trim extrusions, front
  - 4 levelling feet [0-25 mm]
- **How supplied**
  - Assembled



MIR00540



MIR00540

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound


W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200	600	23	1052	440	42		<b>01.131.068.1</b>	1 unit
600	1800	600	37	1652	440	57		<b>01.131.071.1</b>	1 unit
600	2000	600	41	1852	440	62		<b>01.131.072.1</b>	1 unit
600	2200	600	46	2052	440	66		<b>01.131.073.1</b>	1 unit
600	1200	800	23	1052	640	48		<b>01.131.074.1</b>	1 unit
600	1800	800	37	1652	640	63		<b>01.131.077.1</b>	1 unit
600	2000	800	41	1852	640	69		<b>01.131.078.1</b>	1 unit
600	2200	800	46	2052	640	75		<b>01.131.079.1</b>	1 unit



MIR20336



MIR00301

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, kg = Weight,  = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

## Miracel® IP 55 With glass door, single, width 600

- With fixed 19" installation on the front and rear
- For components in acc. with IEC 60297
- Door opening angle, 180°
- **For installing:**
  - 19" components on the front and rear
  - Components with maximum width of 450 mm
  - Installation accessories

- **Jumpering space**
  - Front, 73 mm

- **Load rating**
  - 5000 N static

- **Protection rating**
  - IP 55

- **Tests**
  - Earthing in acc. with DIN EN 60950
  - Vibration test in acc. with MIL-STD 810 E
  - IP test in acc. with DIN 40 050 / IEC 60529

- **Material / Finish**
  - Basic rack, extruded aluminium, sheer
  - Corner piece, die-cast aluminium, sheer
  - Covers, zinc-plated sheet steel, powder-coated texture
  - Doors, sheet steel, powder-coated texture, glass infill, front door, single safety glass panel, 4 mm
  - Multifunctional braces and 19" extrusions, sheet steel, zinc-plated

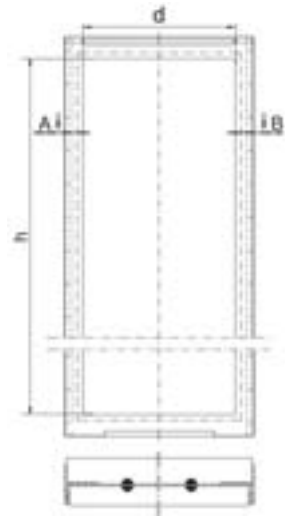
- **Colour**
  - Visible surface of covers, RAL 7035 light-grey

- **Supply schedule**
  - 1 basic rack
  - 4 19" sheet steel angular extrusions with mounting holes
  - 2 multifunctional braces for cable clamping and universal mounting options
  - 1 top cover, closed, IP 55
  - 1 front door, single, single safety glass panel, with handle and mounting for cylinder lock, IP 55
  - 1 rear panel with quick connectors, IP 55
  - 2 side panels with quick connectors, IP 55
  - 1 bottom cover, closed, IP 55
  - 4 levelling feet (0-25 mm)

- **How supplied**
  - Assembled

- **Note**
  - Rack suites**
  - To create a rack suite with "n" racks, you require:
    - (n-1) racks without side panels
    - 1 rack with side panels
  - In a rack suite, per connection you require a set of suite connectors BN 01.130.935.7.

IP 55 sealing frame on request!



Sealing frame

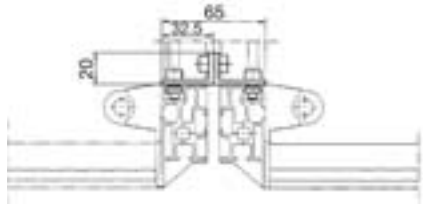
MIR00304

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200	600	23	1052	440	55		<b>01.132.268.1</b>	1 unit
600	1800	600	37	1652	440	75		<b>01.132.271.1</b>	1 unit
600	2000	600	41	1852	440	80		<b>01.132.272.1</b>	1 unit
600	2200	600	46	2052	440	86		<b>01.132.273.1</b>	1 unit
600	1200	800	23	1052	640	65		<b>01.132.274.1</b>	1 unit
600	1800	800	37	1652	640	83		<b>01.132.277.1</b>	1 unit
600	2000	800	41	1852	640	90		<b>01.132.278.1</b>	1 unit
600	2200	800	46	2052	640	96		<b>01.132.279.1</b>	1 unit

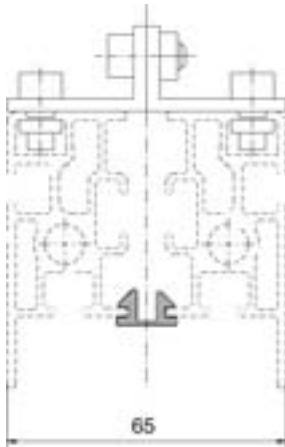




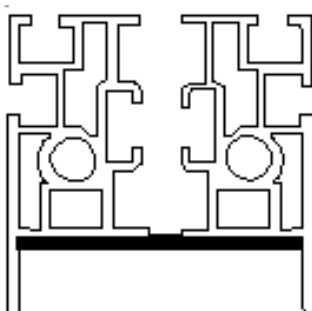
MIR00100



MIR00168



MIR00320



MIR20036

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

### Miracel® Rack Connector Internal mounting

- For mechanical, stable connection of rack and frame suites

**Material / Finish**  
 - Sheet steel, 2 mm, zinc-plated

**Supply schedule**  
 8 mounting brackets  
 (for connecting 2 racks / frames)  
 Mounting material



**How supplied**  
 Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.935.7</b> 	1 unit

### Miracel® Cover Extrusion for Rack Suites, IP 20

**Material**  
 PVC extruder extrusion, black

**Supply schedule**  
 2 vertical lengths  
 2 depth lengths

W	H	D	HU	h	d	kg	Model	Order no.	UP
1200	D 600	23						<b>01.131.270.9</b>	1 unit
1800	D 600	37						<b>01.131.273.9</b>	1 unit
2000	D 600	41						<b>01.131.274.9</b>	1 unit
2200	D 600	46						<b>01.131.275.9</b>	1 unit
1200	D 800	23						<b>01.131.276.9</b>	1 unit
1800	D 800	37						<b>01.131.279.9</b>	1 unit
2000	D 800	41						<b>01.131.280.9</b> 	1 unit
2200	D 800	46						<b>01.131.281.9</b> 	1 unit
1200	D 900	23						<b>01.131.282.9</b>	1 unit
1800	D 900	37						<b>01.131.285.9</b>	1 unit
2000	D 900	41						<b>01.131.286.9</b>	1 unit
2200	D 900	46						<b>01.131.287.9</b>	1 unit
2000	D 1000	41						<b>01.127.760.9</b>	1 unit
2200	D 1000	46						<b>01.127.761.9</b>	1 unit

### Miracel® Rack Connector External mounting

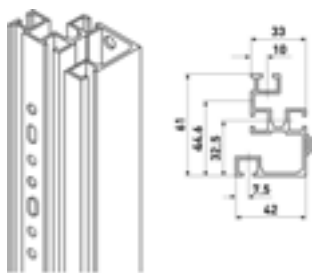
- For secure connection of several racks  
 - Front and rear external mounting

**Material**  
 - Sheet steel, 1 mm, zinc-plated

**Supply schedule**  
 8 mounting straps  
 Mounting material

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.127.114.9</b>	1 unit

MIR00307



## Miracel® 19" Vertical Extrusion, Aluminium With T-slot and increment slide

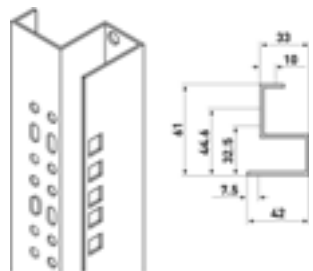
- For front and rear installation in the rack
- Spring nut, variable and adjustable in HU increment (19")
- Please also order assembly kit with initial installation of vertical extrusions

**Material**  
Extruded aluminium, sheer

**Supply schedule**  
2 vertical extrusions with increment slide

W	H	D	HU	h	d	kg	Model	Order no.	UP
			16	714			Short inst.	<b>01.130.830.0</b>	1 unit
			23	1025			Short inst.	<b>01.130.832.0</b>	1 unit
	1200		23	1100				<b>01.130.828.0</b>	1 unit
	1800		37	1700				<b>01.130.834.0</b>	1 unit
	2000		41	1900				<b>01.130.835.0</b>	1 unit
	2200		46	2100				<b>01.130.836.0</b>	1 unit

MIR00309



## Miracel® 19" Vertical Extrusion, Steel With mounting holes

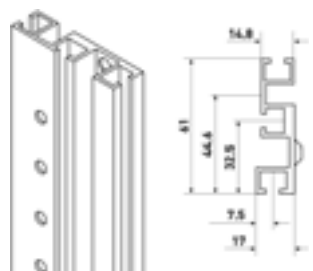
- For front and rear installation in the rack
- Caged nut mountable in HU increments (19")
- Please also order assembly kit with initial installation of vertical extrusions

**Material**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
2 vertical extrusions with mounting holes

W	H	D	HU	h	d	kg	Model	Order no.	UP
			16	714			Short inst.	<b>01.130.805.0</b>	1 unit
			23	1025			Short inst.	<b>01.130.807.0</b>	1 unit
	1200		23	1100				<b>01.130.803.0</b>	1 unit
	1800		37	1700				<b>01.130.809.0</b>	1 unit
	2000		41	1900				<b>01.130.810.0</b>	1 unit
	2200		46	2100				<b>01.130.811.0</b>	1 unit

MIR00308



## Miracel® Vertical Extrusion, MEPS 20 modules

- For metric racks, 20 modules
- Spring nut, variable and adjustable in standard increment
- Please order suitable assembly kit for rack widths 700 / 800

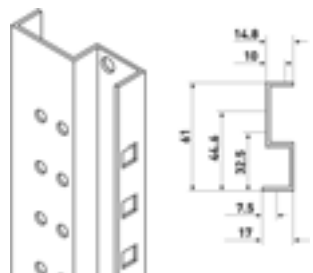
**Material**  
- Type 1: Extruded aluminium, sheer  
- Type 2: Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
2 vertical extrusions

→Type 1

W	H	D	Module	h	d	kg	Model	Order no.	UP
	1800		66	1700			Alu T-SLOT	<b>01.130.847.0</b>	1 unit
	2000		74	1900			Alu T-SLOT	<b>01.130.848.0</b>	1 unit
	2200		82	2100			Alu T-SLOT	<b>01.130.849.0</b>	1 unit
	1800		66	1700			St. mount. holes	<b>01.130.822.0</b>	1 unit
	2000		74	1900			St. mount. holes	<b>01.130.823.0</b>	1 unit
	2200		82	2100			St. mount. holes	<b>01.130.824.0</b>	1 unit

MIR00311

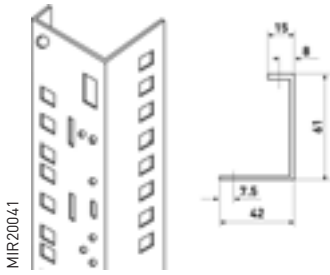


→Type 2



### Note

19" alu extrusions with mounting holes on request



MIR20041

### Miracel® 19" Server Extrusion, Steel With mounting holes

- For mounting trade standard 19" servers
- Please order suitable assembly kit for rack widths 700 / 800
- Please order mounting adapter for Knürr standard components

**Material**  
Sheet steel, 2 mm, zinc-plated

**Supply schedule**  
4 19" server extrusions

W	H	D	HU	h	d	kg	Model	Order no.	UP
	2000		41					<b>01.127.214.0</b>	1 unit
	2200		46					<b>01.127.215.0</b>	1 unit



MIR20044

### Miracel® Mounting Adapter for 19" Server Extrusion

- For mounting Knürr standard components (storage shelves, drawers, chassis runners, keyboard runners, etc.) in 19" installation space

**Material**  
Sheet steel, zinc-plated

**Supply schedule**  
4 adapters

W	H	D	HU	h	d	kg	Model	Order no.	UP
			1					<b>01.127.119.9</b>	1 unit



MIR00510

### Miracel® Assembly Kits for Extrusions

- **Supply schedule**
- 4 node brackets (full installation)
- 2 node brackets (shortened installation)
- 2 Z brackets (shortened installation)
- Mounting material

W	H	D	HU	h	d	kg	Model	Order no.	UP
700							Short inst.	<b>01.131.219.7</b>	1 unit
800							Short inst.	<b>01.131.221.7</b>	1 unit
700							Full inst.	<b>01.131.220.7</b>	1 Stk
800							Full inst.	<b>01.131.222.7</b>	1 Stk



MIR20265

### HU Tape Measure

- To stick on Miracel 19" extrusions
- Enables rapid component positioning on the correct HU position
- Standard length, 46 HU, shorten as required

**Supply schedule**  
1 tape measure

W	H	D	HU	h	d	kg	Model	Order no.	UP
			46					<b>01.128.400.9</b>	1 unit



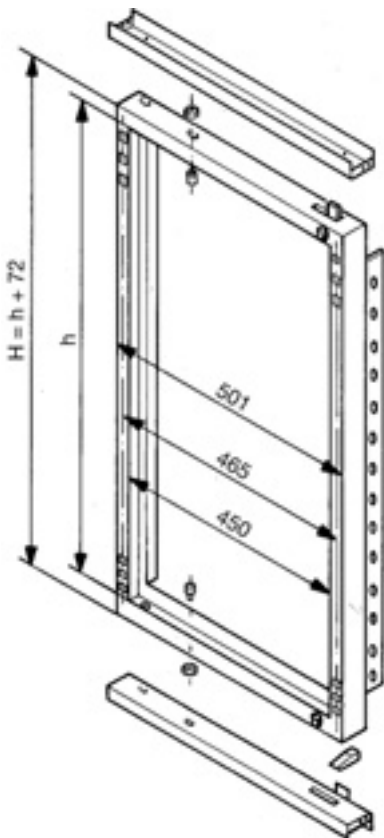
MIR20264

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00162

## Miracel® Swing Frame, 90° / 105° / 130°

**Maximum installation weight**  
80 kg

**Also order assembly kit**  
01.131.317.1

**Swing frame earthing set**  
01.110.610.9

**Material**  
Sheet steel, 2 mm

**Finish**  
Powder-coated texture, RAL 7035  
light-grey

**Note**  
The rack's nominal installation height is reduced by 3 HU with the installation of a swing frame

**Supply schedule**  
1 frame  
2 horizontal rails  
1 square spanner  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
800	2000		38	1692.8				<b>01.117.079.1</b>	1 unit

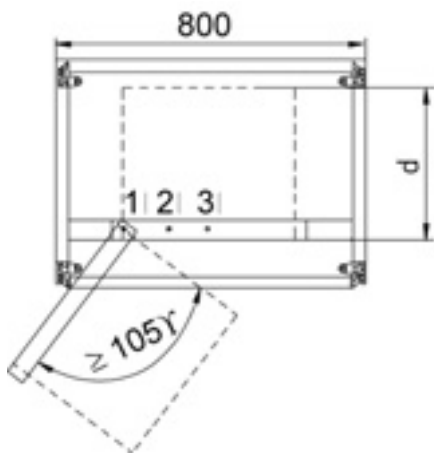
## Useful depth according to rack type and pivot point

**A** Centered inst., pivot point 1  
**B** Centered inst., pivot point 2

**C** Centered inst., pivot point 3

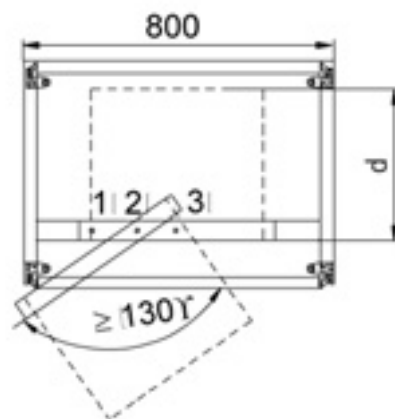
W [mm]	H [mm]	D [mm]
800		600
800		800

A	B	C	D
390	370	360	285
535	370	360	285



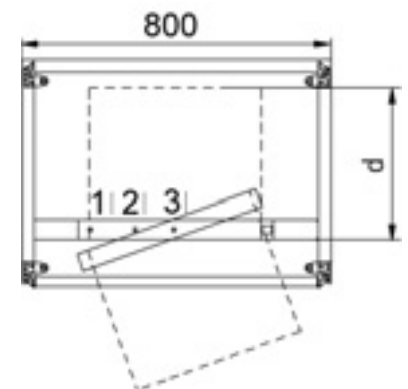
MIR00322

**A**



MIR00323

**B**



MIR00324

**C**

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00209

## 19" Swing Frame, 180°

- With swing frame use the rack must be screwed to the floor.
- Installation of the swing frame reduces the rack's nominal installation height by 2 HU.
- With load rating > 80 kg installation weight, please also order additional assembly kit, side panel screwing!

### 19" swing frame, 180°

- For mounting 19" components in acc. with IEC 297-3
- Enables free accessibility to the second mounting level and to the installation components in the swing frame
- Can be mounted in rack widths 600 and 800 mm

### Material

- Frame, 2 mm sheet steel
- Die-cast aluminium pivot bearing

### Finish / Colour

- Frame and horizontal rail, powder-coated texture, RAL 7035 light-grey
- Front panel support on the vertical post, zinc-plated

### Supply schedule

- 1 19" swing frame, complete
- 1 horizontal mounting, below
- 1 horizontal mounting, above
- 1 square spanner
- Mounting material

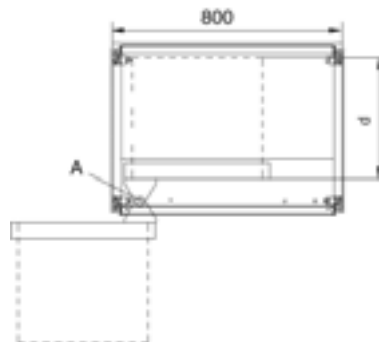
W	H	D	HU	h	d	kg	Model	Order no.	UP
800	2000		39	1737				<b>01.131.430.1</b>	1 unit

## Useful depth according to rack type and pivot point

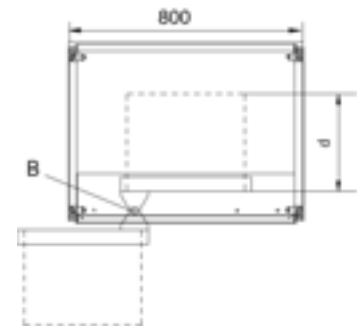
- A** External inst., external pivot point
- B** Centered inst., pivot point 1

W [mm]	H [mm]	D [mm]
800		600/800

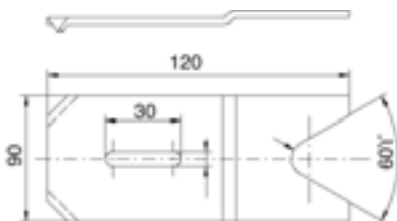
A	B
420	290



MIR00315



MIR00316



MIR00319

## Base Fixing Kit

- Material**  
Sheet steel, 3.0 mm

- Finish**  
Zinc-plated

- Supply schedule**  
4 clamping plates

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.934.7</b>	1 unit





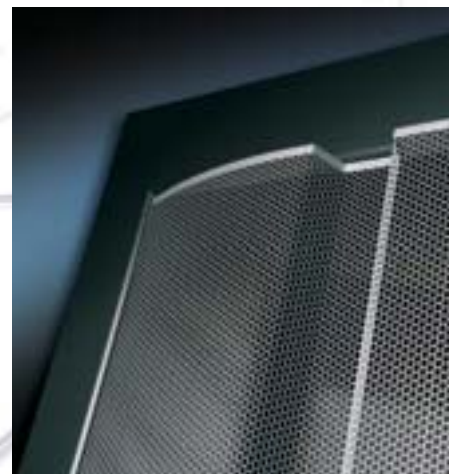
## Design – A Compulsory Requirement

Design doesn't just mean structuring shape. Design also creates a level of communication between **product and person!**

Both functional via usage visualization and emotional via presentation and overall appearance, products are incorporated into dialog concerning the environment! The designer isn't just a skilled provider of form - they must also be able to precisely direct this dialog.

Using the relevant individual components, our designers create an overall statement that more than does justice to the criteria comprised of technology, ergonomics, ecology, economy and aesthetics, and unites these criteria in one product that reflects the highest standard of quality. We at Knürr very specifically ensure that the design performance isn't just used for standards, but rather is also provided for the benefit of our customers!

Powerful design is a characteristic that Knürr uses to demonstrate its quality concepts. Knürr products therefore have, among so many other attributes, high longlife value.



**knürr**  
environments for electronics



Customer applications - Design studies



## Design – A brandname ambassador

Design is an extremely important part of a product's and a company's total differentiation potential.

A successful design releases emotions, awakens enthusiasm and strengthens the brandname.

In this respect, individual design solutions transmit the characteristics of the brand and support the company's profiling with the customer, and in competing with others.





MIR20339

### Miracel® Design Door

- Material**  
Sheet steel, 1.0 mm
- Finish / Colour**  
Door frame, powder-coated texture  
RAL7021 dark-grey  
Design element, powder-coated texture  
RAL 9006, white aluminium
- Supply schedule**  
1 design door  
Mounting material
- How supplied**  
Preassembled

W	H	D	HU	Model	Order no.	UP
600	2000	41		Design door, closed	<b>01.128.150.8</b>	1 unit
600	2200	46		Design door, closed	<b>01.128.151.8</b>	1 unit
700	2000	41		Design door, closed	<b>01.128.152.8</b>	1 unit
700	2200	46		Design door, closed	<b>01.128.153.8</b>	1 unit
600	2000	41		Design door, hexag. perforation	<b>01.128.154.8</b>	1 unit
600	2200	46		Design door, hexag. perforation	<b>01.128.155.8</b>	1 unit
700	2000	41		Design door, hexag. perforation	<b>01.128.156.8</b>	1 unit
700	2200	46		Design door, hexag. perforation	<b>01.128.157.8</b>	1 unit

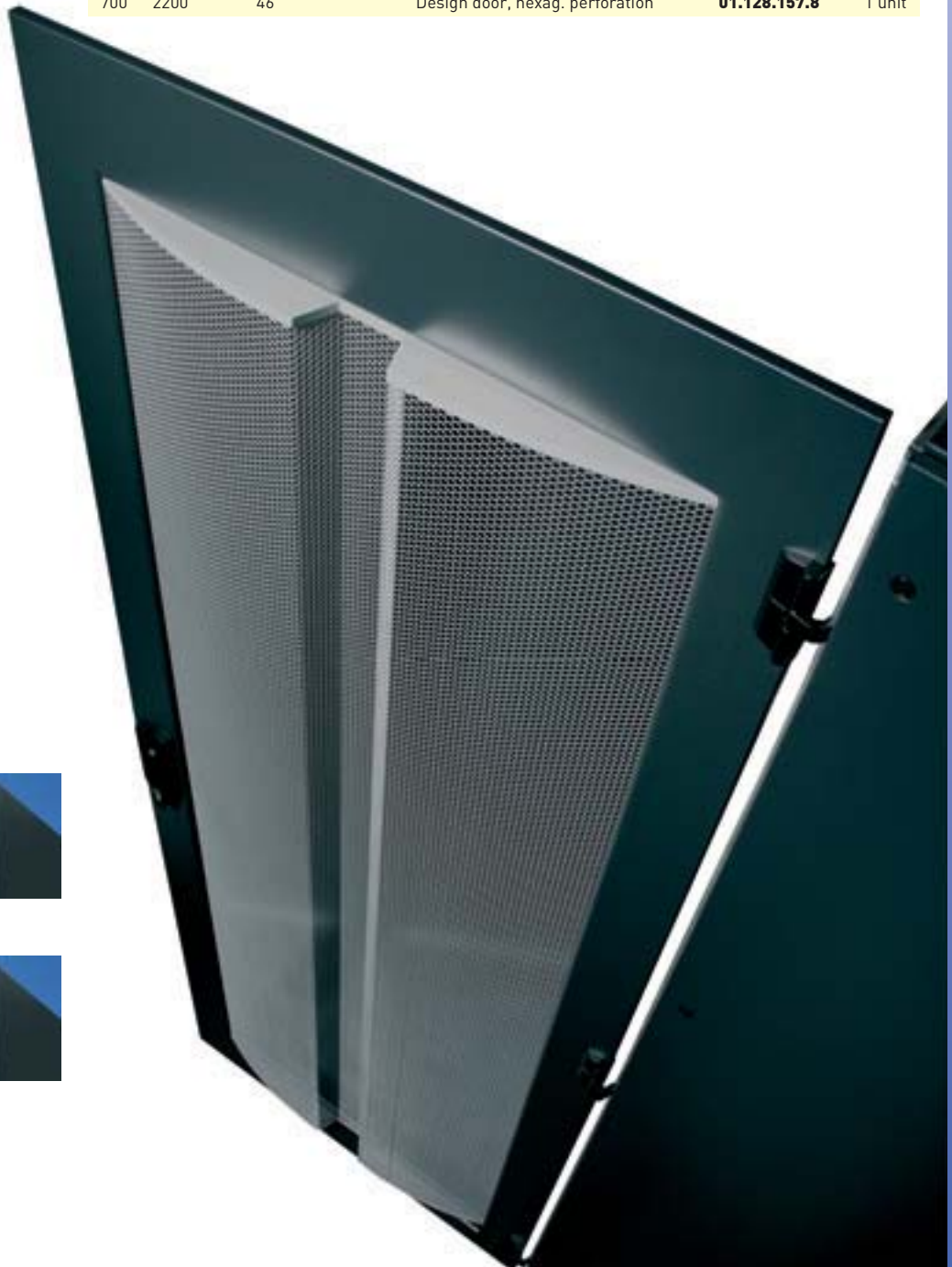
**Design studies for attachable door trims**  
Further information on request!



MIR20327



MIR20326





MIR20310

## Miracel® Sheet Steel Door with Perforation, Single

### Material

Sheet steel, 1.0 mm

### Finish / Colour

Final digit of order number .1: powder-coated texture  
RAL 7035 light-grey  
Final digit of order number .8: powder-coated texture  
RAL 7021 dark-grey

### Supply schedule

1 door  
Mounting material

### Volume flow

A large surface perforation (83% free surface) enables optimum airflow through the rack

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200						Compl. door, RAL 7035	<b>01.128.230.1</b>	1 unit
600	1200						Compl. door, RAL 7021	<b>01.128.230.8</b>	1 unit
700	1200						Compl. door, RAL 7035	<b>01.128.231.1</b>	1 unit
700	1200						Compl. door, RAL 7021	<b>01.128.231.8</b>	1 unit
800	1200						Compl. door, RAL 7035	<b>01.128.232.1</b>	1 unit
800	1200						Compl. door, RAL 7021	<b>01.128.232.8</b>	1 unit
600	1800						Compl. door, RAL 7035	<b>01.128.242.1</b>	1 unit
600	1800						Compl. door, RAL 7021	<b>01.128.242.8</b>	1 unit
700	1800						Compl. door, RAL 7035	<b>01.128.243.1</b>	1 unit
700	1800						Compl. door, RAL 7021	<b>01.128.243.8</b>	1 unit
800	1800						Compl. door, RAL 7035	<b>01.128.244.1</b>	1 unit
800	1800						Compl. door, RAL 7021	<b>01.128.244.8</b>	1 unit
600	2000						Compl. door, RAL 7035	<b>01.128.246.1</b>	1 unit
600	2000						Compl. door, RAL 7021	<b>01.128.246.8</b>	1 unit
700	2000						Compl. door, RAL 7035	<b>01.128.247.1</b>	1 unit
700	2000						Compl. door, RAL 7021	<b>01.128.247.8</b>	1 unit
800	2000						Compl. door, RAL 7035	<b>01.128.248.1</b>	1 unit
800	2000						Compl. door, RAL 7021	<b>01.128.248.8</b>	1 unit
600	2200						Compl. door, RAL 7035	<b>01.128.250.1</b>	1 unit
600	2200						Compl. door, RAL 7021	<b>01.128.250.8</b>	1 unit
700	2200						Compl. door, RAL 7035	<b>01.128.251.1</b>	1 unit
700	2200						Compl. door, RAL 7021	<b>01.128.251.8</b>	1 unit
800	2200						Compl. door, RAL 7035	<b>01.128.252.1</b>	1 unit
800	2200						Compl. door, RAL 7021	<b>01.128.252.8</b>	1 unit



MIR20277

## Miracel® Sheet Steel Door with Perforation, Double

### Material

Sheet steel, 1.0 mm

### Finish / Colour

Final digit of order number .1: powder-coated texture  
RAL 7035 light-grey  
Final digit of order number .8: powder-coated texture  
RAL 7021 dark-grey

### Supply schedule

1 door  
Mounting material


### Volume flow

A large surface perforation (83% free surface) enables optimum airflow through the rack

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	2000						Double door, RAL 7035	<b>01.128.260.1</b>	1 unit
600	2000						Double door, RAL 7021	<b>01.128.260.8</b>	1 unit
700	2000						Double door, RAL 7035	<b>01.128.261.1</b>	1 unit
700	2000						Double door, RAL 7021	<b>01.128.261.8</b>	1 unit
800	2000						Double door, RAL 7035	<b>01.128.262.1</b>	1 unit
800	2000						Double door, RAL 7021	<b>01.128.262.8</b>	1 unit
600	2200						Double door, RAL 7035	<b>01.128.263.1</b>	1 unit
600	2200						Double door, RAL 7021	<b>01.128.263.8</b>	1 unit
700	2200						Double door, RAL 7035	<b>01.128.264.1</b>	1 unit
700	2200						Double door, RAL 7021	<b>01.128.264.8</b>	1 unit
800	2200						Double door, RAL 7035	<b>01.128.265.1</b>	1 unit
800	2200						Double door, RAL 7021	<b>01.128.265.8</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





MIR20311



MIR20312



MIR00059



MIR00060

## Miracel® Glass Door

**Material**

Sheet steel 1.0 mm, single safety glass panel, 4 mm clear glass, double door, 6.0 mm

**Finish / Colour**

Powder-coated texture  
RAL 7035 light-grey

**Protection rating**

With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved, with double doors IP 20.

**Supply schedule**

1 glass door  
Mounting material

**How supplied**

Preassembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200	23					Single door	<b>01.130.600.1</b>	1 unit
600	1800	37					Single door	<b>01.130.612.1</b>	1 unit
600	2000	41					Single door	<b>01.130.616.1</b>	1 unit
600	2200	46					Single door	<b>01.130.620.1</b>	1 unit
700	1200	23					Single door	<b>01.130.601.1</b>	1 unit
700	1800	37					Single door	<b>01.130.613.1</b>	1 unit
700	2000	41					Single door	<b>01.130.617.1</b>	1 unit
700	2200	46					Single door	<b>01.130.621.1</b>	1 unit
800	1200	23					Single door	<b>01.130.602.1</b>	1 unit
800	1800	37					Single door	<b>01.130.614.1</b>	1 unit
800	2000	41					Single door	<b>01.130.618.1</b>	1 unit
800	2200	46					Single door	<b>01.130.622.1</b>	1 unit
600	1200	23					Double door	<b>01.131.850.1</b>	1 unit
600	1800	37					Double door	<b>01.131.862.1</b>	1 unit
600	2000	41					Double door	<b>01.131.866.1</b>	1 unit
600	2200	46					Double door	<b>01.131.870.1</b>	1 unit
700	1200	23					Double door	<b>01.131.851.1</b>	1 unit
700	1800	37					Double door	<b>01.131.863.1</b>	1 unit
700	2000	41					Double door	<b>01.131.867.1</b>	1 unit
700	2200	46					Double door	<b>01.131.871.1</b>	1 unit
800	1200	23					Double door	<b>01.131.852.1</b>	1 unit
800	1800	37					Double door	<b>01.131.864.1</b>	1 unit
800	2000	41					Double door	<b>01.131.868.1</b>	1 unit
800	2200	46					Double door	<b>01.131.872.1</b>	1 unit

## Miracel® Door Trim

**Material**

Aluminium extrusion or sheet steel

**Finish / Colour**

Powder-coated texture, RAL 9011

**Supply schedule**

1 door trim (single doors)  
2 door trims (double doors)  
Mounting material

**How supplied**

Flat-packed kit

W	H	D	Model	Order no.	UP
600			Double door trim*	<b>01.133.200.9</b>	1 set
700			Double door trim*	<b>01.133.201.9</b>	1 set
800			Double door trim*	<b>01.133.202.9</b>	1 set
600			Door trim	<b>01.133.210.9</b>	1 set
700			Door trim	<b>01.133.211.9</b>	1 set
800			Door trim	<b>01.133.212.9</b>	1 set

\*Cannot be used for glass double doors



MIR20313



MIR20314



MIR00210

## Miracel® Sheet Steel Door

- Material**  
Sheet steel, 1.0 mm
- Finish / Colour**  
Powder-coated texture  
RAL 7035 light-grey
- Protection rating**  
With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved, with double doors IP 40.
- Supply schedule**  
1 sheet steel door  
Mounting material
- How supplied**  
Preassembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200		23				Single door	<b>01.130.576.1</b>	1 unit
600	1800		37				Single door	<b>01.130.588.1</b>	1 unit
600	2000		41				Single door	<b>01.130.592.1</b>	1 unit
600	2200		46				Single door	<b>01.130.596.1</b>	1 unit
700	1200		23				Single door	<b>01.130.577.1</b>	1 unit
700	1800		37				Single door	<b>01.130.589.1</b>	1 unit
700	2000		41				Single door	<b>01.130.593.1</b>	1 unit
700	2200		46				Single door	<b>01.130.597.1</b>	1 unit
800	1200		23				Single door	<b>01.130.578.1</b>	1 unit
800	1800		37				Single door	<b>01.130.590.1</b>	1 unit
800	2000		41				Single door	<b>01.130.594.1</b>	1 unit
800	2200		46				Single door	<b>01.130.598.1</b>	1 unit
600	1200		23				Double door	<b>01.131.820.1</b>	1 unit
600	1800		37				Double door	<b>01.131.835.1</b>	1 unit
600	2000		41				Double door	<b>01.131.840.1</b>	1 unit
600	2200		46				Double door	<b>01.131.845.1</b>	1 unit
700	1200		23				Double door	<b>01.131.821.1</b>	1 unit
700	1800		37				Double door	<b>01.131.836.1</b>	1 unit
700	2000		41				Double door	<b>01.131.841.1</b>	1 unit
700	2200		46				Double door	<b>01.131.846.1</b>	1 unit
800	1200		23				Double door	<b>01.131.822.1</b>	1 unit
800	1800		37				Double door	<b>01.131.837.1</b>	1 unit
800	2000		41				Double door	<b>01.131.842.1</b>	1 unit
800	2200		46				Double door	<b>01.131.847.1</b>	1 unit

## Door Stop

- Variable adjustment, max. 180°

- Material**  
Flat rolled steel, 15 x 3 mm
- Finish**  
Zinc-plated, colourless chrome-plated
- Supply schedule**  
1 door stop  
Mounting material
- Note**  
Not suitable for double doors

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.764.7</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00066

### Door Locking Set

- Supply schedule**  
1 lock set  
2 keys (half-cylinder)

- Note**  
Further cylinder locks on request!

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>05.041.299.9</b>	1 unit



MIR00069

### Locking Set, Complete

- Supply schedule**  
2 cylinders with 2 keys each  
2 lockable fasteners for side panel with 2 keys each

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.940.9</b>	1 unit



MIR00068

### Miracel® Locking Set (for side or rear panel)

- For installation in the side or rear panel
- For protection against unauthorised access
- Later installation also possible

- How supplied**  
Flat-packed kit

- Supply schedule**  
1 lockable fastener  
2 keys

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.938.9</b>	1 unit



MIR00216

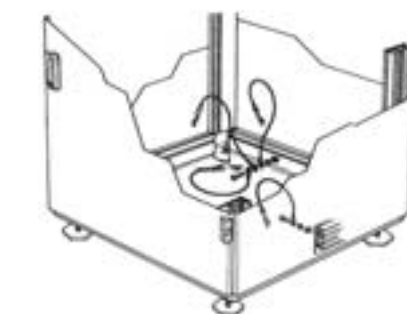
### Door / Side Panel / Rear Panel Earthing Set

- For safe earthing of doors and covers

- How supplied**  
Flat-packed kit

- Supply schedule**  
1 earthline  
Mounting material

W	H	D	Model	Order no.	UP
			For doors	<b>1.130.624.9</b>	1 unit
			For side and rear panel	<b>1.133.745.9</b>	1 unit



MIR00217

### Rack Earthing Set

- For safe rack earthing
- Standardised protective conductor connection

- Supply schedule**  
5 earthlines  
Mounting material

- Standards**  
DIN EN 60950  
VDE 0100

- How supplied**  
Flat-packed kit

W	H	D	Model	Order no.	UP
				<b>01.130.529.9</b>	1 unit



MIR00414



### Note

Plinth with tilt restraint, see 1.20

## Miracel® Plinth Stationary, height 100 mm

- Stationary
- Cable entry possible from all sides
- Panel front and rear with vent slots and installation option for filter mat

**Load rating**  
5000 N static

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035

**Supply schedule**  
4 plinth corners with levelling  
2 plinth panels with slots  
2 plinth panels closed on the side  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	100	600						<b>01.130.538.1</b>	1 unit
600	100	800						<b>01.130.539.1</b>	1 unit
600	100	900						<b>01.130.540.1</b>	1 unit
600	100	1000						<b>01.127.650.1</b>	1 unit
600	100	1200						<b>01.133.710.1</b>	1 unit
700	100	600						<b>01.130.544.1</b>	1 unit
700	100	800						<b>01.130.545.1</b>	1 unit
700	100	900						<b>01.130.546.1</b>	1 unit
700	100	1000						<b>01.127.651.1</b>	1 unit
700	100	1200						<b>01.133.711.1</b>	1 unit
800	100	600						<b>01.130.550.1</b>	1 unit
800	100	800						<b>01.130.551.1</b>	1 unit
800	100	900						<b>01.130.552.1</b>	1 unit
800	100	1000						<b>01.127.652.1</b>	1 unit
800	100	1200						<b>01.133.712.1</b>	1 unit



MIR00076

## Miracel® Plinth Stationary, height 200 mm

- Stationary incl. levelling option
- Cable entry possible from all sides
- Panel front and rear with vent slots and installation option for filter mat

**Load rating**  
3000 N static

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035

**Supply schedule**  
4 plinth corners with levelling  
8 panels  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	200	600						<b>01.130.958.1</b>	1 unit
600	200	800						<b>01.130.959.1</b>	1 unit
600	200	900						<b>01.130.960.1</b>	1 unit
700	200	600						<b>01.130.964.1</b>	1 unit
700	200	800						<b>01.130.965.1</b>	1 unit
800	200	600						<b>01.130.970.1</b>	1 unit
800	200	800						<b>01.130.971.1</b>	1 unit



MIR20088

## Miracel® Castors

- Can be mounted on the threaded eyelet of the basic rack
- Castor diameter, 75 mm
- Threaded bolt, M12
- Load capacity per castor: 100 kg

**Supply schedule**  
4 swivel castors

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
				109.5				<b>05.031.057.9</b>	4 unit



MIR00521

### Miracel® Plinth Trim With brush strip

- For cable entry on the side, front and rear

- Finish**  
Powder-coated texture, RAL 7035

- Supply schedule**  
1 plinth trim with brush strip  
Mounting material

- How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>01.130.744.1</b>	1 unit
800		800						<b>01.130.745.1</b>	1 unit



MIR00161

### Miracel® Filter Mat for Plinth Trim For installation in plinth trim on the front and rear

- Supply schedule**  
2 filter mats

- How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600								<b>01.130.530.9</b>	1 unit
700								<b>01.130.531.9</b>	1 unit
800								<b>01.130.532.9</b>	1 unit



MIR00077

### Miracel® Plinth Mobile, height 100 mm

- Mobile
- Cable entry possible on the rear
- With levelling feet for stationary model

- Load rating**  
3000 N static

- Material**  
Sheet steel, 2 mm

- Finish**  
Powder-coated texture, RAL 7035

- Supply schedule**  
1 plinth frame  
2 fixed castors with snib  
2 swivel castors  
4 levelling feet  
Mounting material

- How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	100	600						<b>01.130.561.1</b>	1 unit
600	100	800						<b>01.130.562.1</b>	1 unit
600	100	900						<b>01.130.563.1</b>	1 unit
600	100	1000						<b>01.127.250.1</b>	1 unit
600	100	1200						<b>01.133.715.1</b>	1 unit
700	100	600						<b>01.130.565.1</b>	1 unit
700	100	800						<b>01.130.566.1</b>	1 unit
700	100	1000						<b>01.127.253.1</b>	1 unit
700	100	1200						<b>01.133.716.1</b>	1 unit
800	100	600						<b>01.130.569.1</b>	1 unit
800	100	800						<b>01.130.570.1</b>	1 unit
800	100	900						<b>01.130.571.1</b>	1 unit
800	100	1000						<b>01.127.254.1</b>	1 unit
800	100	1200						<b>01.133.717.1</b>	1 unit



**Note**  
Plinth with tilt restraint, see 1.20

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





MIR00357


## Miracel® Bottom Cover 3-piece

- For covering the rack underside
- For flexible cable entry on the front and rear

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
3 bottom covers  
2 mounting brackets  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>01.130.750.0</b>	1 unit
600		800						<b>01.130.751.0</b>	1 unit
600		900						<b>01.130.752.0</b>	1 unit
600		1000						<b>01.127.660.0</b>	1 unit
600		1200						<b>01.133.730.0</b>	1 unit
700		600						<b>01.130.753.0</b>	1 unit
700		800						<b>01.130.754.0</b>	1 unit
700		900						<b>01.130.755.0</b>	1 unit
700		1000						<b>01.127.662.0</b>	1 unit
700		1200						<b>01.133.731.0</b>	1 unit
800		600						<b>01.130.756.0</b>	1 unit
800		800						<b>01.130.757.0</b>	1 unit 
800		900						<b>01.130.758.0</b>	1 unit
800		1000						<b>01.127.663.0</b>	1 unit
800		1200						<b>01.133.732.0</b>	1 unit



MIR00355

## Miracel® Bottom Cover For flexible cable entry with rubber sealing, IP 40



- For covering the rack underside
- With rubber sealing for flexible cable entry on the front and rear

**Protection rating**  
With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 40 can be achieved.


**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated  
Sponge rubber, 50 mm x 50 mm

**Supply schedule**  
1 cable entry  
2 bottom covers  
2 mounting brackets  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>01.130.732.0</b>	1 unit
600		800						<b>01.130.733.0</b>	1 unit 
600		900						<b>01.130.734.0</b>	1 unit
600		1000						<b>01.127.670.0</b>	1 unit
600		1200						<b>01.133.740.0</b>	1 unit
700		600						<b>01.130.735.0</b>	1 unit
700		800						<b>01.130.736.0</b>	1 unit
700		900						<b>01.127.671.0</b>	1 unit
700		1000						<b>01.127.672.0</b>	1 unit
700		1200						<b>01.133.741.1</b>	1 unit
800		600						<b>01.130.738.0</b>	1 unit
800		800						<b>01.130.739.0</b>	1 unit 
800		900						<b>01.130.740.0</b>	1 unit
800		1000						<b>01.127.673.0</b>	1 unit
800		1200						<b>01.133.742.0</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00064

### Miracel® Side Panel

**Protection rating**

With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved.

**Material**

Sheet steel, 1.0 mm

**Finish / Colour**

Powder-coated texture, RAL 7035

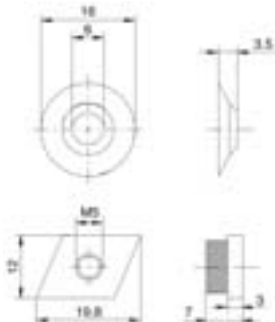
**Supply schedule**

1 side panel  
Mounting material

**How supplied**

Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
1200	600	23						<b>01.130.643.1</b>	1 unit
1200	800	23						<b>01.130.649.1</b>	1 unit
1200	900	23						<b>01.130.655.1</b>	1 unit
1800	600	37						<b>01.130.646.1</b>	1 unit
1800	800	37						<b>01.130.652.1</b>	1 unit
2000	600	41						<b>01.130.647.1</b>	1 unit
2000	800	41						<b>01.130.653.1</b>	1 unit
2000	900	41						<b>01.130.659.1</b>	1 unit
2000	1000	41						<b>01.127.739.1</b>	1 unit
2000	1200	41						<b>01.128.874.1</b>	1 unit
2200	600	46						<b>01.130.648.1</b>	1 unit
2200	800	46						<b>01.130.654.1</b>	1 unit
2200	900	46						<b>01.130.660.1</b>	1 unit
2200	1000	46						<b>01.127.740.1</b>	1 unit
2200	1200	46						<b>01.128.875.1</b>	1 unit



MIR00318

### Miracel® Assembly Kit, Side Panel Screwing

- For screwing the side panels instead of using quick connectors
- Provides additional rack strength

**Material**

Countersunk washers and mounting nuts stainless steel

**Supply schedule** (for 2 side panels)

16 countersunk washers  
16 mounting nuts, M5  
16 countersunk screws, M5 x 12

**How supplied**

Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.937.9</b>	1 unit



MIR20331

### Miracel® Quick Connectors For side and rear panels

- Covers quickly fixed with 90° rotation of the connectors
- Easy with wide flat-head screwdriver

**How supplied**

Sets of 50 units

**Material / Colour**

Final digit of order number .1:  
Polyamide PA66  
RAL 7035 light-grey  
Final digit of order number .9:  
Polyamide PA66  
RAL 9011 dark-grey

Model	Order no.	UP
For side panel RAL 7035	<b>01.133.900.1</b>	1 set
For side panel RAL 9011	<b>01.133.900.9</b>	1 set
For rear panel RAL 7035	<b>01.133.910.1</b>	1 set
For rear panel RAL 9011	<b>01.133.910.9</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
📦 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00064

## Miracel® Rear Panel

### Protection rating

With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved.

### Material

Sheet steel, 1.0 mm

### Finish / Colour

Powder-coated texture, RAL 7035

### Supply schedule

1 rear panel  
Mounting material

### How supplied

Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	1200		23					<b>01.130.662.1</b>	1 unit
600	1800		37					<b>01.130.665.1</b>	1 unit
600	2000		41					<b>01.130.666.1</b>	1 unit
600	2200		46					<b>01.130.667.1</b>	1 unit
700	1200		23					<b>01.130.668.1</b>	1 unit
700	1800		37					<b>01.130.671.1</b>	1 unit
700	2000		41					<b>01.130.672.1</b>	1 unit
700	2200		46					<b>01.130.673.1</b>	1 unit
800	1200		23					<b>01.130.674.1</b>	1 unit
800	1800		37					<b>01.130.677.1</b>	1 unit
800	2000		41					<b>01.130.678.1</b>	1 unit
800	2200		46					<b>01.130.679.1</b>	1 unit



MIR00068

## Miracel® Locking Set (for side or rear panel)

- For installation in the side or rear panel
- For protection against unauthorised access
- Later installation also possible

### Supply schedule

1 lockable fastener  
2 keys

### How supplied

Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.938.9</b>	1 unit



MIR20093

## Miracel® Brush Strip

- Brush strip for all covers with cableentry
- For dust-protected and flexible cable entry
- Instead of mounting the sliding covers in the cover

### Supply schedule

2 brush strips

### How supplied

Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
							For rack width 700/800	<b>01.130.999.9</b>	1 unit
							For rack width 600	<b>01.130.998.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MIR00070

### Miracel® Top Cover Closed, IP 55

- Can be optionally used as top cover or bottom cover (combination with stationary plinth is not possible with use as bottom cover)

**Protection rating**  
With installation in the Miracel rack (depending on the other rack components), a maximum protection class of IP 55 can be achieved.

**Finish**  
Powder-coated texture, RAL 7035

**Supply schedule**  
1 top cover, closed  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>01.130.690.1</b>	1 unit
600		800						<b>01.130.691.1</b>	1 unit
600		900						<b>01.130.692.1</b>	1 unit
600		1000						<b>01.127.700.1</b>	1 unit
600		1200						<b>01.133.760.1</b>	1 unit
700		600						<b>01.130.694.1</b>	1 unit
700		800						<b>01.130.695.1</b>	1 unit
700		900						<b>01.130.696.1</b>	1 unit
700		1000						<b>01.127.701.1</b>	1 unit
700		1200						<b>01.131.761.1</b>	1 unit
800		600						<b>01.130.691.1</b>	1 unit
800		800						<b>01.130.699.1</b>	1 unit
800		900						<b>01.130.700.1</b>	1 unit
800		1000						<b>01.127.702.1</b>	1 unit
800		1200						<b>01.133.762.1</b>	1 unit



ELM00103a

### Front Panel (pivots)

- For covering the lateral jumpering space on the front in Miracel racks, width 800  
- Easy to open with jumpering work

**Material / Finish**  
Sheet steel, 1.0 mm, powder-coated texture

**Colour**  
RAL 7035, light-grey

**Supply schedule**  
2 front panels  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
	1003		23				For rack width 800	<b>01.113.044.1</b>	1 unit
	1803		41				For rack width 800	<b>01.113.048.1</b>	1 unit
	2002		46				For rack width 800	<b>01.113.049.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

# CoolBlast® Top-Mounting Fan for Miracel®



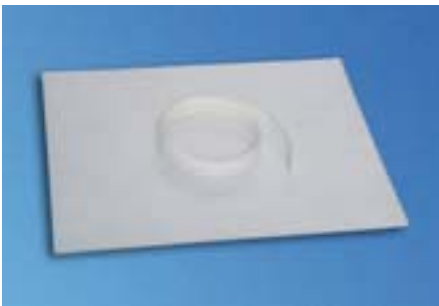




1 LUF20124



2 LUF20162



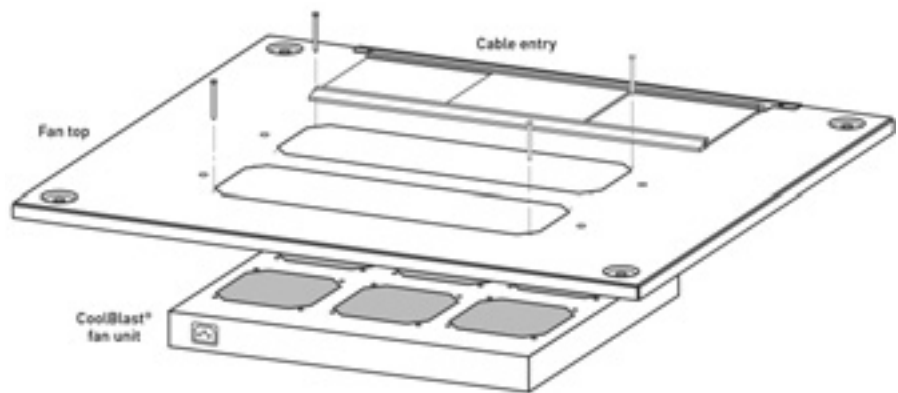
3 LUF20121



4 LUF20124

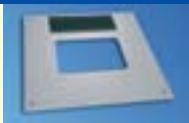


### CoolBlast® Top-Mounting Fan Strong points

- 1 The constantly increasing power loss of electronic modules constantly increases the heat load in the rack.  
The **CoolBlast®** is a modular set-up concept, which means that a suitable solution can be selected for every heat load.
- 2 Knürr's **CoolBlast®** top-mounting fan is available in models with two, three or six fans. Speed-controlled, thermostat-controlled and unregulated models are provided.
- 3 An optional fan lid or an optional filter (see picture) prevent dust from penetrating when the fan is in standstill mode.
- 4 The recently developed protective grid of the **CoolBlast®** top-mounting fan minimizes the pressure loss of the streaming through airflow and reduces streaming noise. The **CoolBlast®** top-mounting fan is a particularly quiet system



LUF20175

### Possible configurations

Consists of	Figure	Questions before installation in Miracel:
Fan top	 1	1. How wide and deep is the rack? 2. For 2, 3 or 6-piece fan unit?
Fan top plus CoolBlast®	 1 + 2	3. What power supply will be required?
Fan top plus CoolBlast® plus filter	 1 + 2 + 3	4. What volume flow is targeted? 5. What pressure? 6. With or without regulated or thermostat-controlled CoolBlast® model?
		7. Correct mains cable? 8. Is particle protection required? (Fan lid and filter)



LUF20203



LUF20205



LUF20124

## CoolBlast® Fan Unit for Top/Door Installation Non-regulated

- For forced rack cooling
- Suitable for installation at any time in the Miracel® top or on the perforated Miracel® door
- DC versions and 115 VAC versions on request (see CoolBlast® fan units)

### Material

Housing: sheet steel, high-grade steel grid

### Finish

Zinc-plated

### Single fan technical data

See page 12.9

### Approvals

CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/366/EEC

### Supply schedule

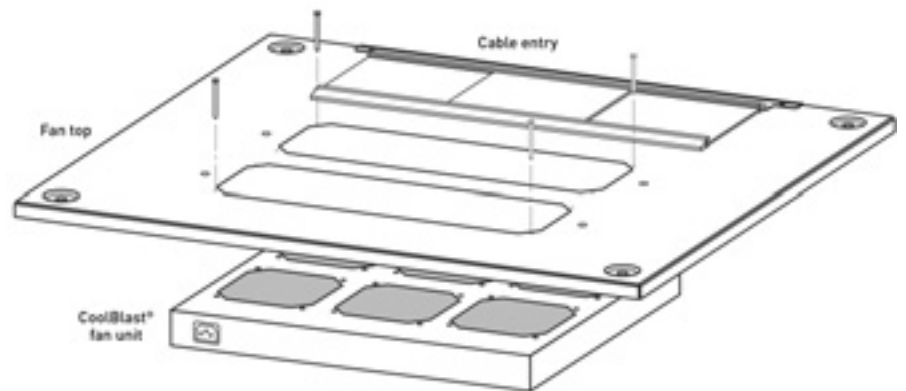
1 CoolBlast fan unit®  
1 mains cable, 3 m with safety plug (230 VAC)  
Mounting material  
Operating instructions

### How supplied

Assembled, wired and tested

### Note

Please also order specific mains cable (see page 7.24)!



LUF20175

Name	Model	Electrical connection	P[W]	$\dot{V}$ (m³/h)	$\Delta P$ [Pa]	p[dB(A)]	Order no.	UP
CoolBlastT 230V 2-piece		207...253 VAC; 50/60 Hz	30	330	74	43.4	<b>03.027.300.1</b>	1 unit
CoolBlastT 230V 3-piece		207...253 VAC; 50/60 Hz	45	495	74	45.2	<b>03.027.301.1</b>	1 unit
CoolBlastT 230V 6-piece		207...253 VAC; 50/60 Hz	90	990	74	48.8	<b>03.027.302.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

SP = Standard Performance  
HP = High Performance  
UP = Ultra High Performance

n = Number of fans  
P = Power consumption [W]  
 $\dot{V}$  = Airflow volume (m³/h)  
 $\Delta\dot{V}$  = Airflow volume loss (%)

$\Delta P$  = Pressure increase [Pa]  
I nom = Nominal current [A]  
I max = Residual current [A]  
V = Voltage [400V = 3-phase]  
p = Sound pressure [dB(A)]  
1 mm from the rack  
(600 mm x 600 mm;  
raised cover)



LUF20204



LUF20206



LUF20124

## CoolBlast® Fan Unit for Top/Door Installation Thermostat-controlled

- For forced rack cooling
- Suitable for installation at any time in the Miracel® top or on the perforated Miracel® door
- 115 VAC versions on request (see CoolBlast® fan units)
- Fan function (ON/OFF) thermostat-controlled, setting from 0° to +60° C

**Material**  
Housing: sheet steel, high-grade steel grid

**Finish**  
Zinc-plated

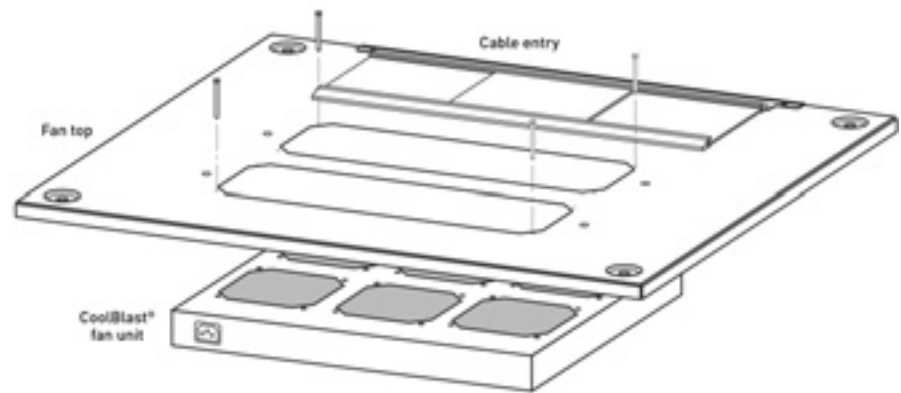
**Single fan technical data**  
See page 12.9

**Approvals**  
CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/366/EEC

**Supply schedule**  
1 CoolBlast fan unit®  
1 mains cable, 3 m with safety plug (230 VAC)  
Mounting material  
Operating instructions

**How supplied**  
Assembled, wired and tested

**Note**  
**Please also order specific mains cable** (see page 7.24)!



LUF20175

Name	Model	Electrical connection	P(W)	$\dot{V}$ (m³/h)	$\Delta P$ (Pa)	p(dB(A))	Order no.	UP
CoolBlastT 230V 2-piece	Thermostat	207...253 VAC; 50/60 Hz	30	330	74	43.4	<b>03.027.310.1</b>	1 unit
CoolBlastT 230V 3-piece	Thermostat	207...253 VAC; 50/60 Hz	45	495	74	45.2	<b>03.027.311.1</b>	1 unit
CoolBlastT 230V 6-piece	Thermostat	207...253 VAC; 50/60 Hz	90	990	74	48.8	<b>03.027.312.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

SP = Standard Performance  
HP = High Performance  
UP = Ultra High Performance

n = Number of fans  
P = Power consumption (W)  
 $\dot{V}$  = Airflow volume (m³/h)  
 $\Delta\dot{V}$  = Airflow volume loss (%)

$\Delta P$  = Pressure increase (Pa)  
I<sub>nom</sub> = Nominal current (A)  
I<sub>max</sub> = Residual current (A)  
V = Voltage (400V = 3-phase)  
p = Sound pressure (dB(A))  
1 mm from the rack  
(600 mm x 600 mm;  
raised cover)



LUF20160



LUF20161



LUF20124

## CoolBlast® Fan Unit for Top/Door Installation Speed-controlled

- For forced rack cooling
- Suitable for installation at any time in the Miracel® top or on the perforated Miracel® door
- DC version on request (see CoolBlast® fan units)
- Settable reference temperature (20° to 55° C)
- Speed control, 30 to 100%, with sensor break 100% rotation
- Individual fan monitoring
- Floating common alarm output for excess temperature alarm and fan failure
- Optical status display for O.K., excess temperature and fan failure
- Acoustic warning incl. reset button

### Material

Housing: sheet steel, high-grade steel grid

### Finish

Zinc-plated front panel, powder-coated smooth in RAL 7035 light-grey

### Single fan technical data

See page 12.9

### Approvals

CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/366/EEC

### Supply schedule

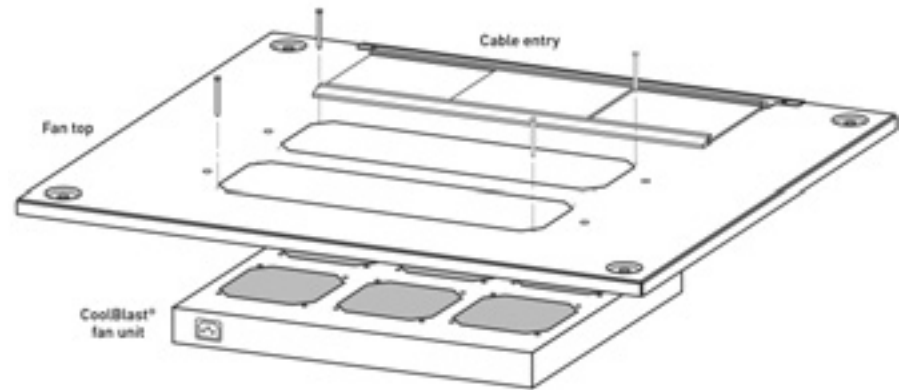
1 CoolBlast fan unit®  
1 sensor cable, 2 m (plug-in)  
1 signal cable, 2 m (plug-in)  
1 mains cable, 3 m with safety plug (230 VAC)  
Mounting material  
Operating instructions

### How supplied

Assembled, wired and tested

### Note

Please also order specific mains cable (see page 7.24)!



LUF20175

Name	Model	Electrical connection	P(W)	$\dot{V}$ (m³/h)	$\Delta P$ (Pa)	$p$ (dB(A))	Order no.	UP
CoolBlastT 230V 3-piece	Regulated SP	100...253 VAC; 50/60 Hz	25	553	68	49.6	<b>03.027.321.1</b>	1 unit
CoolBlastT 230V 6-piece	Regulated SP	100...253 VAC; 50/60 Hz	48	1106	68	53.3	<b>03.027.322.1</b>	1 unit
CoolBlastT 230V 3-piece	Regulated HP	100...253 VAC; 50/60 Hz	32	711	173	55.8	<b>03.027.324.1</b>	1 unit
CoolBlastT 230V 6-piece	Regulated HP	100...253 VAC; 50/60 Hz	62	1422	173	59.1	<b>03.027.325.1</b>	1 unit
CoolBlastT 230V 3-piece	Regulated UP	190...253 VAC; 50/60 Hz	64	825	310	61.8	<b>03.027.327.1</b>	1 unit
CoolBlastT 230V 6-piece	Regulated UP	190...253 VAC; 50/60 Hz	125	1650	310	65.1	<b>03.027.328.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

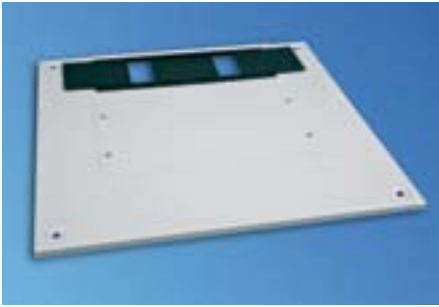
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

SP = Standard Performance  
HP = High Performance  
UP = Ultra High Performance

n = Number of fans  
P = Power consumption (W)  
 $\dot{V}$  = Air volume flow (m³/h)  
 $\Delta\dot{V}$  = Air volume flow loss (%)

$\Delta P$  = Pressure increase (Pa)  
I<sub>nom</sub> = Nominal current (A)  
I<sub>max</sub> = Residual current (A)  
V = Voltage (400V = 3-phase)  
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)



LUF20163



(without fan)

LUF20169

### Fan Top Cover for CoolBlast®

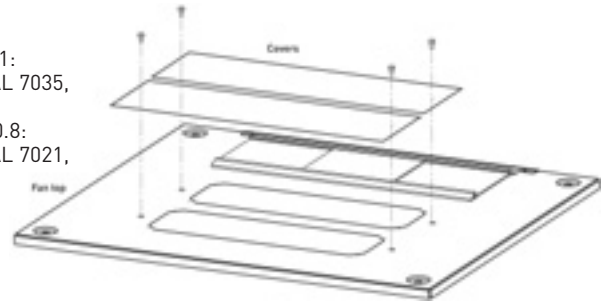
- For use in conjunction with the CoolBlast® fan unit
- Compatible for installation in Miracel
- With cable routing (sliding top)
- Cover divided in two parts for later installation and for servicing

**Material**  
Sheet steel

**Finish / Colour**  
Final digit of order number .1:  
- Powder-coated texture, RAL 7035,  
- Light-grey  
Final digit of order number 0.8:  
- Powder-coated texture, RAL 7021,  
- Dark-grey

**Supply schedule**  
1 top cover with cover strip and cable entry  
2 covers

**How supplied**  
Preassembled



LUF20176

W	H	D	Model	Order no.	UP
600	600		For 2 or 3-piece	<b>01.149.031.X</b>	1 unit
700	600		For 2 or 3-piece	<b>01.149.041.X</b>	1 unit
800	600		For 2 or 3-piece	<b>01.149.051.X</b>	1 unit
600	800		For 2/3 or 6-piece	<b>01.149.033.X</b>	1 unit
700	800		For 2/3 or 6-piece	<b>01.149.043.X</b>	1 unit
800	800		For 2/3 or 6-piece	<b>01.149.053.X</b>	1 unit
600	900		For 2/3 or 6-piece	<b>01.149.034.X</b>	1 unit
700	900		For 2/3 or 6-piece	<b>01.149.044.X</b>	1 unit
800	900		For 2/3 or 6-piece	<b>01.149.054.X</b>	1 unit
600	1000		For 2/3 or 6-piece	<b>01.149.035.X</b>	1 unit
700	1000		For 2/3 or 6-piece	<b>01.149.045.X</b>	1 unit
800	1000		For 2/3 or 6-piece	<b>01.149.055.X</b>	1 unit
600	1200		For 2/3 or 6-piece	<b>01.149.037.X</b>	1 unit
800	1200		For 2/3 or 6-piece	<b>01.149.057.X</b>	1 unit



LUF20121



LUF20168

### Dust and Particle Protection for CoolBlast®

#### Solution 1: Filter mat

- For use in conjunction with the CoolBlast® fan top
- Easy filter covering so that dust cannot penetrate when the fan is stopped (regulated or thermostat-controlled version)
- For all top sizes; filter and adhesive tape can be cut to the required length

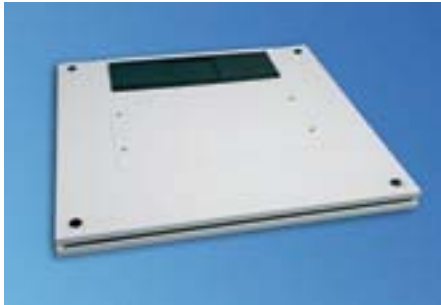
**Material**  
Filedon (filter class - G2)

**Supply schedule**  
1 filter  
Adhesive tape

**How supplied**  
Flat-packed kit

W	H	D	kg	Model	Order no.	UP
				For 2, 3 and 6-piece fan unit	<b>01.149.101.9</b>	1 set





LUF20174



LUF20172

## Dust and Particle Protection for CoolBlast® Solution 2: Vent lid

- For use in conjunction with the CoolBlast® fan top
- Closed top cover with cable entry for protection against foreign particles and dust
- Mounting on the spacer bolts on the standard top cover

**Material**  
Sheet steel

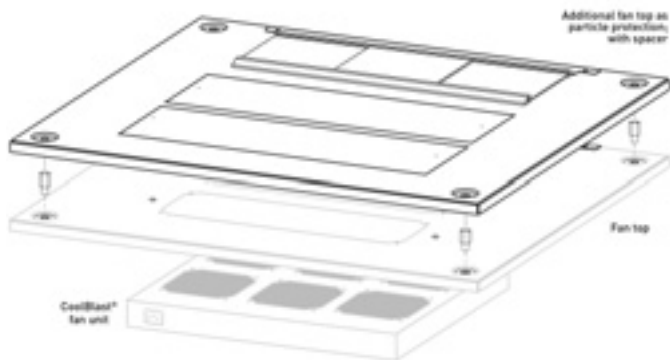
**Finish / Colour**  
Final digit of order number .1:

- Powder-coated texture, RAL 7035
- Light-grey
- Final digit of order number .8:
- Powder-coated texture, RAL 7021
- Dark-grey

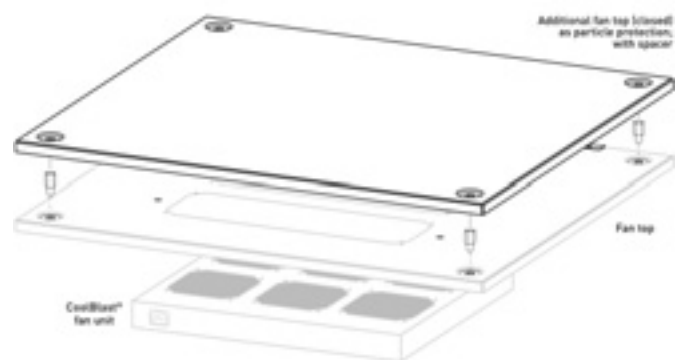
**Supply schedule**  
1 top cover with cable entry

**How supplied**  
Flat-packed kit

W	H	D	Model	Order no.	UP
600	600	With cable entry	<b>01.149.031.X</b>	1 unit	
700	600	With cable entry	<b>01.149.041.X</b>	1 unit	
800	600	With cable entry	<b>01.149.051.X</b>	1 unit	
600	800	With cable entry	<b>01.149.033.X</b>	1 unit	
700	800	With cable entry	<b>01.149.043.X</b>	1 unit	
800	800	With cable entry	<b>01.149.053.X</b>	1 unit	
600	900	With cable entry	<b>01.149.034.X</b>	1 unit	
700	900	With cable entry	<b>01.149.044.X</b>	1 unit	
800	900	With cable entry	<b>01.149.054.X</b>	1 unit	
600	1000	With cable entry	<b>01.149.035.X</b>	1 unit	
700	1000	With cable entry	<b>01.149.045.X</b>	1 unit	
800	1000	With cable entry	<b>01.149.055.X</b>	1 unit	
600	1200	With cable entry	<b>01.149.037.X</b>	1 unit	
800	1200	With cable entry	<b>01.149.057.X</b>	1 unit	
600	600	Closed	<b>01.130.690.X</b>	1 unit	
700	600	Closed	<b>01.130.694.X</b>	1 unit	
800	600	Closed	<b>01.130.691.X</b>	1 unit	
600	800	Closed	<b>01.130.691.X</b>	1 unit	
700	800	Closed	<b>01.130.695.X</b>	1 unit	
800	800	Closed	<b>01.130.699.X</b>	1 unit	
600	900	Closed	<b>01.130.692.X</b>	1 unit	
700	900	Closed	<b>01.130.696.X</b>	1 unit	
800	900	Closed	<b>01.130.700.X</b>	1 unit	
600	1000	Closed	<b>01.127.700.X</b>	1 unit	
700	1000	Closed	<b>01.127.701.X</b>	1 unit	
800	1000	Closed	<b>01.127.702.X</b>	1 unit	



LUF20177



LUF20178

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

SP = Standard Performance  
HP = High Performance  
UP = Ultra High Performance

n = Number of fans  
P = Power consumption (W)  
V̇ = Airflow volume (m³/h)  
ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pa)  
I<sub>nom</sub> = Nominal current (A)  
I<sub>max</sub> = Residual current (A)  
V = Voltage (400V = 3-phase)  
p = Sound pressure (dB(A))  
1 mm from the rack  
(600 mm x 600 mm;  
raised cover)





LUF20202

### Door Add-On for CoolBlast® For perforated doors

- For use in conjunction with the CoolBlast® fan unit (top installation type)
- Suitable for installation in Miracel®
- Suitable for add-on on perforated door at any time
- For preventing hot-spots in the rack

**Material**  
Sheet steel

**Finish / Colour**  
Final digit of order number .1:  
- Powder-coated texture, RAL 7035  
- Light-grey

Final digit of order number .8:  
- Powder-coated texture, RAL 7021  
- Dark-grey

**Supply schedule**  
1 mounting panel  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
When selecting please note the rack width W

W	H	D	For rack type	Order no.	UP
600			Miracel	<b>03.028.101.X</b>	1 set
700			Miracel	<b>03.028.102.X</b>	1 set
800			Miracel	<b>03.028.103.X</b>	1 set



LUF20207

### Fan Installation Set



LUF20180

- For quick and easy forced exhaustion of racks
- Miracel / Tecoras Indoor
- Installation in the top cover area
- No loss of 19" installation space
- Easy installation also possible at a later stage
- Incl. 2 fans (160 m³/h per fan)

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Approvals**  
CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/336/EEC

**Technical data, thermostat**  
Setting range: + 10°C ... + 60°C  
Switching temperature differential (hysteresis): 2 K

Contact type: 1 changeover contact  
Sensor - thermostatic bimetal  
Contact rating: 230 VAC/10 A (heating),  
5 A (cooling)  
Interference suppression - in acc. with DIN 55014

**Supply schedule**  
1 mounting panel for fan  
2 fans  
1 connection cable, 2.0 m with safety plug  
Type 1: With thermostat  
Type 2: Without thermostat  
Mounting material

**How supplied**  
Assembled, wired and tested

W	H	D	For rack type	Order no.	UP
534			Miracel / B 600 / with thermostat	<b>01.113.430.0</b>	1 unit
734			Miracel / B 800 / with thermostat	<b>01.113.431.0</b>	1 unit



LUF20193

### Hot-Spot Fan

- For preventing hot-spots in the rack
- With flexible hose for flexible positioning

**Material**  
Sheet steel

**Single fan technical data**  
See page 12.9

**Finish / Colour**  
- Powder-coated texture, RAL 7021,  
dark-grey

**Supply schedule**  
1 fan with flexible hose  
Mounting material

**How supplied**  
Flat-packed kit

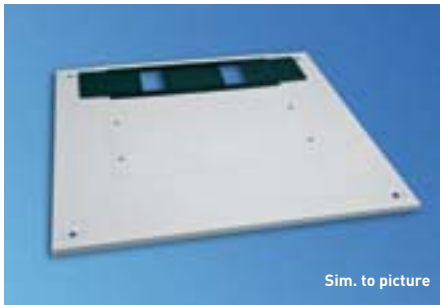
W	H	D	For rack type	Order no.	UP
				<b>03.028.110.8</b>	1 unit



LUF20194



LUF20195



Sim. to picture

LUF20163



LUF20195

## Silent Top-Mounting Fan

- For forced rack cooling
- Suitable for installation in Miracel
- High volume flow with low noise generation (e.g. for office applications)

**Material / Finish**  
Sheet steel

**Single fan technical data**  
Max. volume current (free blowing): 1500 W  
Voltage/frequency: 230 V / 50 Hz  
Power consumption: 117 W  
Noise: 40 dB(A)  
Temperature range: -25...40°C

**Finish / Colour**  
Final digit of order number .1:  
- Powder-coated texture, RAL 7035  
- Light-grey  
Final digit of order number .8:  
- Powder-coated texture, RAL 7021  
- Dark-grey

**Supply schedule**  
1 top-mounting fan  
1 mains cable, 3 m with safety plug (230 VAC)  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please also order suitable top

W	H	D	For rack type	Order no.	UP
			Miracel	<b>03.028.111.x</b>	1 unit

## Fan Top Cover (for silent top-mounting fan)

- For use in conjunction with the silent top-mounting fan
- Suitable for installation in Miracel
- With cable routing (sliding top)
- Cover divided in two parts for later installation and for servicing

**Material / Finish**  
Sheet steel

**Finish / Colour**  
Final digit of order number .1:  
- Powder-coated texture, RAL 7035  
- Light-grey

Final digit of order number .8:  
- Powder-coated texture, RAL 7021  
- Dark-grey

**Supply schedule**  
1 top cover with cover strip and cable entry  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	For rack type	Order no.	UP
600		600	Miracel	<b>01.149.201.x</b>	1 unit
700		600	Miracel	<b>01.149.202.x</b>	1 unit
800		600	Miracel	<b>01.149.203.x</b>	1 unit
600		800	Miracel	<b>01.149.206.x</b>	1 unit
700		800	Miracel	<b>01.149.207.x</b>	1 unit
800		800	Miracel	<b>01.149.208.x</b>	1 unit
600		900	Miracel	<b>01.149.211.x</b>	1 unit
700		900	Miracel	<b>01.149.212.x</b>	1 unit
800		900	Miracel	<b>01.149.213.x</b>	1 unit
600		1000	Miracel	<b>01.149.216.x</b>	1 unit
700		1000	Miracel	<b>01.149.217.x</b>	1 unit
800		1000	Miracel	<b>01.149.218.x</b>	1 unit
600		1200	Miracel	<b>01.149.221.x</b>	1 unit
700		1200	Miracel	<b>01.149.222.x</b>	1 unit
800		1200	Miracel	<b>01.149.223.x</b>	1 unit

# EMC Solutions



**Miracel® EMC Rack  
Double-panelled**

**1.66 to 1.68**

**Miracel® EMC Rack  
Single-panelled**

**1.69 to 1.72**



**Miracel EMC Rack, Double-Panelled**

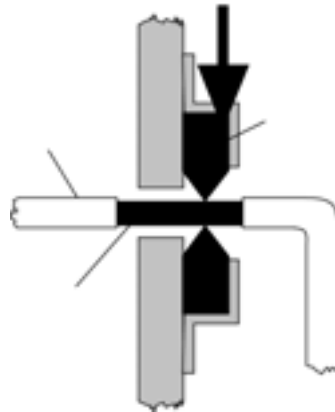


MIR00452

**Miracel 19" EMC Rack, double-panelled EMC concept**  
**Strong points**



1 MIR00453



4 MIR00330

1 Full length high-grade steel EMC springs and foam IP seal for protection against electro-magnetic radiation and environmental influences.

2 Rear-side connection panel for universal cable entry with shortened rear panel or shortened rear door.

3 Reliable cable feed with cable strain relief.

4 Easy operation:  
 Uncover the meshed screen;  
 pass through the cable with plug;  
 clamp the cable with seal.



2 MIR00454



5 MIR00456

5 Perforated covers above and below for thermal management in racks with simultaneous EMC shielding.

6 Perforated covers above and below for thermal management in racks with integrated cable entry and simultaneous EMC shielding.

7 Protection rating up to IP 54 depending on cover selection.



3 MIR00455



6 MIR00458



7 MIR00461



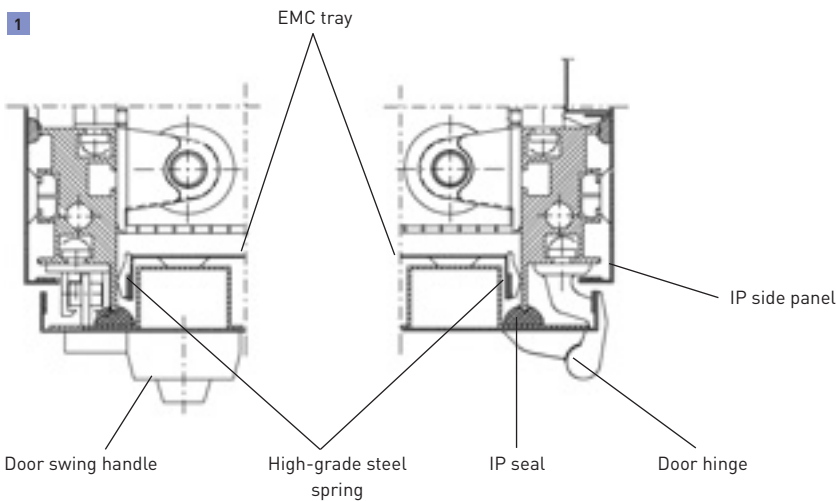
## Technical data

### Miracel 19" EMC Rack, double-panelled EMC concept

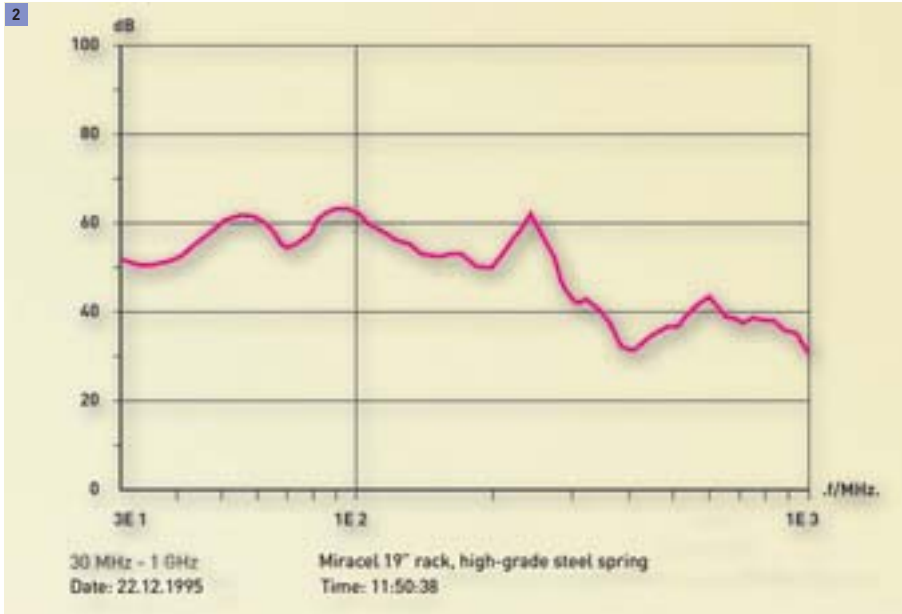
#### 1 EMC Compatible design

The following graphic shows the EMC-design of for Miracel racks.

- EMC shielding is guaranteed by a second skin inside the powder-coated covers.



- The safe, lifelong contacting of the cover on the basic rack is guaranteed by a Knürr-developed and patented high-grade steel spring.
- This EMC spring allows the covers to be opened and closed with ergonomically low closing forces with simultaneously constant safe contacting.
- The appropriate material combinations of EMC trays, EMC spring and basic rack with low potential differences guarantees the longlife cycle of the contact points.
- The IP seals on the outside also protect the high-grade steel springs against aggressive environmental influences.



#### 2 Measurements are made in compliance with the following standards:

- MIL-STD 285 (10 kHz - 30 MHz)
- VG 95373 Part 15 (30 MHz - 1 GHz)

#### EMC test results

Miracel, closed  
Width 600 mm, depth 600 mm,  
37 HU

MIR20196



Miracel EMC Rack, Single-Panelled



## 19" EMC Rack Single-panelled EMC concept (Tecoras Indoor)

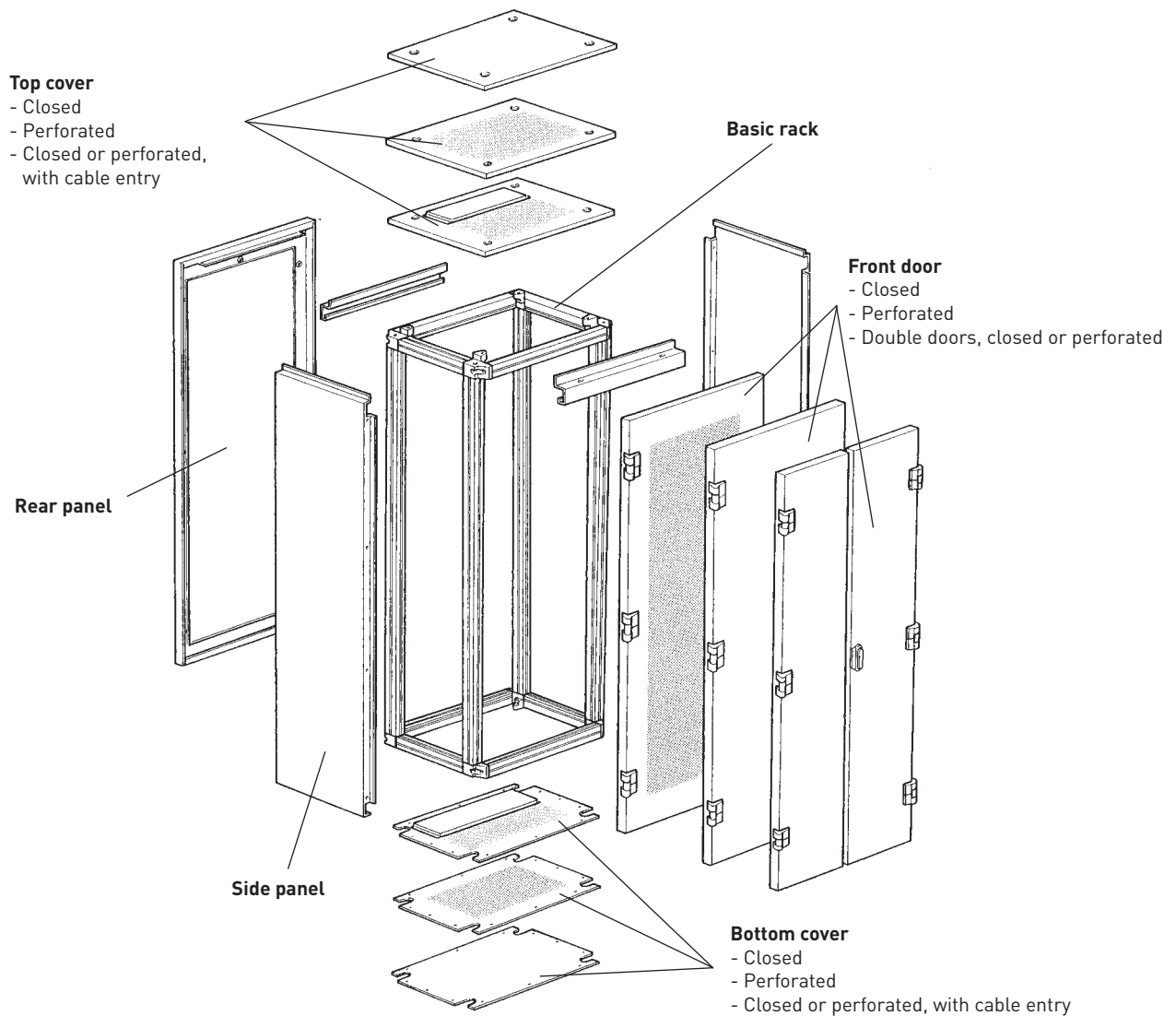
In compliance with IEC 60297 for 19" installation and IEC 60917 for metric installation

- Available in three heights (37, 41, 46 HU), two depths (400 mm, 600 mm) and one standard width (600 mm).
- Different top cover, door and bottom cover variants ensure the required passive air convection according to thermal conditions and corresponding requirements.
- An additional ventilation unit in the top cover area is possible for increased cooling requirements.



TEC00045

## Miracel 19" EMC Rack, single-panelled EMC concept Technical data (Tecoras Indoor)

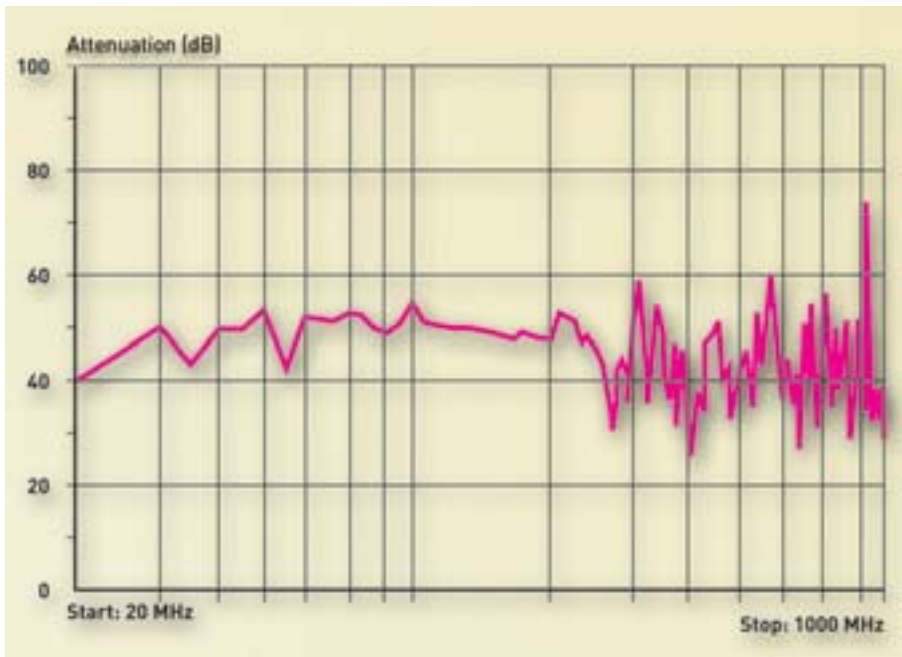


## Miracel 19" EMC Rack, single-panelled EMC concept

### Strong points (Tecoras Indoor)

#### 1 EMC shielding

- Standard EMC shielding with EMC compatible design and use of the corresponding seals in conjunction with protection rating IP 43.



1 TEC20095

#### 2 EMC suites

- A suite set enables the connection of several racks into a rack suite, including cross wiring of the components while retaining the EMC shielding and IP protection rating.
- Cable entry panel connected EMC-based with pocket-strap connection, providing easy removal for carrying out work.

#### 3 Cable entry

- Accessory components allow cable routing from above or below, as you need it.

#### 4 Ventilation concept

- Perforated bottom cover and top cover enable natural convection.
- A ventilation unit, which is outside the installation space, can be mounted in the top cover area to strengthen the convection.
- With higher air intake requirements perforated doors provide an air intake surface over the entire rack height.



2 TEC00028



3 TEC00029



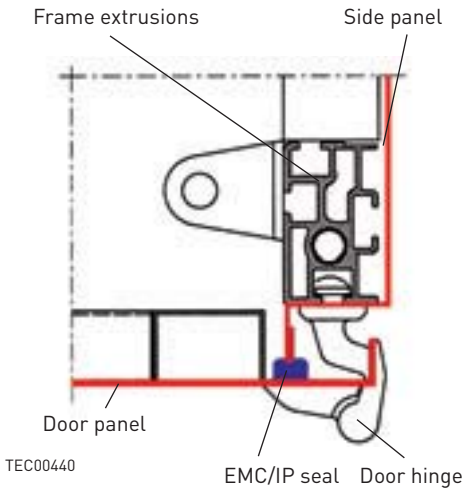
4 TEC00072



3 TEC00028



4 TEC00029



TEC00440

## Technical data

### Miracel 19" EMC Rack, single-panelled EMC concept

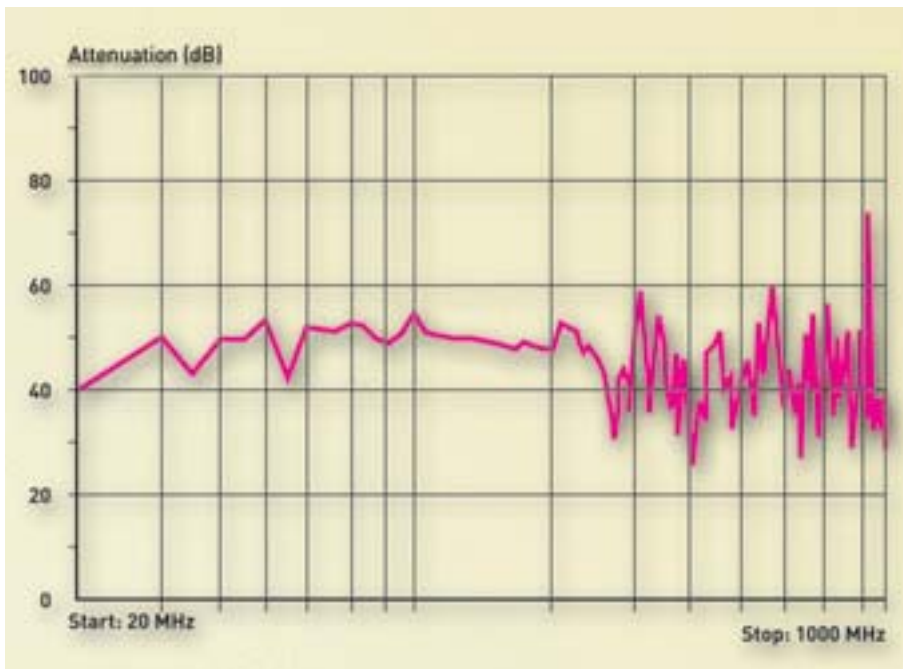
#### 1 EMC Compatible design

The following graphic shows the EMC-design of for Miracel racks.

- Use of EMC/IP seals
- Use of highly-conductive sheet steel (zinc-plated)
- Small and few gaps
- Labyrinth effect
- Use of modern bending technology

## Miracel 19" EMC Rack (single-panelled EMC concept)

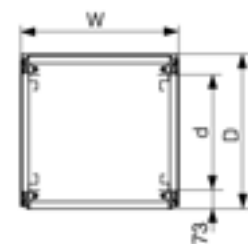
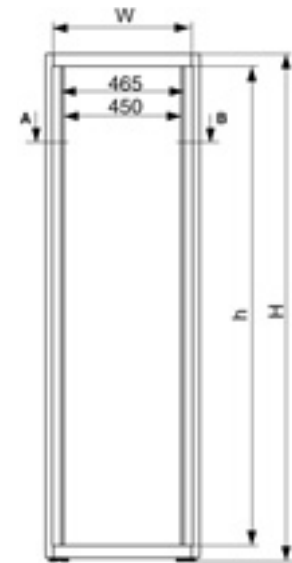
### Technical data, EMC test results



TEC20095

- Tests are made in compliance with the following standards:
  - MIL 285
  - VG 95373 Part 15

- Test rack  
W 600, D 600, H 2000,  
closed version



TEC00082

## Dimensions

Installation height	h	mm	1652	1852	2052	
			HU	37	41	46
			Module	66	74	82
Total height	H	mm	1800	2000	2200	
Inst. width	w	mm	482.6 (19")	482.6 (19")	482.6 (19")	
			Module	20	20	20
Total width	W	mm	600	600	600	
Inst. depth	d	mm	235	235	235	
			mm	435	435	435
Total depth	D	mm	400	400	400	
			mm	600	600	600

# Smaract®

19" Compact Rack

19" Server Compact Rack 2.2 to 2.21





## Network and Server Rack

<b>Smaract®</b>	
Strong points	2.4
<b>Smaract®</b>	
19" Compact Rack	2.6
<b>Smaract®</b>	
19" Server Compact Rack	2.7
<b>Smaract®</b>	
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<b>Smaract®</b>	
19" EMC Compact Rack	2.16
<b>Smaract®</b>	
19" IP 54 Compact Rack	2.19

## Innovation today: Smaract®

The Knürr **Smaract®** Compact Rack isn't just a further development of the LAN racks that we already know and that have been proven in use for some time now; it is, in fact, more of a specific response to the requirement for decentralized networking in the company.

**Smaract®** stands for an innovative and practical total concept with extremely low spatial demands. High-grade flexibility and especially high-performance! At the same time it is also integration-enabled, can be modularly expanded at any time and is rich in impressive detailed solutions.

In brief: An ideal 19" compact construction platform in various models that meet IP and EMC requirements.



## Features

- Not a single cubic centimetre is wasted with the Smaract® Compact Rack. The innovative frame concept with triangular extrusions keeps weight low and stability high.
- The patented mounting hole rails in the 19" extrusion ensure installed active and passive components can be quickly and easily positioned.
- The Smaract® doors and side panels can be opened with an angle of over 180°, and the side panels can be removed in seconds with the special system used.
- The Smaract® 19" Compact Rack is available in EMC and IP versions. Special attention was paid during the development phase to ensuring that this server and network rack remains constantly upgradeable to IP or EMC standards.
- A cost-effective solution can also be supplied in a combined IP-EMC version.

## Advantages

- Access from all sides is a central element of the rack's design. Massive time savings with system integration and component maintenance.
- The Smaract® Compact Rack can be modularly set up and stacked, and is therefore predestined for system integration. The new 900 mm depth in the stacked version makes the Smaract® especially popular with Internet solution providers.
- The central locking guarantees controlled access. Furthermore, the side panels can only be removed when the front doors have been opened. Special lock systems, e.g. with chip card reader or keypad can also be selected on request.
- The compact 19" rack is available in 9 HU, 15 HU and 21 HU versions, and in sizes 12 HU (home office) and 18 HU. The 900 mm installation depth is available for server applications.



Innovative frame concept:  
Low weight – high stability



## Design with Class

Function simply isn't everything!  
The Knürr® Compact Rack sets new standards in design matters.

The basic purpose of the design concept is to translate the extended technical value creation into an appropriate but unobtrusive overall presence. This new Smaract® Compact Rack, developed in cooperation with designafairs, displays its exceptional technical features on the outside, with eye-catching stability and simplicity.

## Smaract® Strong points



1 SMA20006



2 SMA20005



3 SMA20004



4 SMA20056



5 SMA20046

### 1 Access

Access from all sides is a time-saving factor, e.g. with system integration or maintenance.

### 2 Intelligent construction

Low weight with innovative frame concept. Despite this, high stability with new triangular frame extrusions.

### 3 Evolving with the task

Simple expansion with stackability.

### 4 Cable management

No matter how complex, Knürr provides solutions.

### 5 EMC and IP version

The compact rack can be upgraded to IP or EMC standard at all times. (Also in combined IP/EMC version)

### 6 Forward-thinking

Flexibility with integration of 19" technology.  
6 heights to choose from; 9 HU to 24 HU.



6 SMA20017





SMA20122

## Smaract® 19" Rack, in acc. with IEC 297

### Technical data

#### Material

- Extruded aluminium
- Corner connector, die-cast
- Sheet steel covers
- Doors, sheet steel or with single safety glass panel, opening angle, over 180°

#### Finish

- Basic rack, sheer
- Covers, powder-coated texture, RAL 7035 light-grey

#### 19" components in acc. with IEC 297-3

- Height: 9 HU to 24 HU  
1 HU (or 1 U) = 44.45 mm
- Width: 482.6 mm (19")

#### Static load rating

- 2000 N with stationary version

#### How supplied

- Fully assembled

#### Tests according to version

- Safety in acc. with EN 50298 and EN 60950
- Protective conductor/ earth in acc. with DIN VDE 0701-1
- Vibration test in acc. with MIL-STD 810 E
- Vibration and shock test in acc. with DIN EN 300019-2-2
- IP test in acc. with DIN EN 60529
- EMC shielding attenuation in acc. with IEEE-STD-299 and VG 95 373 part 15 (30 MHz - 1 GHz)
- Plastic components in compliance with UL 94-V0

#### Versions

- IP 20
- IP 54
- EMC

#### Space solution

- 82% of the basic surface can be used as space for installation and cable routing

#### Configuration

- Stationary, on levelling feet
- Mobile on castors with snib



SMA20109



SMA20166



SMA20024



SMA20026

## Smaract® 19" Compact Rack With glass door

- For components in acc. with IEC 297-3
- Access from all sides, removable covers
- Flexible assembly of the components using T-slot (also optional with mounting holes)
- Cable entry via rear panel (also optionally via top cover/bottom cover)
- Heat loss discharge via own convection or with fan unit on the rear panel (accessory)
- Door opening angle, 180°
- Front door with single safety glass panel, lockable

**Jumping space**  
Front, 110 mm

**Load rating**  
2000 N static

**Protection rating**  
IP 20

- Material / Finish**
- Basic rack, extruded aluminium, sheer
  - Corner connector, die-cast, sheer
  - Covers, sheet steel, powder-coated texture
  - Glass infill front door, single safety glass panel

**Colour**  
RAL 7035 light-grey

- Supply schedule**
- 1 basic rack
  - 2 side panels, closed, both sides, hinged
  - 1 top cover, closed
  - 1 glass front door, lockable
  - 1 rear door with cable entry, lockable, prepared for ventilation unit
  - 2 19" aluminium vertical extrusions, at the front, with T-slot incl. increment slide or 19" sheet steel vertical extrusion, front [see table]
  - 1 earthing set
  - 4 levelling feet

**How supplied**  
Assembled

**Note**  
If required, please also order 19" extrusions (see pages 2.9) for rear 19" level!

W	H	D	HU	h	d (max.)	kg	Model	Order no.	UP
600	478	600	9	450	16	16	With 19" T-slot extru.	<b>02.110.007.1</b>	1 unit
600	612	600	12	450	20	20	With 19" T-slot extru.	<b>02.110.012.1</b>	1 unit
600	745	600	15	450	24	24	With 19" T-slot extru.	<b>02.110.017.1</b>	1 unit
600	879	600	18	450	28	28	With 19" T-slot extru.	<b>02.110.022.1</b>	1 unit
600	1012	600	21	450	32	32	With 19" T-slot extru.	<b>02.110.027.1</b>	1 unit
600	1143	600	24	450	36	36	With 19" T-slot extru.	<b>02.110.032.1</b>	1 unit
600	478	800	9	650	19	19	With 19" T-slot extru.	<b>02.110.009.1</b>	1 unit
600	612	800	12	650	23	23	With 19" T-slot extru.	<b>02.110.014.1</b>	1 unit
600	745	800	15	650	27	27	With 19" T-slot extru.	<b>02.110.019.1</b>	1 unit
600	879	800	18	650	31	31	With 19" T-slot extru.	<b>02.110.024.1</b>	1 unit
600	1012	800	21	650	35	35	With 19" T-slot extru.	<b>02.110.029.1</b>	1 unit
600	1145	800	24	650	39	39	With 19" T-slot extru.	<b>02.110.034.1</b>	1 unit
600	478	600	9	450	16	16	With 19" mounting hole extru.	<b>02.110.057.1</b>	1 unit
600	612	600	12	450	20	20	With 19" mounting hole extru.	<b>02.110.062.1</b>	1 unit
600	745	600	15	450	24	24	With 19" mounting hole extru.	<b>02.110.067.1</b>	1 unit
600	879	600	18	450	28	28	With 19" mounting hole extru.	<b>02.110.072.1</b>	1 unit
600	1012	600	21	450	32	32	With 19" mounting hole extru.	<b>02.110.077.1</b>	1 unit
600	1145	600	24	450	36	36	With 19" mounting hole extru.	<b>02.110.082.1</b>	1 unit
600	478	800	9	650	19	19	With 19" mounting hole extru.	<b>02.110.059.1</b>	1 unit
600	612	800	12	650	23	23	With 19" mounting hole extru.	<b>02.110.064.1</b>	1 unit
600	745	800	15	650	27	27	With 19" mounting hole extru.	<b>02.110.069.1</b>	1 unit
600	879	800	18	650	31	31	With 19" mounting hole extru.	<b>02.110.074.1</b>	1 unit
600	1012	800	21	650	35	35	With 19" mounting hole extru.	<b>02.110.079.1</b>	1 unit
600	1145	800	24	650	39	39	With 19" mounting hole extru.	<b>02.110.084.1</b>	1 unit

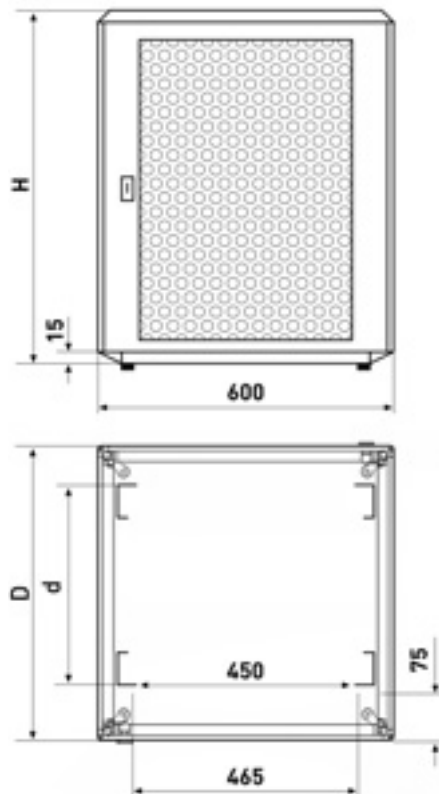
Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound





SMA20067



SMA20060

## Smaract® 19" Server Compact Rack With perforated door

- For components in acc. with IEC 297-3
- Access from all sides, removable covers
- With special 19" server extrusions for mounting trade standard servers
- With perforated doors on the front and rear for optimal airflow
- Door opening angle, 180°

### Jumping space

Front, 75 mm

### Airflow circulation

900 cm<sup>2</sup> with 9 HU  
1500 cm<sup>2</sup> with 15 HU  
2100 cm<sup>2</sup> with 21 HU  
2400 cm<sup>2</sup> with 24 HU

### Material / Finish

- Basic rack, extruded aluminium, sheer
- Corner connector, die-cast, sheer
- Covers, sheet steel, powder-coated texture

### Colour

**Final digit of order number .1:**

RAL 7035 light-grey

**Final digit of order number .8:**

RAL 7021 dark-grey

### Supply schedule

- 1 basic rack
- 2 side panels, closed, both sides, hinged
- 1 top cover, closed
- 1 front door with perforation, lockable
- 1 rear door with perforation
- 4 19" server sheet steel mounting hole extrusions
- 1 earthing set
- 4 levelling feet

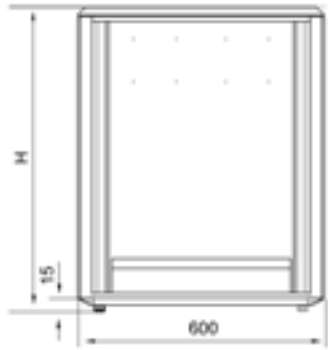
### Note

Please also order mounting adapter for 19" server extrusions.  
Set with 4 adapters, 01.127.119.9

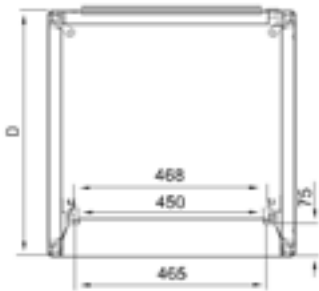
W	H	D	HU	h	d	kg	Model	Order no.	UP
600	478	900	9	740	21		With 19" server extru., RAL 7035	<b>02.110.010.1</b>	1 unit
600	478	900	9	740	21		With 19" server extru., RAL 7021	<b>02.110.010.8</b>	1 unit
600	745	900	15	740	29		With 19" server extru., RAL 7035	<b>02.110.020.1</b>	1 unit
600	745	900	15	740	29		With 19" server extru., RAL 7021	<b>02.110.020.8</b>	1 unit
600	1012	900	21	740	37		With 19" server extru., RAL 7035	<b>02.110.030.1</b>	1 unit
600	1012	900	21	740	37		With 19" server extru., RAL 7021	<b>02.110.030.8</b>	1 unit
600	1145	900	24	740	41		With 19" server extru., RAL 7035	<b>02.110.035.1</b>	1 unit
600	1145	900	24	740	41		With 19" server extru., RAL 7021	<b>02.110.035.8</b>	1 unit



SMA20025



SMA20027



SMA20042

## Smaract® 19" Compact Rack Without door

- For components in acc. with IEC 297-3
- Removable covers

### Load rating

- 2000 N static

### Material / Finish

- Basic rack, extruded aluminium, sheer
- Corner connector, die-cast, sheer
- Covers, sheet steel, powder-coated texture

### Colour


- RAL 7035 light-grey

### Supply schedule

- 1 basic frame
- 2 side panels, closed, stop on both sides
- 1 top cover, closed
- 1 trim frame, at the front
- 1 rear door with cable entry, lockable, prepared for ventilation unit
- 2 19" aluminium vertical extrusions, at the front, with T-slot
- 1 earthing set
- 4 levelling feet

### How supplied

- Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
	478	600	9			16		<b>02.110.107.1</b>	1 unit
	745	600	15			24		<b>02.110.117.1</b> 	1 unit
	1012	600	21			28		<b>02.110.127.1</b>	1 unit
	478	800	9			19		<b>02.110.109.1</b>	1 unit
	745	800	15			25		<b>02.110.119.1</b>	1 unit
	1012	800	21			31		<b>02.110.129.1</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



SMA20176



SMA20180

## Smaract® Ventilation Unit

- Easy add-on on the rear panel
- With two axial fans
- With thermostat
- Available in two different performance classes

### Single fan technical data

- Type 1:
  - Max. volume flow (free blowing): 162 m<sup>3</sup>/h
  - Noise (free blowing): 37 dB(A)
- Type 2 (quiet):
  - Max. volume flow (free blowing): 120 m<sup>3</sup>/h
  - Noise (free blowing): 32 dB(A)

### Technical data, thermostat

- Setting range: 0 to 60 °C
- Mains supply: 240 V/50Hz
- Nominal current: 16 A

### Material / Finish

Sheet steel, zinc-plated

### Supply schedule

1 fan unit wired ready for connection, with thermostat  
Mounting material

### How supplied

Preassembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
							Type 1	<b>02.111.180.9</b>	1 unit
							Type 2 (quiet)	<b>02.111.181.9</b>	1 unit



SMA20103

## Smaract® 19" Aluminium Extrusion With T-slot

- For front and rear installation

### Material / Finish

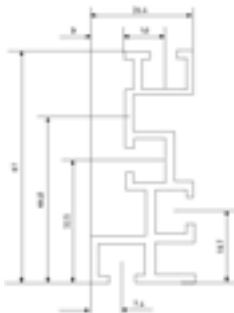
19" extrusions: extruded aluminium, sheer  
Mounting bracket: sheet steel, zinc-plated

### Supply schedule

2 19" extrusions with T-slot incl. increment slide  
4 mounting brackets  
Mounting material

### How supplied

Flat-packed kit



SMA20105

W	H	D	HU	h	d	kg	Model	Order no.	UP
			9					<b>02.111.146.9</b>	1 unit
			12					<b>02.111.147.9</b>	1 unit
			15					<b>02.111.148.9</b>	1 unit
			18					<b>02.111.149.9</b>	1 unit
			21					<b>02.111.150.9</b>	1 unit
			24					<b>02.111.151.9</b>	1 unit



SMA20104

## Smaract® 19" Sheet Steel Extrusion With mounting holes

- For front and rear installation

### Material / Finish

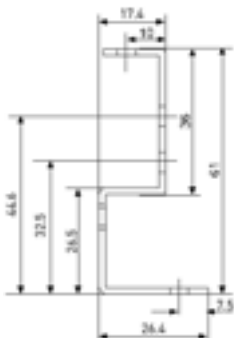
19" extrusions: sheet steel, zinc-plated  
Mounting bracket: sheet steel, zinc-plated, 1.5 mm

### Supply schedule

2 19" extrusions with mounting holes  
4 mounting brackets  
Mounting material

### How supplied

Flat-packed kit

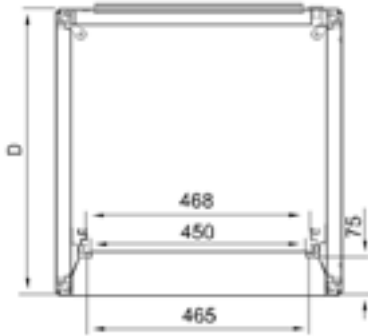


SMA20106

W	H	D	HU	h	d	kg	Model	Order no.	UP
			9					<b>02.111.156.9</b>	1 unit
			12					<b>02.111.157.9</b>	1 unit
			15					<b>02.111.158.9</b>	1 unit
			18					<b>02.111.159.9</b>	1 unit
			21					<b>02.111.160.9</b>	1 unit
			24					<b>02.111.161.9</b>	1 unit



MIR20046



SMA20042

## Smaract® 19" Sheet Steel Server Extrusion

- For front and rear installation

**Material / Finish**  
Sheet steel, 2.5 mm, zinc-plated

**Supply schedule**  
2 19" extrusions with mounting holes  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please also order mounting adapter  
01.127.119.9 (set with 4 adapters)

W	H	D	HU	h	d	kg	Model	Order no.	UP
			9					<b>02.111.136.9</b>	1 unit
			12					<b>02.111.137.9</b>	1 unit
			15					<b>02.111.138.9</b>	1 unit
			18					<b>02.111.139.9</b>	1 unit
			21					<b>02.111.140.9</b>	1 unit
			24					<b>02.111.141.9</b>	1 unit




MIR20044

## Mounting Adapter for 19" Server Extrusion

- For mounting Knürr standard components (storage shelves, drawers, chassis runners, keyboard runners, etc.) in 19" installation space

**Material**  
Sheet steel, zinc-plated

**Supply schedule**  
4 adapters

W	H	D	HU	h	d	kg	Model	Order no.	UP
			1					<b>01.127.119.9</b>	 1 unit



MIR20082

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



SMA20172

## Smaract® Depth Brace

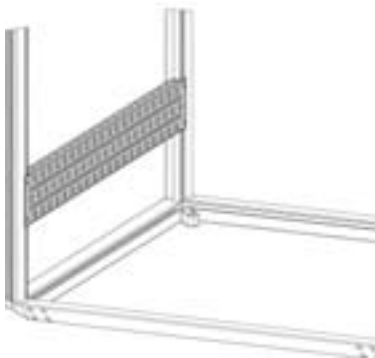
- For additional rack strength
- For routing cables with cable ties and as universal mounting option
- With holes for mounting caged nuts
- Variable positioning with T-slot
- Installation on the frame extrusions

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 depth brace  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	d	kg	Model	Order no.	UP
			600				<b>02.111.002.1</b>	1 unit
			800				<b>02.111.004.0</b>	1 unit
			900				<b>02.110.005.0</b>	1 unit



SMA20173



SMA20031

## Smaract® Door, Closed

- Can be used as front and rear door

**Supply schedule**  
1 rear panel, closed  
Mounting material

**Material / Finish**  
Sheet steel, powder-coated texture

**How supplied**  
Flat-packed kit

**Colour**  
RAL 7035 light-grey

W	H	D	HU	h	d	kg	Model	Order no.	UP
				9				<b>02.111.076.1</b>	1 unit
				12				<b>02.111.077.1</b>	1 unit
				15				<b>02.110.078.1</b>	1 unit
				18				<b>02.111.079.1</b>	1 unit
				21				<b>02.111.080.1</b>	1 unit
				24				<b>02.111.081.1</b>	1 unit





SMA20028

## Smaract® Top Cover/Bottom Cover Closed

- Material / Finish**  
Sheet steel, powder-coated texture
- Colour**  
**Final digit of order number .1:**  
RAL 7035 light-grey  
**Final digit of order number .8:**  
RAL 7021 dark-grey
- Supply schedule**  
1 bottom cover, closed  
Mounting material
- How supplied**  
Flat-packed kit
- Note**  
Use of the bottom cover in combination with the stationary plinth is not possible

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>02.111.052.1</b>	1 unit
600		800						<b>02.111.054.1</b>	1 unit
600		900						<b>02.111.055.1</b>	1 unit
600		900						<b>02.111.055.8</b>	1 unit

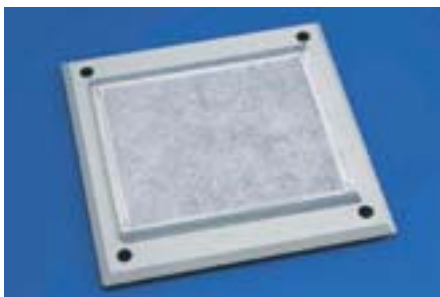


SMA20168

## Smaract® Top Cover/Bottom Cover With cable entry

- With integrated cable clamping
- With brush strip for cable entry
- Material / Finish**  
Sheet steel, powder-coated texture
- Colour**  
**Final digit of order number .1:**  
RAL 7035 light-grey  
**Final digit of order number .8:**  
RAL 7021 dark-grey
- Supply schedule**  
1 bottom cover with cable routing  
1 brush strip  
Mounting material
- How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>02.111.042.1</b>	1 unit
600		800						<b>02.111.044.1</b>	1 unit
600		900						<b>02.111.045.1</b>	1 unit
600		900						<b>02.111.045.8</b>	1 unit



SMA20029

## Smaract® Bottom Cover, Perforated With filter mat

- For cooling with air convection
- Material / Finish**  
Bottom cover: sheet steel, powder-coated texture  
Filter mat: Filedon
- Colour**  
RAL 7035 light-grey
- Supply schedule**  
1 perforated bottom cover with filter mat  
Mounting material
- How supplied**  
Flat-packed kit

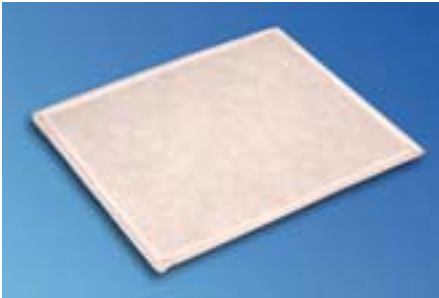
W	H	D	HU	h	d	kg	Model	Order no.	UP
600		600						<b>02.111.062.1</b>	1 unit
600		800						<b>02.111.064.1</b>	1 unit
600		900						<b>02.110.065.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



SMA20058

## Smaract® Replacement Filter Mat For Smaract perforated bottom cover

- For use in conjunction with perforated bottom cover

**Material**  
Fibredon

**Supply schedule**  
5 replacement filter mats

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
							For D600	<b>02.111.068.9</b>	5 units
							For D800	<b>02.111.069.9</b>	5 units
							For D900	<b>02.111.069.9</b>	5 units



SMA20177

## Smaract® Plinth

- Stationary  
- Cable entry possible from all sides  
- Panels front and rear with vent slots and installation option for filter mat

**Material / Finish**  
Sheet steel, powder-coated texture

**Supply schedule**  
4 plinth corners  
2 closed panels  
2 panels with vent slots  
Mounting material

**How supplied**  
Flat-packed kit

**Colour**  
**Final digit of order number .1:** RAL 7035 light-grey  
**Final digit of order number .8:** RAL 7021 dark-grey

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	100	600						<b>02.111.201.1</b>	1 set
600	100	800						<b>01.111.203.1</b>	1 set
600	100	900						<b>02.111.204.1</b>	1 set
600	100	900						<b>02.111.204.8</b>	1 set



SMA20179

## Smaract® Plinth Trim with Cable Entry For use in conjunction with the plinth

- For use in conjunction with the plinth

**Material / Finish**  
Sheet steel, powder-coated texture

**Colour**  
**Final digit of order number .1:** RAL 7035 light-grey  
**Final digit of order number .8:** RAL 7021 dark-grey

**Supply schedule**  
1 trim with cable entry  
1 brush strip  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	100							<b>02.111.206.1</b>	1 unit
600	100							<b>02.111.206.8</b>	1 unit



SMA20098

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



SMA20034

## Smaract® Twin Castor

- Height 50 mm


**Colour**  
RAL 9011, graphite black

**Load rating**  
400 N per castor  
1200 N max. static total load per rack

**Supply schedule**  
2 twin castors  
2 fixed castors

**Standards**  
Castors in acc. with DIN 12530  
Load rating in acc. with DIN 12527

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>02.111.175.9</b>	 4 units



SMA20035


## Smaract® Stacking Set

- Fixed connection for stacking compact racks

**Material / Finish**  
Steel, cold rolled, zinc-plated

**Supply schedule**  
4 stacking elements  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>02.111.171.9</b>	 4 units



MEC00074

## Smaract® Eyebolt Set

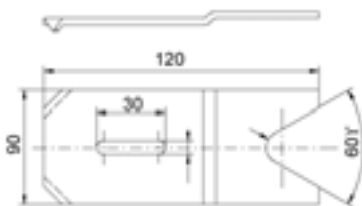
- For hanging on crane hooks  
- Load rating, 1900 N static per ring screw

**Material / Finish**  
Tool steel, forged

**Supply schedule**  
4 eyebolts

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.243.440.9</b>	4 units



MIR00319

## Base Fixing Kit

**Material**  
Sheet steel, 3.0 mm

**Finish**  
Zinc-plated

**Supply schedule**  
4 clamping plates

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.130.934.7</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item


Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



SMA20094

### Smaract® Wall Mounting Bracket

- Material / Finish**  
Sheet steel, powder-coated texture
- Colour**  
RAL 7035 light-grey
- Supply schedule**  
2 wall mounting brackets  
Drill hole template  
Mounting material
- Load rating**  
500 N
- How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600								<b>02.111.220.9</b>	 1 set



SMA20085




ELM00068

### Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

- Material**  
Electrolyte copper, 9x9
- Supply schedule**  
1 earthing bar  
2 brackets  
Mounting material

W	H	S	HU	h	d	w	Model	Order no.	UP
			12					<b>01.110.703.9</b>	 1 unit
			15					<b>01.240.543.9</b>	1 unit
			18					<b>01.240.544.9</b>	1 unit
			21					<b>01.240.545.9</b>	1 unit
			24					<b>01.240.546.9</b>	1 unit




DOP20016

### Contact Clamp

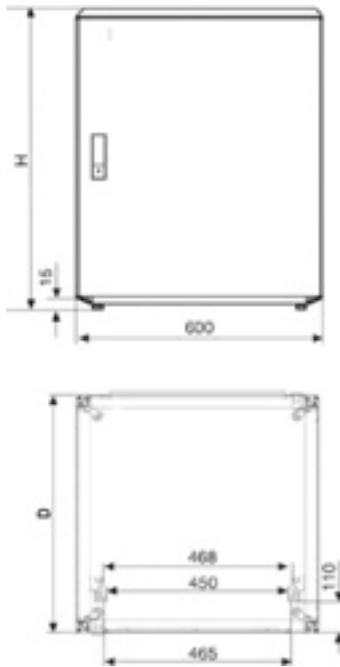
- For secure connection of equipment and installation components with the earthing bar  
- For cable up to 25 mm<sup>2</sup>

- Supply schedule**  
20 contact clamps

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.715.9</b>	 20 units



SMA20035



SMA20059

## Smaract® 19" Compact Rack, EMC (with sheet steel door)

- For components in acc. with IEC 297-3

- Removable covers

**Load rating**  
- 2000 N static

**Material**  
- Basic rack: extruded aluminium  
- Covers: sheet steel  
- EMC spring: high-grade steel

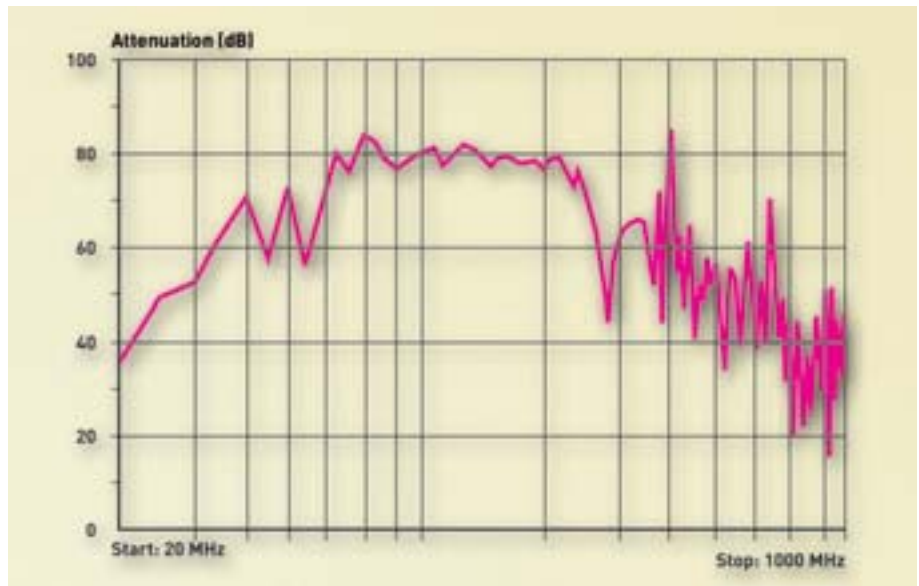
**Finish**  
- Basic rack: sheer  
- Covers: powder-coated texture

**Colour**  
- RAL 7035 light-grey

**Supply schedule**  
1 basic frame  
2 side panels, EMC, closed, stop on both sides  
1 top cover, EMC, closed  
1 bottom cover, EMC, closed  
1 front door, EMC, closed, lockable  
1 rear panel, EMC, closed, screwed  
2 19" aluminium vertical extrusions, at the front, with T-slot incl. increment slide  
1 earthing set  
4 levelling feet

**How supplied**  
- Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	612	600	12			28		<b>02.110.312.1</b>	1 unit
600	879	600	18			36		<b>02.110.322.1</b>	1 unit
600	1145	600	24			44		<b>02.110.332.1</b>	1 unit
600	612	800	12			32		<b>02.110.314.1</b>	1 unit
600	879	800	18			40		<b>02.110.324.1</b>	1 unit
600	1145	800	24			48		<b>02.110.334.1</b>	1 unit




TEC20098

EMC measurements performed by pkm Electronic GmbH, Frontenhausen, Germany

Tests are carried out in compliance with the following standard:  
VG 95373 Part 15

Test rack width 600, depth 600, height 1150, closed version

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, kg = Weight, HU = Standard height unit, HP = Horizontal pitch, UP = Unit of packaging, ESD = ESD version,  = Express item





SMA20148

## Smaract® Connection Panel, EMC, Closed

- EMC shielding
- Screwed

- Material**
  - Cover: sheet steel
  - EMC spring: high-grade steel

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel
  - 2 brackets
  - Mounting material

- How supplied**
  - Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	131.3		3					<b>02.111.351.1</b>	1 set



SMA20137

## Smaract® Connection Panel, EMC, with Cable Entry

- EMC shielding
- Screwed

- Material**
  - Cover: sheet steel
  - EMC spring: high-grade steel
  - EMC seal extrusion: rubber with high-grade steel grid

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel with cable entry
  - 2 brackets
  - Mounting material

- How supplied**
  - Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	131.3		3					<b>02.111.361.1</b>	1 set




SMA20145

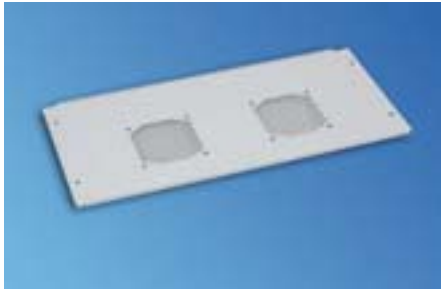


SMA20137

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 kg = Weight

HU = Standard height unit  
 HP = Horizontal pitch  
 UP = Unit of packaging  
 ESD = ESD version

 = Express item



SMA20150

## Smaract® Connection Panel, EMC, for Fan Unit

- EMC shielding
- Screwed

- Material**
  - Cover: sheet steel
  - EMC spring: high-grade steel

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel for fan unit
  - 2 brackets
  - Mounting material

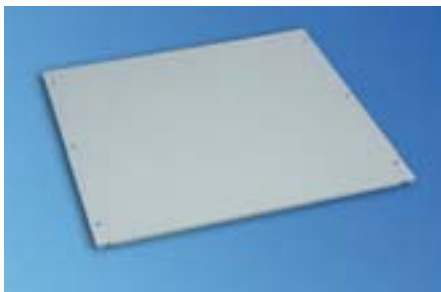
- How supplied**
  - Flat-packed kit

- Note**
  - Suitable fan unit: 02.111.180.9

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	264.6		6					<b>02.111.372.1</b>	1 set



SMA20135



SMA20152

## Smaract® Rear Panel, EMC, Closed

- EMC shielding
- Screwed

- Material**
  - Cover: Sheet steel
  - EMC spring: high-grade steel

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel
  - 2 brackets
  - Mounting material


- How supplied**
  - Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	556.3		12					<b>02.111.354.1</b>	1 set
600	689.6		15					<b>02.111.355.1</b>	1 set



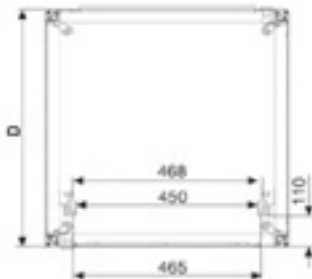
SMA20137

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 kg = Weight

HU = Standard height unit  
 HP = Horizontal pitch  
 UP = Unit of packaging  
 ESD = ESD version  
 = Express item



SMA20062



SMA20108

## Smaract® 19" Compact Rack, IP 54 with Glass Door

- For components in acc. with IEC 297-3
- Removable covers

**Load rating**  
- 2000 N static

**Protection rating**  
- IP 54

**Material**  
- Basic rack: extruded aluminium  
- Covers: sheet steel  
- Foam seal: polyurethane

**Finish**  
- Basic rack: sheer  
- Covers: powder-coated texture


**Colour**  
- RAL 7035 light-grey

**Supply schedule**  
1 basic frame  
2 side panels, IP 54, closed, stop on both sides  
1 top cover, IP 54, closed  
1 bottom cover, IP 54, closed  
1 glass front door, IP 54, lockable  
1 rear panel, IP 54, closed, screwed  
2 19" aluminium vertical extrusions, at the front, with T-slot incl. increment slide  
1 earthing set  
4 levelling feet

**How supplied**  
- Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	612	600	12		28			<b>02.110.212.1</b>	1 unit
600	879	600	18		36			<b>02.110.222.1</b>	1 unit
600	1146	600	24		44			<b>02.110.232.1</b>	1 unit
600	612	800	12		32			<b>02.110.214.1</b>	1 unit
600	879	800	18		40			<b>02.110.224.1</b>	1 unit
600	1146	800	24		48			<b>02.110.234.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
kg = Weight

HU = Standard height unit  
HP = Horizontal pitch  
UP = Unit of packaging  
ESD = ESD version  
 = Express item



SMA20148

## Smaract® Connection Panel, IP 54, Closed

- Protection rating, IP 54
- Screwed

- Material**
  - Cover: sheet steel
  - Foam seal: polyurethane

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel
  - 2 brackets
  - Mounting material

- How supplied**
  - Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	131.3		3					<b>02.111.301.1</b>	1 set



SMA20138



SMA20139

## Smaract® Connection Panel, IP 54, with Cable Entry

- Possible sealing: IP 54
- Screwed

- Material**
  - Cover: sheet steel
  - Foam seal: polyurethane
  - Seal extrusion: Type 1, sponge rubber seal
  - Type 2, polymeric reinforced with metal

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel with cable entry
  - 2 brackets
  - Mounting material

- How supplied**
  - Flat-packed kit

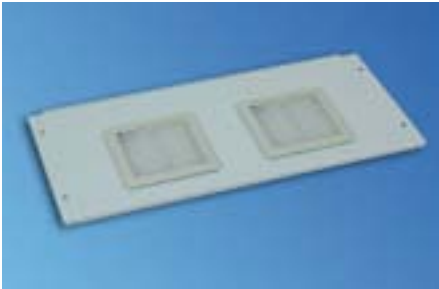
W	H	D	HU	h	d	kg	Model	Order no.	UP
600	131.3		3				Type 1	<b>02.111.311.1</b>	1 set
600	131.3		3				Type 2	<b>02.111.312.1</b>	1 set



SMA20169



SMA20138



SMA20143

## Smaract® Connection Panel, IP 54, for Fan Unit

- Protection rating, IP 54
- Screwed

- Material**
  - Covers: sheet steel
  - Foam seal: polyurethane
  - Exit filter: ABS plastic, UL94 V-0

- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel for fan unit
  - 2 brackets, mounting material

- How supplied**
  - Flat-packed kit

- Note**
  - Suitable fan unit: 02.111.180.9

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	264.6		6					<b>02.111.322.1</b>	1 set



SMA20136

## Smaract® Rear Panel, IP 54, Closed

- Protection rating, IP 54
- Screwed

- Material**
  - Covers: sheet steel
  - Foam seal: polyurethane

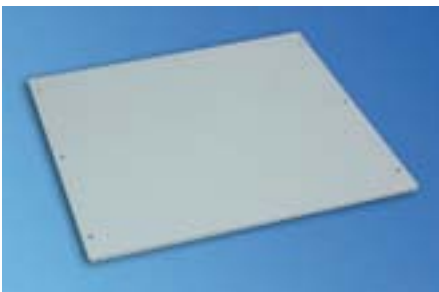
- Finish**
  - Powder-coated texture

- Colour**
  - RAL 7035 light-grey

- Supply schedule**
  - 1 connection panel for fan unit
  - 2 brackets
  - Mounting material

- How supplied**
  - Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
600	156.3		3					<b>02.111.308.1</b>	1 set
600	289.6		6					<b>02.111.302.1</b>	1 set
600	422.9		9					<b>02.111.303.1</b>	1 set
600	556.3		12					<b>02.111.304.1</b>	1 set
600	689.6		15					<b>02.111.305.1</b>	1 set
600	823		18					<b>02.111.306.1</b>	1 set
600	956.3		21					<b>02.111.307.1</b>	1 set



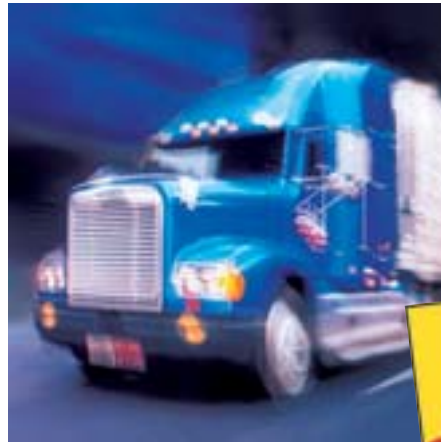
SMA20141



SMA20138



Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



**Rapid service**

## **Express item**

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Don't hesitate to use them to your advantage!

# DoubleProRack

19" Stand-Alone Enclosure

3.2 to 3.12



## 19" Network Stand-Alone Enclosure

### DoubleProRack®

Strong points 3.3

### DoubleProRack®

19" Stand-Alone Enclosure 3.5

19" Enclosure Without Door 3.6

### DoubleProRack® Accessories

Extrusions 3.7

Fan Unit 3.7

Rear Panel 3.8

Connection Panel 3.8

Earthing Set 3.9

Mounting Bracket 3.10

Rack Connector 3.10

Base Fixing 3.11

Eyebolt Set 3.11

Swivel Castors 3.11

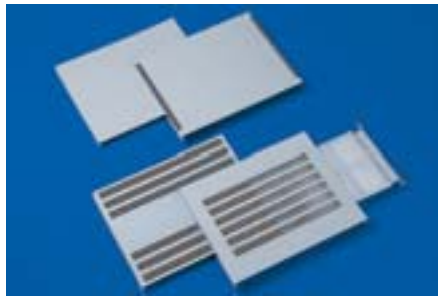


DOP00256

## DoubleProRack® Strong points



1 DOP00242



2 DOP00244



3 DOP00245



4 DOP20004



5 DOP00247



4 DOP20005



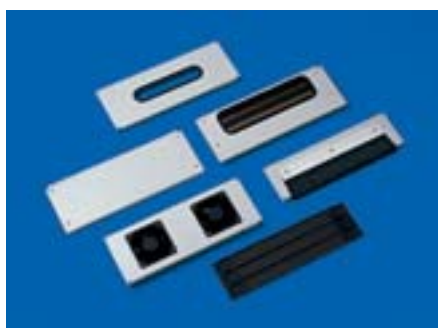
7 DOP00250



6 DOP00248



8 DOP00251



9 DOP00252

- 1 Complete 19" enclosure range, from the 6 HU Desktop Enclosure to the 24 HU Compact Rack.
- 2 Various top and bottom cover variants are available for individual requirements for air throughput and IP protection rating. Top and bottom covers can be combined with each other in any way.
- 3 Lockable front door, optionally as single safety glass panel or as sheet steel door.
- 4 The extrusions for installing the 19" components are available with mounting holes or with a T-slot for incremented or stepless mounting.
- 5 The 19" mounting level can be set in the depth in 25 mm increments. This allows higher front panel structures to also be installed when using a door.
- 6 Individual configurations for your special application case allow uneven floor surfaces to be evened out with the levelling feet, mobility with castors or stacking with enclosure foot.
- 7 As an additional alternative, a plinth with front vent panel provides space for cabling and ventilation from below.
- 8 Various door types allow appearance and service access to be individually designed while taking the required protection rating into account.
- 9 Different types of cable entry are available according to the required protection rating.

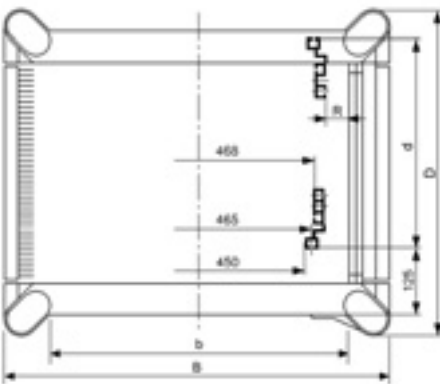
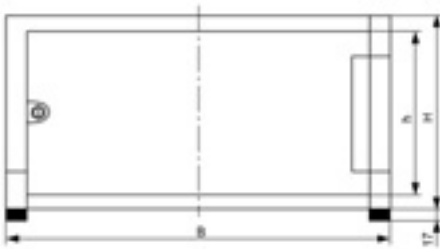
## DoubleProRack® 19" Enclosure in acc. with IEC 297-3 Technical data

- Die-cast aluminium frame construction connected with aluminium depth and vertical extrusions
- **Material**
  - Sheet steel covers, 0.8 mm, zinc-plated
  - Die-cast aluminium frame
  - Extruded aluminium depth and vertical extrusions
  - In the 19" mounting level, extruded aluminium with T-slot and mounting holes
  - Sheet steel, full glass doors or extrusion doors with sheet steel or safety glass panel
- **External dimensions**
  - Widths:
    - 554.4 mm
    - 754.4 (network enclosures)
  - Depths:
    - 500, 600, 700 or 800 mm
  - Height:
    - 177.8 – 1111.3 mm (without feet or plinth)
- **Installation space in acc. with IEC 297-3**
  - Height: 3 – 24 HU (1 HU = 44.45 mm)
  - Width 19"
- **How supplied**
  - Assembled
- **Load rating**
  - 1500 N static
- **Configuration**
  - Stationary, on plastic feet or plinth with feet
  - Mobile on twin swivel castors
- **Finish / Colour**
  - Covers, powder-coated texture, RAL 7035 light-grey
  - Frame and extrusions, powder-coated texture, grey-blue RAL 5008
- **Tests**
  - Vibration test in acc. with MIL-STD 810 D
  - NEMA 12 Test





DOP00256



DOP00230

## DoubleProRack® 19" Stand-Alone Enclosure

- For components in acc. with IEC 297-3
- Side covers and rear panel can be removed
- Flexible assembly of the components using T-slot (also optional with mounting holes)
- Cable entry via rear panel
- Heat loss discharge via own convection on the rear panel (or optionally with fan unit)

**Jumpering space**  
At the front: 125 mm

**Load rating**  
1500 N static

**Protection rating**  
IP 20

**Material / Finish**  
Sheet steel covers,  
powder-coated texture  
Die-cast aluminium frame  
Extruded aluminium extrusions  
Glass infill front door,  
single safety glass panel

**Colour**  
Covers, RAL 7035 light-grey  
Frame and extrusions, RAL 5008 grey-blue

**Supply schedule**  
1 frame rack incl. side covers  
1 full glass door  
1 rear panel with cable entry, 3 parts  
1 cover, above, with vent slots  
1 cover, below, with vent slots  
1 set, 19" installation (4 vertical extrusions with T-slot)  
1 earthing set with earthing bolt, M8

**How supplied**  
Assembled

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4	311	600	6	265	435		With full glass door	<b>01.246.641.1</b>	1 unit
554.4	444	600	9	399	435		With full glass door	<b>01.246.642.1</b>	1 unit
554.4	577	600	12	532	435		With full glass door	<b>01.246.643.1</b>	1 unit
554.4	711	600	15	666	435		With full glass door	<b>01.246.644.1</b>	1 unit
554.4	844	600	18	799	435		With full glass door	<b>01.246.645.1</b>	1 unit
554.4	978	600	21	932	435		With full glass door	<b>01.246.646.1</b>	1 unit
554.4	1111	600	24	1066	435		With full glass door	<b>01.246.647.1</b>	1 unit
554.4	577	800	12	532	635		With full glass door	<b>01.246.843.1</b>	1 unit
554.4	711	800	15	666	635		With full glass door	<b>01.246.844.1</b>	1 unit
554.4	844	800	18	799	635		With full glass door	<b>01.246.845.1</b>	1 unit
554.4	978	800	21	932	635		With full glass door	<b>01.246.846.1</b>	1 unit
554.4	1111	800	24	1066	635		With full glass door	<b>01.246.847.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
📦 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



DOP00253

## DoubleProRack® 19" Enclosure Without Front Door

- For components in acc. with IEC 297-3
- Side covers and rear panel can be removed
- Heat loss discharge via own convection on the rear panel (or optionally with fan unit)

**Load rating**  
1500 N static

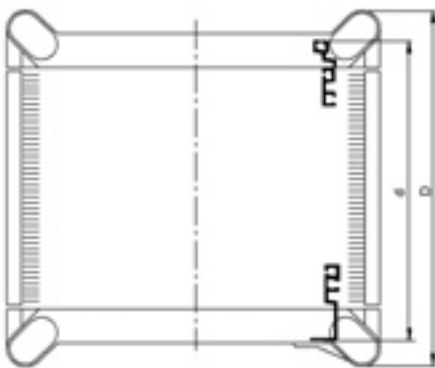
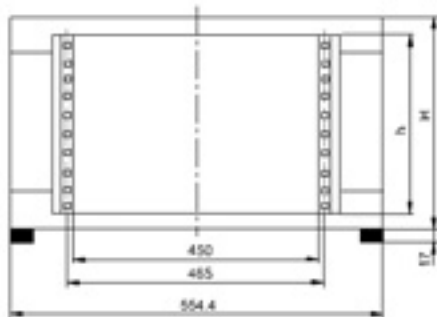
**Protection rating**  
IP 20

**Material / Finish**  
Sheet steel covers,  
powder-coated texture  
Die-cast aluminium frame  
Extruded aluminium extrusions

**Colour**  
Covers, RAL 7035 light-grey  
Frame and extrusions, RAL 5008 grey-blue

**Supply schedule**  
1 frame rack incl. side covers  
1 cover, above, with vent slots  
1 cover, below, with vent slots  
1 rear panel (from enclosure height  
12 HU, with 3 HU front ventilation panel)  
2 19" front extrusions, mounting holes  
2 19" extrusions at the rear, T-slot

**How supplied**  
Assembled



DOP00052

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4	178	500	3	132	460	10.0	Without door	<b>01.243.503.1</b>	1 unit
554.4	311	500	6	265	460	12.5	Without door	<b>01.243.506.1</b>	1 unit
554.4	444	500	9	399	460	15.0	Without door	<b>01.243.509.1</b>	1 unit
554.4	577	500	12	532	460	17.0	Without door	<b>01.243.512.1</b>	1 unit
554.4	711	500	15	666	460	19.5	Without door	<b>01.243.515.1</b>	1 unit
554.4	844	500	18	799	460	22.0	Without door	<b>01.243.518.1</b>	1 unit
554.4	311	600	6	265	560	14.0	Without door	<b>01.243.606.1</b>	1 unit
554.4	444	600	9	399	560	16.5	Without door	<b>01.243.609.1</b>	1 unit
554.4	577	600	12	532	560	19.0	Without door	<b>01.243.612.1</b>	1 unit
554.4	711	600	15	666	560	22.0	Without door	<b>01.243.615.1</b>	1 unit
554.4	844	600	18	799	560	24.5	Without door	<b>01.243.618.1</b>	1 unit
554.4	978	600	21	932	560	27.0	Without door	<b>01.243.621.1</b>	1 unit
554.4	1111	600	24	1066	560	29.5	Without door	<b>01.243.624.1</b>	1 unit
554.4	577	700	12	532	660	21.5	Without door	<b>01.243.712.1</b>	1 unit
554.4	711	700	15	666	660	24.0	Without door	<b>01.243.715.1</b>	1 unit
554.4	844	700	18	799	660	27.0	Without door	<b>01.243.718.1</b>	1 unit
554.4	978	700	21	932	660	29.5	Without door	<b>01.243.721.1</b>	1 unit
554.4	1111	700	24	1066	660	32.5	Without door	<b>01.243.724.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



DOP20004



DOP00313

## DoubleProRack® 19" Front Installation With T-slot

- Can also be used as second mounting level

**Material**  
Extruded aluminium

**Finish**  
Sheer

**Supply schedule**  
2 19" front extrusions with T-slot  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
			6					<b>01.240.440.9</b>	1 set
			9					<b>01.240.443.9</b>	1 set
			12					<b>01.240.445.9</b>	1 set
			15					<b>01.240.446.9</b>	1 set
			18					<b>01.240.447.9</b>	1 set
			21					<b>01.240.448.9</b>	1 set
			24					<b>01.240.449.9</b>	1 set



DOP20005



DOP00055

## DoubleProRack® 19" Front Installation With mounting holes

- Can also be used as second mounting level

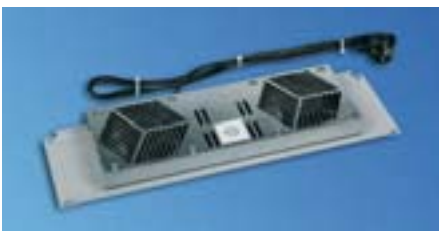
**Material**  
Extruded aluminium

**Finish**  
Sheer

**Supply schedule**  
2 19" extrusions at the front with mounting holes

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
			6					<b>01.240.490.9</b>	1 set
			9					<b>01.240.493.9</b>	1 set
			12					<b>01.240.495.9</b>	1 set
			15					<b>01.240.496.9</b>	1 set
			18					<b>01.240.497.9</b>	1 set
			21					<b>01.240.498.9</b>	1 set
			24					<b>01.240.499.9</b>	1 set



DOP20033

## DoubleProRack® Rear Fan Panel, 3 HU

- With axial fans  
- With thermostat

**Single fan technical data**  
- Max. volume current (free blowing):  
162 m³/h  
- Noise (free blowing): 37 dB(A)


**Technical data, thermostat**  
- Setting range: 0 to 60°C  
- Mains supply: 240 V/50 Hz  
- Nominal current: 16 A

**Supply schedule**  
1 rear fan panel, wired  
Mounting material

**Finish / Colour**  
Powder-coated texture, RAL 7035  
light-grey

**How supplied**  
Assembled

**Note**  
An use in the bottom HU is not possible.

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4	132.5		3				With thermostat	<b>01.243.428.1</b>	 1 unit



DOP00275

## DoubleProRack® Rear Panel, Closed

- For DoubleProRack width 554.4 mm

**Material / Finish**  
Sheet steel, 0.8 mm,  
powder-coated texture

**Colour**  
RAL 7035 light-grey

**Supply schedule**  
1 rear panel, closed  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4			3					<b>01.240.451.1</b>	1 unit
554.4			6					<b>01.240.454.1</b>	1 unit
554.4			9					<b>01.240.457.1</b>	1 unit
554.4			12					<b>01.240.459.1</b>	1 unit
554.4			15					<b>01.240.460.1</b>	1 unit
554.4			18					<b>01.240.461.1</b>	1 unit
554.4			21					<b>01.240.462.1</b>	1 unit



DOP00278

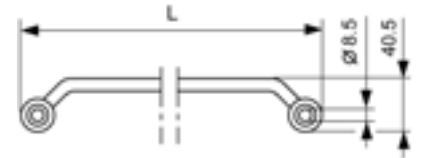
## DoubleProRack® Multi-Functional Handle

**Material / Finish**  
Die-cast, powder-coated texture

**Colour**  
RAL 5008 grey-blue

**Supply schedule**  
2 handles  
Mounting material

**How supplied**  
Flat-packed kit



DOP00231

W	H	D	HU	Model	Order no.	UP
			500		<b>01.240.641.1</b>	1 unit
			600		<b>01.240.642.1</b>	1 unit
			700		<b>01.240.643.1</b>	1 unit
			800		<b>01.240.644.1</b>	1 unit



DOP00270

## DoubleProRack® Connection Panel With cable routing

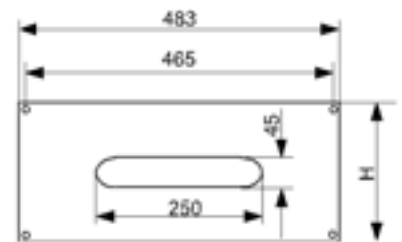
- For cable entry in conjunction with rear panel shortened accordingly by 3 HU

**Material / Finish**  
Sheet steel, 0.8 mm,  
powder-coated texture

**Colour**  
RAL 7035 light-grey

**Supply schedule**  
1 connection panel with cable routing  
Mounting material

**How supplied**  
Flat-packed kit



DOP00287

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4	132.5		3					<b>01.243.435.1</b>	1 unit



DOP00274

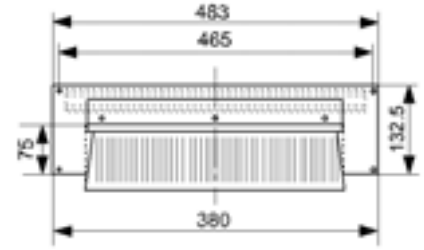
### DoubleProRack® Connection Panel With brush strip

- For rear panel cover in conjunction with rear panel shortened accordingly by 3 HU
- For DoubleProRack width 554.4 mm
- With brush strip for cable routing and strain relief

**Finish / Colour**  
Powder-coated texture, RAL 7035 light-grey

**Supply schedule**  
1 connection panel  
Mounting material

**How supplied**  
Flat-packed kit



DOP00288

W	H	D	HU	h	d	kg	Model	Order no.	UP
554.4	132.5		3					<b>01.243.438.1</b>	1 unit



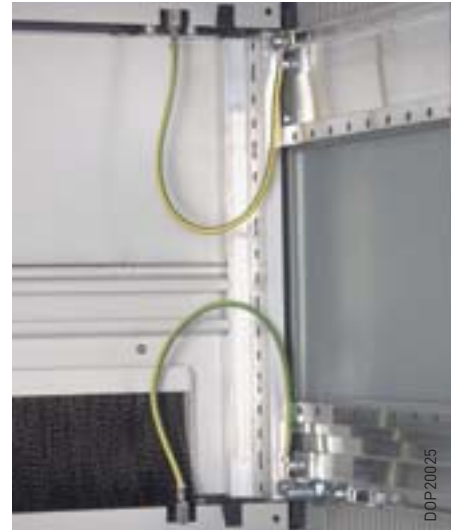
MEC20122

### DoubleProRack® Earthing Set For enclosure

- For earthing top cover/bottom cover
- With central earthing bolt

**Supply schedule**  
2 earthing cables, length 250 mm  
4 spring nuts, M5  
2 washers  
4 cylinder screws, M5 x 10  
1 earthing bolt

**How supplied**  
Flat-packed kit



DOP-20025

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.243.400.9</b>	1 set



MEC20035

### DoubleProRack® Earthing Set For doors and trims

- For earthing doors and/or trims

**Supply schedule**  
5 earthing cables, length 250 mm  
1 earthing cable, length 250 mm, two-sided AMP plug  
5 spring nuts, M5

5 cylinder screws, M5 x 10 with tooth lock washer  
5 washers

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.245.400.9</b>	1 set





ELM00068

## Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

**Material**  
Electrolyte copper, 9x9

**Supply schedule**  
1 earthing bar  
2 brackets  
Mounting material

W	H	S	HU	h	d	w	Model	Order no.	UP
			12					<b>01.110.703.9</b>	1 unit
			15					<b>01.240.543.9</b>	1 unit
			18					<b>01.240.544.9</b>	1 unit
			21					<b>01.240.545.9</b>	1 unit
			24					<b>01.240.546.9</b>	1 unit



DOP20016

## Contact Clamp

- For secure connection of equipment and installation components with the earthing bar  
- For cable up to 25 mm<sup>2</sup>

**Supply schedule**  
20 contact clamps

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.715.9</b>	20 units



DOP00282

## DoubleProRack® Mounting Bracket

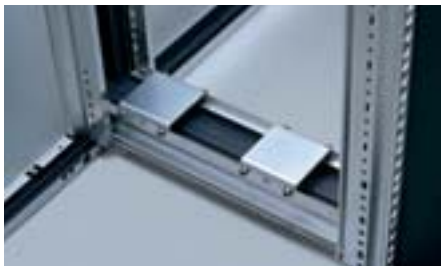
- For mounting socket strips and cable duct

**Material / Finish**  
Sheet steel, zinc-plated

**Supply schedule**  
2 mounting brackets  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.240.533.9</b>	1 set



DOP00283

## DoubleProRack® Rack Connector

- For mechanical, stable connection of rack suites

**Material / Finish**  
Sheet steel, zinc-plated

**Supply schedule**  
4 rack connectors  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.240.525.7</b>	1 set



DOP00311

## DoubleProRack® Base Fixing

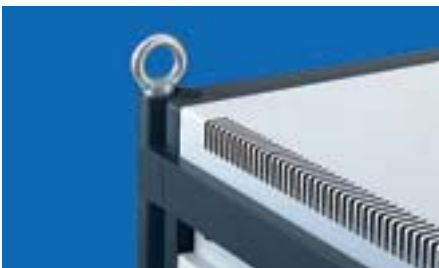
- For use in conjunction with levelling feet

**Material / Finish**  
Sheet steel, black, zinc-plated

**Supply schedule**  
4 base fixings  
Screws and dowels

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.243.441.3</b>	1 set



DOP00281

## DoubleProRack® Eyebolt Set

- For hanging on crane hooks  
- Load rating, 1900 N static per ring screw

**Material**  
Tool steel, forged

**Supply schedule**  
4 eyebolts, M 8

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>01.243.440.9</b>	1 set



DOP00267

## DoubleProRack® Twin Castor, 50 mm

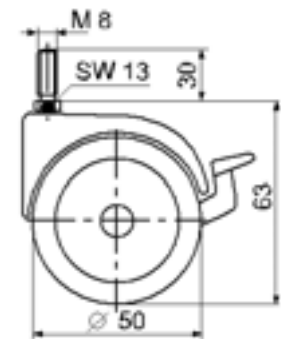
- For mobile setup of the DoubleProRack stand-alone enclosure with lockable castors

**Material / Finish**  
Polyamide, RAL 9011 black

**Load rating**  
400 N static

**Supply schedule**  
2 twin castors  
2 lockable castors  
4 lock washers

**How supplied**  
Flat-packed kit



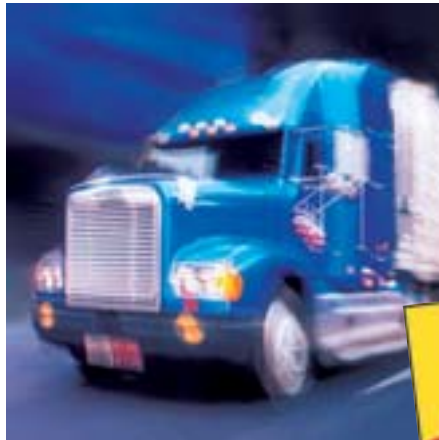
DOP00233

W	H	D	HU	h	d	kg	Model	Order no.	UP
		50						<b>01.240.527.9</b>	1 set
		75						<b>01.240.528.9</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



## Rapid service **Express item**

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Each express item that is marked accordingly in this catalog, leaves our European central store 24 hours after your order is received. High-grade quality and standardised solutions that always leave you that decisive step ahead of the competition!

Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world. Don't hesitate to use them to your advantage!

# ConAct®

Network Wall Enclosure

4.2 to 4.8



## 19" Network Wall Enclosure

**ConAct®**  
Strong points 4.2

**ConAct®**  
Wall Enclosure 4.6

**ConAct® Accessories**  
Extrusions 4.7  
Door 4.7  
Top Cover / Bottom Cover 4.8  
Earthing Set 4.8

### ConAct® Strong points

Unpack – and start with the network installation within minutes



ACT00024

#### Economic efficiency

- Savings of up to 50% of transport volume with flat-pack packing (see figure A)
- Easy transport right up to assembly with space-saving packaging
- Small packages – low storage space



ACT00031

#### “One-person” set-up

- No unnecessary removal of enclosure parts as it is delivered part dismantled
- Rear panel mounting without measuring using drill hole template
- Easy assembly with:
  - Keyhole punching on the rear panel (see figure B)
  - Push-in technology for mounting rails and covers
  - Symmetrical enclosure setup



ACT00004

**1.**  
Hang rear panel



ACT00005

**2.**  
Fix supports and vertical extrusions





ACT00030



ACT00033

### Cabling made easy

- All-side access guarantees convenient mounting of the components
- Easy cable management with on-site existing cables with open construction design
- Orderly cable management with spacious side jumpering area and cable clamping rails as accessories (see figures C+D)



ACT00032

### Customer specification

- Individually configurable with colour variants or cover mounting holes
- 19" or metric installation possible
- 19" vertical extrusions can be depth adjusted on 25 mm increment
- Easy door stop change with shift bolt system (see figure E)
- Ventilation concept can be expanded at later stages with optional active ventilation unit



ACT00006

**3.**

... cable and mount components



ACT00007

**4.**

fit covers



ACT00008

**5.**

... and the installation is ready!



ACT00017

## Maintenance-friendly

- Easy access for servicing is also guaranteed by removing the side panels
- Enclosure can be locked with security lock
- Door opening angle >180°



ACT00034



ACT00033

## Accessories

- Easy integration of accessories, e.g. socket strips with screw-on points on the vertical extrusion or on the rear panel (see figure F)
- Accessories available for orderly cable management, e.g. cable routing board or jumper bracket (see figure G)
- Comprehensive standard accessories range available, e.g. shelves, drawers, socket strips, etc.

## Application examples:



ACT00020

Glass door with trims in special colours



ACT00025

Design door with perforation

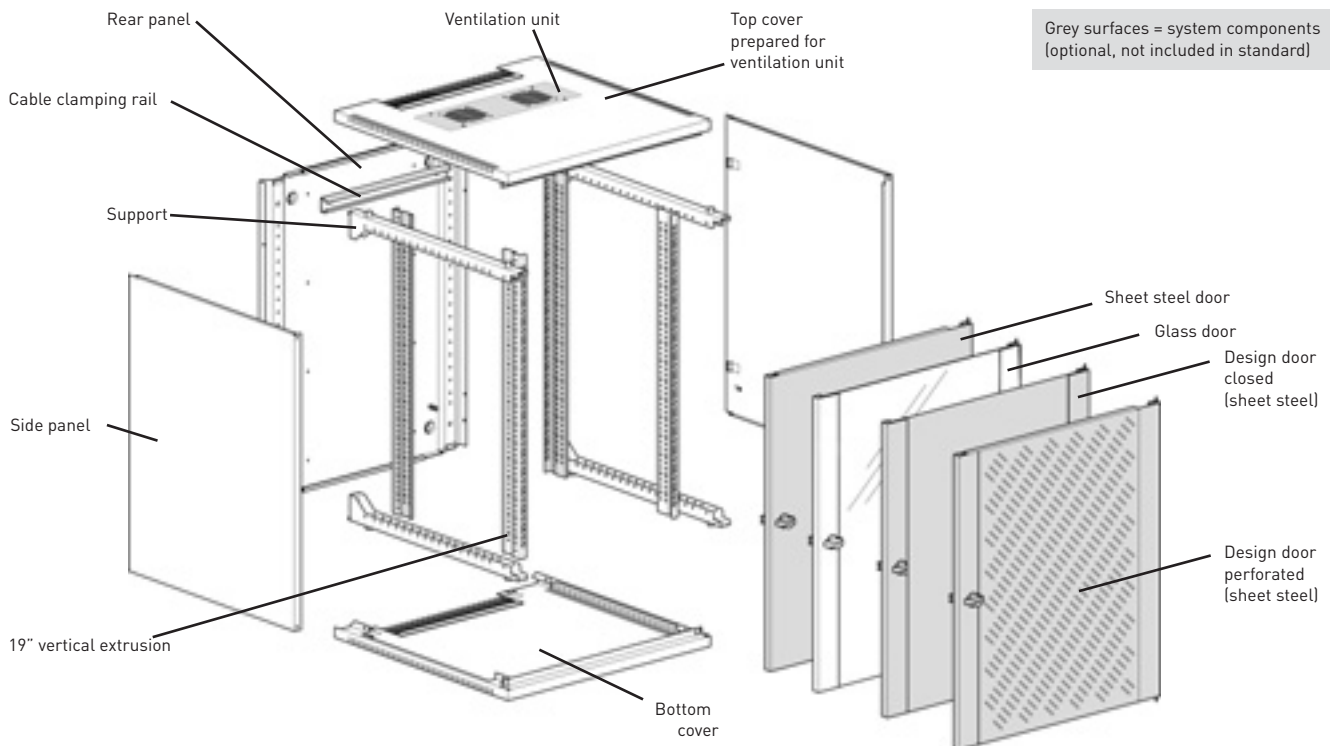


ACT00021

Enclosure with active ventilation unit

## ConAct® Technical data

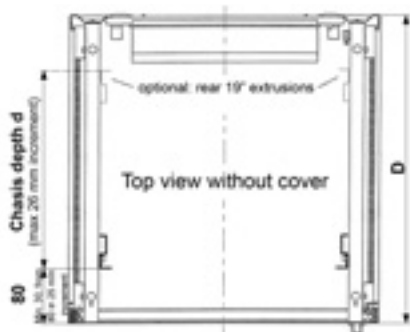
- In acc. with IEC 297
  - With fixed 19" installation
  - For components in acc. with IEC 297-3
  - Removable covers
  - Covers above and below with lateral vent slots
- **For installing:**
    - 19" components on the front
    - 19" components on the rear, optionally with additional 19" vertical extrusion set
    - Equipment with max. construction width of 450 mm
    - Installation accessories
  - **19" installation dimensions in acc. with IEC 297-3**
    - Heights: 6 HU / 9 HU / 12 HU / 15 HU / 18 HU / 21 HU / 24 HU (1 HU = 44.45 mm)
    - Width: 482.6 mm (19")
  - **External dimensions**
    - Heights: 352 mm / 486 mm / 619 mm / 752 mm / 886 mm / 1019 mm / 1152 mm
    - Width: 600 mm
    - Depths: 400 mm / 500 mm / 600 mm
  - **Jumpering space**
    - Front: 100 mm (adjustable)
    - Side: 55 mm
  - **Static load rating**  
500 N
  - **Protection rating**  
IP 20
  - **Standards**  
Earthing, VDE 0100 T 540  
EN 60950, EN 60529
  - **Configuration**  
Stationary, wall mounting



ACT00038



ACT20053



ACT20041

## ConAct® Standard 19" Wall Mounting Rack

- For components in acc. with IEC 297-3
- Accessible from all sides, covers can be quickly removed
- Cable routing via brush strip on top cover and bottom cover
- Ventilation unit, optional (quick and easy to upgrade)
- Front door with single safety glass panel, lockable

- Removable covers, powder-coated sheet steel
- Front door, single safety glass panel, textured
- 19" vertical extrusions, zinc-plated sheet steel

**Colour**  
RAL 7035 light-grey

**Supply schedule**  
1 rear panel  
4 mounting rails  
2 19" sheet steel vertical extrusions  
1 cover, prepared for ventilation unit  
1 bottom cover, closed  
2 side panels  
1 glass door  
1 cable clamping rail  
Mounting material

**Jumpering space**  
80 mm (minimum 32, from 80 on the 25 mm increment)

**Load rating**  
500 N static

**Protection rating**  
IP 20

**Material / Finish**  
- Rear panel and basic frame, sheet steel, zinc-plated

**How supplied**  
Part assembled

W	H	D	HU	h	d (max.)	kg	Model	Order no.	UP
600	352	400	6	270	235	16	With glass door	<b>05.010.000.1</b>	1 unit
600	486	400	9	404	235	19	With glass door	<b>05.010.001.1</b>	1 unit
600	619	400	12	537	235	22	With glass door	<b>05.010.002.1</b>	1 unit
600	752	400	15	670	235	25	With glass door	<b>05.010.003.1</b>	1 unit
600	886	400	18	804	235	28	With glass door	<b>05.010.004.1</b>	1 unit
600	1019	400	21	937	235	31	With glass door	<b>05.010.005.1</b>	1 unit
600	1152	400	24	1070	235	34	With glass door	<b>05.010.006.1</b>	1 unit
600	352	500	6	270	335	18	With glass door	<b>05.010.007.1</b>	1 unit
600	486	500	9	404	335	21	With glass door	<b>05.010.008.1</b>	1 unit
600	619	500	12	537	335	24	With glass door	<b>05.010.009.1</b>	1 unit
600	752	500	15	670	335	28	With glass door	<b>05.010.010.1</b>	1 unit
600	886	500	18	804	335	31	With glass door	<b>05.010.011.1</b>	1 unit
600	1019	500	21	937	335	34	With glass door	<b>05.010.012.1</b>	1 unit
600	1152	500	24	1070	335	37	With glass door	<b>05.010.013.1</b>	1 unit
600	352	600	6	270	435	20	With glass door	<b>05.010.014.1</b>	1 unit
600	486	600	9	404	435	23	With glass door	<b>05.010.015.1</b>	1 unit
600	619	600	12	537	435	27	With glass door	<b>05.010.016.1</b>	1 unit
600	752	600	15	670	435	30	With glass door	<b>05.010.017.1</b>	1 unit
600	886	600	18	804	435	34	With glass door	<b>05.010.018.1</b>	1 unit
600	1019	600	21	937	435	37	With glass door	<b>05.010.019.1</b>	1 unit
600	1152	600	24	1070	435	41	With glass door	<b>05.010.020.1</b>	1 unit

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, kg = Weight, = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

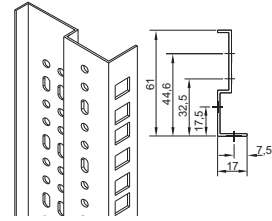


ACT00029



## ConAct® Vertical Extrusion, 19"

- For front and/or rear installation in the enclosure

- Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated
- Supply schedule**  
2 vertical extrusions  
Mounting material



ACT00035

W	H	D	HU	h	d	kg	Model	Order no.	UP
			6				19"	<b>05.010.321.9</b>	 1 set
			9				19"	<b>05.010.322.9</b>	 1 set
			12				19"	<b>05.010.323.9</b>	 1 set
			15				19"	<b>05.010.324.9</b>	 1 set
			18				19"	<b>05.010.325.9</b>	 1 set
			21				19"	<b>05.010.326.9</b>	 1 set
			24				19"	<b>05.010.327.9</b>	 1 set



ACT20052

## ConAct® Ventilation Unit With thermostat

- Easy later installation of the fan unit in the top cover  
- With two axial fans  
- With thermostat  
- Available in two different performance classes

- Material / Finish**  
Sheet steel, zinc-plated

- Colour**  
RAL 7035 light-grey

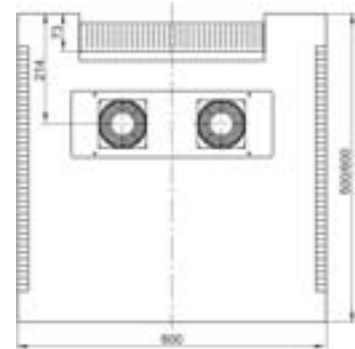
- Supply schedule**  
1 ventilation unit wired ready for connection, with thermostat

- How supplied**  
Assembled, wired and tested

- Single fan technical data**  
Type 1  
- Volume flow (free blowing): 162 m<sup>3</sup>/h per fan  
- Noise (free blowing): 37 dB(A)

- Type 2 (quiet)  
- Volume flow (free blowing): 120 m<sup>3</sup>/h per fan  
- Noise (free blowing): 32 dB(A)



- Technical data, thermostat**  
- Setting range: 0 to 60°C  
- Mains supply: 240 V/50 Hz  
- Nominal current: 16 A



ACT00041



ACT20056

W	H	D	HU	h	d	kg	Model	Order no.	UP
							Type 1	<b>05.010.306.1</b>	 1 set
							Type 2 (quiet)	<b>05.010.307.1</b>	 1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





ACT20027

## ConAct® Sheet Steel Door

- For use instead of glass door

**Material / Finish**  
Sheet steel, powder-coated texture

**Colour**  
RAL 7035 light-grey

**Supply schedule**  
1 steel door  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
We also deliver our ConAct wall enclosure with sheet steel door as required. Please contact us at your leisure.



ACT20054

W	H	D	HU	h	d	kg	Model	Order no.	UP
			6					<b>05.010.421.1</b>	1 unit
			9					<b>05.010.422.1</b>	1 unit
			12					<b>05.010.423.1</b>	1 unit
			15					<b>05.010.424.1</b>	1 unit
			18					<b>05.010.425.1</b>	1 unit
			21					<b>05.010.426.1</b>	1 unit
			24					<b>05.010.427.1</b>	1 unit



ACT00026

## ConAct® Earthing Set

- For earthing all covers on the enclosure frame

**Supply schedule**  
5 earth conductors, 6 mm<sup>2</sup>  
Mounting material

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>05.010.330.9</b>	1 set



MIR00641

## ConAct® Cable Clamping Rail

- For cable clamping using U-clamps, cable clamping bar or hammer head threaded plate  
- For mounting on rear panel

**Material / Finish**  
Sheet steel, zinc-plated

**Supply schedule**  
1 cable clamping rail  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>05.010.340.9</b>	1 set



ACT00006\_A





# SoHo®

**Small Office - Home Office  
Network Wall Enclosure**

**4.10 to 4.14**



## Network Wall Enclosure

**SoHo®**  
Strong points 4.10

**SoHo®**  
Wall Enclosure 4.11

- SoHo® Accessories**
- Mounting Panel 4.12
  - Earthing Set 4.12
  - Earthing Bar 4.12
  - Contact Clamp 4.12
  - 10" Blanking Panel 4.13
  - 10" Cable Port 4.13
  - 10" Shelf 4.14
  - 10" Socket Strip 4.14

### SoHo® Wall Enclosure Strong points



1 ACT20044



2 ACT20046



2 ACT20050



3 ACT20045



4 ACT20043

- 1 User-friendly access from 2 sides with removable covers.
- 2 For mounting 19" or 10" components.
- 3 Easy cable management with cable ports and cable clamping integrated in the top cover/bottom cover.
- 4 Fixing option for non-standard components using an additional mounting panel.



ACT20048

## SoHo Wall Enclosure, 10" / 19"

- For mounting 10" components (horizontal) or 19" components (vertical)
- Removable covers

**Material**  
Sheet steel covers  
Side door, sheet steel or with single safety glass panel

**Finish**  
Powder-coated texture

**Colour**  
**Final digit of order number .1:**  
RAL 7035 light-grey  
**Final digit of order number .8:**  
RAL 7021 dark-grey

**Supply schedule**  
1 main unit with 10"/19" mounting frame, brush strip on the bottom cover and top cover for cable entry  
1 side panel, screwed  
1 front panel, hinged on both sides  
1 side door, lockable

**How supplied**  
Fully assembled



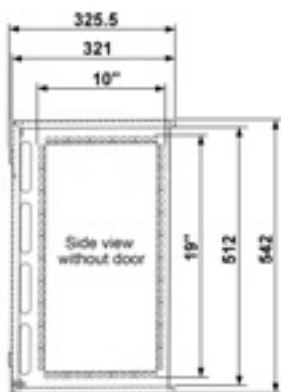
ACT20030

W	H	D	HU	h	d	kg	Model	Order no.	UP
500	542	232	3				With steel door, 19"	<b>05.012.003.1</b>	1 unit
500	542	321	5*				With steel door, 19" or 10"	<b>05.012.001.1</b>	1 unit
500	542	321	5*				With steel door, 19" or 10"	<b>05.012.001.8</b>	1 unit
500	542	321	5*				With glass door, 19" or 10"	<b>05.012.002.1</b>	1 unit
500	542	321	5*				With glass door, 19" or 10"	<b>05.012.002.8</b>	1 unit

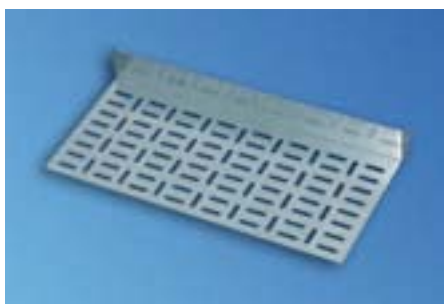
\* 5 HU for 19" components (vertical) and 10 HU for 10" components (horizontal)



ACT20042



ACT20051



ACT20049

## SoHo Mounting Panel

- For mounting non-standard components
- Fixing using cable ties, Velcro strips

**Material / Finish**  
Sheet steel, zinc-plated

**Supply schedule**  
1 mounting panel  
Fixing screws

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
227	400							<b>05.012.120.0</b>	1 unit



ACT20032

## 10" Blanking Panel

- For covering free front areas

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035  
light-grey

**Supply schedule**  
1 10" blanking panel

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
254	43.6		1					<b>05.012.101.1</b>	1 unit



ACT20033

## 10" Cable Routing Board

- For safe and orderly cable management of fibre optic and copper cables

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035  
light-grey

**Supply schedule**  
1 10" front panel  
3 cable routers

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
254	43.6		1					<b>05.012.107.1</b>	1 set



ACT20035

## 10" Shelf

- Quick and easy mounting on 10" extrusions

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035  
light-grey

**Supply schedule**  
1 shelf  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
254	43.6		1					<b>05.012.110.1</b>	1 unit



ACT20034

## 10" Compact Socket Strip

**Material / Finish**  
Casing: closed sheet-steel extrusion, zinc-plated, powder-coated texture, RAL 7035  
Plastic parts: polyamide PA6 (UL 94 V0)  
Internal conductor: full-length busbar, brass  
Cable: PVC

**Supply schedule**  
1 socket strip, with 3 sockets  
2 mounting brackets

**How supplied**  
Flat-packed kit

L	S	n	F1	F2	10"	Safe	Model	Order no.	UP
254	43.6	3	●	●				<b>03.300.003.1</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



ACT20039

## SoHo Earthing Set

- For earthing all covers on the enclosure

**Supply schedule**  
3 earth conductors

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>05.012.092.9</b>	1 set



ELM00068

## SoHo Earthing Bar

- For safe earthing and equipotential bonding of equipment and installation components

**Material**  
Electrolyte copper

**Supply schedule**  
1 earthing bar  
2 contact clamps  
Mounting material

W	H	D	HU	h	d	kg	Model	Order no.	UP
			12					<b>01.110.703.9</b>	1 set




DOP20016

## Contact Clamp

- For secure connection of equipment and installation components with the earthing bar  
- For cable up to 25 mm<sup>2</sup>

**Supply schedule**  
20 contact clamps

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.715.9</b>	 20 units



ACT20036

## 10" Cable Port Panel

- For routing cables in the rack interior  
- With edge protector

**Material**  
Sheet steel

**Finish**  
Powder-coated texture, RAL 7035 light-grey

**Supply schedule**  
1 10" cable port panel

**How supplied**  
Flat-packed kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
254	43.6		1					<b>05.012.106.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



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# Cabling

Cable Management

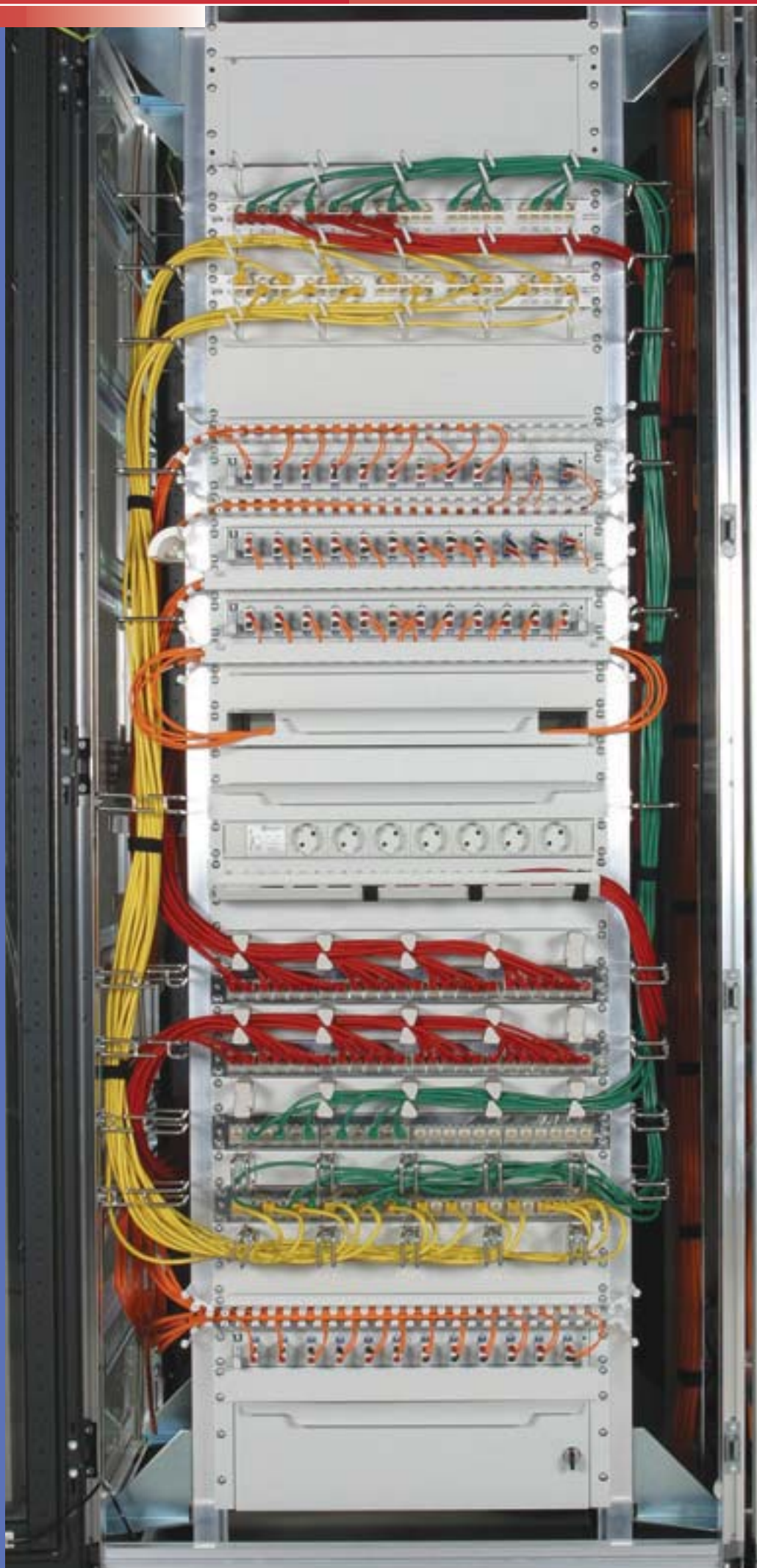
5.2 to 5.27



## Cable Management

### Cabling

Cable Routing Board	5.5
Multifunctional Cable	
Routing Brace	5.7
Cable Routing	5.8
C-Shaped Runner	5.10
Cable Trough	5.12
Radial Limiter	5.13
Excess Cable Storage	5.14
Jumpering Bracket	5.14
Cable Routing	
Components	5.20
Velcro Strip	5.22
Cable Cantilever Girder	5.23





## Cable Management Strong points

It must be ensured when laying cables that every kind of mechanical stress is avoided.



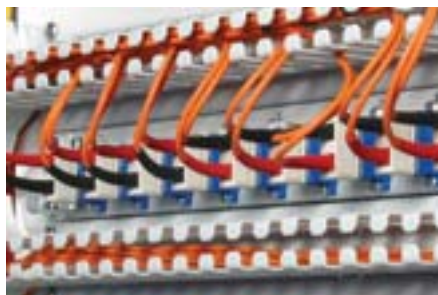
MEC20064



MEC20086



MEC20074



MEC20058



MEC20084



LIG00021

### Bending loads

The bending radii may never be less than the values provided by the cable manufacturer in the respective data sheets. At points that bend too much, the electrical properties of the cable change and reduce the transmission bandwidths and ranges.

If manufacturer specifications are not available, then the following rule of thumb applies: With loose cabling, at least 15 times the external cable diameter and with fixed cabling, at least 10 times the external cable diameter.

### Kink stress

The most extreme bending loads can cause the cable to break.

### Tensile stress

This is only determined by the copper cross-section of the conductor, as all other materials are too soft. The cable may not be stressed more than  $50\text{N/mm}^2$  (Cu cross-section) as otherwise the conductors are stretched and the cross-section is reduced. If higher "pulling" forces are required, then cables with additional strain relief elements must be used.

### Compressive stress

Compressive stress is caused by loads bearing down from above, fixed clamping or sharp cable kinking and must always be avoided, as otherwise the "loose" cable structure changes and the electrical transmission properties are impaired.

### Torque strains (twisting)

These must never have an effect on the cable, as they drive the cable elements into one another and therefore impair the transmission properties.

## Cable Management Strong points



1 MEC20082

1 Different components for fibre-glass and copper cables, especially the fastening options using Velcro strips and cable bundling using different coloured strips, guarantee transparent cable management, which is the optimum starting situation for an intelligent expansion of the network and for the highest standard of service convenience.

2 With all cable management components, special attention has been paid to ensuring that fixing is possible with Velcro strip cable ties. Velcro cable ties not only guarantee a stress-free fixing of the cables, they can also be released at any time and re-used again and again. Velcro cable ties are also extremely helpful for the installation engineer in providing pinch-free cable bundling - and also because they are so quick to apply.



2 MEC20070



3 MEC20099

3 Excess cable lengths are stored separate from the patch fields, but in a position that is always easy to access. Copper cable excess can be stored separate from fibreglass excess within the Knürr rack systems. The copper cables are stored hanging on a side and the more sensitive fibreglass cables are stored flat in a front-accessible excess length drawer.



3 MEC20079



4 MEC20077

4 A closer look at the individual products reveals that some possess an inherent "multi-talent". The cable routing multifunctional brace, for example, not only provides the option of routing cables horizontally and vertically using Velcro ties or cable ties, but rather also allows numerous components to be mounted with screws and caged nuts. These caged nuts can also be shifted with room for play in a slot, so that every mounting dimension can be accommodated.



4 MEC20091



5 MEC20071

5 The prescribed radii are preset with the radial limiter. These components ensure that neither a reduction of the transmission bandwidths and ranges nor a cable break occur.





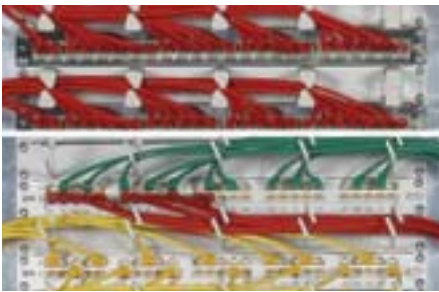
Type 1

MEC00110



Type 2

MEC20014



MEC20150

## 19" Cable Routing Board, 1 HU

- For orderly cable routing
- For safe and secure cable routing of copper and fibreglass cables

### Material / Finish

Type 1:  
Front panel, sheet steel, 1.5 mm  
Powder-coated, RAL 7035 light-grey  
Type 2:  
Front panel, sheet steel, 1.0 mm  
Powder-coated, RAL 7035 light-grey

### External dimensions

Cable routing:  
Type 1: 55 x 22 mm, plastic  
Type 2: 95 x 32 mm, steel

### Supply schedule

1 19" front panel  
5 cable routers

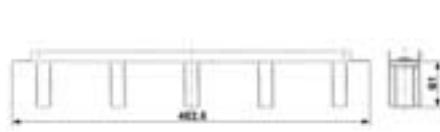
### How supplied

Preassembled

### Note

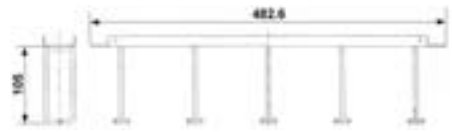
Please also order front panel mounting material.

W	H	D	HU	Model	Order no.	UP
			1	Type 1	05.040.111.1	1 unit
			1	Type 2	01.117.144.1	1 unit



MEC20103

Type 1



MEC20104

Type 2



MEC20041



MEC20076

## 19" Cable Routing Board, Flexible, 1 HU

- For orderly cable routing
- For safe and secure cable routing of copper and fibreglass cables

### Material / Finish

Front panel, sheet steel, 1.5 mm  
Power-coated, RAL 7035  
Jumpering bracket, round steel, d = 5 mm,  
zinc-plated

### Supply schedule

1 front panel  
5 cable routers

### How supplied

Preassembled

### Note

Please also order front panel mounting material.

### External dimensions

Cable routers (a x b):  
1 HU: 82 x 43 mm  
2 HU: 102 x 82 mm

W	H	D	HU	Model	Order no.	UP
			1		05.040.100.1	1 unit
			2		05.040.101.1	1 unit



MEC20102

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





MEC20081

## Fibre Optic Cable Routing Board, 1 HU

- For orderly cable routing
- For safe and secure cable routing of fibre optic cables
- Optionally with cover panels to protect the cables and as labelling option

**Supply schedule**  
1 19" cable routing board

**How supplied**  
In units

**Note**  
Please also order front panel mounting material and cover.  
Not suitable for rack widths 600 mm and 700 mm (asymmetric)!



**Material / Finish**  
Sheet steel, 1.5 mm  
Powder-coated, RAL 7035



MEC20058



MEC20105

W	H	D	HU	Model	Order no.	UP
			1	Cable routing board	<b>05.040.050.1</b>	 1 unit
				Accessories: Cover	<b>05.040.051.1</b>	 1 unit



CUD00021

## Cable Routing Panel, 1HU

- For orderly cable management in the rack internal space
- With edge protector

**Supply schedule**  
1 19" cable routing panel

**How supplied**  
In units

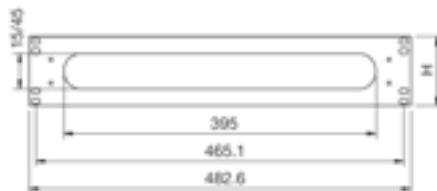
**Note**  
Please also order suitable front panel mounting material.

**Material / Finish**  
Sheet steel, 1.0 mm  
Powder-coated texture, RAL 7035



CUD00022

W	H	D	HU	Model	Order no.	UP
19"	44.5		1		<b>01.117.020.1</b>	 1 unit
19"	88.1		2		<b>01.117.022.1</b>	 1 unit



CUD00023

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

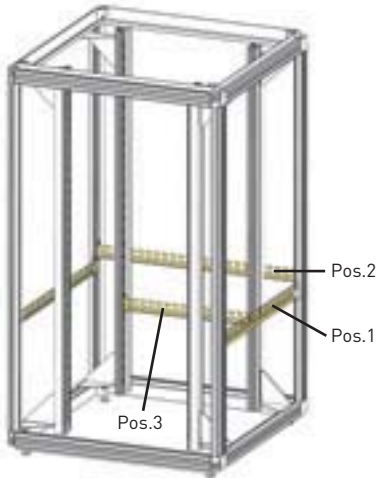
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MEC20091



MIR88001

## Cable Routing Brace

- For mounting on the Miracel/Smaract basic rack and on the 19" extrusion
- For cable clamping using Velcro strips, cable ties
- For orderly cable management in the rack
- For universal mounting option using caged nuts (all dimensions can be accommodated, as caged nuts are flexible)

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 cable routing brace  
Mounting material

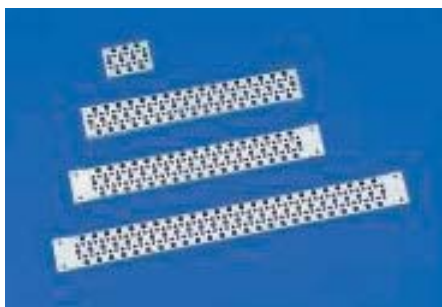
**How supplied**  
In units

**Note**  
If required, please also order Velcro strip.

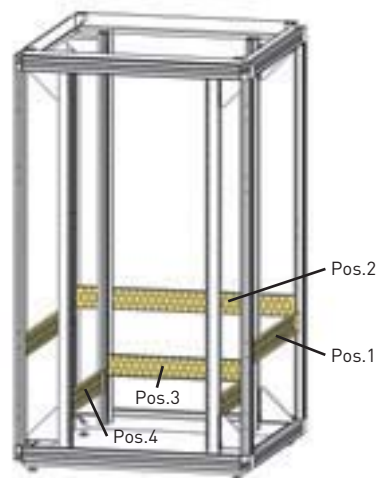


MEC20078

W	H	D	L	Model	For rack type	Order no.	UP
		600	455	Pos. 1	Miracel	<b>05.040.001.0</b>	1 unit
		800	655	Pos. 1	Miracel	<b>05.040.003.0</b>	1 unit
		900	755	Pos. 1	Miracel	<b>05.040.004.0</b>	1 unit
		1000	855	Pos. 1	Miracel	<b>05.040.005.0</b>	1 unit
600			534	Pos. 2	Miracel/Smaract	<b>05.040.008.0</b>	1 unit
800			734	Pos. 2	Miracel	<b>05.040.010.0</b>	1 unit
19"			468	Pos. 3	Miracel/Smaract/dpr	<b>05.040.011.0</b>	1 unit



MIR00089



MIR88003

## Multifunctional Brace

- For routing cables with cable ties and for universal mounting option
- Holes for mounting caged nuts
- Distance between two multifunctional braces can be variably selected using T-slot
- Installation on the extrusions of the rack frame or on the 19" extrusions, diagonal and lateral

**Material**  
Sheet steel, 1.5 mm

**Finish**  
Zinc-plated

**Installation positions**  
1 on the basic frame on the depth  
2 on the basic frame on the width  
3 on the 19" extrusions on the width  
4 on the 19" extrusions on the depth

**Supply schedule**  
1 multifunctional brace

W	H	D	HU	d	Model	For rack type	Order no.	UP
		600			Position 1	Miracel	<b>01.130.775.0</b>	1 unit
		800			Position 1	Miracel	<b>01.130.776.0</b>	1 unit
		900			Position 1	Miracel	<b>01.130.777.0</b>	1 unit
		1000			Position 1	Miracel	<b>01.127.690.0</b>	1 unit
600					Position 2	Miracel/Smaract	<b>01.130.783.0</b>	1 unit
800					Position 2	Miracel	<b>01.130.785.0</b>	1 unit
600-800					Position 3	Miracel/Smaract/DoubleProRack	<b>01.130.787.0</b>	1 unit
		600		365	Position 4	Miracel/Smaract LAN	<b>01.130.778.0</b>	1 unit
		800		565	Position 4	Miracel/Smaract LAN	<b>01.130.779.0</b>	1 unit
		600		440	Position 4	Miracel/Smaract 19"	<b>01.130.780.0</b>	1 unit
		800		640	Position 4	Miracel/Smaract 19"	<b>01.130.781.0</b>	1 unit
		900/1000		740	Position 4	Miracel/Smaract 19"	<b>01.130.782.0</b>	1 unit



MEC20088

## Cable Trough

- For orderly cable management in the Miracel rack
- Mounting cables using Velcro strips or cable ties
- Combination possible as L, U or T unit



**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated, powder-coated, RAL 7035 light grey

**Dimensions**  
L 150 x W 28 mm

**Supply schedule**  
1 cable trough  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
If required, please also order Velcro strip.

W	H	D	HU	Model	Order no.	UP
			41	For rack type - Miracel	<b>05.040.021.1</b>	 1 set
			46	For rack type - Miracel	<b>05.040.022.1</b>	 1 set



MEC20067



MEC20045

## Cascading

- For orderly cable management and for cable clamping
- Can be expanded

**Material / Finish**  
Base plate: sheet steel, powder-coated texture, RAL 7035  
Foam: polyethylene, anthracite

**Supply schedule**  
2 end plates with foam  
3 plates with foam on both sides  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	Order no.	UP
			<b>05.040.088.9</b>	1 set



MEC20074

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

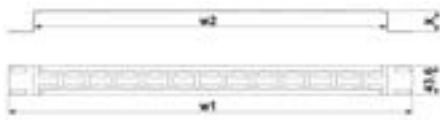
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



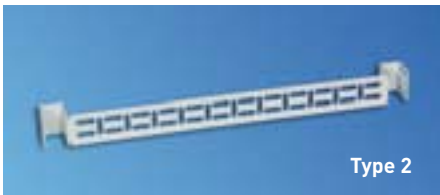
Type 1

MEC20136



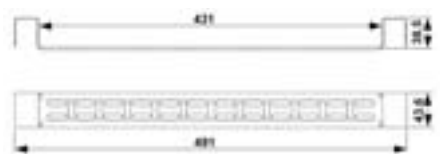
MEC20120

Type 1



Type 2

MEC20137



MEC20121

Type 2

## Assembly Crossbar

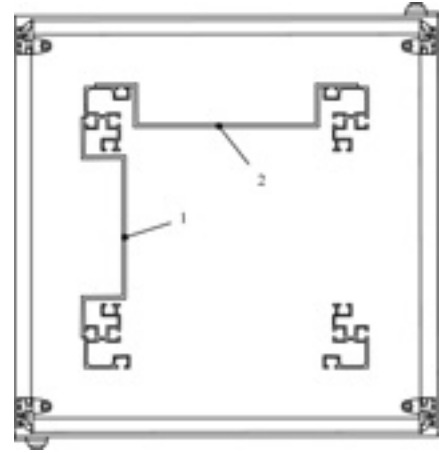
- For cable management with Velcro strips
- Universal mounting options for installation accessories such as, socket strips, communications installation units, mounting panels, etc.
- For lateral and diagonal installation

**Material / Finish**  
Sheet steel, 1.5 mm, powder-coated texture, RAL 7035

**Supply schedule**  
1 assembly crossbar

**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.



MIR00094

W/d	H	D	HU	w1	w2	X	Type	Model	Order no.	UP
d 440		600	1	389	314	31	1	Pos. 1 Miracel	<b>05.040.014.1</b>	1 unit
d 640		800	1	589	514	31	1	Pos. 1 Miracel	<b>05.040.016.1</b>	1 unit
19"			1	482	442.6	81.5	1	Pos. 2 Miracel/Smaract	<b>05.040.018.1</b>	1 unit
19"			1				2	Pos. 2 DoubleProRack	<b>05.040.019.1</b>	1 unit



MIR00096

## C-Shaped Runner

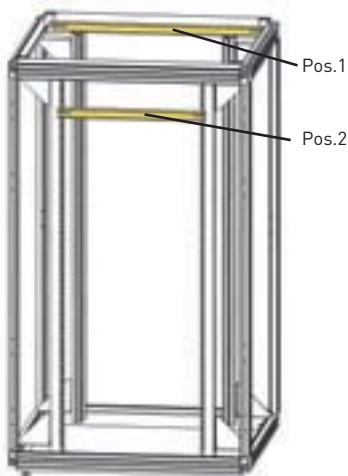
- For cable clamping using U-clamps or cable clamping bars
- Cable clamping closer to access (type 1)
- Suitable for use in conjunction with top cover with cable entry

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 C-shaped runner  
Mounting material

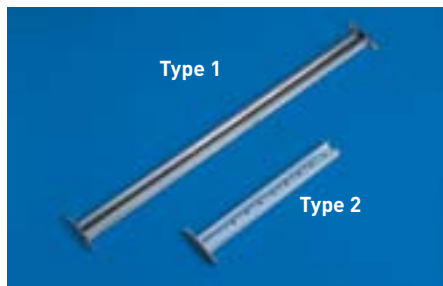
**How supplied**  
Flat-packed kit

**Note**  
Please also order U-clamps, cable clamping bars or threaded plates.

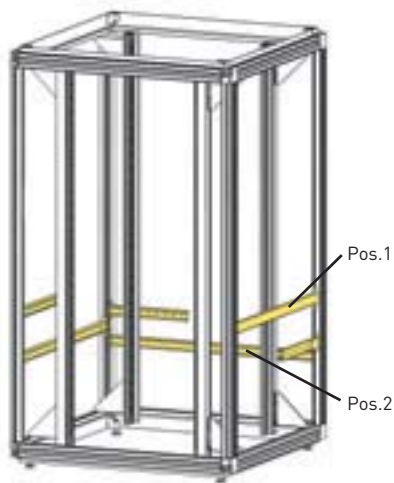


MIR88002

W	H	D	L	Model	Order no.	UP
600			482.5	Pos. 1: Miracel/Smaract	<b>05.040.080.0</b>	1 unit
800			682.5	Pos. 1 Miracel	<b>05.040.082.0</b>	1 unit
19"			508	Pos. 2 Miracel/Smaract/DoubleProRack	<b>01.110.719.9</b>	1 unit



MEC00113



MIR88004

## C-Shaped Runner

- For cable clamping using U-clamps or cable clamping bars. Mounting is space-saving between the extrusions of the basic rack.

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 extrusion rail  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please also order U-clamps, cable clamping bars or threaded plates.

W	H	D	d	L	Model	Order no.	UP
-	-	600	455	-	Pos 1: Type 1 Miracel	<b>01.130.865.9</b>	1 unit
-	-	800	655	-	Pos 1: Type 1 Miracel	<b>01.130.866.9</b>	1 unit
-	-	900	755	-	Pos 1: Type 1 Miracel	<b>01.127.680.9</b>	1 unit
-	-	1000	855	-	Pos 1: Type 1 Miracel	<b>01.127.681.9</b>	1 unit
600	-	-	-	534	Pos 2: Type 1 Miracel/Smaract	<b>01.130.867.9</b>	1 unit
800	-	-	-	734	Pos 2: Type 1 Miracel	<b>01.130.868.9</b>	1 unit
600/800	600/800	600/800	302	-	Type 2 Miracel/Smaract	<b>01.130.862.9</b>	1 unit



MIR20198

## Top-Mounting for Cable Trays

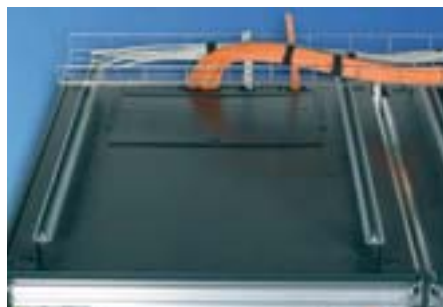
- Mounting cable trays using C-shaped runners  
- Freely selectable positioning

**Material / Finish**  
C-shaped runner: sheet steel, zinc-plated  
Mounting bracket: sheet steel, powered texture, RAL 7035

**Supply schedule**  
2 C-shaped runners  
4 mounting brackets  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please order U-clamps, cable clamping bars or threaded plates.



MEC20034

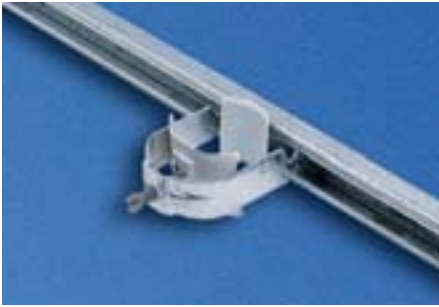
W	H	D	Order no.	UP
-	-	600	<b>05.040.070.9</b>	1 set
-	-	800	<b>05.040.072.9</b>	1 set
-	-	900	<b>05.040.073.9</b>	1 set
-	-	1000	<b>05.040.074.9</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound





MIR00096









ELM00086

## U-Clamp

- For strain relief and individual routing of cables and lines
- Clamping range, 8-64 mm

**Supply schedule**  
1 U-clamp  
1 clamping saddle

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Clamping range	Order no.	UP
						8-12 mm	<b>01.110.711.9</b>	 1 unit
						12-16 mm	<b>01.110.712.9</b>	 1 unit
						16-22 mm	<b>01.110.713.9</b>	 1 unit
						22-28 mm	<b>01.110.714.9</b>	 1 unit
						34-40 mm	<b>01.113.176.9</b>	 1 unit
						40-46 mm	<b>01.113.127.9</b>	 1 unit
						46-52 mm	<b>01.113.128.9</b>	1 unit
						52-58 mm	<b>01.113.177.9</b>	1 unit
						58-64 mm	<b>01.113.178.9</b>	1 unit



MEC00114

## Cable Clamping Bar

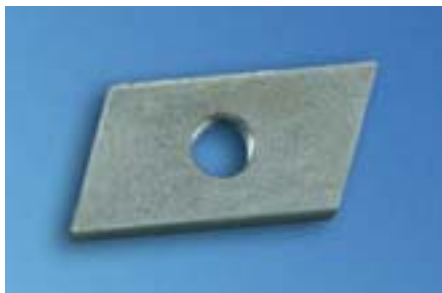
- For clipping to the C-shaped runner

**Material**  
Polyamide, black

**Supply schedule**  
1 set of 10 cable clamping bars

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.130.869.9</b>	10 unit



MEC20051

## M5 Threaded Plate

- For use in conjunction with C-shaped runners

**Material / Finish**  
Flat rolled steel, 4.0 mm, zinc-plated

**Supply schedule**  
20 threaded plates

**How supplied**  
Flat-packed kit

W	H	D	L	Order no.	UP
				<b>05.040.077.9</b>	 1 set



MEC20069



MEC20049

## 19" Cable Trough

- For orderly cable management in front of the 19" front
- Mounting possible on the front panels
- Cable fixing possible with Velcro strips

**Material / Finish**  
Sheet steel, 1.5 mm  
Powder-coated texture, RAL 7035


**Supply schedule**  
1 cable trough

**How supplied**  
In units

**Note**  
Please also order suitable front panel mounting material and Velcro strip.



MEC20063

W	H	D	HU	Model	Order no.	UP
19"		100	1		<b>05.040.055.1</b>	 1 unit



MEC20042

## Cable Trough Between Racks

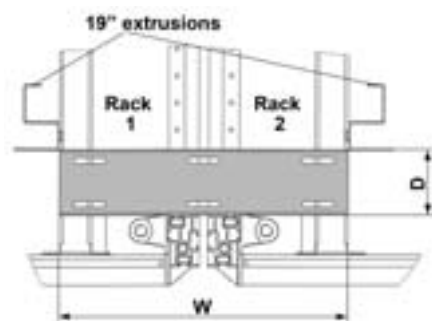
- For orderly cable management between linked racks
- Mounting possible using Velcro strips

**Material / Finish**  
Sheet steel, 1.5mm  
Powder-coated texture, RAL 7035


**Supply schedule**  
1 cable trough  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please also order Velcro strip



MEC20119

W	H	D	HU	Model	Order no.	UP
265		60			<b>05.040.058.1</b>	 1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



MEC20090

## Radial Limit

- Various installation options available:
  - On the basic frame for cable clamping.
  - On the 19" extrusion for cable rerouting. Cable routing.
- For use in conjunction with C-shaped runners (also order threaded plates!)

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 radial limit  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	L	Order no.	UP
290		87		<b>05.040.090.0</b>	1 set



MEC20071



MEC20132

## Radial Limit, 1 HU

- For vertical cable rerouting from the patch area
- The cables can be fixed with Velcro strips
- Lateral use in conjunction with the cable duct is possible

**Material / Finish**  
Sheet steel, 1.5mm,  
powder-coated texture, RAL 7035

**Supply schedule**  
1 radial limit  
1 mounting panel  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	Model	Order no.	UP
85		32	1		<b>05.040.091.1</b>	1 set



MEC20143



MEC20135



MEC20151

## Cable Duct, Side

- For orderly cable routing
- Use in conjunction with the front trim, pivots
- Cable rerouting with radial limiter, 1 HU (optional)

**Material / Finish**  
Sheet steel, 1.5mm  
Powder-coated texture, RAL 7035

**Supply schedule**  
1 cable duct  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	Model	Order no.	UP
100		130	41		<b>05.040.023.1</b>	1 set



MEC20052



MEC20079

## Excess Copper Cable Holder

- For storing excess copper cables (or fibre optic cables)
- For orderly cable management in the Miracel rack
- Can be expanded

**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 excess cable holder  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	Model	Order no.	UP
				For rack type - Miracel	<b>05.040.044.0</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



MEC20047

## 19" Excess Fibre Optic Cable Drawer, 1HU

- For excess fibre optic cable storage
- Pull-out
- Cable fixing possible with Velcro strips

**Material / Finish**  
Sheet steel, 1.5 mm  
Powder-coated texture, RAL 7035

**Supply schedule**  
1 main unit  
1 drawer

**How supplied**  
Flat-packed kit

**Note**  
Please also order suitable front panel mounting material and Velcro strip.



MEC20099

W	H	D	Model	Order no.	UP
19"	43.6	350		<b>05.040.047.1</b>	1 set



MEC20044

## Excess Fibre Optic Cable Holder

- For orderly cable management of fibre optic cables in the Miracel rack (from W 800 mm)
- For excess cable storage

**Material / Finish**  
Base plate: powder-coated texture, RAL 7035  
Cable holder: polyamide, black

**Supply schedule**  
1 base plate  
1 cable holder  
Mounting material

**How supplied**  
Flat-packed kit



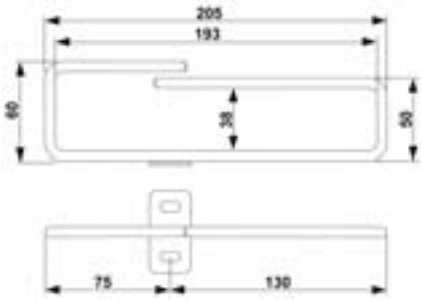
MEC20146

W	H	D	HU	Model	Order no.	UP
			2		<b>05.040.041.1</b>	1 set





MEC20038



MEC20106

## Jumpering Bracket, Universal


- Can be used for extrusion spacing (from front), 123 mm and 73 mm
- For tidy and orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion
- Installation position freely selectable

**Material / Finish**  
Round steel, d = 6 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket

**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.

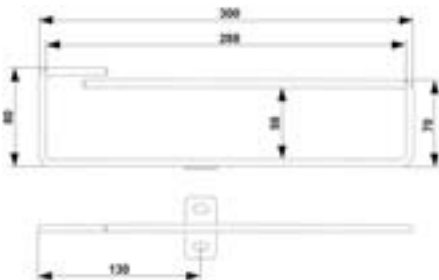
W	HU	Model	Order no.	UP
From 800		For rack type - Miracel	<b>05.040.025.0</b>	 1 unit



MEC20072



MEC20039



MEC20107

## Jumpering Bracket, Rectangular


- For tidy and orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion
- Installation position freely selectable
- For large cable volumes

**Material / Finish**  
Round steel, d = 6 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket, rectangular

**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.

W	Model	Order no.	UP
From 800	For rack type - Miracel	<b>05.040.028.0</b>	 1 unit

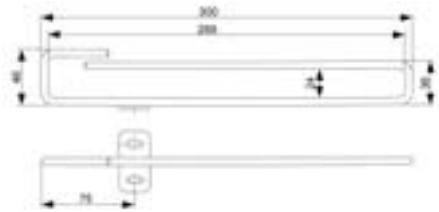
Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



ELM00006



MEC20116

## Jumpering Bracket, Rectangular



- For tidy and orderly cable management
- Open version, no threading
- Mounting on the external side of the 19" extrusion
- Installation position freely selectable

**Material / Finish**  
Round steel, d = 6 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket, rectangular

**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.

W	H	D	HU	Model	Order no.	UP
From 700				Miracel	<b>01.117.179.7</b>	 1 unit
600				Smaract	<b>01.117.179.7</b>	 1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

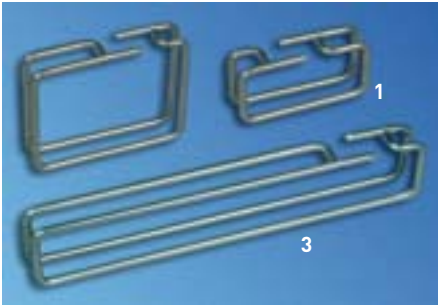
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



### See also: The current **Telecom Special Katalog!**

Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management



MEC20035



MEC20065

## Jumpering Bracket, Flexible

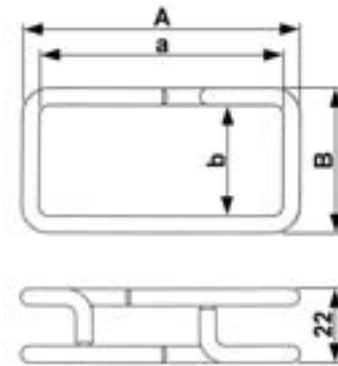
- For flexible and orderly cable management
- Installation place and position freely selectable
- Open version, no threading

**Material / Finish**  
Round steel, d = 5 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	A	a	B	b	Model	Order no.	UP
			82	72	43	33	Fig. 1	<b>05.040.031.0</b>	1 set
			222	212	30	20	Fig. 3	<b>05.040.032.0</b>	1 set
			102	92	82	72	Fig. 2	<b>05.040.033.0</b>	1 set



MEC20108



ELM00117

## Jumpering Bracket, Rectangular

- For tidy and orderly cable management
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Installation position freely selectable

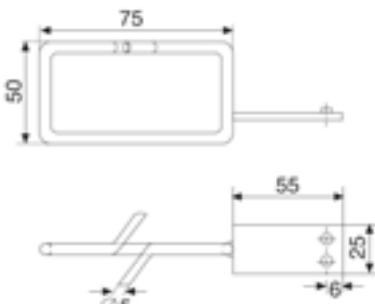
**Material / Finish**  
Round steel, d = 5 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket

**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.

W	H	T	For rack type	Order no.	UP
			DoubleProRack	<b>01.240.551.7</b>	1 unit



ELM00106

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



MIR00564

## Jumpering Bracket

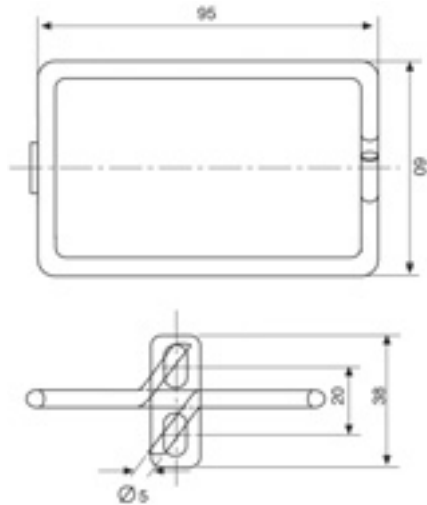
- For tidy and orderly cable management
- Open version, no threading

**Material / Finish**  
Round steel, d = 5 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket

**How supplied**  
Flat-packed kit

**Note**  
Please also order the appropriate mounting material.



MEC00122

W	H	D	Model	Order no.	UP
			95 x 60 mm	<b>01.129.153.7</b>	1 set



ELM00028

## Jumper Tiebar

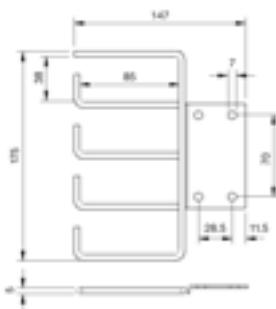
- Ideal for vertical routing and cable strain relief
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Installation position freely selectable
- From rack width 600 mm

**Material / Finish**  
Round steel, d = 5 mm, zinc-plated

**Supply schedule**  
2 jumper tiebars

**How supplied**  
Flat-packed kit

**Note**  
Please also order the appropriate mounting material.



ELM00029

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.117.033.7</b>	2 units



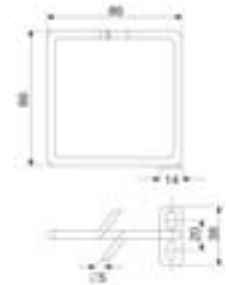
MIR00183

## Jumpering Bracket, Square

- For tidy and orderly cable management
- Open version, no threading
- Mounting on the external lateral T-slot of the 19" extrusion
- Installation position freely selectable
- From rack width 800 mm

**Finish**  
Zinc-plated, Zn 10c, white

**Supply schedule**  
1 square jumpering bracket



ELM00057

W	H	D	HU	d	L	Model	Order no.	UP
						86 x 86	<b>01.113.744.7</b>	1 unit



MIR00566

## Jumpering Bracket, Vertical

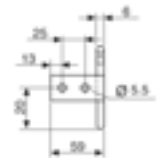
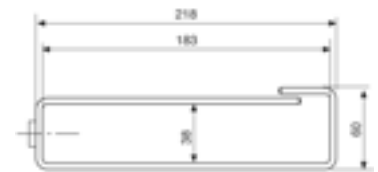
- For tidy and orderly cable management
- Mounting on the mounting rail and on the side on the rack T-slot
- Open version, no threading

**Material / Finish**  
Round steel, d = 6 mm, zinc-plated

**Supply schedule**  
1 jumpering bracket

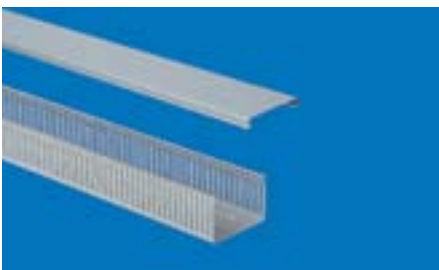
**How supplied**  
In units

**Note**  
Please also order the appropriate mounting material.



MEC00123

W	H	D	HU	d	L	Model	Order no.	UP
						218 x 60	<b>01.129.152.7</b>	1 unit



ELM00004

## Cable Duct

- Ideal for orderly and covered cable management of jumper cables

**Material**  
Hard PVC

**Finish**  
Stone-grey, RAL 7030

**Supply schedule**  
1 jumper cable duct with cover  
Mounting material



ELM00052

W	H	D	HU	d	L	Model	Order no.	UP
						2000	<b>01.117.098.3</b>	1 unit





ELM00025

## Cable Routing Ring

- For tidy and orderly cable management
- Open version, no threading
- Mounting on the T-slots of the vertical extrusions
- Installation position freely selectable

**Material / Finish**  
PA 6, GF 10, grey, UL 94-V1

**Supply schedule**  
5 cable routing rings  
Mounting material

**How supplied**  
Flat-packed kit



ELM00026

W	H	D	HU	d	L	Model	Order no.	UP
						54 x 118 mm	<b>01.312.207.9</b>	5 units



MEC20158

## Cable Routing Set

- For tidy and orderly cable management
- Dimensions:  
External, 61 mm x 42.5 mm  
Internal, 52 mm x 23 mm

**Material / Finish**  
PPO, grey

**Supply schedule**  
10 cable routers

**How supplied**  
Flat-packed kit

**Note**  
Please also order the appropriate mounting material.

W	H	D	HU	d	L	Model	Order no.	UP
						Screw-on	<b>05.040.113.9</b>	10 units
						Plug-in	<b>05.040.112.9</b>	10 units



LIG00068

## Fibre Optic Cable Router

- For safe and orderly cable management of fibre optic cables
- With step-index extrusion of the slots to provide strain relief of the fibre optic cables
- Mounting on the external side of the 19" extrusion

**Material**  
PA UL (94-V0)

**Supply schedule**  
1 pair of fibre optic cable routers  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.117.099.1</b>	1 pair



LIG00021

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



MEC20048

## Velcro Strip (in metres)

- For stress-free mounting and bundling of copper and fibre optic cables
- Velcro strip can be cut to any length required



**Material / Colour**  
 Black: One Wrap Fastener  
 F.R.T., UL 94-V2  
 Blue: One Wrap Fastener

**Supply schedule**  
 1-metre or 25-metre Velcro strip

**How supplied**  
 Metre strips



MEC20147

W	H	D	L	Model	Order no.	UP
16			1000	Black	<b>05.040.060.9</b>	 1 metre
16			1000	Blue	<b>05.040.061.9</b>	 1 metre
16			25000	Black	<b>05.040.065.9</b>	25 metres
16			25000	Blue	<b>05.040.066.9</b>	25 metres



MEC20025


## Velcro Strip with Plastic Eyelet

- For mounting non-standard components
- For bundling cables

**Material / Colour**  
 Polypropylene/polyamide, black

**Supply schedule**  
 20 Velcro strip cable ties

**How supplied**  
 Flat-packed kit

W	H	D	L	Model	Order no.	UP
16			300		<b>01.240.550.9</b>	 1 set



ELM00049

## Cable Tie Clip

- For tidy and orderly cable management
- For fixing cable harnesses and cables with large cross section
- Quick and easy mounting
- For clipping into T-slots at any position
- With detachable lock

**Material**  
 PA 6.6, black, UL 94-V0

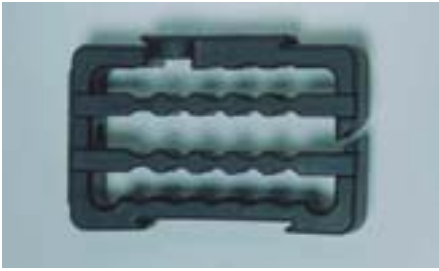
**Supply schedule**  
 20 units

**How supplied**  
 Flat-packed kit



ELM00050

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.240.548.9</b>	20 units



MEC20017

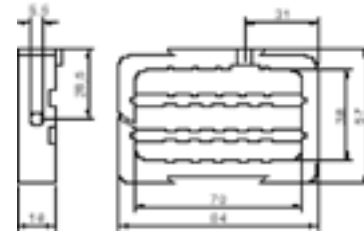
## Cable Clamping Frame

- For orderly cable management
- Open version, no threading
- Cross-section for cable routing, variable with removable routing ribs
- Can be expanded by adding on further cable clamping frames
- Optional mounting: lengthways or across the width

**Material**  
Polypropylene, black

**Supply schedule**  
1 cable clamping frame  
Mounting material

**How supplied**  
Flat-packed kit



ELM00024

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.113.153.9</b>	1 unit



MEC20154

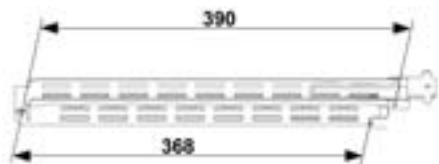
## Cable Cantilever Girder

- For simple mounting in rack/on the shelf; quick connecting to and disconnecting from shelf or rack with a spring clip
- Guarantees defined and kink-free cable management
- Minimum space requirement behind the pushed-in shelves, 40 mm


**Material / Finish**  
Sheet steel, 1.5 mm, zinc-plated

**Supply schedule**  
1 cable cantilever girder  
Mounting material

**How supplied**  
Flat-packed kit



MEC88005

W	H	D	HU	d	W x L	Type	Order no.	UP
						2-piece	<b>05.040.096.0</b>	 1 unit

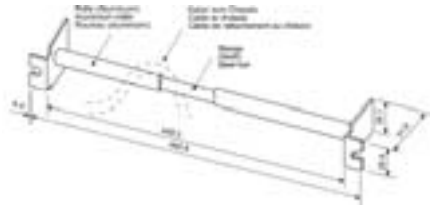
Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



TEL00034



TEL00051



CUD00025



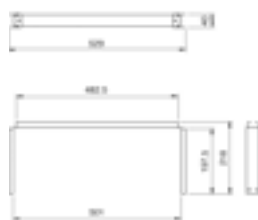
CUD00024



CUD00026



MIR00086



MIR00182

## Cable Roller

- For 19" racks and enclosures
- Reduces the cable load on the chassis
- Orders the cables
- Prevents cable-sagging

**Material**  
Sheet steel, 1.5 mm

**Supply schedule**  
1 cable roller

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.043.327.9</b>	1 unit

## Cable Clamping Bracket / Earthing Bracket

- For 19" cable routing panel, 2 HU
- For strain relief of cables and plug-type connections with cable ties

**Finish**  
Zinc-plated, Zn 10c, white

**Supply schedule**  
1 earthing bracket  
Mounting material

**Material**  
Sheet steel, 1.5 mm

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.117.035.7</b>	1 unit

## Cable Clips

- Conductive surface for good bond

**Supply schedule**  
100 cable clips

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.066.7</b>	100 units

## Cable Clamping, Swing Frame

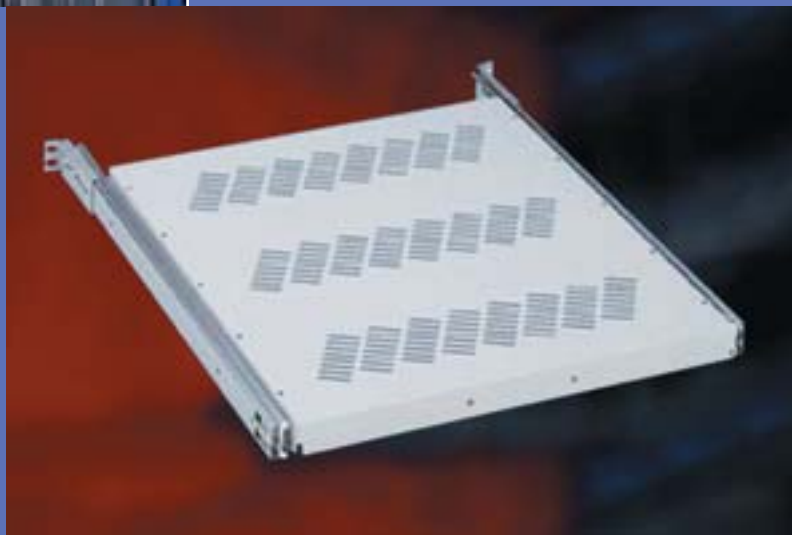
- Absolutely recommended when using swing frame
- For cable strain relief
- For relief of plug-type connections
- Prevents damage to the cable braided shielding

**Supply schedule**  
2 mounting brackets  
1 extrusion rail  
Mounting material

W	H	D	HU	d	L	Model	Order no.	UP
							<b>01.113.203.1</b>	1 set

# System Accessories

6.2 to 6.28





## Accessory Range

### 19" Shelf

Products	6.3
Handle	6.7
Cable Management Shelf	6.8

### 19" Drawers

Drawer	6.9
Shelf	6.9
Keyboard Drawer	6.12
Chassis Rail	6.14
Blanking Panel, Front Panel	6.16
Document Holder	6.19
Telescopic Slide	6.20

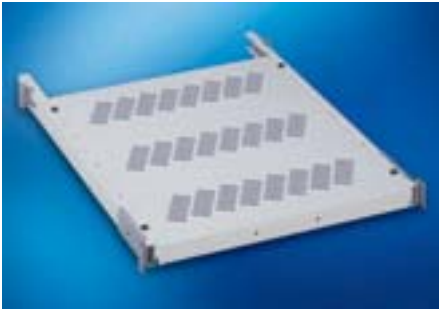
### Mounting Material

Overview	6.23
Mounting Kit	6.25
FP Mounting Kit	6.27
Spring Nut, Caged Nut	6.28
Screws	6.29

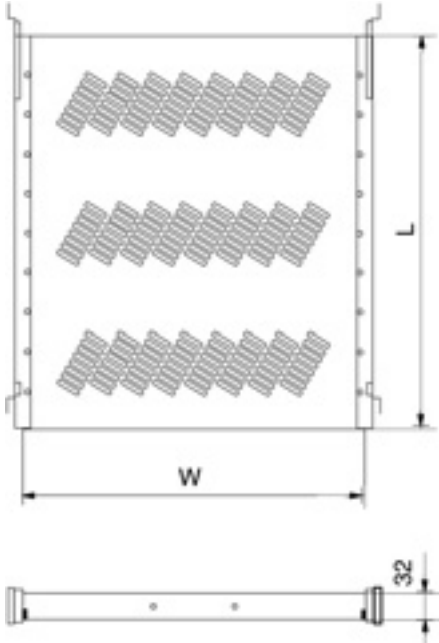


A 19" shelf range for four rack and enclosure ranges: **Miracel, Smaract, DoubleProRack, ConAct.**

- **High cost effectiveness with:**
  - Universal installation option
  - Fast installation using adjusting knobs
  - Future-oriented construction: Cost-effective adjustment to new requirements using extension boards
  - Same board size with full pull-out, part pull-out and fixed installation



MEC00451



MEC20018

## 19" Shelf Fixed

- With perforation to optimise air supply

### Material / Finish

Sheet steel 1.0 mm, zinc-plated, powder-coated texture

### Colour

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .8:  
RAL 7021 dark-grey

### Load rating

500 N static per item

### Supply schedule

2 mounting rails, incl. mounting bracket  
1 shelf board  
1 extension board (from L = 600)  
Mounting material

### How supplied

Flat-packed kit

W	H	D	HU	d	W x L	For rack type	Order no.	UP
19"		600	365	430 x 300	Miracel/Smaract LAN	<b>01.102.001.1</b>	1 unit	
19"		600	440	430 x 300	Miracel/Smaract 19"	<b>01.102.002.1</b>	1 unit	
19"		800	565	430 x 500	Miracel/Smaract LAN	<b>01.102.003.1</b>	1 unit	
19"		800	565	430 x 500	Miracel/Smaract LAN	<b>01.102.003.8</b>	1 unit	
19"		800	640	430 x 600	Miracel/Smaract 19"	<b>01.102.004.1</b>	1 unit	
19"		800	640	430 x 600	Miracel/Smaract 19"	<b>01.102.004.8</b>	1 unit	
19"		900	665	430 x 600	Miracel/Smaract LAN	<b>01.102.004.1</b>	1 unit	
19"		900	665	430 x 600	Miracel/Smaract LAN	<b>01.102.004.8</b>	1 unit	
19"		900	740	430 X 600	Miracel/Smaract 19" Server	<b>01.102.005.1</b>	1 unit	
19"		900	740	430 X 600	Miracel/Smaract 19" Server	<b>01.102.005.8</b>	1 unit	
19"		1000	740	430 x 600	Miracel 19" Server	<b>01.102.005.1</b>	1 unit	
19"		1000	740	430 x 600	Miracel 19" Server	<b>01.102.005.8</b>	1 unit	
600		600	530	515 x 500	Miracel CW 535	<b>01.102.200.1</b>	1 unit	
700		600	530	615 x 500	Miracel CW 635	<b>01.102.201.1</b>	1 unit	
800		600	530	715 x 500	Miracel CW 735	<b>01.102.202.1</b>	1 unit	
600		800	730	515 x 700	Miracel CW 535	<b>01.102.208.1</b>	1 unit	
700		800	730	615 x 700	Miracel CW 635	<b>01.102.209.1</b>	1 unit	
800		800	730	715 x 700	Miracel CW 735	<b>01.102.210.1</b>	1 unit	
600		900	830	515 x 800	Miracel CW 535	<b>01.102.212.1</b>	1 unit	
800		900	830	715 x 800	Miracel CW 735	<b>01.102.214.1</b>	1 unit	
600		600	535	515 x 500	Smaract CW 535	<b>01.102.252.1</b>	1 unit	
600		800	735	515 x 700	Smaract CW 535	<b>01.102.254.1</b>	1 unit	
600		900	835	515 x 800	Smaract CW 535	<b>01.102.255.1</b>	1 unit	
19"		600	435	430 x 300	DoubleProRack with door	<b>01.102.002.1</b>	1 unit	
19"		800	635	430 x 600	DoubleProRack with door	<b>01.102.004.1</b>	1 unit	
19"		800	635	430 x 600	DoubleProRack with door	<b>01.102.004.8</b>	1 unit	
19"		500	460	430 x 300	DoubleProRack, no door	<b>01.102.002.1</b>	1 unit	
19"		600	560	430 x 500	DoubleProRack, no door	<b>01.102.003.1</b>	1 unit	
19"		600	560	430 x 500	DoubleProRack, no door	<b>01.102.003.8</b>	1 unit	
19"		700	660	430 x 600	DoubleProRack, no door	<b>01.102.004.1</b>	1 unit	
19"		700	660	430 x 600	DoubleProRack, no door	<b>01.102.004.8</b>	1 unit	
19"		500	285	430 x 200	ConAct	<b>01.102.000.1</b>	1 unit	
19"		600	385	430 x 300	ConAct	<b>01.102.001.1</b>	1 unit	

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width

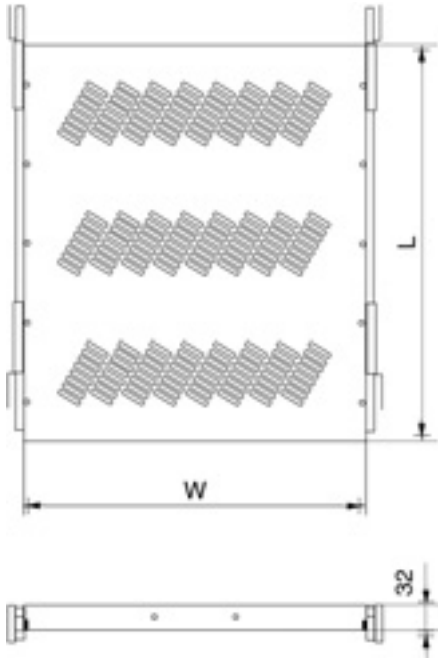
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch  
1 kg = 2.2046 pound



MEC00452



MEC20019

## 19" Shelf Part pull-out

- With perforation to optimise air supply
- Locking in pulled-out position (friction lock); quick and easy conversion from form lock to friction lock with stop spring (see page 6.20)
- Quick separation mechanism for removing and connecting the shelf board without tools

- **Supply schedule**  
1 pair of telescopic slides  
1 shelf board  
1 extension board (from L = 600)  
Mounting material

- **How supplied**  
Flat-packed kit

- **Material / Finish**  
Sheet steel 1.0 mm, zinc-plated, powder-coated texture

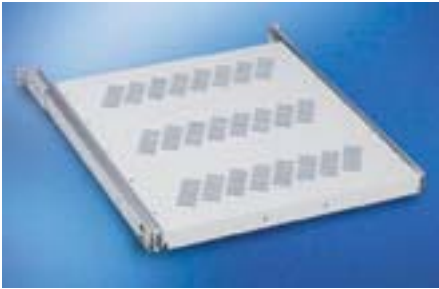
- **Colour**  
Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .8:  
RAL 7021 dark-grey

- **Load rating**  
500 N static per item

W	H	D	HU	d	W x L	For rack type	Order no.	UP
19"	600		365	430 x 300	Miracel/Smaract LAN	<b>01.102.010.1</b>	1 unit	
19"	600		440	430 x 300	Miracel/Smaract 19"	<b>01.102.010.1</b>	1 unit	
19"	800		565	430 x 500	Miracel/Smaract LAN	<b>01.102.011.1</b>	1 unit	
19"	800		565	430 x 500	Miracel/Smaract LAN	<b>01.102.011.8</b>	1 unit	
19"	800		640	430 x 500	Miracel/Smaract 19"	<b>01.102.011.1</b>	1 unit	
19"	800		640	430 x 500	Miracel/Smaract 19"	<b>01.102.011.8</b>	1 unit	
19"	900		665	430 x 500	Miracel/Smaract LAN	<b>01.102.011.1</b>	1 unit	
19"	900		665	430 x 500	Miracel/Smaract LAN	<b>01.102.011.8</b>	1 unit	
19"	900		740	430 x 600	Miracel/Smaract 19" Server	<b>01.102.012.1</b>	1 unit	
19"	900		740	430 x 600	Miracel/Smaract 19" Server	<b>01.102.012.8</b>	1 unit	
19"	1000		740	430 x 600	Miracel 19" Server	<b>01.102.012.1</b>	1 unit	
19"	1000		740	430 x 600	Miracel 19" Server	<b>01.102.012.8</b>	1 unit	
600	600		530	515 x 500	Miracel CW 535	<b>01.102.170.1</b>	1 unit	
700	600		530	615 x 500	Miracel CW 635	<b>01.102.171.1</b>	1 unit	
800	600		530	715 x 500	Miracel CW 735	<b>01.102.172.1</b>	1 unit	
600	800/900		730	515 x 600	Miracel CW 535	<b>01.102.178.1</b>	1 unit	
700	800/900		730	615 x 600	Miracel CW 635	<b>01.102.179.1</b>	1 unit	
800	800/900		730	715 x 600	Miracel CW 735	<b>01.102.180.1</b>	1 unit	
19"	600		435	430 x 300	DoubleProRack, with door	<b>01.102.010.1</b>	1 unit	
19"	800		635	430 x 500	DoubleProRack, with door	<b>01.102.011.1</b>	1 unit	
19"	800		635	430 x 500	DoubleProRack, with door	<b>01.102.011.8</b>	1 unit	
19"	500		460	430 x 300	DoubleProRack, no door	<b>01.102.010.1</b>	1 unit	
19"	600		560	430 x 500	DoubleProRack, no door	<b>01.102.011.1</b>	1 unit	
19"	600		560	430 x 500	DoubleProRack, no door	<b>01.102.011.8</b>	1 unit	
19"	700		660	430 x 500	DoubleProRack, no door	<b>01.102.011.1</b>	1 unit	
19"	700		660	430 x 500	DoubleProRack, no door	<b>01.102.011.8</b>	1 unit	
19"	600		385	430 x 300	ConAct	<b>01.102.010.1</b>	1 unit	

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width  
Conversion: 1 mm = 0.03937 inch

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item  
1 kg = 2.2046 pound



MEC00462

## 19" Shelf Full pull-out

- With perforation to optimise air supply
- Locking in pulled-out position (friction lock): quick and easy conversion with stop spring (see page 6.20)
- Quick separation mechanism for removing and connecting the shelf board without tools

### Material / Finish

Sheet steel 1.0 mm, zinc-plated, powder-coated texture

### Colour

RAL 7035 light-grey

### Load rating

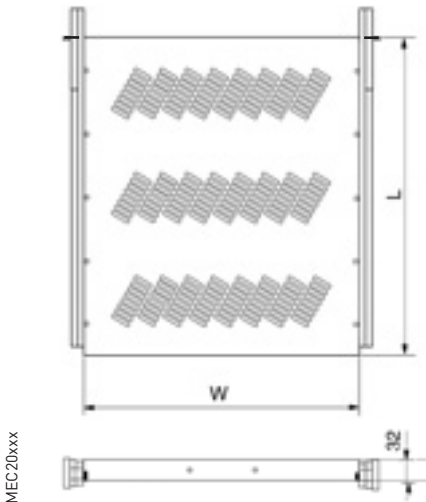
500 N static per item

### Supply schedule

1 pair of telescopic slides  
1 shelf board  
1 extension board (from L = 600)  
Mounting material

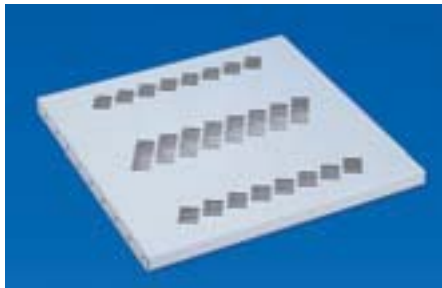
### How supplied

Flat-packed kit



MEC20xxx

W	H	D	HU	d	WxL	For rack type	Order no.	UP
19"	600	365			430 x 300	Miracel/Smaract LAN	<b>01.102.160.1</b>	1 unit
19"	600	440			430 x 300	Miracel/Smaract 19"	<b>01.102.160.1</b>	1 unit
19"	800	565			430 x 500	Miracel/Smaract LAN	<b>01.102.161.1</b>	1 unit
19"	800	640			430 x 500	Miracel/Smaract 19"	<b>01.102.161.1</b>	1 unit
19"	900	665			430 x 500	Miracel/Smaract LAN	<b>01.102.161.1</b>	1 unit
19"	900	740			430 x 600	Miracel/Smaract 19" Server	<b>01.102.162.1</b>	1 unit
19"	1000	740			430 x 600	Miracel 19" Server	<b>01.102.162.1</b>	1 unit



MEC00120

## 19" Heavy-Duty Shelf Fixed

- Surface area with perforation
- Use as server or battery bottom cover

### Material / Finish

Sheet steel 1.5 mm, zinc-plated, powder-coated texture

### Colour

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .8:  
RAL 7021 dark-grey

### Load rating

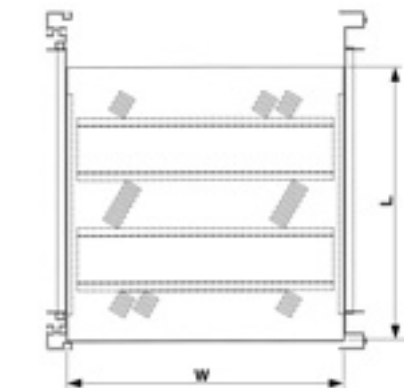
1000 N static for CW installation  
1500 N static for 19" installation

### Supply schedule

1 shelf, fixed, screwable  
2 mounting braces  
Mounting material

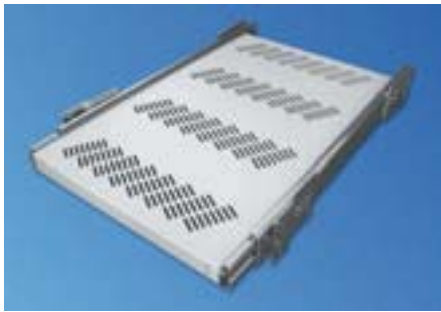
### How supplied

Flat-packed kit

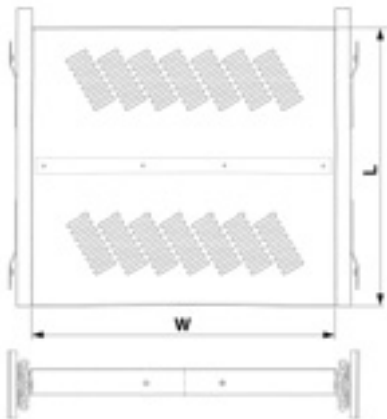


MEC20117

W	H	D	HU	d	WxL	For rack type	Order no.	UP
19"	800	565			467 x 460	Miracel/Smaract LAN	<b>01.131.473.1</b>	1 unit
19"	800	565			467 x 460	Miracel/Smaract LAN	<b>01.131.473.8</b>	1 unit
19"	800	640			467 x 460	Miracel/Smaract 19"	<b>01.131.475.1</b>	1 unit
19"	900	665			467 x 560	Miracel/Smaract LAN	<b>01.131.476.1</b>	1 unit
19"	900	740			467 x 560	Miracel/Smaract 19" Server	<b>01.131.474.1</b>	1 unit
19"	900	740			467 x 560	Miracel/Smaract 19" Server	<b>01.131.474.8</b>	1 unit
19"	1000	740			467 x 560	Miracel 19" Server	<b>01.131.474.1</b>	1 unit
19"	1000	740			467 x 560	Miracel 19" Server	<b>01.131.474.8</b>	1 unit
600	800	730			534 x 536	Miracel CW 535	<b>01.131.477.1</b>	1 unit
800	800	730			734 x 536	Miracel CW 735	<b>01.131.479.1</b>	1 unit
600	900	830			534 x 536	Miracel CW 535	<b>01.131.481.1</b>	1 unit
800	900	830			734 x 536	Miracel CW 735	<b>01.131.483.1</b>	1 unit



MEC20022



MEC20113

## 19" Heavy-Duty Shelf Full pull-out

- With perforation to optimise air supply
- Locking in pushed-in and fully pulled out position
- Easy mounting with patented quick mounting system
- Use as server or battery bottom cover

**Material / Finish**  
Sheet steel, 1.5 mm, powder-coated texture

**Colour**  
Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .8:  
RAL 7021 dark-grey

**Load rating**  
1200 N static

**Supply schedule**  
1 pair of telescopic slides  
1 shelf board  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	HU	d	WxL	For rack type	Order no.	UP
19"	800	565	412 x 560	Miracel/Smaract LAN	<b>01.102.031.1</b>		1 unit	
19"	800	565	412 x 560	Miracel/Smaract LAN	<b>01.102.031.8</b>		1 unit	
19"	800	640	412 x 560	Miracel/Smaract 19"	<b>01.102.031.1</b>		1 unit	
19"	800	640	412 x 560	Miracel/Smaract 19"	<b>01.102.031.8</b>		1 unit	
19"	900	665	412 x 660	Miracel/Smaract LAN	<b>01.102.032.1</b>		1 unit	
19"	900	665	412 x 660	Miracel/Smaract LAN	<b>01.102.032.8</b>		1 unit	
19"	900	740	412 x 660	Miracel/Smaract 19" Server	<b>01.102.032.1</b>		1 unit	
19"	900	740	412 x 660	Miracel/Smaract 19" Server	<b>01.102.032.8</b>		1 unit	
19"	1000	740	412 x 660	Miracel 19" Server	<b>01.102.032.1</b>		1 unit	
19"	1000	740	412 x 660	Miracel 19" Server	<b>01.102.032.8</b>		1 unit	
600	800	730	478 x 560	Miracel LW 535	<b>01.102.034.1</b>		1 unit	
800	800	730	678 x 560	Miracel CW 735	<b>01.102.037.1</b>		1 unit	
600	900	830	478 x 660	Miracel CW 535	<b>01.102.035.1</b>		1 unit	
800	900	830	678 x 660	Miracel CW 735	<b>01.102.038.1</b>		1 unit	
600	800	735	478 x 560	Smaract CW 535	<b>01.102.034.1</b>		1 Stk	
600	900	835	478 x 660	Smaract CW 535	<b>01.102.035.1</b>		1 Stk	





MEC20138

## Handle

- Suitable for shelves and heavy-duty shelves
- With internal thread, M5

### Material

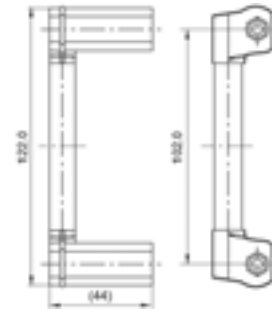
Die-cast aluminium consoles  
Handle extrusions of extruded aluminium  
Caps of ABS UL 94 HB

### Finish

Handle, powder-coated, grey-blue,  
RAL 5008 / Cap, light-grey, RAL 7035

### Supply schedule

2 handles



MEC20111

W	H	D	HU	d	W x L	For rack type	Order no.	UP
							<b>00.050.503.1</b>	1 set



MEC20154

## Cable Cantilever Girder

- Swing-out from the rear, therefore free access to the rear side (only 3-piece)
- For easy mounting in rack/on the shelf; quick connecting to and disconnecting from shelf or rack with a spring clip
- Guarantees defined and kink-free cable management
- Minimum space requirement behind the pushed-in shelves, 40 mm

### Material / Finish

Sheet steel, 1.5 mm, zinc-plated

### Supply schedule

1 cable cantilever girder  
Mounting material

### How supplied

Flat-packed kit

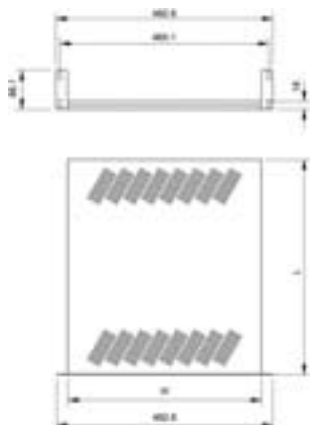


MEC88005

W	H	D	HU	d	W x L	Type	Order no.	UP
						2-piece	<b>05.040.096.0</b>	1 unit



MIR00373



MIR00375

## 19" Shelf, 2 HU Fixed

- For installation in racks with fixed 19" installation on the front
- Quick and easy mounting on 19" extrusions
- Also for swing frame in the 19" rack and 19" enclosure

**Finish / Colour**  
Powder-coated texture, RAL 7035 light-grey

**Material**  
Sheet steel, 1.5 mm

**Load rating**  
200 N static

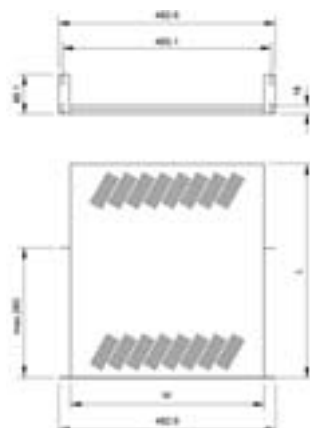
**Supply schedule**  
1 shelf, fixed  
Mounting material

**How supplied**  
Flat-packed kit

W	H	D	W x L	For rack type	Order no.	UP
19"	88.1	600/800/900/1000	442 x 280	Miracel/Smaract	<b>01.113.736.1</b>	1 unit
19"	88.1	600/800/900/1000	442 x 380	Miracel/Smaract	<b>01.113.737.1</b>	1 unit
19"	88.1	500/600/800	442 x 280	DoubleProRack	<b>01.113.736.1</b>	1 unit
19"	88.1	500/600/800	442 x 380	DoubleProRack	<b>01.113.737.1</b>	1 unit
19"	88.1	400/500/600	442 x 280	ConAct	<b>01.113.736.1</b>	1 unit
19"	88.1	500/600	442 x 380	ConAct	<b>01.113.737.1</b>	1 unit



MIR00102



MIR00103

## 19" Shelf, 2 HU Adjustable

- For installation in racks with adjustable 19" installation on the front
- Quick and easy mounting on 19" extrusions
- Also for swing frame in the 19" rack and 19" enclosure
- Adjustable in increments of 25 mm in the depth

**Material / Finish**  
Sheet steel 1.5 mm, powder-coated texture

**Colour**  
RAL 7035 light-grey

**Load rating**  
200 N static

**How supplied**  
Flat-packed kit

W	H	D	W x L	For rack type	Order no.	UP
19"	88.1	600/800/900/1000	442 x 280	Miracel/Smaract	<b>01.113.409.1</b>	1 unit
19"	88.1	600/800/900/1000	442 x 380	Miracel/Smaract	<b>01.113.410.1</b>	1 unit
19"	88.1	600/800/900/1000	442 x 480	Miracel/Smaract	<b>01.113.411.1</b>	1 unit
19"	88.1	500/600/800	442 x 280	DoubleProRack	<b>01.113.409.1</b>	1 unit
19"	88.1	500/600/800	442 x 380	DoubleProRack	<b>01.113.410.1</b>	1 unit
19"	88.1	600/800	442 x 480	DoubleProRack	<b>01.113.411.1</b>	1 unit
19"	88.1	400/500/600	442 x 280	ConAct	<b>01.113.409.1</b>	1 unit
19"	88.1	500/600	442 x 380	ConAct	<b>01.113.410.1</b>	1 unit
19"	88.1	600	442 x 480	ConAct	<b>01.113.411.1</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



SCH00058



SCH00054

### 19" Drawer Installation on the front

- For installation on the front 19" extrusions
- For storing service documents
- Quick and easy mounting

**Material / Finish**  
Drawer, sheet steel 1.0 mm, powder-coated texture  
Telescopic slides, sendzimir zinc-coated

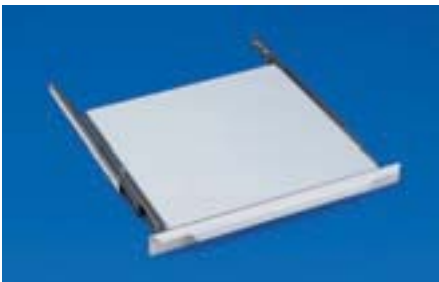
**Colour**  
Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .8:  
RAL 7021 dark-grey

**Load rating**  
150 N static

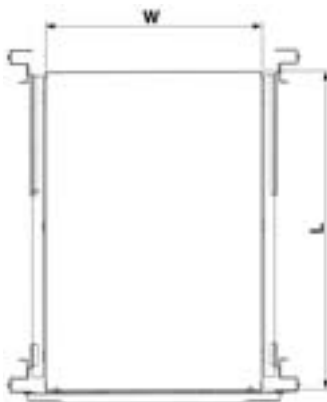
**Supply schedule**  
1 19" drawer with lock, including key  
1 pair of telescopic slides  
Mounting material

**How supplied**  
Preassembled

W	H	D	HU	For rack type	Order no.	UP
19"	43.6	600-1000	1	Miracel/Smaract/DoubleProRack/ConAct	<b>01.113.926.1</b>	1 unit
19"	88.1	600-1000	2	Miracel/Smaract/DoubleProRack/ConAct	<b>01.113.927.1</b>	1 unit
19"	88.1	600-1000	2	Miracel/Smaract/DoubleProRack/ConAct	<b>01.113.927.8</b>	1 unit
19"	132.5	600-1000	3	Miracel/Smaract/DoubleProRack/ConAct	<b>01.113.928.1</b>	1 unit



MEC00118



MEC20118

### 19" Shelf, 1 HU Pull-out

- With handle
- Can also be used as writing board

**Material / Finish**  
Shelf, sheet steel, 1.0 mm  
Telescopic slide, cold rolled steel

**Finish / Colour**  
Powder-coated texture  
RAL 7035 light-grey

**Load rating**  
200 N static

**Supply schedule**  
1 shelf  
1 pair of telescopic slides  
Mounting material

**How supplied**  
Preassembled

W	H	D	HU	d	W x L	For rack type	Order no.	UP
19"	43.6	600	1	365	403 x 400	Miracel/Smaract LAN	<b>02.045.149.1</b>	1 unit
19"	43.6	600	1	440	403 x 400	Miracel/Smaract 19"	<b>02.045.149.1</b>	1 unit
19"	43.6	800	1	565	403 x 600	Miracel/Smaract LAN	<b>02.045.147.1</b>	1 unit
19"	43.6	800	1	640	403 x 600	Miracel/Smaract 19"	<b>02.045.147.1</b>	1 unit
19"	43.6	900	1	665	403 x 600	Miracel/Smaract LAN	<b>02.045.147.1</b>	1 unit
19"	43.6	900	1	740	403 x 600	Miracel/Smaract 19" Server	<b>02.045.147.1</b>	1 unit
19"	43.6	1000	1	740	403 x 600	Miracel 19" Server	<b>02.045.147.1</b>	1 unit
19"	43.6	600	1	435	403 x 400	DoubleProRack with door	<b>02.045.149.1</b>	1 unit
19"	43.6	800	1	635	403 x 600	DoubleProRack with door	<b>02.045.147.1</b>	1 unit



SCH00057



SCH00053

## 19" Drawer with Lock Mounting on 19" installation, front and rear

- For mounting in racks with fixed 19" installation on the front and rear
- Full pull-out

**Material / Finish**  
Drawer, sheet steel 1.0 mm, powder-coated texture  
Telescopic slides, cold rolled steel, sendzimir zinc-coated

**Colour**  
Drawer, RAL7035 light-grey

**Load rating**  
1 HU - 200 N static  
2 HU - 400 N static  
3 HU - 400 N static  
4 HU - 400 N static

**Supply schedule**  
1 19" drawer with lock, including key  
1 pair of telescopic slides  
Mounting hardware

**How supplied**  
Preassembled







W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	600	1	365	400	Miracel/Smaract LAN	<b>02.045.151.1</b>	1 unit
19"	43.6	600	1	440	400	Miracel/Smaract 19"	<b>02.045.151.1</b>	1 unit
19"	87.1	600	2	440	400	Miracel/Smaract 19"	<b>02.045.152.1</b>	1 unit
19"	131.5	600	3	440	400	Miracel/Smaract 19"	<b>02.045.153.1</b>	1 unit
19"	176.0	600	4	440	400	Miracel/Smaract 19"	<b>02.045.154.1</b>	1 unit
19"	43.6	800	1	565	400	Miracel/Smaract LAN	<b>02.045.151.1</b>	1 unit
19"	87.1	800	2	565	400	Miracel/Smaract LAN	<b>02.045.152.1</b>	1 unit
19"	131.5	800	3	565	400	Miracel/Smaract LAN	<b>02.045.153.1</b>	1 unit
19"	176.0	800	4	565	400	Miracel/Smaract LAN	<b>02.045.154.1</b>	1 unit
19"	43.6	800	1	640	600	Miracel/Smaract 19"	<b>02.045.161.1</b>	1 unit
19"	43.6	900	1	665	600	Miracel/Smaract LAN	<b>02.045.161.1</b>	1 unit
19"	87.1	900	2	665	600	Miracel/Smaract LAN	<b>02.045.162.1</b>	1 unit
19"	131.5	900	3	665	600	Miracel/Smaract LAN	<b>02.045.163.1</b>	1 unit
19"	176.0	900	4	665	600	Miracel/Smaract LAN	<b>02.045.164.1</b>	1 unit
19"	43.6	900	1	740	600	Miracel/Smaract 19" Server	<b>02.045.161.1</b>	1 unit
19"	87.1	900	2	740	600	Miracel/Smaract 19" Server	<b>02.045.162.1</b>	1 unit
19"	131.5	900	3	740	600	Miracel/Smaract 19" Server	<b>02.045.163.1</b>	1 unit
19"	176.0	900	4	740	600	Miracel/Smaract 19" Server	<b>02.045.164.1</b>	1 unit
19"	43.6	1000	1	740	600	Miracel/Smaract 19" Server	<b>02.045.161.1</b>	1 unit
19"	87.1	1000	2	740	600	Miracel/Smaract 19" Server	<b>02.045.162.1</b>	1 unit
19"	131.5	1000	3	740	600	Miracel/Smaract 19" Server	<b>02.045.163.1</b>	1 unit
19"	176.0	1000	4	740	600	Miracel/Smaract 19" Server	<b>02.045.164.1</b>	1 unit
19"	43.6	600	1	435	400	DoubleProRack with door	<b>02.045.151.1</b>	1 unit
19"	87.1	600	2	435	400	DoubleProRack with door	<b>02.045.152.1</b>	1 unit
19"	131.5	600	3	435	400	DoubleProRack with door	<b>02.045.153.1</b>	1 unit
19"	176.0	600	4	435	400	DoubleProRack with door	<b>02.045.154.1</b>	1 unit
19"	43.6	800	1	635	600	DoubleProRack with door	<b>02.045.161.1</b>	1 unit
19"	87.1	800	2	635	600	DoubleProRack with door	<b>02.045.162.1</b>	1 unit
19"	131.5	800	3	635	600	DoubleProRack with door	<b>02.045.163.1</b>	1 unit
19"	176.0	800	4	635	600	DoubleProRack with door	<b>02.045.164.1</b>	1 unit

Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Continued on next page

W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	500	1	460	400	DoubleProRack 19", no door	<b>02.045.151.1</b>	1 unit
19"	87.1	500	2	460	400	DoubleProRack 19", no door	<b>02.045.152.1</b> 	1 unit
19"	131.5	500	3	460	400	DoubleProRack 19", no door	<b>02.045.153.1</b>	1 unit
19"	176.0	500	4	460	400	DoubleProRack 19", no door	<b>02.045.154.1</b> 	1 unit
19"	43.6	600	1	560	400	DoubleProRack 19", no door	<b>02.045.151.1</b>	1 unit
19"	87.1	600	2	560	400	DoubleProRack 19", no door	<b>02.045.152.1</b> 	1 unit
19"	131.5	600	3	560	400	DoubleProRack 19", no door	<b>02.045.153.1</b>	1 unit
19"	176.0	600	4	560	400	DoubleProRack 19", no door	<b>02.045.154.1</b> 	1 unit
19"	43.6	700	1	660	600	DoubleProRack 19", no door	<b>02.045.161.1</b>	1 unit
19"	87.1	700	2	660	600	DoubleProRack 19", no door	<b>02.045.162.1</b> 	1 unit
19"	131.5	700	3	660	600	DoubleProRack 19", no door	<b>02.045.163.1</b>	1 unit
19"	176.0	700	4	660	600	DoubleProRack 19", no door	<b>02.045.164.1</b> 	1 unit



SCH00062

## Writing Board For 19" drawer with lock

- For drawer depth 400 mm and 600 mm

### Material / Finish

Sheet steel, 1.0 mm, powder-coated texture

### Colour

RAL 7035 light-grey

### Supply schedule

1 writing board  
Mounting material

### How supplied

Flat-packed kit

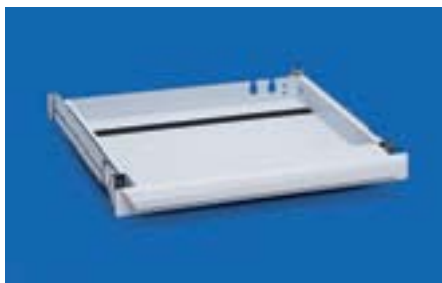
W	H	D	HU	d	L	For rack type	Order no.	UP
					400		<b>02.045.202.9</b>	1 unit
					600		<b>02.045.203.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width

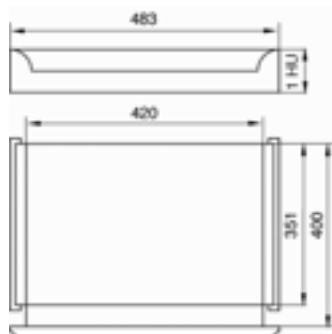
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound





SCH00059



SCH00055

## 19" Keyboard Drawer, 1 HU For 19" keyboard

- With hand support
- With cable strain relief

**Material**  
Main unit, sheet steel, 1.0 mm  
Front panel, sheet steel, 1.0 mm

**Finish / Colour**  
Powder-coated texture,  
RAL 7035 light-grey

**Supply schedule**  
1 19" keyboard drawer, 1 HU  
1 pair of telescopic slides  
Velcro strip for keyboard fixing  
Mounting material

**How supplied**  
Preassembled

W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	600	1	440		Miracel/Smaract 19"	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	565		Miracel/Smaract LAN	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	640		Miracel/Smaract 19"	<b>02.011.101.1</b>	1 unit
19"	43.6	900	1	665		Miracel/Smaract LAN	<b>02.011.101.1</b>	1 unit
19"	43.6	900	1	740		Miracel/Smaract 19" Server	<b>02.011.101.1</b>	1 unit
19"	43.6	1000	1	740		Miracel 19" Server	<b>02.011.101.1</b>	1 unit
19"	43.6	600	1	435		DoubleProRack with door	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	635		DoubleProRack with door	<b>02.011.101.1</b>	1 unit



MEC00109

## 19" Keyboard Drawer, 1 HU Extension for PC mouse not included

- With hand support

**Material / Finish**  
Sheet steel, 1.25 mm  
Hand support, sponge rubber

**Dimensions**  
Useable storage surface  
Dimensions without hand support,  
W 372 mm x D 209 mm x H 32 mm

**Finish / Colour**  
Powder-coated texture, RAL 7035  
light-grey

**Supply schedule**  
1 keyboard drawer  
1 pair of telescopic slides  
1 hand support  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Keyboard not included in supply schedule  
Not for rack depth D 600

W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	800/900	1			Miracel/Smaract/MaxLoad	<b>01.136.378.1</b>	1 unit



VHP00155

## 19" Compact Keyboard IBM-compatible keyboard with trackball

- Suitable for keyboard drawer 01.136.378.1
- Flat keyboard with 84 keys and integrated trackball

**Electrical data**  
- Power supply  
+5 V/DC max. 18 mA  
- Mains cable (1.6 m) with tapping for two  
6-pin mini DIN plugs (PS/2)  
- For Windows 98/ME/NT/2000/XP

**Dimensions**  
Length x width x height,  
370 x 138.5 x 20 mm

W	H	S	HU	A1	A2	Pmax	Model	Order no.	UP
							German	<b>06.002.048.3</b>	1 unit

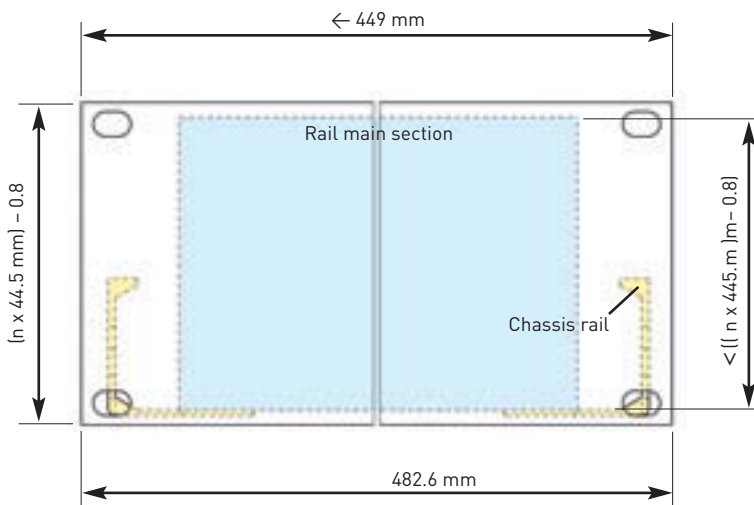
Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

## Chassis Rail Technical data



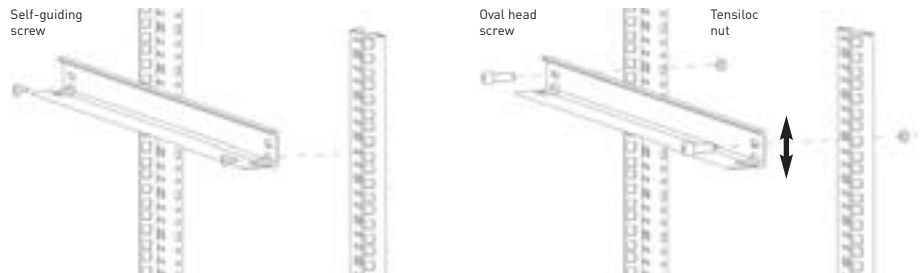
### Note

Mounting chassis rails:  
The 19" standard only defines the max. main section height of a rail. So that the 19" front panel can be mounted at the standard position, a chassis rail should be height-adjustable.

The Knürr chassis rails provide a fast and fixed screwing connection from the inside in the basic position.

With main section heights that are smaller than the front panel, it is also possible to screw the Knürr chassis rails at the necessary height.

MEC20171



Basic position

Height setting



MEC20162



MEC20167

## Chassis Rail Hang-on and screwable

- For installation in 19" rack and enclosure
- Hang-on for quick and easy mounting
- Can also be screwed for heavier load ratings
- Can be screwed from inside (rack suite application)
- Height setting possible for various main section heights

### How supplied

In pairs

### Note

When selecting the chassis rail, please note the chassis depth "d" of the rack or enclosure. 4 x 19" extrusions are required for mounting.

### Material / Finish

Sheet steel, 2.0 mm, zinc-plated, blue chrome-plated

### Load rating

1000 N max., with even load distribution

### Supply schedule

2 chassis rails  
Mounting material

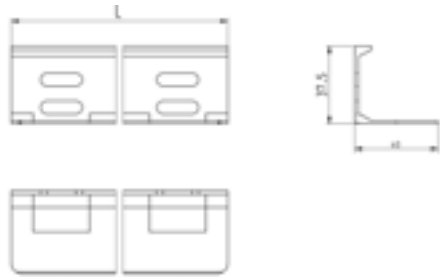


MEC20167

W	H	D	HU	d	L	For rack type	Order no.	UP
		600	365	336		Miracel/Smaract	<b>01.103.051.0</b>	1 pair
		600	440	411		Miracel/Smaract	<b>01.103.052.0</b>	1 pair
		800	565	536		Miracel/Smaract	<b>01.103.053.0</b>	1 pair
		800	640	611		Miracel/Smaract	<b>01.103.054.0</b>	1 pair
		900	665	636		Miracel/Smaract	<b>01.103.055.0</b>	1 pair
		from 900	740	711		Miracel/Smaract/CoolTherm	<b>01.103.056.0</b>	1 pair



MEC20169



MECxxxx

## Aluminium Chassis Rail Screw-on

- For installation in 19" rack and enclosure
- Can be screwed from inside (rack suite application)
- Height setting possible for various main section heights

**Material / Finish**  
Extruded aluminium, 1.4 mm, sheer

**Load rating**  
700 N max., with even load distribution

**Supply schedule**  
2 chassis rails  
Mounting material

**How supplied**  
In pairs

**Note**  
When selecting the chassis rail, please note the chassis depth "d" of the rack or enclosure.  
4 x 19" extrusions are required for mounting.

W	H	D	HU	d	L	For rack type	Order no.	UP
		600	365	336		Miracel/Smaract	<b>01.103.001.0</b>	1 pair
		600	440	411		Miracel/Smaract	<b>01.103.002.0</b>	1 pair
		600	565	536		Miracel/Smaract	<b>01.103.003.0</b>	1 pair
		600	640	611		Miracel/Smaract	<b>01.103.004.0</b>	1 pair
		600	665	636		Miracel/Smaract	<b>01.103.005.0</b>	1 pair
		From 900	740	711		Miracel/Smaract/CoolTherm	<b>01.103.006.0</b>	1 pair
		500	285	254		ConAct	<b>01.103.011.0</b>	1 pair
		600	385	354		ConAct	<b>01.103.012.0</b>	1 pair
		600	435	403		DoubleProRack, with door	<b>01.103.018.0</b>	1 pair
		800	635	603		DoubleProRack, with door	<b>01.103.019.0</b>	1 pair
		600	460	428		DoubleProRack, no door	<b>01.103.022.0</b>	1 pair
		600	560	528		DoubleProRack, no door	<b>01.103.023.0</b>	1 pair
		600	660	628		DoubleProRack, no door	<b>01.103.024.0</b>	1 pair



MEC20163



MEC20166

## Chassis Rail, Depth-Variable Screw-on

- For installation in 19" rack and enclosure
- Depth-variable
- Can be screwed from inside (rack suite application)
- Height setting possible for various main section heights

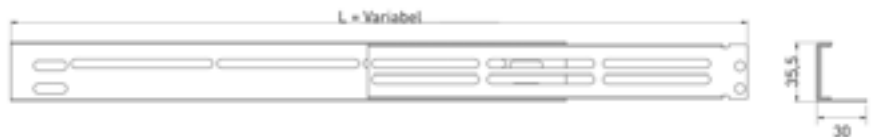
**Material / Finish**  
Sheet steel, 1.25 mm, zinc-plated, blue chrome-plated

**Load rating**  
200 N max., with even load distribution

**Supply schedule**  
2 basic rails  
2 extension rails  
Mounting material

**How supplied**  
In pairs

**Note**  
When selecting the chassis rail, please note the chassis depth "d" of the rack or enclosure.  
4 x 19" extrusions are required for mounting.



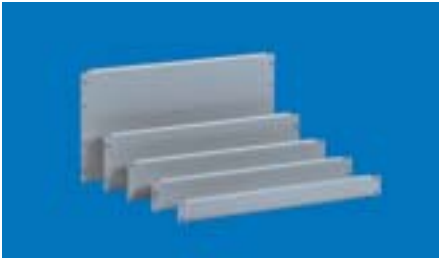
W	H	D	HU	d	For rack type	Order no.	UP
		600		365-440	Miracel/Smaract	<b>01.103.091.0</b>	1 pair
		800-1200		565-740	Miracel/Smaract	<b>01.103.092.0</b>	1 pair
		900-1200		740	CoolTherm	<b>01.103.092.0</b>	1 pair
		600		385	ConAct	<b>01.103.091.0</b>	1 pair
		500-600		435-460	DoubleProRack	<b>01.103.091.0</b>	1 pair
		600-800		560-660	DoubleProRack	<b>01.103.092.0</b>	1 pair

Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



CUD00005



CUD00004

## 19" Blanking Panel

- For covering free front areas

### Material

Sheet steel, 1.0 mm

### Finish

Final digit of order number .1:  
Powder-coated texture, RAL 7035  
light-grey  
Final digit of order number .8:  
Powder-coated texture, RAL 7021  
dark-grey

### Supply schedule

1 19" blanking panel

### How supplied

In units

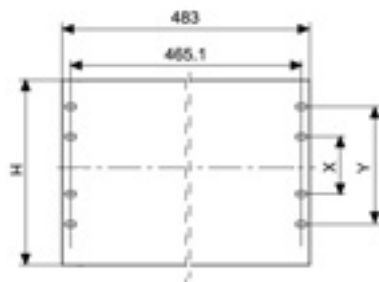
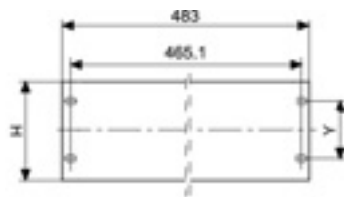
### Note

Please also order front panel mounting material.

W	H	D	HU	Model	Order no.	UP
482.6	43.6		1	Powder-coated	<b>01.117.026.1</b>	1 unit
482.6	43.6		1	Powder-coated	<b>01.117.026.8</b>	1 unit
482.6	88.1		2	Powder-coated	<b>01.117.028.1</b>	1 unit
482.6	88.1		2	Powder-coated	<b>01.117.028.8</b>	1 unit
482.6	132.5		3	Powder-coated	<b>01.117.029.1</b>	1 unit
482.6	132.5		3	Powder-coated	<b>01.117.029.8</b>	1 unit
482.6	265.9		6	Powder-coated	<b>01.117.030.1</b>	1 unit
482.6	265.9		6	Powder-coated	<b>01.117.030.8</b>	1 unit
482.6	399.2		9	Powder-coated	<b>01.117.031.1</b>	1 unit
482.6	399.2		9	Powder-coated	<b>01.117.031.8</b>	1 unit



FR000005



MEC20109

## 19" Front Panel Aluminium 4 mm

### Material / Finish

Final digit of order number .0:  
AlMg3 - F23 sheer with  
lamination sheet  
Final digit of order number .1:  
AlMg3 - F23, powder-coated RAL 7035  
Final digit of order number .6: AlMg3 -  
F23 EB (anodise-enabled), anodised  
E6/EV1

### How supplied

In units

### Note

Please also order front panel mounting material.

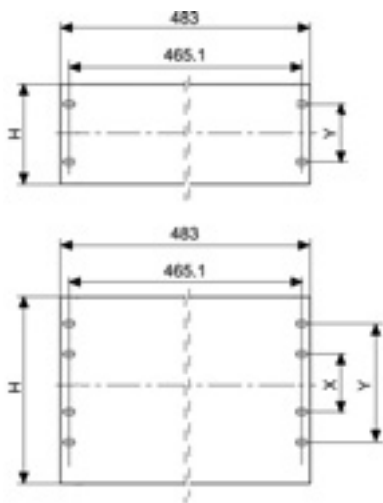
### Supply schedule

1 19" front panel

H	X	Y	HU	Model	Order no.	UP
46.6		31.7	1	Sheer	<b>02.008.051.0</b>	1 unit
88.1		76.2	2	Sheer	<b>02.008.052.0</b>	1 unit
132.5		57.1	3	Sheer	<b>02.008.053.0</b>	1 unit
177.0		101.6	4	Sheer	<b>02.008.054.0</b>	1 unit
221.4		146.0	5	Sheer	<b>02.008.055.0</b>	1 unit
265.9	76.2	190.4	6	Sheer	<b>02.008.056.0</b>	1 unit
46.6		31.7	1	Powder-coated	<b>02.008.051.1</b>	1 unit
88.1		76.2	2	Powder-coated	<b>02.008.052.1</b>	1 unit
132.5		57.1	3	Powder-coated	<b>02.008.053.1</b>	1 unit
177.0		101.6	4	Powder-coated	<b>02.008.054.1</b>	1 unit
221.4		146.0	5	Powder-coated	<b>02.008.055.1</b>	1 unit
265.9	76.2	190.4	6	Powder-coated	<b>02.008.056.1</b>	1 unit
46.6		31.7	1	Anodised	<b>02.008.001.6</b>	1 unit
88.1		76.2	2	Anodised	<b>02.008.002.6</b>	1 unit
132.5		57.1	3	Anodised	<b>02.008.003.6</b>	1 unit
177.0		101.6	4	Anodised	<b>02.008.004.6</b>	1 unit
221.4		146.0	5	Anodised	<b>02.008.005.6</b>	1 unit
265.9	76.2	190.4	6	Anodised	<b>02.008.006.6</b>	1 unit



FR000005



MEC20109

## 19" Front Panel Aluminium 3 mm

### Material / Finish

Final digit of order number .0:  
AlMg3 - F23 sheer with lamination sheet  
Final digit of order number .1:  
AlMg3 - F23, powder-coated, RAL 7035 light-grey  
Final digit of order number .6:  
AlMg3 - F23 EB (anodise-enabled), anodised E6/EV1  
Final digit of order number .8:  
AlMg3 - F23, powder-coated, RAL 7021 dark-grey

### Supply schedule

1 19" front panel

### How supplied

In units

### Note

Please also order front panel mounting material.

H	X	Y	HU	Model	Order no.	UP
46.6		31.7	1	Sheer	<b>02.008.021.0</b>	1 unit
88.1		76.2	2	Sheer	<b>02.008.022.0</b>	1 unit
132.5		57.1	3	Sheer	<b>02.008.023.0</b>	1 unit
177.0		101.6	4	Sheer	<b>02.008.024.0</b>	1 unit
221.4		146.0	5	Sheer	<b>02.008.025.0</b>	1 unit
265.9	76.2	190.4	6	Sheer	<b>02.008.026.0</b>	1 unit
46.6		31.7	1	Powder-coated, RAL 7035	<b>02.008.021.1</b>	1 unit
88.1		76.2	2	Powder-coated, RAL 7035	<b>02.008.022.1</b>	1 unit
132.5		57.1	3	Powder-coated, RAL 7035	<b>02.008.023.1</b>	1 unit
177.0		101.6	4	Powder-coated, RAL 7035	<b>02.008.024.1</b>	1 unit
221.4		146.0	5	Powder-coated, RAL 7035	<b>02.008.025.1</b>	1 unit
265.9	76.2	190.4	6	Powder-coated, RAL 7035	<b>02.008.026.1</b>	1 unit
46.6		31.7	1	Powder-coated, RAL 7021	<b>02.008.021.8</b>	1 unit
88.1		76.2	2	Powder-coated, RAL 7021	<b>02.008.022.8</b>	1 unit
132.5		57.1	3	Powder-coated, RAL 7021	<b>02.008.023.8</b>	1 unit
46.6		31.7	1	Anodised	<b>02.008.071.6</b>	1 unit
88.1		76.2	2	Anodised	<b>02.008.072.6</b>	1 unit
132.5		57.1	3	Anodised	<b>02.008.073.6</b>	1 unit
177.0		101.6	4	Anodised	<b>02.008.074.6</b>	1 unit
221.4		146.0	5	Anodised	<b>02.008.075.6</b>	1 unit
265.9	76.2	190.4	6	Anodised	<b>02.008.076.6</b>	1 unit

Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width

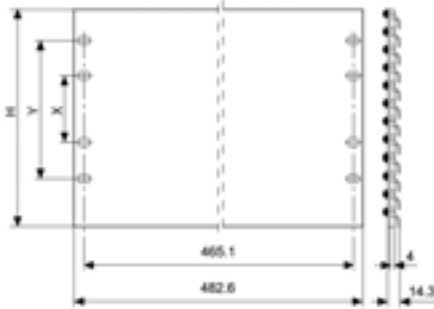
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





LUF00217



MEC20110

## 19" Ventilation Front Panel

- For additional ventilation of 19" racks and 19" pedestals in acc. with IEC 297

**Material**  
Aluminium

**Finish**  
- Final digit of order number .1:  
powder-coated, light-grey  
RAL 7035  
- Final digit of order number .6:  
colourless, anodised E6 / EV 1

**Supply schedule**  
1 ventilation front panel

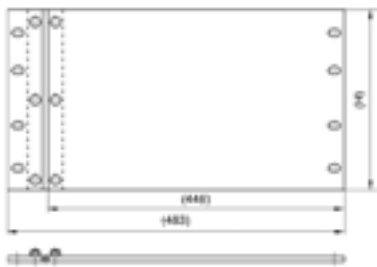
**How supplied**  
In units

**Note**  
Please also order front panel mounting material.

H	X	Y	HU	Model	Order no.	UP
43.6		31.7	1	Powder-coated, RAL 7035	<b>02.008.101.1</b>	1 unit
43.6		31.7	1	Anodised	<b>02.008.101.6</b>	1 unit
88.1		76.2	2	Powder-coated, RAL 7035	<b>02.008.102.1</b>	1 unit
88.1		76.2	2	Anodised	<b>02.008.102.6</b>	1 unit
132.5		57.1	3	Powder-coated, RAL 7035	<b>02.008.103.1</b>	1 unit
132.5		57.1	3	Anodised	<b>02.008.103.6</b>	1 unit
177.0		101.6	4	Powder-coated, RAL 7035	<b>02.008.104.1</b>	1 unit
177.0		101.6	4	Anodised	<b>02.008.104.6</b>	1 unit
221.4		146.0	5	Powder-coated, RAL 7035	<b>02.008.105.1</b>	1 unit
221.4		146.0	5	Anodised	<b>02.008.105.6</b>	1 unit
265.9	76.2	190.4	6	Powder-coated, RAL 7035	<b>02.008.106.1</b>	1 unit
265.9	76.2	190.4	6	Anodised	<b>02.008.106.6</b>	1 unit



FR000007



FR000006

## 19" Front Panel Pivots

- With 19" adapter and hinge

**Material**  
Aluminium 4 mm

**Finish**  
Anodised

**Supply schedule**  
1 front panel, hinged  
1 19" adapter  
1 hinge

**How supplied**  
Flat-packed kit

**Note**  
Please also order front panel mounting material.

W	H	D	HU	Model	Order no.	UP
			3	Anodised	<b>01.110.780.6</b>	1 unit
			6	Anodised	<b>01.110.781.6</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



LUF88006



LUF00093

## 19" Front Ventilation Panel

- For additional ventilation of 19" racks and 19" pedestals in acc. with IEC 297

- Material / Finish**
  - Final digit of order number .1: ABS (UL 94 V0), light-grey RAL 7035
  - Final digit of order number .9: ABS (UL 94 V0), dark-grey RAL 9011

- Supply schedule**
  - 1 front ventilation panel
  - 2 connection holders

- How supplied**
  - Flat-packed kit

- Note**
  - Please also order front panel mounting material.

W	H	D	HU	Model	Order no.	UP
483	43.6		1		<b>02.008.111.1</b>	1 unit
483	43.6		1		<b>02.008.111.9</b>	1 unit



MEC20144



MEC20149

## Trim Filter For 19" front ventilation panel

- For use in conjunction with the 19" front ventilation panel

- Material / Finish**
  - Filter fibres and screen cloth

- Supply schedule**
  - 1 trim filter
  - Mounting material

- How supplied**
  - Flat-packed kit

W	H	D	HU	Model	Order no.	UP
			1		<b>02.008.131.9</b>	1 unit



MEC20027

## Document Holder

- Self-adhesive; use 6 mm bore holes with higher stresses  
- For DIN A4 **documents**

- Material**
  - High-impact PS

- Colour**
  - Grey











- Supply schedule**
  - 1 document holder

W	L	D	Order no.	UP
264	236	30	<b>05.016.045.0</b>	1 unit

Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

**Ball Bearing Telescopic Slide, BP-400-LR**  
Part pull-out

mL(N)	A	B	C	D	E	F	G	H	I	K	Order no. 1	UP
500	330	220.5	328	279.4		152.4	101.6		63.5	111.1	<b>05.043.613.7</b>	 1 pair
460	356	245.5	354	304.8		177.8	101.6		88.9	111.1	<b>05.043.614.7</b>	 1 pair
400	406	296.5	404	355.6		228.6	101.6		139.7	111.1	<b>05.043.616.7</b>	 1 pair
490	457	330.5	455	406.4		203.2	101.6	101.6	88,9	111.1	<b>05.043.618.7</b>	 1 pair
440	508	381.5	505	457.2		228.6	101.6	127	114,3	111.1	<b>05.043.620.7</b>	 1 pair
410	533	407	531	482.6		241.3	101.6	139.7	127	111.1	<b>05.043.621.7</b>	 1 pair
600	559	386.8	557	508	406.4	254	101.6	152.4	139.7	111.1	<b>05.043.622.7</b>	 1 pair
540	610	437.7	608	558.8	457.2	279.4	101.6	177.8	165.1	111.1	<b>05.043.624.7</b>	 1 pair
500	660	488.5	658	609.6	508	304.8	101.6	203.2	190.5	111.1	<b>05.043.626.7</b>	 1 pair
600	711	500	709	660.4	558.8	330.2	101.6	228.6	215.6	111.1	<b>05.043.628.7</b>	 1 pair



TEL00173

- 3/4 pull-out, two-part
- Locking in pulled-out position (friction lock)
- Quick mechanism for removing and connecting chassis without tools

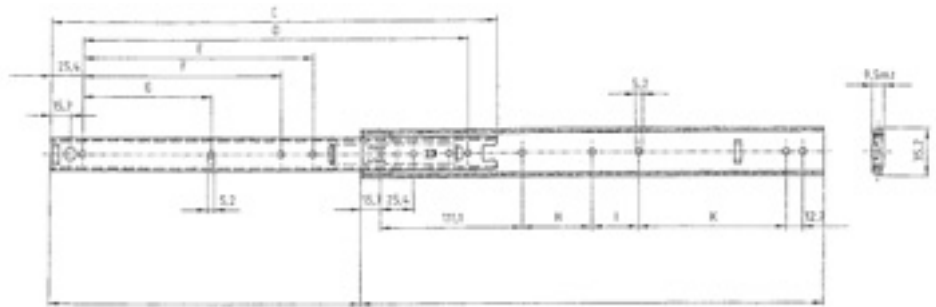
**Supply schedule**  
1 pair of telescopic slides

**How supplied**  
Flat-packed kit

**Note**  
Please also order assembly kit, order number 05.043.595.9

- Material**  
Cold rolled steel
- Finish**  
Sendizimir zinc-plated

- Load rating**  
1400 - 600 N static per slide pair depending on length



TEL20003



TEL20010

**Stop Spring for Ball Bearing Telescopic Slides**

- Quick and easy conversion from form lock to friction lock and vice versa
- Conversion also possible at any later stage


**Supply schedule**  
Set of 10 units

- Material**  
Spring steel

W	H	D	HU	Model	Order no.	UP
				Form lock	<b>05.043.666.9</b>	10 units
				Friction lock	<b>05.043.667.9</b>	10 units

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
CW = Clear width









HU = Standard height unit  
1 HU = 44,45 mm  
UP = Unit of packaging  
kg = Weight  
WxL = Surface area

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

mL(N) = Max. load rating/pair  
A = Installation length  
B = Pull-out length  
Order number 1 = Installation position 1  
Order number 2 = Installation position 2

## Ball Bearing Telescopic Slide, BF-480-FLR Full pull-out

mL(N)	A	W	C	D	E	F	Noise	H	I	K	Order no. 1	UP
455	356	381	354	323.9	311.2	298.5			200	0	<b>05.043.854.7</b>	 1 pair
490	406	432.5	404	374.7	362	349.3			139.7	111.1	<b>05.043.856.7</b>	 1 pair
495	457	483.5	455	425.5	412.8	400.1		212.7	190.5	111.1	<b>05.043.858.7</b>	 1 pair
510	508	530.5	506	476.3	463.6	450.9	365.1	238.1	241.3	111.1	<b>05.043.860.7</b>	 1 pair
510	559	584.5	557	527.1	514.4	501.7	415.9	263.5	292.1	111.1	<b>05.043.862.7</b>	 1 pair
515	610	635.5	608	277.9	565.2	552.5	466.7	288.9	342.9	111.1	<b>05.043.864.7</b>	 1 pair
520	660	686.5	658	628.7	616	603.3	517.5	314.3	393.7	111.1	<b>05.043.866.7</b>	 1 pair
520	711	737.5	709	679.5	666.8	654.1	568.3	339.7	444.5	111.1	<b>05.043.868.7</b>	 1 pair



TEL00173

- Full pull-out, three-part
- Locking in pulled-out position (form lock)
- Quick separation mechanism for removing and disconnecting chassis without tools

**Material**

Cold rolled steel

**Finish**

Sendizimir zinc-plated

**Load rating**

455 - 520 N static per slide pair depending on length

**Supply schedule**

1 pair of telescopic slides

**How supplied**

Flat-packed kit

**Note**

Please also order assembly kit, order number 05.043.595.9



TEL20011



TEL00012

### Assembly Kit for Ball Bearing Slides

- For quick and easy assembly of telescopic slides, BP-400-LR and BF-480-FLR

**Material**

Zincorium plate, 1.5 mm

**Supply schedule**

4 mounting brackets  
Mounting material

**How supplied**

Flat-packed kit

W	H	D	HU	Model	Order no.	UP
				Form lock	<b>05.043.595.9</b>	1 set

## The compatible mounting kit for every rack type

Miracel T-slot	Miracel Mount. holes	Miracel server	Miracel swing frame	Smaract T-slot	Smaract Mt. holes	Smaract server	Double-ProRack T-slot	Double-ProRack Mt. holes	ConAct	SoHo	Description	Order no.	UP
●				●							Mounting kit T-slot, M5 wide	<b>05.041.320.9</b>	1 set
	●				●						Mounting kit Mount. holes, M5/BI 1.5	<b>05.041.321.9</b>	1 set
		●	●			●					Mounting kit Mount. holes, M5/BI 2.5	<b>05.041.325.9</b>	1 set
							●				Mounting kit dpr T-slot, M5 narrow	<b>05.041.323.9</b>	1 set
								●			Mounting kit dpr Mount. holes M5	<b>05.041.322.9</b>	1 set
									●		Mounting kit ConAct M5	<b>05.041.324.9</b>	1 set

## The compatible mounting kit for front panel mounting

### Model: Z-form screw

Miracel T-slot	Miracel Mount. holes	Miracel server	Miracel swing frame	Smaract T-slot	Smaract Mt. holes	Smaract server	Double-ProRack T-slot	Double-ProRack Mt. holes	ConAct	SoHo	Description	Order no.	UP
●				●							FP mounting kit T-slot, M5 wide	<b>05.041.325.9</b>	1 set
	●				●				●	●	FP mounting kit Mount. holes, M5/BI 1.5	<b>05.041.326.9</b>	1 set
		●	●			●		●			FP mounting kit Mount. holes, M5/BI 2.5	<b>05.041.327.9</b>	1 set
							●				FP mounting kit T-slot, M5 narrow	<b>05.041.328.9</b>	1 set

### Model: Countersunk screw+rosette

Miracel T-slot	Miracel Mount. holes	Miracel server	Miracel swing frame	Smaract T-slot	Smaract Mt. holes	Smaract server	Double-ProRack T-slot	Double-ProRack Mt. holes	ConAct	SoHo	Description	Order no.	UP
●				●							FP mounting kit T-slot, M5 wide	<b>05.041.340.9</b>	1 set
	●				●				●	●	FP mounting kit Mount. holes, M5/BI 1.5	<b>05.041.341.9</b>	1 set
		●	●			●		●			FP mounting kit Mount. holes, M5/BI 2.5	<b>05.041.342.9</b>	1 set
							●				FP mounting kit T-slot, M5 narrow	<b>05.041.343.9</b>	1 set

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44,45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

## The compatible accessories for every rack type

T-slot	Mount. holes	server	swing frame	Miracel T-slot	Miracel Mt. holes	Miracel server	Miracel ProRack T-slot	Smaract ProRack Mt. holes	Smaract ConAct	Smaract SoHo	Double-	Double-	Description	Order no.	UP
●				●									Spring nut M5 wide	01.350.431.9	1 set
							●						Spring nut M5 narrow	05.041.503.9	1 set
●				●									Spring nut M6	01.350.405.9	1 set
	●				●				●	●			Caged nut M5/BI 1.5	05.041.513.7	1 set
		●	●			●		●					Caged nut M5/BI 2.5	05.041.518.7	1 set
●				●			●						Oval head screw Z form, M5 x 10	05.041.330.9	1 set
	●	●	●		●	●		●	●	●			Oval head screw Z-form, M5 x 16	05.041.331.9	1 set
●				●			●						Countersunk screw M5 x 12 + rosette	05.041.203.9	1 set
	●	●	●		●	●		●	●	●			Countersunk screw M5 x 16+ cup washer	05.041.290.9	1 set



MIR00114

### Mounting Tool for Caged Nut

- Makes clipping the caged nut into the extrusion easier


**Material**  
Spring steel

**Supply schedule**  
1 mounting tool

W	H	D	HU	d	L	Model	Order no.	UP
							01.130.985.9	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound





MEC20125

## T-Slot Mounting Kit, M5, Wide For Miracel / Smaract

- For mounting 19" front panels and 19" components

### Supply schedule

100 spring nuts M5, wide  
100 oval head screws, Z-form, M5 x 10  
20 caged nuts, M5 / plate, 1.5 mm  
20 cylinder screws, M5 x 8

### How supplied

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.320.9</b>	 1 set



MEC20126

## Mounting Holes Mounting Kit, M5 / Plate, 1.5 mm For Miracel / Smaract

- For mounting 19" front panels and 19" components

### Supply schedule

100 caged nuts M5 / plate, 1.5 mm  
100 oval head screws, Z form, M5 x 16  
20 spring nuts, M5 wide  
20 cylinder screws, M5 x 8

### How supplied

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.321.9</b>	 1 set



MEC20126

## Mounting Holes-Server Extrusion Mounting Kit, M5 / Plate, 2.5 mm


- For mounting 19" front panels and 19" components

### Supply schedule

100 caged nuts M5 / plate, 2.5 mm  
100 oval head screws, Z form, M5 x 16  
20 spring nuts, M5 wide  
20 cylinder screws, M5 x 8


### How supplied

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.325.9</b>	 1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound




MEC20127

## T-Slot Mounting Kit, M5, Narrow For DoubleProRack

- For mounting 19" front panels and 19" components

- Supply schedule**
  - 100 spring nuts, M5 narrow
  - 20 oval head screws, Z form, M5 x 10
  - 50 cylinder screws, M5 x 10
  - 30 oval head screws, Z form, M5 x 8

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.323.9</b>	 1 set




MEC20126

## Mounting Holes Mounting Kit, M5 For DoubleProRack

- For mounting 19" front panels and 19" components

- Supply schedule**
  - 100 caged nuts M5 / plate, 2.5 mm
  - 50 oval head screws, Z form, M5 x 16
  - 40 spring nuts, M5 narrow
  - 40 cylinder screws, M5 x 10

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.322.9</b>	 1 set




MEC20096

## Mounting Holes Mounting Kit, M5 For ConAct

- For mounting 19" front panels and 19" components


- Supply schedule**
  - 50 caged nuts, M5 / plate, 1.5 mm
  - 50 oval head screws, Z form, M5 x 16
  - 50 cylinder screws, M5 x 8
  - 25 locking nuts, M5

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
							<b>05.041.324.9</b>	 1 set

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

S = Switch  
 n = Number of sockets  
 F1 = Standard side panel  
 F2 = Design side panel  
 19" = Suitable for 19" components  
 Safe = Child-safe

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound



Type 1

MEC20129



Type 2

MEC20130

### Front Panel Mounting Kit, T-Slot, M5, Wide For Miracel / Smaract

- For mounting 19" front panels and 19" components

**Supply schedule**

**Type 1:**

50 spring nuts, M5 wide  
50 oval head screws, Z form, M5 x 10

**Type 2:**

50 spring nuts, M5 wide  
50 countersunk screws, M5 x 12  
50 rosettes

**How supplied**

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
						Type 1: Z-form screw	<b>05.041.325.9</b>	1 set
						Type 2: Screw+rosette	<b>05.041.340.9</b>	1 set



Type 1

MEC20098



Type 2

MEC20097

### Front Panel Mounting Kit, Mounting Holes, M5/Plate, 1.5 mm For Miracel / Smaract / ConAct / SoHo

- For mounting 19" front panels and 19" components

**Supply schedule**

**Type 1:**

50 caged nuts, M5 / plate 1.5 mm  
50 oval head screws, Z form, M5 x 16

**Type 2:**

50 caged nuts, M5 / plate, 1.5 mm  
50 countersunk screws, M5 x 16  
50 rosettes

**How supplied**

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
						Type 1: Z-form screw	<b>05.041.326.9</b>	1 set
						Type 2: Screw+rosette	<b>05.041.341.9</b>	1 set



Type 1

MEC20098



Type 2

MEC20097

### Front Panel Mounting Kit, Mounting Holes, M5/Plate, 2.5 mm For Miracel / Smaract / DoubleProRack

- For mounting 19" front panels and 19" components

**Supply schedule**

**Type 1:**

50 caged nuts, M5 / plate 2.5 mm  
50 oval head screws, Z form, M5 x 16

**Type 2:**

50 caged nuts, M5 / plate, 2.5 mm  
50 countersunk screws, M5 x 16  
50 rosettes

**How supplied**

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
						Type 1: Z-form screw	<b>05.041.337.9</b>	1 set
						Type 2: Screw+rosette	<b>05.041.342.9</b>	1 set

Type 1



MEC20129

Type 2



MEC20130

## Front Panel Mounting Kit, T-Slot, M5, Narrow For DoubleProRack

- For mounting 19" front panels and 19" components

### Supply schedule

#### Type 1:

50 spring nuts, M5 narrow  
50 oval head screws, Z-form, M5 x 10

#### Type 2:

50 spring nuts, M5 narrow  
50 countersunk screws, M5 x 12  
50 rosettes

### How supplied

Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
						Type 1: Z-form screw	<b>05.041.338.9</b>	1 set
						Type 2: Screw+rosette	<b>05.041.343.9</b>	1 set

## Spring nut

- For clipping into T-slots at any position

### Supply schedule

50 spring nuts

### How supplied

Flat-packed kit

#### Type 1: M5 wide

For Miracel / Smaract  
T-nut size: 10x13 mm

#### Type 2: M5 narrow

For DoubleProRack  
T-nut size: 8x13 mm

#### Type 3: M6

For Miracel / Smaract  
T-nut size: 10x13 mm

MEC00060

W	H	D	HU	d	L	Model	Order no.	UP
						Type 1: M5 wide	<b>01.350.431.9</b>	1 set
						Type 2: M5 narrow	<b>05.041.503.9</b>	1 set
						Type 3: M6	<b>01.350.405.9</b>	1 set

## Caged Nut

- For clipping into extrusions with mounting holes

### Supply schedule

50 caged nuts

### How supplied

Flat-packed kit

#### Type 1: Plate, 1.5 mm

For Miracel / Smaract / ConAct / SoHo

#### Type 2: Plate, 2.5 mm

For Miracel Server / Smaract Server /  
DoubleProRack mounting holes

MEC20139

W	H	D	HU	d	L	Model	Order no.	UP
						M5: Type 1: Plate, 1.5 mm	<b>05.041.513.7</b>	1 set
						M5: Type 2: Plate, 2.5 mm	<b>05.041.518.7</b>	1 set
						M6: Type 1: Plate, 1.5 mm	<b>05.041.514.7</b>	1 set
						M6: Type 2: Plate, 2.5 mm	<b>05.041.519.7</b>	1 set

Dimensions in mm: W= Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

S = Switch  
n = Number of sockets  
F1 = Standard side panel  
F2 = Design side panel  
19" = Suitable for 19" components  
Safe = Child-safe

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





MEC20140

## Oval Head Screw

- IEC DIN 967

**Supply schedule**  
50 oval head screws, Z-form

**How supplied**  
Flat-packed kit

W	H	D	HU	d	L	Model	Order no.	UP
						M5 x 10	<b>05.041.330.9</b>	 1 set
						M5 x 16	<b>05.041.331.9</b>	 1 set
						M6 x 10	<b>05.041.332.9</b>	1 set
						M6 x 16	<b>05.041.333.9</b>	1 set





MEC20141

## Countersunk Screw + Rosette


- IEC DIN EN ISO 7047

**Supply schedule**  
50 countersunk screws  
50 rosettes

**How supplied**  
Flat-packed kit

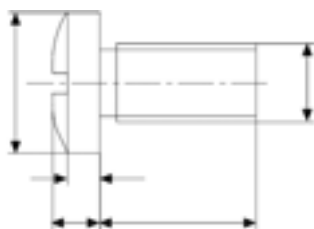
W	H	D	HU	d	L	Model	Order no.	UP
						M5 x 12	<b>05.041.203.9</b>	 1 set
						M5 x 16	<b>05.041.290.9</b>	 1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

S = Switch  
n = Number of sockets  
F1 = Standard side panel  
F2 = Design side panel  
19" = Suitable for 19" components  
Safe = Child-safe

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound



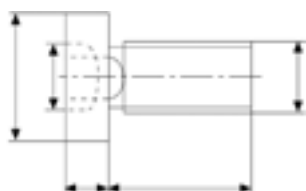
MEC00014

## Oval Head Screw With Phillips head

- IEC DIN EN ISO 7045

**Supply schedule**  
1 set of 50 units

W	H	D	HU	d	L	Model	Order no.	UP
					8	M 4 no washer	<b>05.041.607.8</b>	1 set
					8	M 5 no washer	<b>05.041.611.8</b>	1 set
					12	M 4 no washer	<b>05.041.609.8</b>	1 set
					12	M 5 + washer	<b>05.041.613.8</b>	1 set
					16	M 5 + washer	<b>05.041.614.8</b>	1 set
					16	M 6 + washer	<b>05.041.616.8</b>	1 set



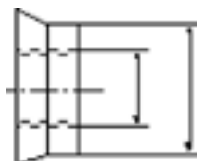
MEC00013

## Cylinder Screw With hexagon head

- IEC ISO 4762 (modified)

**Supply schedule**  
1 set of 50 units

W	H	D	HU	d	L	Model	Order no.	UP
					8	M 5	<b>05.041.574.8</b>	1 set
					8	M 5 microencapsulated	<b>05.041.575.9</b>	1 set



MEC20021

## Tensiloc Nut

**Material**  
Steel nickel-plated

**Supply schedule**  
1 set of 50 units

W	H	D	HU	d	L	Model	Order no.	UP
						M 5	<b>05.041.533.8</b>	1 set

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

= Express item

S = Switch  
n = Number of sockets  
F1 = Standard side panel  
F2 = Design side panel  
19" = Suitable for 19" components  
Safe = Child-safe

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



# DI-STRIP®

Socket Strips &  
Power Distributors

7.2 to 7.41



## Socket Strips

### DI-STRIP®

Strong points 7.3

### DI-STRIP®

TriplePower 7.6  
 BladePower 7.8  
 PizzaPower 7.9  
 Classic 7.9  
 Compact 7.10  
 Protector 7.11  
 Cleaner 7.13  
 Safety Basic 7.14  
 Safety Standard 7.15  
 Master-Slave 7.16  
 Combi 7.17  
 GST18, 1-phase 7.18  
 GST18, 3-phase 7.19

### DI-STRIP®

Euro Plug System 7.22

### DI-STRIP®

For France 7.25

### DI-STRIP®

For Switzerland 7.36

### DI-STRIP®

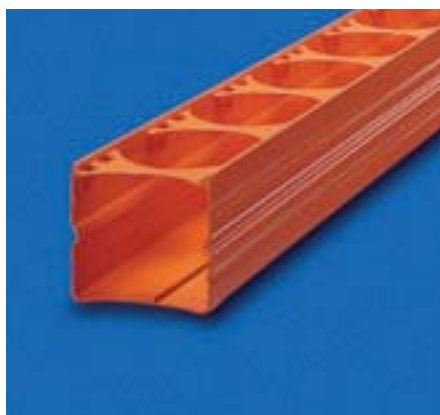
USA 7.39

### Remote PDU

7.40



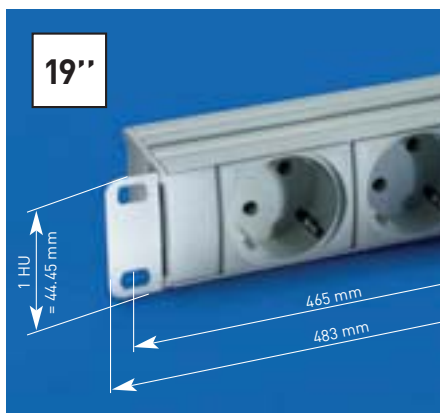
DOS00291



DOS00312



DOS00317



DOS00365



DOS00721



DOS00318



#### Note

You will find more information on DI-STRIP® at: [www.knuerr-distrip.com](http://www.knuerr-distrip.com)



DOS00366



DOS20131



DOS20134



DOS20142

## DI-STRIP® Strong points

- 1 Robust!**  
Plug field protected with raised casing edges.
- 2 Stability**  
High stability and torisional strength provided with closed sheet steel casing.
- 3 Electrical safety**  
Full power to all connected consumers with full-length brass busbar.  
Shock hazard-proof and low contact resistance with double spring contacts.
- 4 19" installation**  
Optimum use of space with 19" installation:  
- With low height, 1 HU [44.45 mm]  
- With 45° positioning of the sockets
- 5 International compatibility**  
Numerous standard products in accordance with international standards. Special models on request.
- 6 Flexibility**  
Plenty of room for movement with 2.5 m power supply cable. Flexibility provided by standard plug with dual earthing system.
- 7 Aesthetics**  
Appealing design with extruded casing and design side panels in visible area.
- 8 Cost-conscious**  
Quick and easy mounting on the rack extrusion.
- 9 Universal**  
1 and 3-phase systems.
- 10 Modularity**  
Socket strip modules can be easily combined using plug-in connections.
- 11 Plug-in**  
Proven GST18 plug-in system for connecting socket strip modules.
- 12 Certifications**  
Worldwide approvals and certifications are a quality feature.









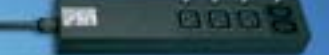

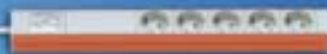
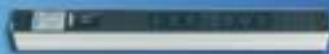
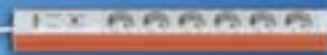

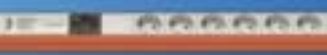

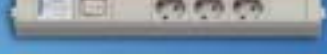
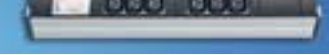

DOS20134





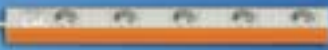

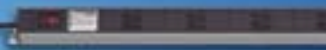



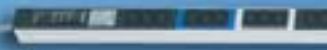
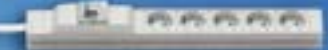


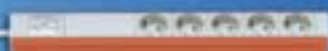









DOS20144



DOS00317

	 <b>Standard DIN 49 440</b>	 <b>Euro Plug System</b>
<b>DI-STRIP® Classic</b> - Socket spacing: 100 mm - With/without switch	Page 7.9 / Page 7.41 / Page 7.42  DOS00402	
<b>DI-STRIP® Compact</b> - Socket spacing: 50 mm - With/without switch	Page 7.10 / Page 7.41  DOS00401	Page 7.22  DOS00457
<b>DI-STRIP® Protector</b> - User protection (FI) - Circuit breaker (LS) - User protection and circuit breaker (FI/LS) - Equipment protection (BladePower/PizzaPower)	Page 7.11  DOS00394	Page 7.8  DOS20155a
<b>DI-STRIP® Protector Emergency STOP</b> - User protection / circuit breaker (FI/LS) - With emergency stop switch	Page 7.12  DOS00455	
<b>DI-STRIP® Power Cleaner</b> - Mains filter (MF)	Page 7.13  DOS00400	Page 7.19  DOS20108
<b>DI-STRIP® Safety Basic</b>  <b>DI-STRIP® Safety Standard</b> - Overvoltage protection	Page 7.14  DOS00397	Page 7.19  DOS20110
<b>DI-STRIP® Master Slave</b> - Automatic consumer switching	Page 7.16  DOS00396	
<b>DI-STRIP® Combi</b> - Automatic consumer switching with overvoltage protection and mains filter	Page 7.17  DOS00399	
<b>DI-STRIP® GST18</b> <b>Compact/Master Slave/Safety Basic/Safety Standard/IEC320</b> - Without cable for GST18 plug-in system (Wieland)	Page 7.18  DOS00679	Page 7.19  DOS20112
<b>GST18 accessories</b>	Page 7.20	
<b>Remote PDU</b>		Page 7.41  DOS80001

 <b>UTE Standard</b>	 <b>Swiss Standard</b>	 <b>USA Standard</b>	 <b>Three-Phase System</b>
Page 7.25  DOS00402	Page 7.36  DOS00717	Page 7.39  DOS00685	
Page 7.26 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00401	Page 7.37 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS20074	Page 7.39 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00686	Page 7.7 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS20121
Page 7.27 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS20065	Page 7.38  DOS00719		Page 7.8  DOS20153a
Page 7.28 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS20059			
Page 7.29 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00400			
Page 7.30 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00397	Page 7.38 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00720	Page 7.40 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00687	
Page 7.32 <span style="border: 1px solid black; padding: 2px;">19"</span>  DOS00464			
Page 7.33  DOS00399			
Page 7.34  DOS00463			Page 7.20  DOS20103



**New: Three Phase DI-STRIP®**

# TriplePower®

The **TriplePower®** name reflects the performance of our latest development. The **DI-STRIP® TriplePower®** supplies network racks with three times the normal power. This requirement is generated by the increasingly greater packing densities and constantly rising energy requirements in racks, which are often caused by aptly named “Blade Servers” or 1 HU “Pizza Servers”, more than 40 of which can be integrated into a Knürr Miracel rack.

The **DI-STRIP® TriplePower®** uses a classic 3-phase feed with 3x16A, which it optimally distributes throughout the whole rack. The 23 HU and 41 HU standard lengths cover the entire rack height range of the Knürr Smaract<sup>2</sup> and Miracel rack families.

At the maximum configuration level, up to 48 users can be connected to a **DI-STRIP® TriplePower®** (Euro socket strip). With redundant feed, 96A can consequently be provided in a 19” rack with only two **DI-STRIP® TriplePower®**.



DOS20149



DOS20148



**Note**

You will find more information on TriplePower® at: [www.triple-power.com](http://www.triple-power.com)

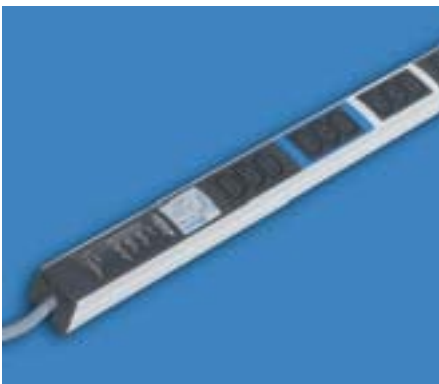




1 DOS20131



2 DOS20147



DOS20126

## DI-STRIP® TriplePower® Strong points

- **Cost-conscious**  
Quick and easy mounting on the rack extrusion.  
Costs reduction with regard to mounting and wiring.
- **Feed**
  - 3x16A as standard
  - Ideal for implementing redundancies (e.g. 96 A)
- **At a glance**  
Phase assignment colour coding (L1, L2, L3).
- **Installation**  
Optimum distribution over the entire rack height (standard: 23 HU and 41 HU).
- **Technical alternatives**
  - For 3-phase GST18 system (see page 7.19).



3 DOS20126



4 DOS20129

## DI-STRIP® TriplePower® Euro Plug-In System, IEC 320 With cable

- With 3-way Euro combinations of IEC 320 sockets in acc. with IEC 60320
- Cable: H05VV-F 5 G 2.5 mm<sup>2</sup>
- Cable: 2.5 m (optional with IEC60309 plug, 3Ph/N/PE 6h)
- Easy mounting on the rack extrusion
- 3x16A feed as standard
- Ideal for implementing redundancies (e.g. 96 A with redundant feed)
- Colour coding of the phase assignment
- Optimum distribution over the entire rack height (23 HU and 41 HU)
- Alternative to 3-phase GST18 system (see page 7.20)
- **Material / Finish**  
Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
- **Dimensions**  
Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)
- **Approvals/certificates**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CSA NRTL/C
  - CB-scheme
- **Colour**  
Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey
- **Load rating**  
100-240/173-415 Vac  
Input: 3x 16 A  
Output: 10 A (NA 15 A)
- **Approval symbols for IEC 320 3-way Euro combinations**  
VDE, UR, CSA
- **Supply schedule**  
1 socket strip  
2 mounting brackets

Dimensions in mm:  
L = Length, S = Switch, n = Number of sockets,  
F1 = Standard side piece, F2 = Design side piece,  
19" = Suitable for 19" installation, Safe = Child-safe  
HU = Standard height unit, UP = Unit of packaging

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1033		24	●					<b>03.600.024.1</b>	1 unit
1833		48	●					<b>03.600.048.1</b>	1 unit
1033		24	●				With plug	<b>03.600.824.1</b>	1 unit
1833		48	●				With plug	<b>03.600.848.1</b>	1 unit

## New: Three Phase - DI-STRIP®

# BladePower® PizzaPower®

A new generation of the power distribution units of the DI-STRIP® range now ensures even more power: **BladePower®** and **PizzaPower®** for fail-safe power supply distribution in network racks.

Increasingly greater packing densities and therefore constantly increasing energy requirements in server racks caused by blade servers or 1 HU pizza servers will now be handled electrically.

Up to 35 kW dissipated heat can be removed from modern CoolTherm® server racks. But how is the necessary power supplied into the rack, which can cause such power losses?

The PDUs (3x32 A) optimally distribute the required power over the entire rack, with connection of up to 21 consumers possible at the highest configuration level. 192 A can be supplied to the rack with redundant feed.

## DI-STRIP® Strong points

- **Cost-conscious**  
Quick and easy installation on the server rack's extrusion.  
Costs reduction with regard to mounting and wiring.
- **Feed**
  - Single-phase 32 A and three-phase 32 A
  - ≤22 kVA
  - Ideal for implementing redundancies (e.g. 192 A)
- **Crystal clear assignment**  
Unmistakeable phase assignment colour-coding (L1, L2, L3).
- **Installation**  
Optimum distribution of blade center and pizza server supply with simple power distribution unit (PDU) installation.
- **Availability**  
Prevention of "Single Point of Failure" with individual fusing.
- **Certification**



DOS20153



DOS20155

## DI-STRIP® BladePower® Technical data

- EC 320 sockets (10 A and 16 A).
- Individually fused via thermal circuit breaker that can be reset in acc. with IEC60934.
- Cable: H05VV-F 5 G 4 mm<sup>2</sup>
- Cable: 4 m
- With IEC60309 plug, 1Ph/N/PE 6h blue, 3Ph/N/PE 6h red

■ **Material / Finish**  
Casing: sheet steel, zinc-plated, powder-coated

■ **Dimensions**  
Height: approx. 60 mm  
Casing width: 84 mm

■ **Colour**  
Casing: RAL 9005 black

■ **Approvals**  
- CE Label in accordance with low voltage directive 2006/95/EEC  
- EMC Directive 2006/108/EEC  
- Innova GS  
- CSA NRTL/C

■ **Load rating**  
100-240/173-415 Vac  
Input: 1x32 A or 3x32 A  
Output: 10 A / 16 A

■ **Supply schedule**  
1 socket strip (PDU)  
2 mounting brackets  
1 19" mounting bracket  
(additional with 19 installation option)  
Operating instructions

L	S	n	F1	19"	Plug	Model	Order no.	UP
375		5	●	●	●	BladePower® PDU 1x 32 A	<b>03.630.005.1</b>	1 unit
740		15	●		●	BladePower® PDU 3x 32 A	<b>03.630.015.1</b>	1 unit
375		5	●	●		BladePower® PDU 1x 32 A	<b>03.630.805.1</b>	1 unit
740		15	●			BladePower® PDU 3x 32 A	<b>03.630.815.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



### Note

For more information on effective high density power distribution see: [www.blade-power.com](http://www.blade-power.com)



DOS20158



DOS20159

## DI-STRIP® PizzaPower® Technical data

- IEC 320 sockets (10 A)
- Individually fused via thermal circuit breaker that can be reset in acc. with IEC60934.
- Cable: H05VV-F 5 G 4 mm<sup>2</sup>
- Cable: 4 m
- With IEC60309 plug, 1Ph/N/PE 6h blue, 3Ph/N/PE 6h red

**Material / Finish**  
Casing: sheet steel, zinc-plated, powder-coated

**Dimensions**  
Height: approx. 60 mm  
Casing width: 84 mm  
Height with cable: Approx. 176 mm

**Colour**  
Casing: RAL 9005 black

**Approvals**  
- CE Label in accordance with low voltage directive 2006/95/EEC  
EMC Directive 2006/108/EEC  
- Innova GS  
- CSA NRTL/C

**Load rating**  
100-240/173-415 Vac  
Input: 1x32 A or 3x32 A  
Output: 10 A

**Supply schedule**  
1 socket strip (PDU)  
2 mounting brackets  
1 19" mounting bracket  
(additional with 19 installation option)  
Operating instructions

L	S	n	F1	19"	Plug	Model	Order no.	UP
400		7	●	●	●	PizzaPower® PDU 1x 32 A	<b>03.631.007.1</b>	1 unit
933		21	●		●	PizzaPower® PDU 3x 32 A	<b>03.631.021.1</b>	1 unit
400		7	●	●		PizzaPower® PDU 1x 32 A	<b>03.631.807.1</b>	1 unit
933		21	●			PizzaPower® PDU 3x 32 A	<b>03.631.821.1</b>	1 unit



### Note

For more information on effective high density power distribution see: [www.pizza-power.com](http://www.pizza-power.com)

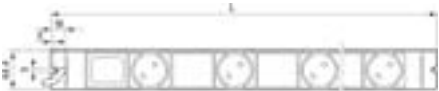


DOS00403



DOS00260

With switch



DOS00261

Without switch

## DI-STRIP® Classic Standard DIN 49 440

- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug
- Optionally with Euro plug, IEC320 for UPS applications

**Material / Finish**  
Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

**Dimensions**  
Socket spacing: 100 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

**Approvals**  
- CE Label in accordance with low voltage directive 2006/95/EEC  
EMC Directive 2006/108/EEC  
- Innova-GS  
- CB-scheme  
- VDE

**Colour combination**  
Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

**Load rating**  
100-240 Vac/16 A

**Supply schedule**  
1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●					<b>03.300.067.x</b>	1 unit
1383		13	●					<b>03.300.063.x</b>	1 unit
983		9	●					<b>03.300.059.x</b>	1 unit
583		5	●					<b>03.300.055.x</b>	1 unit
1733	●	16	●				With switch	<b>03.302.066.x</b>	1 unit
1333	●	12	●				With switch	<b>03.302.062.x</b>	1 unit
933	●	8	●				With switch	<b>03.302.058.x</b>	1 unit
533	●	4	●				With switch	<b>03.302.054.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



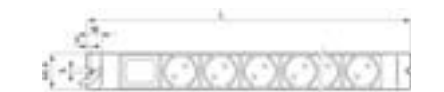
DOS00401

With switch



DOS00262

With switch



DOS20020

Without switch



DOS20021

With switch



DOS00263

Without switch

## DI-STRIP® Compact Standard DIN 49 440

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 versions: Standard side panel or Design side panel
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug
- Optionally with Euro plug, IEC320 for UPS applications

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	●					<b>03.300.015.x</b>	1 unit
732		11		●				<b>03.300.111.x</b>	1 unit
683		11	●					<b>03.300.011.x</b>	1 unit
532		7		●		●		<b>03.301.107.x</b>	1 unit
532		7		●				<b>03.300.107.x</b>	1 unit
483		7	●		●			<b>03.300.007.x</b>	1 unit
483		8	●		●			<b>03.300.008.1</b>	1 unit
382		4		●		●		<b>03.301.104.x</b>	1 unit
382		4		●				<b>03.300.104.x</b>	1 unit
333		4	●					<b>03.300.004.x</b>	1 unit
883	●	14	●				With switch	<b>03.302.014.x</b>	1 unit
732	●	10		●			With switch	<b>03.302.110.x</b>	1 unit
683	●	10	●				With switch	<b>03.302.010.x</b>	1 unit
532	●	6		●		●	With switch	<b>03.303.106.x</b>	1 unit
532	●	6		●			With switch	<b>03.302.106.x</b>	1 unit
483	●	6	●		●		With switch	<b>03.302.006.x</b>	1 unit
483		7	●		●		With switch	<b>03.302.007.1</b>	1 unit
382	●	3		●		●	With switch	<b>03.303.103.x</b>	1 unit
382	●	3		●			With switch	<b>03.302.103.x</b>	1 unit
333	●	3	●				With switch	<b>03.302.003.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20065

With fault current circuit breaker



DOS00264

With fault current circuit breaker

## DI-STRIP® Protector FI Standard DIN 49 440

### Protector FI

- RCCB for user protection
- Protection with indirect contact as error protection by switching off with inadmissible high contact voltage through contact with electrical equipment
- Protection with direct contact as back-up protection
- Residual operating current  $I_g = 10\text{mA}$  for alternating and intermittent fault direct current
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 78 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					<b>03.304.013.1</b>	1 unit
683		9	●					<b>03.304.009.1</b>	1 unit
483		5	●		●			<b>03.304.005.1</b>	1 unit



DOS00692

With circuit breaker



DOS00264

With circuit breaker

## DI-STRIP® Protector LS Standard DIN 49 440

### Protector circuit breaker

- Circuit breaker for overload and short circuit
- Protects cables and feeds with rapid switching off with short circuit and defined delayed cutoff with overload
- Circuit breaker: 16 A
- Tripping characteristic type B, 2-pole
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 78 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					<b>03.308.013.1</b>	1 unit
683		9	●					<b>03.308.009.1</b>	1 unit
483		5	●		●			<b>03.308.005.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003





DOS00693



DOS00264

## DI-STRIP® Protector FI / LS Standard DIN 49 440

- Protector FI / LS**
  - RCCB and circuit breaker
  - Provides a combination of user, overload and short circuit protection
  - Residual operating current  $I_g = 30$  mA for alternating and intermittent fault directcurrent
  - Circuit breaker 16 A
  - Tripping characteristic type B, 2-pole
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
  - Moulded right angle plug

- Material / Finish**
  - Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture
  - Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
  - Internal conductor: full-length busbar, brass

- Dimensions**
  - Socket spacing: 50 mm
  - Height: 78 mm
  - Casing width: 44.4 mm (= 1 HU)
  - Cable: 2.5 m

- Approvals**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CB-scheme

- Colour combination**
  - Final digit of order number .1:
  - RAL 7035 light-grey
  - Plastic parts: RAL 7035 light-grey

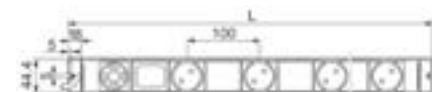
- Load rating**
  - 100-240 Vac/16 A

- Supply schedule**
  - 1 socket strip
  - 2 mounting brackets
  - 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					<b>03.310.013.1</b>	1 unit
683		9	●					<b>03.310.009.1</b>	1 unit
483		5	●		●			<b>03.310.005.1</b>	1 unit

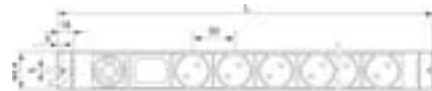


DOS20059



Classic with emergency stop switch

DOS00486



Protector with emergency stop switch

DOS00487

## DI-STRIP® Protector Emergency STOP Standard DIN 49 440

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switch-off of connected equipment
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

- Material / Finish**
  - Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture
  - Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
  - Internal conductor: full-length busbar, brass

- Dimensions**
  - Socket spacing: Classic: 100 mm,

- Compact: 50 mm
- Height: 101 mm
- Casing width: 44.4 mm (= 1 HU)
- Cable: 2.5 m

- Approvals**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CB-scheme

- Colour combinations**
  - Final digit of order number .1:
  - RAL 7035 light-grey
  - Plastic parts: RAL 7035 light-grey

- Load rating**
  - 100-240 Vac/16 A

- Supply schedule**
  - 1 socket strip
  - 2 mounting brackets
  - 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		10	●				Compact	<b>03.326.010.1</b>	1 unit
483		6	●		●		Compact	<b>03.326.006.1</b>	1 unit
1333		12	●				Classic	<b>03.326.062.1</b>	1 unit
933		8	●				Classic	<b>03.326.058.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

☐ = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003





DOS00456



DOS00488

## DI-STRIP® Protector Emergency Stop FI / LS Standard DIN 49 440

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switch-off of connected equipment
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing:  
Compact: 50 mm  
Height: 101 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combinations

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Additional:

With 2-pole fault current switch and circuit breaker  
Provides a combination of user, overload and short circuit protection

### Load rating

100-240Vac/16 A

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		8	●					<b>03.328.008.1</b>	1 unit



DOS20061



DOS00266

## DI-STRIP® Power Cleaner Standard DIN 49 440

- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5MHz. This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behaviour is harmonized with the typical interference spectrum.
- The mains filter works in both directions. This means that glitches from the equipment to the socket strips are therefore also kept away from the mains.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm

Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination


Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Technical data


Nominal voltage: max. 250 Vac, 50 Hz  
Nominal current: max. 16 A  
Filter in acc. with VDE 0565-3 (EN 60939-1)

### Supply schedule

1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●					<b>03.312.013.x</b>	1 unit
683		9	●					<b>03.312.009.x</b>	1 unit
483		5	●	●				<b>03.312.005.x</b>	1 unit 

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20068 With overvoltage protection



DOS00306 With overvoltage protection



DOS00270 With overvoltage protection

## DI-STRIP® Safety Basic Standard DIN 49 440

- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced! The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Final digit of order number .6:  
 Casing, RAL 2003, pastel orange  
 Plastic parts: RAL 7035 light-grey

### Technical data

Test category: Type 3  
 - In acc. with DIN EN 61643-11  
 Feature class: D  
 - In acc. with VDE 0675-6  
 Mains voltage: 230 VAC  
 Nominal current: max. 16 A  
 Cut-off discharge current (8/20 μs): 10 kA  
 Reaction time: < 25 ns  
 Protection level  
 (with 100 A varistor peak current):  
 - L with respect to N: < 800 V  
 - L/N with respect to PE: < 1500 V

### Supply schedule

1 socket strip  
 2 mounting brackets  
 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
732		10		●				<b>03.316.110.1</b>	1 unit
683		10	●					<b>03.316.010.x</b>	1 unit
532		6		●		●		<b>03.317.106.1</b>	1 unit
532		6		●				<b>03.316.106.1</b>	1 unit
483		6	●		●			<b>03.316.006.x</b>	1 unit
432		4		●		●		<b>03.317.104.1</b>	1 unit
432		4		●				<b>03.316.104.1</b>	1 unit
383		4	●					<b>03.316.004.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
 F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
 Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS20069 With overvoltage protection and mains filter



DOS00307 With overvoltage protection and mains filter



DOS00271

## DI-STRIP® Safety Standard Standard DIN 49 440

- The "Safety Standard" models consist of a combined overvoltage protection/mains filter element.
- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!
- The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5MHz.
- This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behaviour is harmonized with the typical interference spectrum.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)  
 Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Final digit of order number .6:  
 Casing, RAL 2003, pastel orange  
 Plastic parts: RAL 7035 light-grey

### Technical data

Mains voltage: 230 VAC  
 Nominal current: max. 16 A  
 Cut-off discharge current (8/20 ?s): 10 kA  
 Reaction time: < 25 ns  
 Protection level  
 (with 100 A varistor peak current):  
 - L with respect to N: < 800 V  
 - L/N with respect to PE: < 1500 V  
 Overvoltage protection  
 - Test category: Type 3  
 in acc. with DIN EN61643-11  
 - Feature class: D  
 - In acc. with VDE 0675-6  
 Mains filter  
 - In acc. with VDE 0565 (EN 60939)

### Supply schedule

1 socket strip  
 2 mounting brackets  
 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883	●	13	●				With switch	<b>03.318.013.x</b>	1 unit
732	●	9		●		●	With switch	<b>03.319.109.x</b>	1 unit
732	●	9		●			With switch	<b>03.318.109.x</b>	1 unit
683	●	9	●				With switch	<b>03.318.009.x</b>	1 unit
532	●	5		●		●	With switch	<b>03.319.105.x</b>	1 unit
532	●	5		●			With switch	<b>03.318.105.x</b>	1 unit
483	●	5	●		●		With switch	<b>03.318.005.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
 F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
 Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

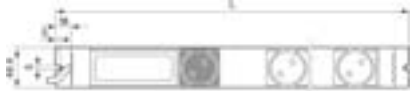
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
 .1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20070

With master-slave module



DOS00268

With master-slave module

## DI-STRIP® Master-Slave Standard DIN 49 440

- If the master equipment is switched, the slave sockets are also switched (together, with a short delay to the master). Enables easy switching on and off of several difficult to access pieces of equipment. Switching thresholds can be set from outside via potentiometer.
- Note:
  - Power consumption of the master equipment must be constantly over the switching-on threshold. When switching off the master equipment, the power consumption must fall below the switching-off threshold.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
  - Moulded right angle plug

- **Material / Finish**
  - Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture
  - Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
  - Internal conductor: full-length busbar, brass

- **Dimensions**
  - Socket spacing: 50 mm
  - Height: 45.5 mm
  - Casing width: 44.4 mm (= 1 HU)
  - Cable: 2.5 m

- **Approvals**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CB-scheme
  - VDE

- **Colour combination**
  - Final digit of order number 1:
  - RAL 7035 light-grey
  - Plastic parts: RAL 7035 light-grey


- **Load rating**
  - Max. 250 Vac/16 A

- **Technical data**
  - Threshold setting range
  - On: 20 mA - 200 mA (approx. 55 mA, supply status)
  - Off: 16 mA - 160 mA (approx. 44 mA, supply status)
  - Switching delay 550 ms ±/-20 %
  - Electronic module, 2-pole switching

- **Supply schedule**
  - 1 socket strip
  - 2 mounting brackets
  - 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	●					<b>03.314.009.1</b>	1 unit
483		5	●		●			<b>03.314.005.1</b> 	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



## See also: The current Telecom Special Catalogue!

Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management



DOS00325

With master-slave overvoltage protection and mains filter



DOS00272



DOS00273

With master-slave overvoltage protection and mains filter

## DI-STRIP® Combi Standard DIN 49 440

- Master-slave with overvoltage protection and mains filter
- Automatic consumer switching
- Combines functions of the Master-Slave (page 7.16) and the Safety Standard (page 7.15)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination


Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Technical data


Overvoltage protection and mains filter:  
Mains voltage: max. 250 Vac  
Nominal current 16A  
Feature class: D (refined protection in accordance with DIN VDE 0675)  
Surge current resistance (8/20 µs wave): max. 10 kA  
Protection level (1.5/50 µs wave): < 1500 V (L/N against PE)  
Master-slave function:  
Threshold setting range  
On: 20 mA - 200 mA (approx. 55 mA, supply status)  
Off: 16 mA - 160 mA (approx. 44 mA, supply status)  
Switching delay 550 ms ±/ - 20 %  
Electronic module, 2-pole switching

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
782		9		●				<b>03.320.109.1</b>	1 unit
733		9	●					<b>03.320.009.1</b>	1 unit
582		5		●		●		<b>03.321.105.1</b>	1 unit
582		5		●				<b>03.320.105.1</b>	1 unit
533		5	●					<b>03.320.005.1</b> 	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20060



DOS00663



DOS20045

With switch



DOS20046

Without switch

## DI-STRIP® GST18 Plug System (Wieland) Compact Standard DIN 49 440

- Quick and efficient plug connection system
- Plug-in electro-installation in place of conventional wiring
- Speed:
  - Due to simple plugging together of pre-configured elements
- Flexibility:
  - Due to cable (cable length)
- Efficient:
  - Easy exchange of socket strips, without cabling expenses
- Safety:
  - Due to plug system, all faulty installations are excluded
- Space-saving:
  - Use of protection and switching functions can be extended to additional socket strips with no loss of plugging space by extending cable (maximum load rating of 16 A)

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme
- VDE

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

1 socket strip  
 2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583	●	6	●				With switch	<b>03.302.206.1</b>	1 unit
433	●	3	●				With switch	<b>03.302.203.1</b>	1 unit
533		7	●					<b>03.300.207.1</b>	1 unit
383		4	●					<b>03.300.204.1</b>	1 unit



DOS20072

## DI-STRIP® Safety Basic With GST18 plug system

- With overvoltage protection
- Technical description, see page 7.14

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
433		4						<b>03.316.204.1</b>	1 unit



DOS20073

## DI-STRIP® Safety Standard With GST18 plug system

- With overvoltage protection, with integrated mains filter and lit switch
- Technical description, see page 7.15

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583		5						<b>03.318.205.1</b>	1 unit



DOS00464

## DI-STRIP® Master-Slave With GST18 plug system

- Technical description, see page 7.16

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
533		5						<b>03.314.205.1</b>	1 unit





DOS20112



DOS20107

Input



DOS20106

Output for further cabling

## DI-STRIP® Euro Socket System, IEC 320 With GST18 plug system

- With 3-way Euro combinations of IEC 320 sockets
- Without fuse protection

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

### Dimensions

Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CSA NRTL/C
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey

### Load rating

100-240 Vac/10 A

### Approval symbols for IEC 320 3-way Euro combinations

VDE, UR, CSA

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
383		6	•					<b>03.600.206.1</b>	1 unit

## DI-STRIP® Safety Basic Euro Socket System IEC 320 With GST18 plug system

- With overvoltage protection
- Technical description, see page 7.14

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483								<b>03.616.206.1</b>	1 unit



DOS20110

## DI-STRIP® Safety Standard With GST18 plug system

- With overvoltage protection with integrated mains filter
- Technical description, see page 7.15

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483		6						<b>03.618.206.1</b>	1 unit



DOS20109

## DI-STRIP® Power Cleaner With GST18 plug system

- Technical description, see page 7.13

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483		6						<b>03.612.206.1</b>	1 unit



DOS20108

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20147

## 3-phase in rack with GST18 Strong points



DOS20132

### 1 Requirement

Constantly increasing energy requirements in the rack caused by high packing densities (e.g. 1 HU Pizza Servers, Blade Servers, etc.)

### 2 Solution

3-phase distributor with GST18 plug system, e.g. 96 A and more with redundant feed

### 3 Advantages

- Modularity
- Plug-in capability (no wiring required)
- Expandability
- Cascadability
- Easy implementation of redundancies / UPS secured circuits
- Mix of, for example, DIN protected contacts / IEC 320 Euro systems
- Installation position freely selectable
- Good alternatives to 3-phase DI-STRIP Triple Power (see page 7.6)



DOS20142



DOS20135



DOS20104

## Power Supply Cable, 3-Phase Accessories for GST 18 plug system

- GST 18 socket for connecting GST18i5 distributor block with 3 phases
- 5-pole (L1, L2, L3, N, PE) 250/400 V ~
- Cable: H05VV-F 5G 2.5 mm<sup>2</sup>

**Colour**  
Black

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.048.0</b>	1 unit



DOS20103

## GST18i5 Distributor Block, 3-Phase

- For individual, customer-side connection
- Modular plug-in connection
- Distribution of 3 phases on various sockets
- Including mounting panel

**Colour**  
Black

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.038.9</b>	1 unit



DOS00467

## Power Supply Cable, 1-Phase Accessories for GST 18 plug system

- Mains plug CEE/VII - GST18 socket (Wieland)
- Cable, H05VV-F 3G 1.5 mm<sup>2</sup>

**Colour**  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.040.0</b>	1 unit
								<b>04.000.041.0</b>	1 unit



DOS00469

## Connection Cable Accessories for GST 18 plug system

- GST 18 plug
- GST 18 socket
- Cable, H05VV-F 3G 1.5 mm<sup>2</sup>

**Colour**  
For colour coding circuits (e.g. UPS)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
							White	<b>04.000.042.0</b>	1 unit
							Black	<b>04.000.042.9</b>	1 unit
							White	<b>04.000.037.0</b>	1 unit
							Black	<b>04.000.037.9</b>	1 unit
							White	<b>04.000.044.0</b>	1 unit
							Black	<b>04.000.044.9</b>	1 unit
							White	<b>04.000.045.0</b>	1 unit



DOS20105

## GST18 Socket Part

- With screw terminal for cross-section 1.5-2.5 mm<sup>2</sup> with cable strain relief
- For individual, customer-side connection

**Colour**  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.046.0</b>	1 unit



DOS00471

## GST18 Plug Part

- With screw terminal for cross-section 1.5-2.5 mm<sup>2</sup> with cable strain relief
- For individual, customer-side additional cabling

**Colour**  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.047.0</b>	1 unit



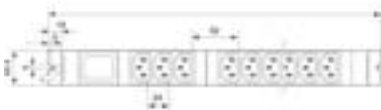
DOS00470



DOS20062



DOS00498



DOS20042

## DI-STRIP® Euro Socket System, IEC 320 With cable and right angle plug

- Optionally with lit switch, 2-pole switching
- 19" installation option
- With 3-way Euro combinations of IEC 320 sockets
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Cable: 2.5 m
- Moulded right angle plug, CEE7/VII
- Without fuse protection

**Material / Finish**  
Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

**Dimensions**  
Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

**Approvals**  
- CE Label in accordance with low voltage directive 2006/95/EEC  
EMC Directive 2006/108/EEC

- Innova-GS
- CB-scheme

**Colour**  
Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey

**Load rating**  
250 VAC/10 A

**Approval symbols for IEC 320 3-way Euro combinations**  
VDE, UR, CSA

**Supply schedule**  
1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483	●	9	●		●		With switch	<b>03.602.009.1</b>	1 unit
333		6	●					<b>03.600.006.1</b>	1 unit

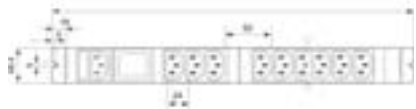


DOS00458



DOS20041

With switch



DOS20040

Without switch

## DI-STRIP® Euro Socket System, IEC 320 Euro input in the plug field

- With fine-wire fuse 10A
- Optionally with lit switch, 2-pole switching
- 19" installation option
- With 3-way Euro combinations of IEC 320 sockets

**Material / Finish**  
Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

**Dimensions**  
Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

**Approvals**  
- CE Label in accordance with low voltage directive 2006/95/EEC  
EMC Directive 2006/108/EEC  
- Innova-GS

- CSA NRTL/C
- CB-scheme

**Colour**  
Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey

**Load rating**  
100-240 Vac  
Input: max. 10 A  
Output: max. 10 A

**Approval symbols for IEC 320 3-way Euro combinations**  
VDE, UR, CSA

**Supply schedule**  
1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
383		6	●					<b>03.622.006.1</b>	1 unit
483		9	●		●			<b>03.622.009.1</b>	1 unit
433	●	6	●				With switch	<b>03.624.006.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS00460

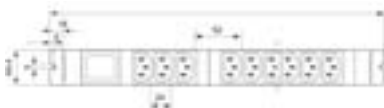


DOS00461



DOS20043

With switch



DOS20044

Without switch



DOS20102

## DI-STRIP® Euro Socket System, IEC 320 Euro input on the side panel

- With fine-wire fuse 10A
- Optionally with lit switch, 2-pole switching
- 19" installation option
- With 3-way Euro combinations of IEC 320 sockets

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 V0 (UL94), recyclable

### Dimensions

Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CSA NRTL/C
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey

### Load rating

100-240 Vac  
Input: max. 10 A  
Output: max. 10 A

### Approval symbols for IEC 320 3-way Euro combinations

VDE, UR, CSA

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
333		6	●					<b>03.622.706.1</b>	1 unit
433		9	●					<b>03.622.709.1</b>	1 unit
383	●	6	●				With switch	<b>03.624.706.1</b>	1 unit
483	●	9	●				With switch	<b>03.624.709.1</b>	1 unit

## DI-STRIP® Euro Socket System, IEC 320 With cable and right angle plug

- With thermal overload protection, 10 A (can be reset)
- With lit switch, 1-pole switching
- 19" installation option
- With 2 5-way Euro combinations of IEC 320 sockets
- Cable: H05VV-F 3G 2.5 mm<sup>2</sup>
- Cable: approx. 5 m
- Moulded right angle plug, CEE7/VII, optional blue 16 A-6h (2P+PE) CEE17 plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 V0 (UL94), recyclable

### Dimensions

Socket spacing: 24 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey

### Load rating

250 Vac/10 A

### Approval symbols for IEC 320, 5-way Euro combinations

UR, CSA, VDE

### Supply schedule

1 Socket strip  
2 Mounting brackets  
2 19" Mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483	●	10	●		●		With switch	<b>03.632.010.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

☐ = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003





DOS00076

## Mains Cable for Euro Socket Strip For DIN 49 440 and French/Belgian standard

- Mains plug CEE/VII - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.054.9</b>	1 unit
6000								<b>04.000.053.9</b>	1 unit



DOS00077

## Mains Cable for Euro Socket Strip For Swiss standard

- Mains plug: Type12 - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.055.9</b>	1 unit



DOS00078

## Mains Cable for Euro Socket Strip For British standard

- Mains plug: type BS 1363 - Euro socket IEC320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.056.9</b>	1 unit



DOS00519

## Euro Connection Cable

- Mains plug: IEC 320 - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>
- USA: SJT AWG18 with USA approval

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
900							EU	<b>04.000.051.9</b>	1 unit
900							USA	<b>04.000.052.9</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

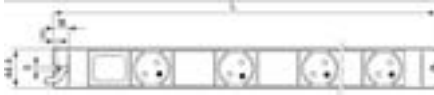
Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003





DOS20018



DOS20019

## DI-STRIP® Classic Standard CEE 7 V (UTE) / France

- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 100 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Load rating


100-240 Vac/16 A

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●			●		<b>03.400.067.x</b>	1 unit
1383		13	●			●		<b>03.400.063.x</b>	1 unit
983		9	●			●		<b>03.400.059.x</b>	1 unit
583		5	●			●		<b>03.400.055.x</b>	1 unit
1733	●	16	●			●	With switch	<b>03.402.066.x</b>	1 unit
1333	●	12	●			●	With switch	<b>03.402.062.x</b>	1 unit
933	●	8	●			●	With switch	<b>03.402.058.x</b>	1 unit
533	●	4	●			●	With switch	<b>03.402.054.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

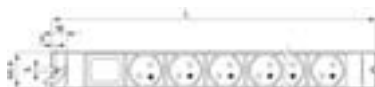
Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20023

With switch



DOS20022

Without switch



DOS20025

With switch



DOS20024

Without switch

## DI-STRIP® Compact Standard CEE 7 V (UTE) / France

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 versions: Standard side panel or Design side panel
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	●			●		<b>03.400.015.x</b>	1 unit
732		11		●		●		<b>03.400.111.x</b>	1 unit
683		11	●			●		<b>03.400.011.x</b>	1 unit
532		7		●		●		<b>03.400.107.x</b>	1 unit
483		7	●		●	●		<b>03.400.007.x</b>	1 unit
382		4		●		●		<b>03.400.104.x</b>	1 unit
333		4	●			●		<b>03.400.004.x</b>	1 unit
883	●	14	●			●	With switch	<b>03.402.014.x</b>	1 unit
732	●	10		●		●	With switch	<b>03.402.110.x</b>	1 unit
683	●	10	●			●	With switch	<b>03.402.010.x</b>	1 unit
532	●	6		●		●	With switch	<b>03.402.106.x</b>	1 unit
483	●	6	●		●	●	With switch	<b>03.402.006.x</b>	1 unit
382	●	3		●		●	With switch	<b>03.402.103.x</b>	1 unit
333	●	3	●			●	With switch	<b>03.402.003.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20026

## DI-STRIP® Protector FI Standard CEE 7 V (UTE) / France

### Protector FI

- RCCB for user protection
- Protection with indirect contact as error protection by switching off with inadmissible high contact voltage through contact with electrical equipment
- Protection with direct contact as back-up protection
- Residual operating current  $I_g = 10\text{mA}$  for alternating and intermittent fault direct current
- 19" installation option (with length 483 mm)
- Socket rotation:  $45^\circ$
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 78 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			❖		<b>03.404.013.1</b>	1 unit
683		9	●			●		<b>03.404.009.1</b>	1 unit
483		5	●		●	●		<b>03.404.005.1</b>	1 unit



DOS20026

## DI-STRIP® Protector LS Standard CEE 7 V (UTE) / France

### Protector circuit breaker

- Circuit breaker for overload and short circuit
- Protects cables and feeds with rapid switching off with short circuit and defined delayed cutoff with overload
- Circuit breaker: 16 A
- Tripping characteristic type B, 2-pole
- 19" installation option (with length 483 mm)
- Socket rotation:  $45^\circ$
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 78 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		<b>03.408.013.1</b>	1 unit
683		9	●			●		<b>03.408.009.1</b>	1 unit
483		5	●		●	●		<b>03.408.005.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS 20026

## DI-STRIP® Protector FI / LS Standard CEE 7 V (UTE) / France

- Protector FI / LS**
  - RCCB and circuit breaker
  - Provides a combination of user, overload and short circuit protection
  - Residual operating current  $I_g = 30$  mA for alternating and intermittent fault directcurrent
  - Circuit breaker 16 A
  - Tripping characteristic type B, 2-pole
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
  - Moulded right angle plug

- Material / Finish**
  - Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture
  - Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
  - Internal conductor: full-length busbar, brass

- Dimensions**
  - Socket spacing: 50 mm
  - Height: 78 mm
  - Casing width: 44.4 mm (= 1 HU)
  - Cable: 2.5 m

- Approvals**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CB-scheme

- Colour combination**
  - Final digit of order number .1:
  - RAL 7035 light-grey
  - Plastic parts: RAL 7035 light-grey

- Load rating**
  - 100-240 Vac/16 A

- Supply schedule**
  - 1 socket strip
  - 2 mounting brackets
  - 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		<b>03.410.013.1</b>	1 unit
683		9	●			●		<b>03.410.009.1</b>	1 unit
483		5	●		●	●		<b>03.410.005.1</b>	1 unit



DOS20027

Classic with emergency stop switch

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switch-off of connected equipment
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

- Material / Finish**
  - Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture
  - Plastic parts: Vampamid 6 0024 VO (UL94), recyclable
  - Internal conductor: full-length busbar, brass

- Dimensions**
  - Socket spacing: Classic: 100 mm, Compact: 50 mm

- Height: 101 mm
- Casing width: 44.4 mm (= 1 HU)
- Cable: 2.5 m

- Approvals**
  - CE Label in accordance with low voltage directive 2006/95/EEC
  - EMC Directive 2006/108/EEC
  - Innova-GS
  - CB-scheme

- Colour combinations**
  - Final digit of order number .1:
  - RAL 7035 light-grey
  - Plastic parts: RAL 7035 light-grey

- Load rating**
  - 100-240 Vac/16 A

- Supply schedule**
  - 1 socket strip
  - 2 mounting brackets
  - 2 19" mounting brackets (additional with 19" installation option)



DOS20028

Compact with emergency stop switch

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		10	●			●	Compact	<b>03.426.010.1</b>	1 unit
483		6	●		●	●	Compact	<b>03.426.006.1</b>	1 unit
1333		12	●			●	Classic	<b>03.426.062.1</b>	1 unit
933		8	●			●	Classic	<b>03.426.058.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

☐ = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20029 With emergency Off switch and FI- / LS circuit breaker

## DI-STRIP® Protector Emergency Stop FI / LS Standard CEE 7 V (UTE) / France

- With 2-pole emergency stop switch for user protection
- For protecting operating personnel
- For manual emergency switch-off of connected equipment
- Phase and neutral conductors are safely separated
- Switch must be specifically unlocked to restart
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing:  
Compact: 50 mm  
Height: 101 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combinations

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Additional:

With 2-pole fault current switch and circuit breaker  
Provides a combination of user, overload and short circuit protection

### Load rating

100-240Vac/16 A

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		8	●			●		<b>03.428.008.1</b>	1 unit



DOS20030 With mains filter

## DI-STRIP® Power Cleaner Standard CEE 7 V (UTE) / France

- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5MHz. This high-frequency rate overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behaviour is harmonized with the typical interference spectrum.
- The mains filter works in both directions. This means that glitches from the equipment to the socket strips are therefore also kept away from the mains.
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number 0.6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Load rating

Nominal voltage: max. 250 Vac, 50 Hz  
Nominal current: max. 16 A

### Supply schedule

1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

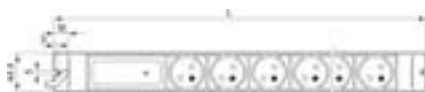
L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		13	●			●		<b>03.412.013.x</b>	1 unit
683		9	●			●		<b>03.412.009.x</b>	1 unit
483		5	●		●	●		<b>03.412.005.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

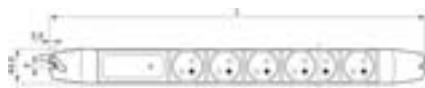
= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20031



DOS20032

## DI-STRIP® Safety Basic Standard CEE 7 V (UTE) / France

- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!

The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.

- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour

Final digit of order number .1:  
RAL 7035 light-grey

### Technical data


- Test category: Type 3  
- In acc. with DIN EN 61643-11  
Feature class: D  
- In acc. with VDE 0675-6  
Mains voltage: 230 VAC  
Nominal current: max. 16 A  
Cut-off discharge current (8/20 ?s): 10 kA  
Reaction time: < 25 ns  
Protection level  
(with 100 A varistor peak current):  
- L with respect to N: < 800 V  
- L/N with respect to PE: < 1500 V

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
732		10		●		●		<b>03.416.110.1</b>	1 unit
683		10	●			●		<b>03.416.010.1</b>	1 unit
532		6		●		●		<b>03.416.106.1</b>	1 unit
483		6	●		●	●		<b>03.416.006.1</b>	1 unit
432		4		●		●		<b>03.416.104.1</b>	1 unit
383		4	●			●		<b>03.416.004.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003





DOS20033 With overvoltage protection and mains filter



DOS20034 With overvoltage protection and mains filter

## DI-STRIP® Safety Standard Standard CEE 7 V (UTE) / France

- The "Safety Standard" models consist of a combined overvoltage protection/filter element.
- For protecting against transient overvoltages from the mains, which, for example, are caused by switching machines on and off.
- With critical overvoltages the mains is separated.
- Once the safety arrester has been triggered the green function display goes out. The socket strip can then no longer be used. Send the socket strip to the manufacturer for the safety arrester to be replaced!
- The safety effect of the type 3 test category and requirements category "D" is to protect the equipment, i.e. precision protection. The protection devices of the test and requirements categories 1 and 2 and B and C must be preconnected in the building installation to ensure optimum protection.
- High-frequency glitches are generally caused by switching processes in an operation from 100 kHz to 5MHz.
- This high-frequency current overloads the mains frequency and affects adjacent electronic equipment. The mains filter attenuates this high-frequency rate.
- The attenuation behaviour is harmonized with the typical interference spectrum.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
  - Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)  
 Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination


Final digit of order number .1:  
 RAL 7035 light-grey  
 Final digit of order number .6:  
 Casing, RAL 2003, pastel orange  
 Plastic parts: RAL 7035 light-grey

### Technical data


Mains voltage: 230 VAC  
 Nominal current: max. 16 A  
 Cut-off discharge current (8/20 µs): 10 kA  
 Reaction time: < 25 ns  
 Protection level  
 (with 100 A varistor peak current):  
 - L with respect to N: < 800 V  
 - L/N with respect to PE: < 1500 V  
 Overvoltage protection  
 Feature class: D  
 - In acc. with VDE 0675-6  
 Mains filter  
 - In acc. with VDE 0565 (EN 60939)

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883	●	13	●			●	With switch	<b>03.418.013.x</b>	1 unit
732	●	9		●		●	With switch	<b>03.418.109.x</b>	1 unit
683	●	9	●			●	With switch	<b>03.418.009.x</b>	1 unit
532	●	5		●		●	With switch	<b>03.418.105.x</b>	1 unit
483	●	5	●		●	●	With switch	<b>03.418.005.x</b> 	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
 F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
 Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
 .1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20035 With master-slave module

## DI-STRIP® Master-Slave Standard CEE 7 V (UTE) / France

- If the master equipment is switched, the slave sockets are also switched (together, with a short delay to the master). Enables easy switching on and off of several difficult to access pieces of equipment. Switching thresholds can be set from outside via potentiometer.

- Note:
- Power consumption of the master equipment must be constantly over the switching-on threshold. When switching off the master equipment, the power consumption must fall below the switching-off threshold.
  - 19" installation option (with length 483 mm)
  - Socket rotation: 45°
  - Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
  - Moulded right angle plug

**Material / Finish**  
 Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

**Dimensions**  
 Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)  
 Cable: 2.5 m

**Approvals**  
 - CE Label in accordance with low voltage directive 2006/95/EEC  
 EMC Directive 2006/108/EEC  
 - Innova-GS  
 - CB-scheme

**Colour combination**  
 Final digit of order number 1:  
 RAL 7035 light-grey  
 Plastic parts: RAL 7035 light-grey

**Load rating**  
 Max. 250 Vac/16 A

**Technical data**  
 Threshold setting range  
 On: 20 mA - 200 mA (approx. 55 mA, supply status)  
 Off: 16 mA - 160 mA (approx. 44 mA, supply status)  
 Switching delay 550 ms ±/-20 %  
 Electronic module, 2-pole switching

**Supply schedule**  
 1 socket strip  
 2 mounting brackets  
 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	●			●		<b>03.414.009.1</b>	1 unit
483		5	●		●	●		<b>03.414.005.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



See also: The current  
**Telecom Special Catalogue!**

Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management



DOS20037 With master-slave, overvoltage protection and mains filter



DOS20036 With master-slave, overvoltage protection and mains filter

## DI-STRIP® Combi Standard CEE 7 V (UTE) / France

- Master-slave with overvoltage protection and mains filter
- Automatic consumer switching
- Combines functions of the master-slave (page 7.32) and the safety standard (page 7.31)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Technical data


Overvoltage protection and mains filter:  
Mains voltage: max. 250 Vac  
Nominal current 16A  
Feature class: D (refined protection in accordance with DIN VDE 0675)  
Surge current resistance (8/20 µs wave): max. 10 kA  
Protection level (1.5/50 µs wave): < 1500 V (L/N against PE)  
Master-slave function:  
Threshold setting range  
On: 20 mA - 200 mA (approx. 55 mA, supply status)  
Off: 16 mA - 160 mA (approx. 44 mA, supply status)  
Switching delay 550 ms ±/ - 20 %  
Electronic module, 2-pole switching

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
782		9		●		●		<b>03.420.109.1</b>	1 unit
733		9	●			●		<b>03.420.009.1</b>	1 unit
582		5		●		●		<b>03.420.105.1</b>	1 unit
533		5	●			●		<b>03.420.005.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS20048

GST 18 with switch



DOS20047

GST 18 without switch

## DI-STRIP® Compact GST 18 Plug System (Wieland) Standard CEE 7 V (UTE) / France

- Quick and efficient plug connection system
- Plug-in electro-installation in place of conventional wiring
- Speed:
  - Due to simple plugging together of pre-configured elements
- Flexibility:
  - Due to cable (cable length)
- Efficient:
  - Easy exchange of socket strips, without cabling expenses
- Safety:
  - Due to plug system, all faulty installations are excluded
- Space-saving:
  - Use of protection and switching functions can be extended to additional socket strips with no loss of plugging space by extending cable (maximum load rating of 16 A)

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/16 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583	●	6	●			●	With switch	<b>03.402.206.1</b>	1 unit
433	●	3	●			●	With switch	<b>03.402.203.1</b>	1 unit
533		7	●			●		<b>03.400.207.1</b>	1 unit
383		4	●			●		<b>03.400.204.1</b>	1 unit



DOS20051

## DI-STRIP® Safety Basic With GST 18 plug system / France

- With overvoltage protection
- Technical description, see page 7.30

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
433		4				●		<b>03.416.204.1</b>	1 unit



DOS20052

## DI-STRIP® Safety Standard With GST18 plug system

- With overvoltage protection, with integrated mains filter and lit switch
- Technical description, see page 7.31

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
583		5				●		<b>03.418.205.1</b>	1 unit



DOS20054

## DI-STRIP® Master Slave With GST18 plug system

- Technical description, see page 7.32

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
533		5				●		<b>03.414.205.1</b>	1 unit



DOS00467

## Power Supply Cable For GST18 plug system

- Mains plug CEE/VII - GST18 socket (Wieland)
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>

■ Colour  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.040.0</b>	1 unit
5000								<b>04.000.041.0</b>	1 unit



DOS00469

## Connection Cable For GST18 plug system

- GST18 plug - GST 18 socket
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>

■ Colour  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1000								<b>04.000.044.0</b>	1 unit
5000								<b>04.000.045.0</b>	1 unit



DOS00471

## GST18 Socket Part Input

- With screw terminal for cross-section 1.5-2.5 mm<sup>2</sup> with cable strain relief
- For individual, customer-side connection

■ Colour  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.046.0</b>	1 unit



DOS00470

## GST18 Plug Part Output

- With screw terminal for cross-section 1.5-2.5 mm<sup>2</sup> with cable strain relief
- For individual, customer-side additional cabling

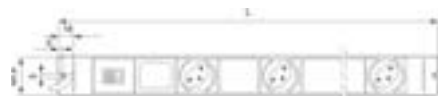
■ Colour  
White

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
								<b>04.000.047.0</b>	1 unit

For more GST18 accessories see page 7.20



DOS00717



DOS00664 Classic with switch



DOS00665 Classic without switch

## DI-STRIP® Classic Standard CH SEV 1011

- With/without switch, socket spacing, 100 mm
- Optionally with lit switch, 2-pole switching
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 100 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Final digit of order number .6:  
Casing, RAL 2003, pastel orange  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/10 A

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1783		17	●					<b>03.700.067.x</b>	1 unit
1383		13	●					<b>03.700.063.x</b>	1 unit
983		9	●					<b>03.700.059.x</b>	1 unit
583		5	●					<b>03.700.055.x</b>	1 unit
1733	●	16	●				With switch	<b>03.702.066.x</b>	1 unit
1333	●	12	●				With switch	<b>03.702.062.x</b>	1 unit
933	●	8	●				With switch	<b>03.702.058.x</b>	1 unit
533	●	4	●				With switch	<b>03.702.054.x</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets,  
F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe =  
Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003

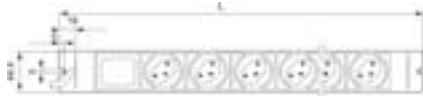




DOS20074



DOS00666



DOS20038



DOS20039



DOS00667

## DI-STRIP® Compact Standard CH SEV 1011

- Optionally with lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- 2 Versions, standard side or design side
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
RAL 7035 light-grey  
Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/10 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
883		15	●					<b>03.700.015.1</b>	1 unit
732		11		●				<b>03.700.111.1</b>	1 unit
683		11	●					<b>03.700.011.1</b>	1 unit
532		7		●				<b>03.700.107.1</b>	1 unit
483		7	●		●			<b>03.700.007.1</b>	1 unit
382		4		●				<b>03.700.104.1</b>	1 unit
333		4	●					<b>03.700.004.1</b>	1 unit
732	●	10		●			With switch	<b>03.702.110.1</b>	1 unit
683	●	10	●				With switch	<b>03.702.010.1</b>	1 unit
532	●	6		●			With switch	<b>03.702.106.1</b>	1 unit
483	●	6	●		●		With switch	<b>03.702.006.1</b>	1 unit
382	●	3		●			With switch	<b>03.702.103.1</b>	1 unit
333	●	3	●				With switch	<b>03.702.003.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS00719



DOS00668

## DI-STRIP® Protector FI/LS Standard CH SEV 1011

### Protector FI / LS

- RCCB and circuit breaker
- Provides a combination of user, overload and short circuit protection
- Residual operating current  $I_g = 30 \text{ mA}$  for alternating and intermittent fault directcurrent
- Circuit breaker 10 A
- Tripping characteristic type B, 2-pole

- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded right angle plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 78 mm  
 Casing width: 44.4 mm (= 1 HU)  
 Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Plastic parts: RAL 7035 light-grey

### Load rating

100-240 Vac/10 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683		9	●					<b>03.710.009.1</b>	1 unit
483		5	●		●			<b>03.710.005.1</b>	1 unit



DOS00720



DOS00669

With overvoltage protection and mains filter

## DI-STRIP® Safety Standard Standard CH SEV 1011

- With overvoltage protection and integrated mains filter
- With lit switch, 2-pole switching
- 19" installation option (with length 483 mm)
- Socket rotation: 45°
- Cable: H05VV-F 3G 1.5 mm<sup>2</sup>
- Moulded plug

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
 Plastic parts: Vampamid 6 0024 VO (UL94), recyclable  
 Internal conductor: full-length busbar, brass

### Dimensions

Socket spacing: 50 mm  
 Height: 45.5 mm  
 Casing width: 44.4 mm (= 1 HU)  
 Cable: 2.5 mm

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CB-scheme

### Colour combination

Final digit of order number .1:  
 RAL 7035 light-grey  
 Plastic parts: RAL 7035 light-grey

### Description and technical data

(See page 7.15)  
 Nominal current 10 A

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" Mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
683	●	9	●				With switch	<b>03.718.009.1</b>	1 unit
483	●	5	●		●		With switch	<b>03.718.005.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS00685



DOS00670

With switch

## DI-STRIP® Classic Standard USA NEMA5-15R

- With lit switch
- With overload protection 15A
- Cable: SJT 14 AWG x 3C
- Moulded plug, NEMA5-15P

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

### Dimensions

Socket spacing: 100 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CSA NRTL/C
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey  
Socket parts and cable: RAL 9011, graphite black

### Load rating

125 Vac/15 A

### Supply schedule

1 socket strip  
2 mounting brackets

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
1383	●	12	●				With switch	<b>03.532.062.1</b>	1 unit



DOS00686



DOS20016

With switch

## DI-STRIP® Compact Standard USA NEMA5-15R

- With lit switch
- With overload protection 15A
- 19" installation option (with length 483 mm)
- Cable: SJT 14 AWG x 3C
- Moulded plug, NEMA5-15P

### Material / Finish

Casing: closed sheet-steel extrusion, sheet steel, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

### Dimensions

Socket spacing: 32 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC
- Innova-GS
- CSA NRTL/C
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey  
Socket parts and cable: RAL 9011, graphite black

### Load rating


125 Vac/15 A

### Supply schedule

1 socket strip  
2 mounting brackets  
2 19" mounting brackets (additional with 19" installation option)

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483	●	9	●		●		With switch	<b>03.532.009.1</b> 	1 unit
383	●	6	●				With switch	<b>03.532.006.1</b>	1 unit

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace .x with the number of the required colour combination:  
.1 = RAL 7035, .6 = RAL 7035/RAL 2003



DOS00687



DOS20017 With overvoltage protection

## DI-STRIP® Surge Protector Standard USA NEMA5-15R

- With light switch
- With overload protection 15A
- With overvoltage protection
- 19" installation option
- Cable: SJT 14 AWG x 3C
- Moulded plug, NEMA5-15P

### Material / Finish

Casing: closed sheet steel extrusion, zinc-plated, powder-coated texture  
Plastic parts: Vampamid 6 0024 VO (UL94), recyclable

### Dimensions

Socket spacing: 32 mm  
Height: 45.5 mm  
Casing width: 44.4 mm (= 1 HU)  
Cable: 2.5 m

### Approvals

- CE Label in accordance with low voltage directive 2006/95/EEC
- EMC Directive 2006/108/EEC

- Innova-GS
- CSA NRTL/C
- CB-scheme

### Colour

Casing: RAL 7035 light-grey  
Plastic parts: RAL 7021 dark-grey  
Socket parts and cable: RAL 9011, graphite black

### Technical data

Mains voltage, 125 Vac  
Nominal current 15 A  
Surge current resistance (8/20 µs wave): max. 8 kA  
Protection level: < 800 V

### Supply schedule

- 1 socket strip
- 2 mounting brackets
- 2 19" mounting bracket

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
483	●	6	●		●		With switch	<b>03.534.006.1</b>	1 unit



DOS80002

## Remote PDU, IEC 320 Feed, 16/32 A

### IP Ready

- Web Interface
- IPMI 2.0 Interface
- SMASH CLI Interface
- SNMP alarm signalling and SNMP MIB
- Controls with the Raritan Command Center Secure Gateway

### Supervision and control

- All outputs can be controlled remote and local
- Power, current, voltage
- RMS power and RMS current
- "History" safety function
- Modern fuse systems
- Alarm and trap signals to different destinations
- AES 256 hardware
- User authentication via LDAP, MSAD, CCGS
- SSH CLI

### Monitoring

- Internal temperature sensor
- "Feature bus" (RS 485 + single wire) for external sensors

### Power metering

- Max. load rating: 30A, 7200 W
- Available measured variables per output
- Average power consumption

- Real power effective value
- Voltage effective value
- Current effective value
- Apparent power

- The maximum actual value present is saved and can be also be deleted
- All measurement results can be retrieved via IPMI, SNMP, DES SMASH CLI or HTML interface
- HTML interface for visualising data history

### Power control

- Each connection can be controlled separately
- Programmable switch-on delay: User-definable
- Outputs can be programmed in virtual groups
- Groups can be defined and real connections can be assigned to groups
- All outputs can communicate with IPMI, SNMP, SMASH CLI and HTML interface protocols
- 2 fuses per output and group
- Adjustable tripping current

Dimensions in mm: L = Length, S = Switch, n = Number of sockets, F1 = Standard side, F2 = Design side, 19" = Suitable for 19" installation, Safe = Child-safe, HU = Standard height unit, UP = Unit of packaging

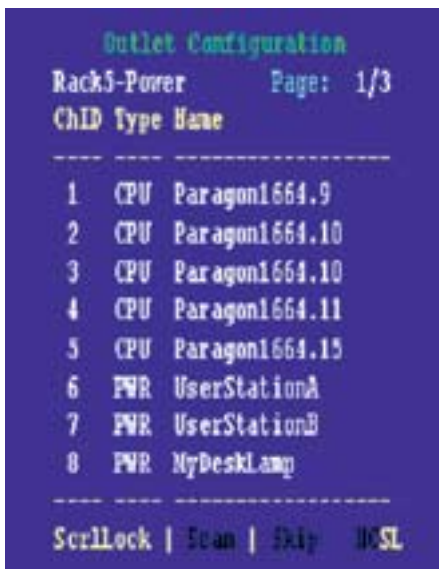
= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

Replace **.x** with the number of the required colour combination:  
**.1** = RAL 7035, **.6** = RAL 7035/RAL 2003



DOS80002



DOS80002

### Alarm signalling

- Limit values for current and voltage can be freely set
- Alarm signalling via e-mail (SMS), SNMP trap
- Critical values are displayed red in the browser window
- Alarm states
- Fuse tripping
- Alarm with an internal temperature of 80°C; automatic alarm switch-off when the temp. goes back below 70°C
- Alarm when set current and voltage limit values are reached
- Display of total power of the connected devices and the effective power consumption
- Status display of fuses
- Connection option for sensors
  - Temperature/air humidity
  - Digital sensors

### Housing / Connections

- All 0 HU, 1 and 2 HU models have:
  - LED displays
- Can switch between different outputs
- Show the current power consumption
- Status display of fuses
- Serial RJ 11
- SMASH CLI (IPMI profile)
- RJ 45 Ethernet 10/100
- All IP-based connections
- Links status and 10/100 status per LED
- Feature connector
- RS 485 interface
- 1 wire bus
- Connection for external sensors
- Beeper for acoustic signal (release of circuit breaker)

### LEDs control

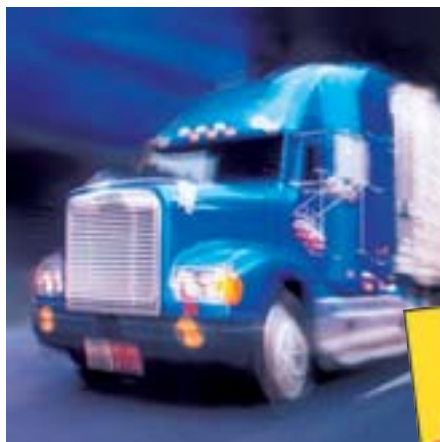
- Off = unit is not connected to power, control circuitry's power supply is defective, LED is defective
- Red = ON (relay closed) and LIVE (voltage present)
- Red flashing = ON and LIVE, but there is overload, current has crossed critical threshold
- Green = OFF (relay open) and LIVE
- Yellow flashing = ON but NOT LIVE (circuit breaker open, or other high voltage rail error)
- Green flashing = OFF but NOT LIVE

### Standards

- Linux Core (2.6)
- Standard Security Architecture
- Independent authentication
- Authentication on LDAP, MSAD, NDS
- Server-side certificates
- User rights per outlet
- SSL encryption
- Standard Interfaces
- Web-based access
- IPMI, IPMI clients with LAN-channel support
- SMASH CLI (serial, LAN)
- WS MAN (1Q 2007)
- Baytech SNMP over serial
- Standard protocols
- IP v4, IP v6 (from Q2 2007)
- SNMP

Model	HU	Model	V/A	Plug	Order no.	UP
DPCS 12A-16 Remote PDU	0	12x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.281.1</b>	1 unit
DPCS 20A-16 Remote PDU	0	20x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.282.1</b>	1 unit
DPCS 20A-32 Remote PDU	0	20x IEC320 C13	230V/32A	IEC60309 32A	<b>06.005.283.1</b>	1 unit
DPCR 8A-16 Remote PDU	1	8x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.284.1</b>	1 unit
DPCR 2x 8A-16 Remote PDU	2	2x 8 IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.285.1</b>	1 unit
DPCR 20A-16 Remote PDU	2	20x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.286.1</b>	1 unit
DPCR 20A-32 Remote PDU	2	20x IEC320 C13	230V/32A	IEC60309 32A	<b>06.005.287.1</b>	1 unit

Express item  
in 24 hours ex plant:  
With Knürr you're always  
ahead of the competition



## Rapid service **Express item**

Swift express delivery service, smooth ordering process, attractive pricing and a market-oriented offer – that's Knürr reliability!

Each express item that is marked accordingly in this catalog, leaves our European central store 24 hours after your order is received. High-grade quality and standardised solutions that always leave you that decisive step ahead of the competition!

Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world. Don't hesitate to use them to your advantage!



# UPS

## Uninterruptible Power Supplies

8.2 to 8.12



## Uninterruptible Power Supplies

### UPS

Strong points 8.2

### Line Interactive

Liebert PowerSure PSI 8.3

### Online

Liebert GXT2 8.7

## Tower Solutions • 19" Chassis • Large Scale Systems

# UPS by Knürr

The right technical solution for every requirement.



USV20082

## Uninterruptible Power Supplies Strong points

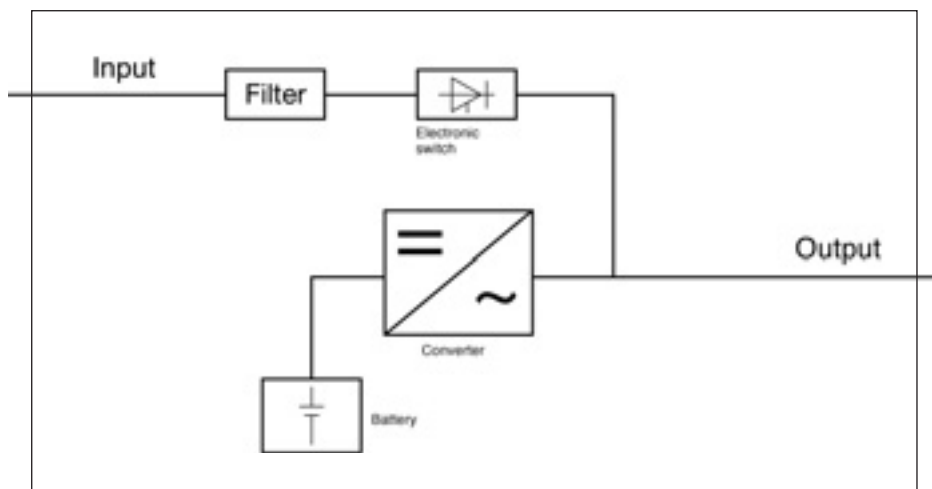
- Safety**  
 High-grade online and line interactive technology guarantees safe and uninterruptible operation of your systems.
- Efficiency**  
 The 19" modules provide high performance on minimum installation space with compact construction and modular setup.
- Investment security**  
 Our solutions grow with your requirements, can be flexibly used and are easily expanded.
- Central UPS systems**  
 Higher power classes, 10 kVA to 800 kVA, with installation and maintenance on request.
- Modularity**  
 The individual components of this range can be combined according to requirements and consequently produce specifically defined solutions.
- User-friendliness**  
 Comprehensive displays and interactive interfaces for external evaluation of status messages provide the user with current system information at all times.
- Highest possible protection**  
 Online UPS systems provide the highest possible protection against the 10 most frequent mains disturbances.



### Note

You will find more information on UPS at: [www.knuerr-usv.de](http://www.knuerr-usv.de)

**Line-InterActive / PowerSure PSI**  
IEC 62040-3 VI-SS-313



USV20085

The line interactive UPS model uses an inverter in inverse operation to recharge the battery with stable mains supply.

If the mains power supply fails, then the working direction changes and the battery powers the inverter. Because the transducer constantly monitors the mains input, it can react quicker to failures and correct voltage breaks.

The transducer connected upstream from the consumer has a specific filtering effect against mains disturbances.

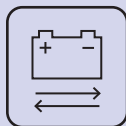
This technology is highly recommendable for uninterruptible power supplies for many applications, particularly with regard to PC requirements.



**Power Quality Systems**

# PowerSure PSI

**Protection in rack and tower use for networks, telecommunications and servers**



Hot-swap enabled batteries



Line interactive design



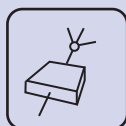
Universal communication options



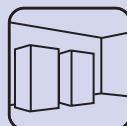
Extendable bridging times



Professional desktop PCs



Switches, routers, bridges & hubs



Data center equipment



Telecommunication switchgear units



## PowerSure PSI

Protection in rack and tower use for networks, telecommunications and servers

### Efficient protection for your rack and tower equipment

- Line InterActive technology with sine wave output
- Up to 9 battery backed-up UPS outputs
- External battery-extension modules (optional)
- Communication via USB, RS232 and SNMP ports
- Efficient early warning system
- Up to 26 minutes bridging time with built-in batteries
- Configurable input voltage range (220, 230 and 240V)
- Data protection line (overvoltage protection)
- Hot-swap batteries, for user-friendly battery change
- BlackStart via battery without input voltage
- Remote monitoring via SNMP/Web card

USV20088

## Efficient protection for rack and tower equipment, telecommunication and network

The Liebert **PowerSure PSI** is a high-performance rack and tower UPS that is ideal for protecting critical components. In efficient line interactive technology with automatic voltage regulation (AVR) a sine voltage of 1000 to 3000 VA is available on the output. The very wide and flexible range of functions makes this product the ideal device for professional use.

Extensive communication options can be seamlessly integrated into your infrastructure and enable a specific UPS system shutdown in the event of a mains failure.

A wide input voltage range in which the user can preselect the input voltage themselves guarantees that this UPS series constantly supplies your equipment with an even power supply, without

having to switch to battery operation, even with heavy fluctuations in the input voltage.

Telecom systems and IT networks are also protected by the integrated "Data Protection Line" with an effective overvoltage device to combat voltage fluctuations and the sudden appearance of voltage peaks (spikes).

With all this and more to boot, the Liebert **PowerSure PSI** is the ideal solution for rack applications in data centers and telecommunication systems, or as tower setup in environments with several servers of the most varied platforms and applications.

## PowerSure PSI Protection in rack & tower set-up for networks, telecommunication and servers

### Areas of application

#### Ideal for:

- Server-rack systems
- Telecommunication switchgear units
- Switch, router and network infrastructures
- Storage and back-up storage systems
- Critical and sensitive electronics

USV20089

USV20090



With all PowerSure PSI models the “hot-swap batteries” are accessible from the front and consequently enable user-friendly battery exchange.

## Extended back-up times (bridging times)

The **PowerSure PSI** series is configured for flexibility and high availability.

In addition to the standard bridging time of more than five minutes with full charge and the hot-swap batteries that the user can exchange themselves, the PowerSure PSI can also be extended with 4 additional battery modules.

In a compact 2 HU design that integrates with the UPS optics, the optional battery modules also provide an additional backup time (bridging time) of 3 hours at full charge. This is particularly recommendable for external, unattended systems that require guaranteed availability. The **PowerSure PSI** is certified by Microsoft for Windows XP and 2000 systems, and by Apple Computer, Inc., for Macintosh OS X (Version 10.2 or higher).

## Monitoring power supply

All PowerSure PSI information is available to you at all times via USB, serial (RS232) or network communication (SNMP).

With the SNMP WEB adapter for the integrated “IntelliSlot”, the UPS system can be easily monitored on the network platform you choose via an Internet browser. This communication adapter is also compatible with the MultiLink and OpenComms Nform software packages from Liebert, and consequently provides the highest possible availability for your critical equipment. The MultiLink Shutdown software allows you to monitor the status of your **PowerSure PSI** and safely shut down the applications.

The OpenComms Nform package provides a fully developed network management system (NMS) for monitoring and controlling all network-controlled UPS systems via one central server.



On/off mains switch

% load: LEDs



Alarm muting

LEDs status

Resettable circuit breaker output

Intellislot for SNMP/WEB and relay adapter

Data protection line

External battery module connection

Serial RS232 interface

USB port



Power input

Resettable circuit breaker / input

Battery backed-up outputs

PSI 2200VA (illustration)

## Technical data [PowerSure PSI]

PSI models (rack/tower convertible)	PS1000RT2-230	PS1440RT2-230	PS220RT2-230E	PS3000RT2-230E
<b>Power data</b>				
Technology	Line InterActive or VI classification in acc. with IEC 62040-3			
Nom. power, VA	1000	1440	2200	3000
Nom. power, W	750	1080	1650	2250
<b>Dimensions</b>				
Tower version (WxDxH mm)	87 x 557 x 430	87 x 557 x 430	87 x 612 x 430	87 x 612 x 430
Rack version (WxDxH mm)	430 x 557 x 87 (2HU)	430 x 557 x 87 (2HU)	430 x 612 x 87 (2HU)	430 x 612 x 87 (2HU)
Shipping dimensions (WxDxH mm)	300 x 706 x 598	300 x 706 x 598	333 x 864 x 598	333 x 864 x 598
<b>Weight</b>				
UPS unit (kg)	28	31	35	37
Shipping weight (kg)	36.6	39	43.6	45.6
<b>Input AC parameters</b>				
Overvoltage protection	660J			
Voltage ranges	155-291 VAC – can be selected via DIP switch, 220-230-240V			
With/without battery operation	45-65Hz (± 0.1); automatic and self-detecting			
Frequency range	45-65Hz (± 0.1); automatic and self-detecting			
Input connection	1 IEC-320-C14		1 IEC-320-C20	
<b>Output AC parameters</b>				
Output connections	8 IEC-320-C13		8 IEC-320-C13 + 1 IEC-320-C19	
Euro output cable	2 m cable, IEC-320-C14			
Voltage (normal operation)	220-230-240VAC ±10%			
Voltage (battery operation):	230VAC ±8%			
Wave form (battery operation)	Sine wave			
Frequency range	50 or 60Hz [automatic and self-detecting]			
Overload warning	>100% (normal and battery operation)			
Overload switch-off	>200% short circuit current; after 15 cycles [normal operation]			
<b>Battery parameters</b>				
Type - authorised manufacturer	Leak-proof and valve-controlled lead gel batteries - B&B, Batteries, CSB, Panasonic, EnerSys			
Quantity x voltage x nom. power	4 x 12 V x 7Ah	4 x 12 V x 7Ah	6 x 12 V x 7Ah	6 x 12 V x 9Ah
Switchover time	Normal - 4-6ms			
<b>Bridging times</b>				
	Backup times/bridging times with fully charged batteries at 25°C environ. temp.			
Full charge (minutes)	11	5	5	6
Half charge (minutes)	26	16	16	16
Charge times	4 hours with 90% capacity and after full discharge in a resistance load			
Battery test	Every 14 days automatic			
Deep-discharge protection	Yes			
Cold start (without mains input power)	Yes			
<b>Operating conditions</b>				
Noise generation	< 40dB normal mode operation			
Operating temperature	0°C to +40°C at 0 to 1500 metres above sea level			
	0°C to +30°C at 1500 to 3000 metres above sea level			
Operating height	Up to 2000 metres without performance loss		Up to 3000 metres without performance loss	
Communication interfaces	USB, serial RS232, contact closure, SNMPWEB card optional for IntelliSlot			
USB compatibility	Windows 2000, Windows XP, Apple Mac OS			
Software compatibility	MultiLink 3.0 supports MS Windows NT/2000/XP/95/98/ME, AIX, Linux, Sun Solaris, HP-UX, Novell Netware			
Supply schedule	Multi-lingual manual - MultiLink 3.0 or later as CD. One (1) serial MultiLink connection cable as DB9. One (1) USB connection cable. Two (2) 10A, 2-meter Euro output cables - one (1) RJ11 modem cable. One (1) power input cable 10A (1000+1440) or one (1) power input cable 16A (2200+3000). (2) Support base, variable - (2) front rack brackets - (2) rack fixing rails and mounting material.			
Standard guarantee	24 months (2 years)			
Guarantee extension to 60 months (5 years)	Optionally available (Lifetime Option)			
<b>Standards and approvals</b>				
Safety	EN 50091-1 CE Low Voltage Directive; TÜV/GS certified			
EMI/EMC emissions	EN 50091-2, class B; CE/EMC Directives			
Harmonic waves/disturbance sensitivity/disturbance immunity	IEC62040-3 (VI), EN61000-3, EN61000-4			
Transport/packaging	ISTA procedure 1A			
<b>Battery extensions - external</b>				
Battery modules	PS2-48VBATT		PS2-72VBATT	
Tower version (WxDxH mm)	87 x 557 x 430		87 x 612 x 430	
Rack version (WxDxH mm)	430 x 557 x 87 (2HU)		430 x 612 x 87 (2HU)	
Shipping dimensions (WxDxH mm)	300 x 706 x 598		333 x 864 x 598	
<b>Weight</b>				
Battery unit (kg)	30		46	
Shipping weight (kg)	38.6		53.6	
Quantity x voltage x nom. power	8 x 12V x 7Ah		12 x 12V x 9Ah	
Type - authorised manufacturer	Leak-proof and valve-controlled lead gel batteries - CSB, B&B, EnerSys			
<b>Extended bridging times</b>				
1 battery module (full/half charge)	46/119	30/72	40/99	29/67
2 battery modules (full/half charge)	98/209	56/133	77/150	52/129
3 battery modules (full/half charge)	136/274	95/209	120/222	88/168
4 battery modules (full/half charge)	188/305	125/257	144/274	118/222
Order no., UPS	<b>06.099.021.1</b>	<b>06.099.023.1</b>	<b>06.099.024.1</b>	<b>06.099.025.1</b>
Order no., battery module			<b>06.099.026.1</b>	
Order no., SNMP card	<b>06.099.039.1</b>			
Order no., relay card	<b>06.099.037.1</b>			

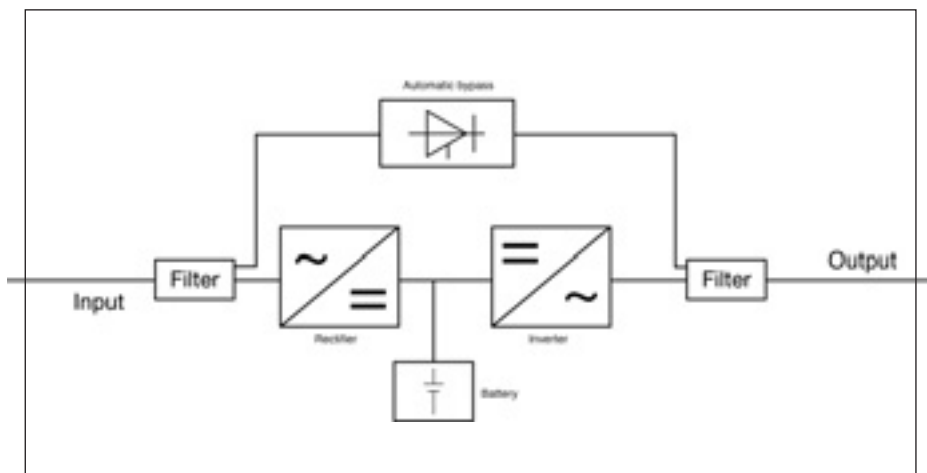
\*The bridging times provided (back-up times) are given in minutes and at an environmental temperature of 25°C

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**Online / GXT2**  
IEC 62040-3 VFI-SS-111



USV20086



The battery takes over from the rectifier without interruption when there is a mains failure and provides the necessary power for a specific period of time. On-line systems provide high levels of security and are particularly recommended for high-grade and sensitive consumers.

On-line UPS systems have the advantage of effectively filtering out spikes and drop outs by converting alternating voltage into direct voltage and back into alternating voltage.

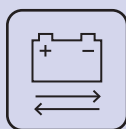
Our online UPS systems are series equipped with interfaces, so that unattended computers can be specifically powered down automatically and powered up again after the mains supply has returned.

If faults occur in the system itself due to battery ageing processes, an automatic by-pass switch ensures bridging and direct connection to the mains without interruption. The user is acoustically and optically informed about defective functions and power failures.

**Systems for Quality Power**

**GXT2 1000 - 6000 VA**

**True Online Power**  
**Full energy for your company**



Hot-swap batteries



Online technology



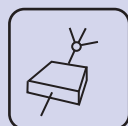
Diverse communication options



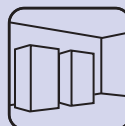
Extendable back-up times



Professional PC workstations



Small routers, bridges & hubs



Data centers



Telecom equipment



**GTX2 1000 - 6000 VA**

**True Online Power - Full energy for your company**

This is an individually configurable high-performance UPS with proven reliability, equipped with internal hot-swap batteries and extendable back-up time in the compact rack and tower design.

The functions and flexibility of the **GTX2** make this UPS the optimum solution for your server or data centers, and for networks and telecom systems that require a reliable, uninterrupted supply with quality power.

As a true online (continuous transducer) UPS, in addition to power factor correction, frequency conversion and unlimited extension options for external batteries, the **GTX2** also provides automatic and manual internal bypass functions, as well as an optional external maintenance bypass. The Liebert **GTX2** has all the functions required to protect company-critical equipment against all power supply problems.

USV20097

**Areas of application**

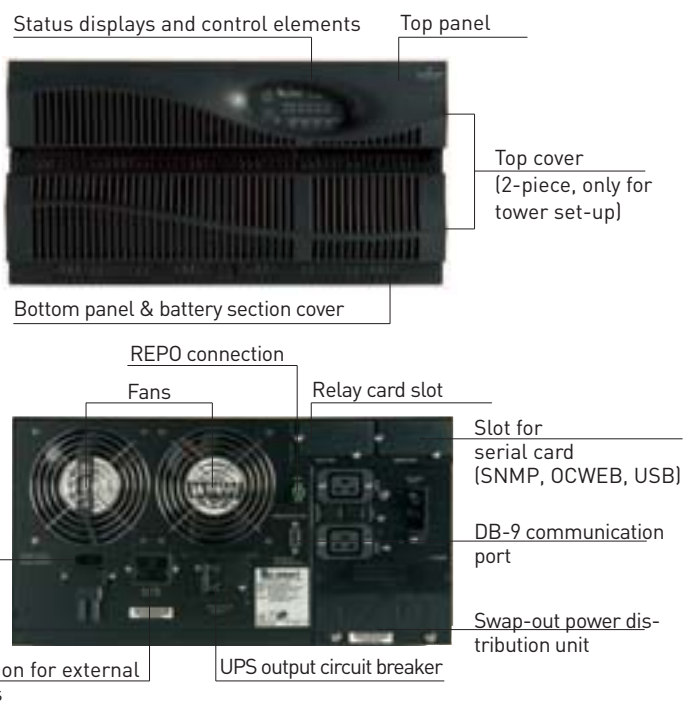
- LAN and WAN servers
- Cluster network components: hubs, routers, bridges
- Remote telecommunication units
- Internal telecommunication systems
- Voicemail and e-mail servers
- Test and diagnostics systems
- Engineering network servers
- Protection of industrial, microprocessor-controlled equipment
- Company-critical equipment

**Most important advantages**

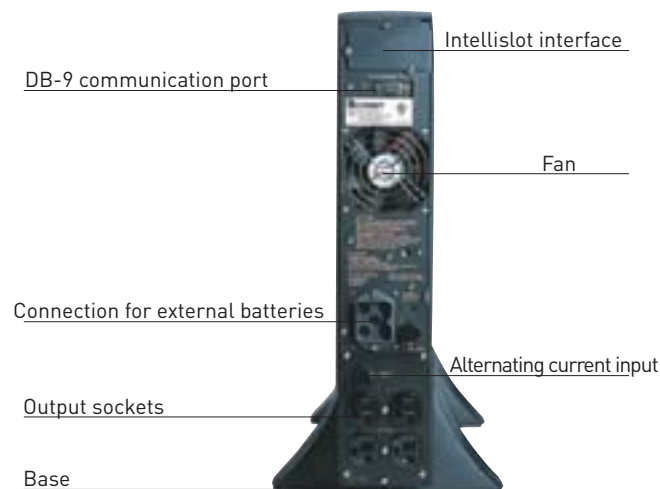
- Online VFI technology with sine wave output
- Extendable battery options for long back-up times
- Communication via USB, serial ports and networks
- Input with power factor correction
- Highly-sensitive early warning shutdown via MultiLink software
- At least five minutes battery-supported operation
- Settings, voltage and frequency according to individual configuration
- Hot-swappable - user can change batteries
- Cold start via battery
- UPS remote monitoring via SNMP/Web card
- Compact 2 HU design up to 3000VA
- Optional bypass rack for easy maintenance

**True Online Power - Full energy for your company**





GXT2 rack model (version shown: 5HU, 4500-6000VA)



GXT2 tower model (version shown: 2HU, 700-3000VA)

## Most important advantages

**There is no switchover time with a continuous transducer UPS. If the mains power fails, the critical load is fed seamlessly by the GXT2.**

For optimum usage the GXT2 can be adapted to your requirements with a specially developed software package. The GXT2 is available in the power classes 700, 1000, 1500, 2000, 3000, 4500 and 6000 VA. Batteries that the user can swap out ensure low maintenance operation. And you will find all of this in one of the most economical UPS systems in this class.

### Quality power

The Liebert GXT2 is a "True Online" power source. Whatever the quality of the inbound mains power, the clean sine wave output meets the highest requirements of your equipment. In contrast to other UPS technologies, the GXT2 is equipped to overcome all potential power supply problems.

- Spikes and transient overvoltages
- EMI and RFI faults
- Voltage drops and undervoltages
- Harmonic waves
- Power factor corrected loads
- Power failures

### Integrated reliability

The GXT2 is configured in all areas for maximum reliability. It consequently has functions that you will search in vain to find with other systems in the same price class:

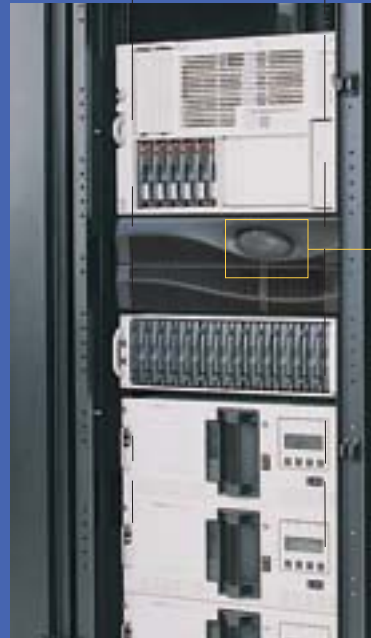
- Power factor corrected loads:  
The GXT2 maintains a stable output voltage, even with power factor-corrected consumers, which are so typical for modern IT environments.
- Frequency conversion:  
For 60Hz input/50Hz output or 50Hz input/60Hz output without any power losses.
- Unlimited connection options for external batteries:  
Any amount of 2HU/4HU battery racks can be connected to achieve additional back-up times.
- Internal automatic and manual bypass:  
Guarantees uninterrupted switchover of the power supply for maintenance purposes.
- Optional maintenance bypass and output:  
Power distributor - Enables problem-free installations and safe routine maintenance on the UPS or connected equipment.

## Far-reaching protection with easiest handling possible

The GXT2 is easy to install ... easy to configure ... and even easier to use. It is characterised by its uncomplicated operation. The front display shows: system status, load levels, remaining battery back-up and all optical alarm states.

To ensure the highest possible flexibility the GXT2 can be easily used as a space-saving unit in a rack or as a compact stand-alone tower. This versatility means that it can be used for protecting networks, servers, telecommunication equipment or with industrial systems - regardless of the installation point.

For comprehensive network protection a UPS must be able to eliminate mains disturbances from the power supply system. It must be able to handle the variable output of most power sets, as well as harmonic waves, or even a complete power outage. The Liebert GXT2 is configured to deal with exactly these kinds of situations.



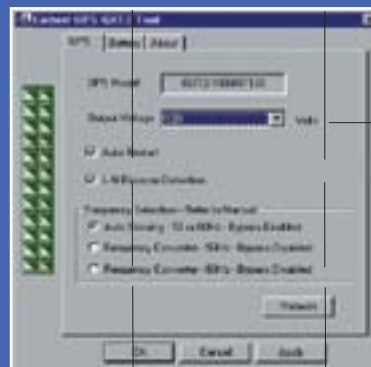
Up to 3kVA with 2HU

## A new standard in UPS configuration

Each GXT2 is delivered with a Windows® configuration software that enables the user to define numerous operational parameters. This option allows you to individually adjust the performance of your GXT2 to your special requirements profile.

The following operational parameters can be defined with the configuration software.

- Output voltage to select from: 200, 208, 220, 230, 240V
- Activate/deactivate automatic re-start
- Activate/deactivate neutral conductor inverse detection
- Frequency conversion mode selection
  - 60Hz input/50Hz output without deration, bypass is deactivated
  - 50Hz input/60Hz output without deration, bypass is deactivated
- Warning signal change for low battery charge status (default value: 2 minutes)
- Definition of intervals for automatic battery test
- Deactivation of automatic battery test, if desired
- UPS programming for the amount of connected external battery modules for recording the effective back-up time



- Output voltage configuration
- Activate/deactivate automatic re-start
- Activate/deactivate neutral conductor inverse detection
- Frequency conversion mode selection



- Warning time with low battery charge status selection
- Definition of intervals for automatic battery test
- Definition of the number of external batteries
- Activate/deactivate automatic battery test



## Communication for power supply monitoring and control

The GXT2 provides an extensive range of communication options that correspond with the control and monitoring requirements of modern network and server systems.

### Intellislot® SNMP/Web Card

For extended UPS communication and control the Intellislot SNMP/Web Card provides your GXT2 with extensive SNMP and web management. You consequently achieve a high degree of flexibility, as you can monitor and control your UPS within the network.

This adapter can also be easily configured for a standard SNMP implementation, and can be easily and efficiently shut down using MultiLink shutdown software from Liebert without any personal monitoring.



The SNMP/Web card monitors a wide range of UPS information so that the user can monitor and control the GXT2 via the network with a standard web browser and SNMP connection.

### Intellislot USB Adapter (USB CARD)

This card, which can be used during running operation, provides a USB interface for Microsoft Windows 2000 and XP Power Management, and consequently enables the problem-free and orderly shutdown of the connected consumers, without having to install additional software. An approx. 2-meter long USB cable is included in the supply schedule.



### Intellislot Multiport Kit (Multiport4)

The Multiport4 Card can also be used during running operation, and splits the UPS contact signals into 4 separate contact closure sets, which enable the communication with the MultiLink shutdown software on four servers simultaneously.

### Intellislot Interface Kit for Relay Contacts (Relaycard-Int)

This kit provides 4 voltage-free relay contact signals for the states: "Battery operation", "Low battery charge", "Bypass operation" and "General alarm signal". This card can be installed during running operation via a DB25F port.

### MultiLink™ Shutdown Software

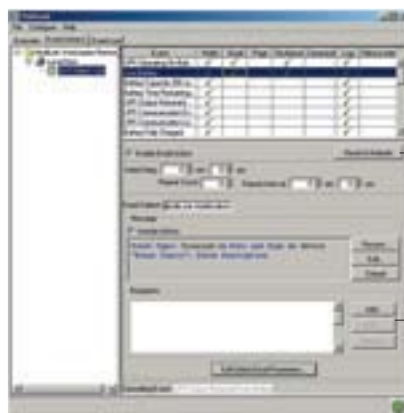
The GXT2 UPS system can be used in combination with the Liebert MultiLink Shutdown software for the orderly shutdown of your IT system. This package switches off all standard operating systems smoothly and controlled when the UPS batteries require charging.

The MultiLink automated shutdown software has the critical task here of protecting all information for an IT system or a network. It is available in two versions: for individual applications, and for several systems within a network, even with multiple used operating systems.

During power failures that last for longer periods, MultiLink automatically shuts down the computer operating systems smoothly and controlled when the UPS batteries have run low by a defined point. MultiLink is configured to inform the users automatically.

Alarm signals can be sent to alpha-numerical pagers or can appear directly as pop-up messages on the user's monitor. MultiLink can be configured for both inband and out-of-band operation. Sending alarm and status signals via a network can significantly reduce the costs of cabling and installation.

As an alternative to this it is possible to lay communication cables between the individual computer systems in case a network cabling is too problematic or expensive.



Automatic system and graphic messages can be configured for each UPS event.

The configuration details appear in the lower window section when event and message type are selected.



## Technical Data [Liebert GXT2 Tower / Rack Version]

Model	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3KRT230E	GXT2-4500RT230	GXT2-6000RT230
<b>Power data</b>						
VA	1000	1500	2000	3000	4500	6000
W	700	1050	1400	2100	3150	4200
<b>Dimensions and weight</b>						
Device (WxDxH mm)	87 (2HU) x 547 x 430			87 (2HU) x 618 x 430	221 (5HU) x 547 x 430	
Shipping dimensions (WxDxH mm)	268 x 692 x 585			268 x 692 x 585	560 x 690 x 500	
Weight - device (kg)	22.6	23.2	24.7	31.9	67	67
Shipping weight (kg)	26.6	27.2	28.7	35.9	76.5	76.5
<b>Input parameters</b>						
Frequency	220/230/240 VAC user-definable; 40-70Hz					
Voltage range without battery operation	119-280VAC variable, depends on the load				176-276VAC	
Frequency range	40-70Hz (self-detecting)					
Input connection	IEC320-C14			IEC320-C20	Fixed-wired	
<b>Output parameters</b>						
Output connections	(4) IEC320-C13			(4) IEC320-C13+ (1) IEC320-C19	Fixed-wired + (2) IEC320-C19	
Wave form and frequency	Sine wave; 50 or 60Hz nominal (50Hz specified)					
Overload warning	200% for 8 cycles; 130% for 10 seconds with switchover to bypass				>200% for 96 milliseconds; 131 - 199% for 2 seconds; 112 - 129% for 10 seconds with switchover to bypass	
<b>Battery parameters</b>						
Type	VRLA, leak-proof, flame- retardant					
Authorised manufacturer	China Storage Battery / CSB FR 1270 F2		Panasonic UP-VW1245P1		Yuasa / REW 28-12 FR	
Number of batteries/blocks	4 x 12V x 7.0Ah		4 x 12V x 9.0Ah	6 x 12V x 9.0Ah	20 x 12V x 5Ah	
<b>Backup time</b>						
Half charge (minutes)	25	20	14	16	24	17
Full charge (minutes)	11	7	6	6	10	7
Charge time	5 hours up to 95%				3 hours up to 90%	
Batteries, other functions	Hot-swap batteries; deep-discharge protection; black-start (without mains)					
Battery test	Automatic, user-configurable, 7-28 days					
<b>Further data</b>						
Noise generation	< 50dB			< 55dB		
Op. temp./height above sea level	0-40°C; 0-3000m					
Communication	Serial RS232 standard port, USB-adaptor compatible with WIN2000, XP, Apple OS, rely card and SNMP/Web-Card optional					
Delivery includes	User manual, MultiLink-Software-CD; MultiLink serial cable 3m; rack mounting handles; data carrier with configuration programme					
Additional components	(2) 10A IEC320-C13/14 output cable			+ (1) Schuko CEE 7/7 on IEC-320-C19 (1) BS1363 on IEC-320-C19, 16A input current cable	Input/output distributor PD-CEHDWR input/output distributor with maintenance bypass, PD-CEHDWRBYP	
Guarantee	2 years					
<b>Standards &amp; requirements</b>						
Safety	EN50091-1-1, CE symbol, for low voltage and EMC directives			EN62040-1-1; TUV/GS, CE EMC-Directives Design, EMI/EMC, Transport VFI SS 111 in acc. with IEC6204-3; EN50091-2, class A; EN61000-4; ISTA procedure 1A		
<b>Additional batteries connection</b>						
Models	GXT2-48VBATT			GXT2-72VBATT	GXT2-240VBATT	
Device (WxDxH mm)	87 (2HU) x 547 x 430			87 (2HU) x 618 x 430	176 (4HU) x 522 x 430	
Shipping dimensions (WxDxH mm)	268 x 692 x 585			268 x 692 x 585	560 x 690 x 455	
Weight- device (kg)	28.3			42.5	65	
Shipping weight(kg)	32.3			46.5	76	
Number of batteries/blocks:	2 x 4 x 12V x 7.0Ah			2 x 6 x 12V x 9.0Ah	20 x 12V x 9.0Ah	
Authorised manufacturer	China Storage Battery / CSBFR 1270 F2			Panasonic/UP-VW1234P1	Yuasa / REW 45-12 FR	
<b>Extended back-up time***</b>						
1 battery module (full/half charge)	44 / 100	28 / 80	18 / 42	20 / 64	31 / 70	21 / 49
2 battery modules (full/half charge)	88 / 200	56 / 169	42 / 98	40 / 128	54 / 120	38 / 85
3 battery modules (full/half charge)	132 / 300	84 / 240	60 / 140	60 / 192	80 / 164	55 / 123
4 battery modules (full/half charge)	176 / 400	112 / 320	90 / 210	80 / 256	106 / 208	75 / 156
Order no., UPS	06.099.031.1	06.099.032.1	06.099.010.1	06.099.011.1	06.099.013.1	06.099.014.1
Order no., UPS set	06.099.131.1*	06.099.132.1*	06.099.110.1*	06.099.111.1*	06.099.113.1**	06.099.114.1**
Order no., battery module	06.099.012.1	06.099.012.1	06.099.012.1	06.099.044.1	06.099.017.1	
Order no., battery module+19"install.kit	06.099.112.1	06.099.112.1	06.099.112.1	06.099.144.1	06.099.117.1	
Order no., SNMP card	06.099.039.1					
Order no., rely card	06.099.037.1					
Order no., install. kit	06.099.020.1					

\*\*\*The approximate discharge times are given in minutes and for 25°C with resistive load.

\*\*USV-Set incl. SNMP card + install. kit

\*USV-Set incl. install.kit



GXT2 4500 - 6000 in rack and tower version



GXT2 700 - 3000 in rack and tower version



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Electro-Mechanical

# Components

9.2 to 9.5



## Electro-Mechanical Components

Distribution Box	9.2
Rack Lighting	9.3
Door Contact Switch	9.4
Cable Junction Box	9.4
Equipotential Bonding Bar	9.5
Earthing Bar	9.5
Contact Clamp	9.5

### Distribution Box



HEI00379

- For mounting DIN rail components of the installation technology, such as fuses, clamps, relays etc.
- In the built-in status, the mounting level can be pulled out at the front, locked in position, and as a result, significantly simplifies the wiring of the individual components  
Not with "fixed installation" version  
On request: Can be delivered ready equipped and wired  
Other variations and versions on request
- Installation space for up to 22 pieces of equipment with 18 mm width each
- Mounting of the TS35 DIN rail on several levels with simple plug-in connection  
Not with "fixed installation" version
- "Snap-in" mounting of DIN rail components

- Easy access to the protective earth and neutral conductor rails from the front
- Various positioning options prepared for N and PE rails  
Not with "fixed installation" version
- Cable entry at the rear via double brush strip (optionally via bushing sockets)
- Cable strain relief on the inside and therefore accessible from the front
- Labelling strips on the front, above and below the installation space
- Installation options for power distribution with 230 V AC, but also in the low voltage range (e.g. 48 V DC)
- 19" chassis, 3 HU, depth 150 mm

#### Material / Finish


- Covers, powder-coated texture, RAL 7035 light-grey
- Main unit, sheet steel, zinc-passivated

#### Supply schedule

- 1 distribution box  
Including N and PE rails, cable entry, cable strain relief, empty panel covers and earth set

#### How supplied

- Fully assembled

W	H	D	Model	Order no.	UP
19"	3 HU	150 mm	Pull-out	<b>03.013.385.1</b> 	1 unit
19"	3 HU	158 mm	Fixed installation	<b>03.013.470.1</b>	1 unit



HEI20282

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



HEI00234

## Cable Ports

Alternative to cable entry via brush strip with mounting of distribution box in open racks.

### Material / Finish

Sheet steel, zinc-passivated

### Supply schedule

1 cable routing panel  
11 bushing sockets  
Mounting material

W	H	D	Model	Order no.	UP
				<b>03.013.386.1</b>	1 unit



ELM00058

## Luminestra Rack Lamp

- Only for rack type Miracel W 700, W 800
- Mounting is made on the basic frame above the vertical extrusions
- With 13 watt fluorescent tube
- With on/off rocker switch
- With 2 m power supply lead and EURO plug
- Complete with mounting material
- Only with 123 mm front jumpering space

### Colour

White

### Supply schedule

1 luminestra rack lamp  
2 mounting brackets  
Mounting material

W	H	D	HU	h	d	w	Model	Order no.	UP
70	20	555						<b>01.131.227.9</b>	1 unit



ELM00135

## Compact Rack Lamp

### Features

With magnetic mounting  
Energy-saving lamp  
Protective contact socket  
On/off switch  
3 m power supply lead  
With cover panel

### Approvals

VDE, ICE

### Protection rating, IP20

### Technical data

- Operating voltage: 230 V / 50-60 Hz
- Lighting Compact fluorescent tube with integrated starter
- Power consumption 11 W  $\Delta$  75 W bulb
- Light intensity 900 Lm
- Interference suppression In acc. with VDE 0712, IEC 82
- Socket 230 VAC / 16A
- Connections 3-pole screw clamp, 2.5 mm<sup>2</sup> with strain relief

W	H	D	HU	h	d	w	Model	Order no.	UP
65	65	365						<b>01.131.465.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length  
HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



ELM00137

## Door Contact Switch

- On/off switch, 4 A, 230 V ~
- Activation with opening and closing of the door

- **Supply schedule**  
1 door contact switch (not wired)  
1 mounting brackets  
Mounting material

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.722.9</b>	1 unit



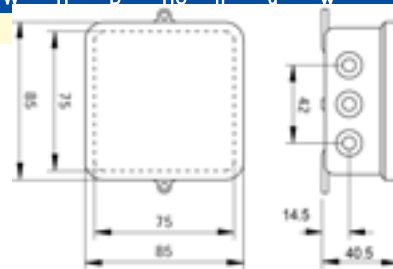
ELM00033

## Cable Junction Box

- For 230V electro-installation on-site
- As fixed-location exchange point
- Quick and easy mounting
- Complete with mounting material

- **Supply schedule**  
1 cable junction box  
1 mounting brackets  
Mounting material

W	H	D	HU	h	d	w	Model	Order no.	UP
								<b>00.078.720.9</b>	1 unit



ELM00034



ELM00128

## Modular Terminal Boxes

- For 230V electro-installation on-site
- With series terminal, 8 x 4<sup>2</sup>
- Pg 11/16 entry
- IP 54

- **Material**  
High-impact, fire-resistant polystyrene

- **Supply schedule**  
1 modular terminal box  
4 Pg compression glands, Pg11

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.117.521.9</b>	1 unit



ELM00114

## Equipotential Bonding Bar


- For central earthing of all protective conductors
- With sealing cover
- Connection options:
  - 1 x round conductor 8-10 mm Ø
  - 1 x flat conductor up to 30 mm wide or round conductor 8-10 mm Ø
  - 7 x one or several-wire conductors up to 16 mm<sup>2</sup> or fine wire conductor up to 10 mm<sup>2</sup>

### Material

Base and cover, high-impact plastic  
Contact strip, brass, nickel-plated

### Supply schedule

1 equipotential bonding bar

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.117.524.3</b>	 1 unit



ELM00068

## Earthing Bar



- For safe earthing and equipotential bonding of equipment and installation components

### Material

Electrolyte copper, 9x9

### Supply schedule

1 earthing bar  
2 brackets  
Mounting material

W	H	S	HU	h	d	w	Model	Order no.	UP
			24				For DoubleProRack	<b>01.240.546.9</b>	1 unit
			21				For DoubleProRack	<b>01.240.545.9</b>	1 unit
			18				For DoubleProRack	<b>01.240.544.9</b>	1 unit
			15				For DoubleProRack	<b>01.240.543.9</b>	1 unit
			45				For Miracel	<b>01.110.709.9</b>	1 unit
			41				For Miracel	<b>01.110.708.9</b>	 1 unit
			12				For Miracel	<b>01.110.703.9</b>	 1 unit




DOP20016

## Contact Clamp

- For secure connection of equipment and installation components with the earthing bar
- For cable up to 25 mm<sup>2</sup>

### Supply schedule

20 contact clamps

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.715.9</b>	 20 units

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

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# Monitoring, Controls & Management Systems

**RMScompact** 10.2 to 10.6

## Fire Detection

10.7 to 10.10

## @Lock

10.11 to 10.18

## Active Components

### RMS compact

Strong points	10.2
RMS compact	10.4
19" Adapter Panel	10.4
Sensors	10.5

### Fire detection

Strong points	10.8
19" Fire Protection System	10.10

### @Lock

Solutions	10.12
Strong points	10.15
@Lock	10.15
Access Administration	10.17

### Combi Lock

10.18

## RMS

### The safety system for network and server racks, and data centers



RMS20013

The options for system monitoring were previously limited to active components. With SNMP management systems, parameters such as data volumes, fault rates, equipment configuration and, of course, downtimes/failure of individual connections or hardware components are all monitored. The causes for downtimes/failures of this kind, however, mostly remain unclear or are only first detected on-site (i.e. in the server or network rack). Observance of the required environmental parameters is extremely important for fault-free operation of the high-grade components. Inadmissible fluctuations in temperature or humidity are frequently the cause of hardware defects. A constant automated monitoring of these parameters is therefore a basic requirement for assurance of proper functioning operability.

With the rack monitoring systems that are available on the market today, these and other values can be recorded, and often directly forwarded to a superordinate management system.

Recording of conditions alone is, however, often not sufficient to avert damages, as the time from occurrence of a critical condition until introduction of countermeasures can often be "tight", especially with larger network environments. In such cases it is very helpful if the monitoring system can automatically perform actions (e.g. activate additional fans); the equipment should at least be able to immediately send a message (trap) to the management system when defined results emerge, and the management system will then send a message to the corresponding network supporter per SNMP trap, e-mail or pager. This enables sufficiently short reaction times and rapid fault localisation and clearance. With the option of connecting additional sensors to the monitoring system, such as smoke detectors, door contacts, shock sensors, etc., not only racks, but also complete rooms or building sections can be monitored. All relevant environmental parameters of a data center can consequently be recorded and evaluated in an easy and straightforward way.

**Should you have any questions, please contact: [RMS-COMPACT@KNUERR.COM](mailto:RMS-COMPACT@KNUERR.COM)**



### The main functions of a modern rack monitoring system are:

- Guaranteeing fault-free operation
- Detecting fault influences early
- Logging events – simplification of service work with automatic monitoring
- Activating countermeasures in the event of a fault
- Central control of consumables (filters, paper, toner, meter readings, inspection intervals, etc.)



RMS20013



RMS20015

## RMS compact

### Description

- Compact construction - Zero unit solution (to mount outside the 19" installation space)
- 19" installation with 1HU adapter front panel (optional)
- Safe clamping of all connected cables with integrated cable clamping bracket
- Cost-effective orderly installation with Plug & Play concept
- Convenient cabling with plug-in contacts
- TCP/IP connection via Ethernet (10 Base T)
- Configuration via SNMP, Telnet and web browser
- Serial configuration via terminal emulation (e.g. hyper terminal)
- Telnet and web access are password-protected
- Viewer and configuration software (free of charge in the supply schedule)
- Freely programmable filter system (boolean logic) for implementing all alarm conditions
- Compatible with current network management systems - HPOpenView, Cabletron Spectrum, Castlerock, IBM Netview, IBM Tivoli, MG-Soft, Compaq Insight Manager, SUN NetManager, etc.
- Sensors for monitoring all current environmental influences (optional)
- Internal power supply for sensor equipment (no additional power supply necessary)
- Alarm warning via LED, relay or network management

- Firmware upgrade via serial interface or TFTP
- Integration of external equipment via V.24 possible (on request)

### Technical data

- 2 sensor inputs for temperature sensors or temperature/humidity sensors
- 8 digital inputs, can be configured using software
- 8 outputs, 12 VDC for power supply of external sensor systems
- 3 digital outputs (relay, max. 5A with 230VAC)
- Power supply: 100 - 240 VAC
- Operating voltage: 12VDC

### Approvals

- CE Label in accordance with low voltage directive 73/23/EEC, EMC directive 89/336/EEC

### Colour

- RAL 7021 dark-grey

### Supply schedule

- 1 RMS compact
- 1 power supply
- 1 mounting brackets
- 1 power supply mounting bracket
- 1 serial cable
- 1 CD ROM (with manual, viewer and configuration software, MIB file)

### How supplied

- Flat-packed kit

### RMS compact

W	H	D	Model	Order no.	UP
280	40	140	RMS compact	06.108.100.8	1 set



RMS20014

## 19" Adapter Front Panel

### Description

- Enables 19" installation in racks and enclosures
- Prepared for easy and safe mounting of RMS compact

### Finish

- Powder-coated, RAL 7021 dark-grey

### Material

- Sheet steel, 1.5 mm

### Supply schedule

- 1 19" adapter front panel, 1 HU

### 19" Adapter Front Panel

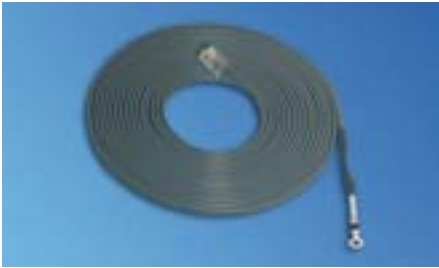
W	H	D	HU	Model	Order no.	UP
19"	44		1		06.108.130.8	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

= Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



LUF20069

RMS compact-specific

## ECO Temperature Sensor

### Description

- Insensitive to disturbances
- No additional power supply required
- Standard cable length, 4 m
- The sensor does not have to be recalibrated. Calibration possible via configuration software.

### Technical data

- Temperature measuring range, 0-60°C
- Accuracy: +/- 5%

### Supply schedule

- 1 sensor with 4 m connection cable
- 1 mounting kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
							ECO	<b>06.108.120.9</b>	1 unit



RMS20019

(similar figure)

RMS compact-specific

## Temperature/Humidity Sensor

### Description


- Insensitive to disturbances
- No additional power supply required
- Standard cable length, 4 m
- The sensor does not have to be recalibrated. Calibration possible via configuration software.

### Technical data

- Temperature measuring range, 0-60°C
- Accuracy: +/- 5%
- Humidity measuring range, 30-90%
- Accuracy: +/- 5%

### Supply schedule

- 1 sensor with 4 m connection cable
- 1 mounting kit

Temperature/Humidity Sensor							Model	Order no.	UP
								<b>06.108.112.9</b>	1 unit 



RMS20005

## Smoke Detector

### Description

- Optical smoke detector with VdS approval
- For early fire detection with smoke emission
- Power supply provided via RMS compact
- Standard cable length, 4 m

### Technical data

- Operates between -20°C and +75°C

### Supply schedule

- 1 sensor with 4 m connection cable
- 1 mounting kit

Smoke Detector			Model	Order no.	UP
W	H	D			
Ø 90	75			<b>06.108.111.9</b>	1 unit



RMS20006

## Door Contact Sensor

### Description

- Magnet bridge sensor, works on every magnetic conductive material (no special mating part required)
- Can also be used for monitoring side panels and roof
- Standard cable length, 4 m

### Technical data

- Operates between -20°C and +70°C
- Switching voltage, max. 200 VDC
- Switching current, max. 500mA

### Supply schedule

- 1 sensor with 4 m connection cable
- 1 mounting kit

### Door Contact Sensor

W	H	D	Model	Order no.	UP
				<b>06.108.115.9</b>	1 unit



RMS20031

## Water Sensor

### Description

- Detects presence of water

### Technical data

- Operating voltage: max. 24 VDC

### Supply schedule

- 1 sensor with 2 m connection cable
- 1 mounting brackets

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>06.108.117.9</b>	1 unit



RMS20019

## Vibration Sensor

### Description

- Detects vibrations
- Theft protection
- Reset possible via viewer software

### Supply schedule

- 1 sensor with 4 m connection cable

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>06.108.113.9</b>	1 unit



RMS20032

## Passive Infrared Movement Sensor

### Description

- Room monitoring with the latest state-of-the-art technology

### Technical data

- VdS approval: Classes A + B
- Volumetric lens range 2 - 16 m

- Long lens range 29 - 50 m
- Curtain lens range 17 - 30 m
- Manipulation monitoring
- Digital fault evaluation
- Corner or wall mounting

### Supply schedule

- 1 sensor with 4 m connection cable
- 1 mounting kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>06.108.114.9</b>	1 unit



RMS20033

## AC Voltage Monitoring

### Description

- Monitors the AC power supply via an IEC Euro connector
- Signals status via an integrated signal cable to the RMSCompact

### Technical data

- Monitored AC voltage: 230 V AC 50/60 HZ
- Connections: IEC plug, fixed connection cable

### Supply schedule

- 1 sensor with 4 m data cable
- 1 mounting kit

W	H	D	HU	h	d	kg	Model	Order no.	UP
								<b>06.108.122.9</b>	1 unit





# Fire Detection

10.8 to 10.14



# Fire detection

## Space-optimised fire protection for 19" server racks



The "earliest" detection for the fastest possible reaction can make the difference between total destruction and maximum damage limitation. Knürr focuses on smoke detection for early alertness to guarantee this.

The smoke is detected using optical systems. Knürr uses patented smoke aspiration systems for highly-sensitive detection of even the smallest amount of smoke particles.

EDP, server and control racks are among the most important technical components in every company. They manage the internal and external data flow or control production processes, among other functions. However in many cases these racks are not centrally situated, and not only insufficiently integrated into existing safety systems. Use in concentrated data centers for local detection and, where applicable, only partial intervention, is also an indispensable factor. The compact earliest smoke detection system is the solution for both areas.

The easy to handle and space-saving 19-inch slot-in (1 HU) detects fires and enables automatic countermeasures in server racks - reliably and efficiently. An integrated smoke aspiration system detects potential fire as early as possible. The subsequent automatic power-off takes the energy for spreading away from the fire. A fire extinguishing system is also an optional control. The new system, which is suitable for all EDP, server and control racks in 19-inch versions, unites optimum space-saving and the best possible fire detection and fire extinguishing qualities for the first time.

An exceptional feature is provided by the tried, tested and proven unrestricted use in circulated air-cooled systems (CoolTherm).

**Should you have any questions, please contact: [fire-protection@knuerr.com](mailto:fire-protection@knuerr.com)**

## 19" Fire Protection System – “Earliest Smoke Detection”

### Strong points

#### Smoke is always the first to appear

When a fire starts smoke, heat and light are generated (fire characteristics). Smoke appears in an early phase of the fire in high amounts and can be safely detected by optical sensors. Smoke is therefore the optimum fire characteristic for earliest possible detection.

#### Being quick means minimizing damages

The earliest possible detection of a fire enables maximum damage limitation, as countermeasures can be started a good deal earlier. People protection, availability assurance of important technical systems and protection of ir-retrievable data are guaranteed. A fire must be safely detected in its development phase so that effective countermeasures can be introduced immediately.

#### Quicker and better than point type detectors

In detecting smoke, Knürr puts its money on smoke aspiration systems! The smoke aspiration system actively takes air samples from the ambient air and takes them to a sensitive optical sensor.

#### False alarm detection

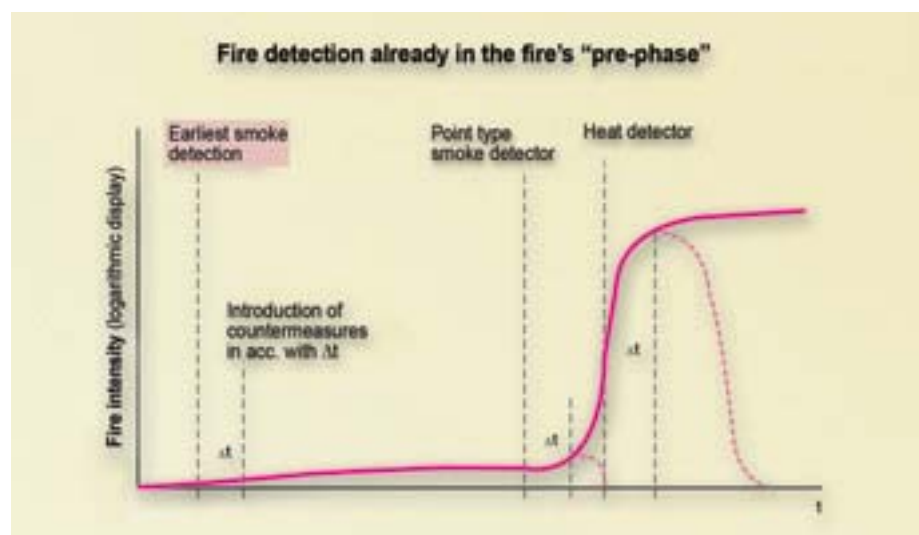
While the function of point type detectors that are common on the market can be impaired by diverse disturbance variables, the construction of the smoke aspiration system awards it higher sensitivity, and compared with point type detectors, it can detect significantly quicker and free of false alarms at the same time!

#### Especially suitable for difficult situations

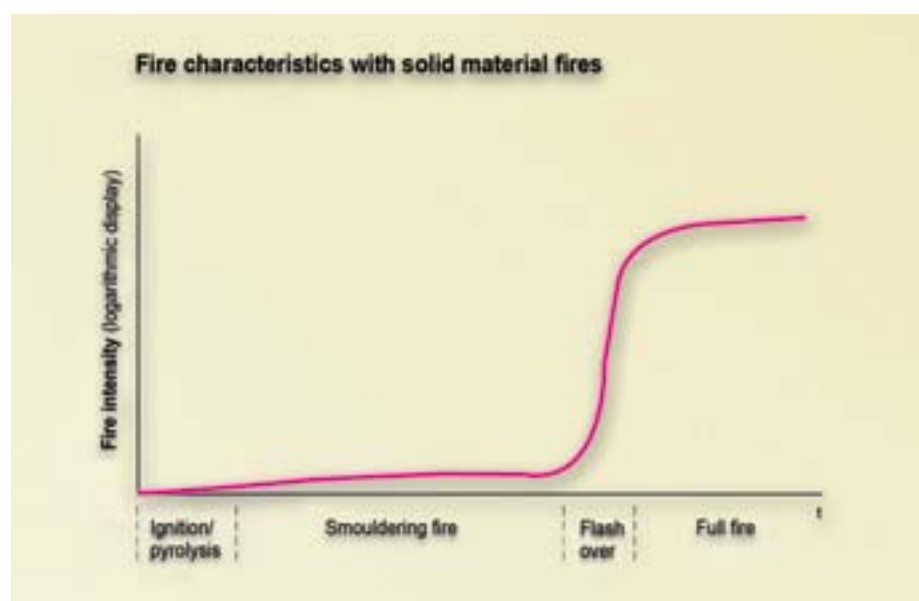
In difficult situations such as those with variable air speeds, extreme temperatures and the highest conceivable requirements for availability, reliable fire detection can only be guaranteed with a smoke aspiration system.

#### Disturbance variables blanked out

All kinds of disturbance variables are blanked out by intelligent technology (filters, prof. engineering, mature accessories) and false alarms are effectively prevented. Sensors can consequently be equipped with a significantly higher sensitivity that is appropriate for the respective application, and can therefore achieve optimum results.



RMS20???



RMS20???



RMS20???



RMS20???

## 19" Fire Protection System

- Ultra-flat 19" earliest smoke detection system for protecting 19" racks (Miracel®).
- The integrated smoke aspiration unit has also been developed and tested for circulating air-cooling systems (CoolTherm®).

### Applications

- EDP, server and control racks in 19" version

### Main features

- Earliest smoke detection
- False alarms ruled out by intelligent signal processing
- Safe and secure equipment monitoring
- Easy installation and start-up with Plug & Play

### Features

- Integrated system for fire detection and extinguishing
- Up to 400 times more sensitive in detecting fires than conventional smoke detectors
- High certainty that false alarms will not occur with fire pattern detection
- No unnecessary wastage of server space with 1 HU installation height
- Vertical and horizontal installation possible
- Individual response behaviour adjustment
- Simple and straightforward mounting
- Maintenance with interactive diagnostics without operation interruption
- Central monitoring, remote diagnostics and remote maintenance with networking
- Optional use of two detector modules for two sensor dependence
- Optional control of a fire extinguishing system

### Technical data

Detection:	Earliest smoke detection
Sensitivity:	0.1 - 2.0 % light obscuration/m
Displays:	Operation, faults, pre-alarm, main alarm, reset
Control elements:	Reset button, key switch for separation
Dimensions:	Height 1 HU Width 19" Depth 320mm
Weight:	Approx. 4 kg
Inst. position:	Vertical or horizontal
Voltage:	24 V DC
Power consumption:	105 mA (guarding)
Power consumption:	110 to 140 mA (alarm)
Terminals:	10 x 0.5 mm to 2.5 mm
Alarm levels:	2 levels (pre-alarm, main alarm)
Fault signal:	Potential-free contacts max. contact rating, 1A/30VDC
Potential-free contacts:	Alarm, pre-alarm, fault, reset
Event recorder:	Yes

### Colour

Control panel: RAL 7021 dark-grey

### Supply schedule

1 19" earliest smoke detection system  
Operating instructions

W	H	D	HU	Power supply	Order no.	UP
19"	44	320	1	24 V DC / 140 mA	<b>08.099.081.8</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound

# @Lock

10.12 to 10.18





MIR20107

## Problems with locking systems

- **Unauthorized access**
  - By own employees
  - By external companies
  - Uncontrolled access
  - Decentralised access authorizations
  - Key problem
  - Loss of key
  - Single key system
  - Many different keys

## The mechanical/electro-mechanical comparison

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>■ <b>Cylinder lock systems</b> <ul style="list-style-type: none"> <li>+ Simple technical version</li> <li>+ Cost-effective with individual locking</li> <li>+ No power supply required</li> <li>+ Easily duplicated</li> <li>- Replacement (among other factors) problematic</li> <li>- Code conversion expensive with locking systems</li> <li>- Key-connected, which means transferable with key hand-over (theft)</li> <li>- Logging and monitoring very expensive/time-consuming</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>■ <b>Electronic systems</b> <ul style="list-style-type: none"> <li>+ Various locking options</li> <li>+ Opening permission possible without a key being required</li> <li>+ Opening permission can be granted/withdrawn almost immediately</li> <li>+ Lock control / logging possible</li> <li>+ Remote opening per PC / Internet / mobile phone / SMS</li> <li>+ Expandable and easy code conversion lock system</li> <li>- Power supply required</li> </ul> </li> </ul> |
|--|--|



MIR20113

## Locking solutions Control components to choose from

- **Electronic locking systems**
- **Mechanical combination lock**
- **Standard locking with half-cylinder**



MIR20285



MIR20134





MIR00423

## Modules

### Control components for electronic locking systems

- Transponder
- Network (server)

Interlocking: security with multi-point interlocking mechanism

## Decentralised rack suite



MIR20102

- Each rack/each door can be opened separately - via own address

- Access authorization administration
- Access monitoring
- Locking mechanism control
- Access logging

## Embedded solution



- Administration
- Monitoring
- Logging
- Remote access

MIR20099

## Individual Locking / Stand-Alone Solution



MIR20094



MIR20109

## QLock® Strong points

- The very small and modular design means that no additional space or greater installation depths are required in the rack.
- Contacts for emergency power supply that can be activated externally using trade standard batteries are integrated into each swing handle.
- An integrated light-emitting diode signals with different colours to inform whether or not the current access is authorised.
- Each device of the series can be networked with the other devices, which results in numerous possible combinations and options.
- Every opening process can be logged in the network. Existing network structures can be used for networking.



MIR20284

## QLock® Swing Handle Security for racks in the data and networking area

- Conventional keys are replaced by electro-mechanical locking components.
  - A servomotor pulls the retainingawl back and releases the handle.
  - Actively opening the door is, however, made with the hand as before.
  - Easy exchange of the swing handle with later installation using unchanged installation opening.
  - Intended for standardised installation openings of conventional swing handle.
  - Can be quickly and easily upgraded to locking system.
  - Convenient administration of access authorizations.
  - Network communication is made via external server (gateway)
  - Up to 250 handles can be administered per server (IP address)
- **QLock Swing Handle, IP**
    - 100...240VAC, power supply not included in the supply schedule
    - Operation with 12VDC/40mA (max. 430mA)
    - Multi-colour status – LED
    - Real-time clock
    - Network communication with cabled connection via integrated Ethernet 10/100 Base T
  - **Function**
    - Opens after reading a registered card
    - Memory for 32 time segments
    - Memory for 2,048 cards per handle
    - Integrated logbook for 500 events
    - Result-related communication
    - 125 kHz transponder with unique code (HID 26 bit system)
  - **Supply schedule**  
**QLock Swing Handle, HID**
    - 1 swing handle, HID
    - 1 reader
    - 1 reader connection cable
    - 1 network node, CX2001
    - 1 network cable, CN2001
    - 1 optional Data CD per Order
  - **Supply schedule**  
**QLock Swing Handle, IP**
    - 1 swing handle, IP
    - 1 reader
    - 1 reader connection cable
    - 1 data CD
    - 1 optional Data CD per Order
- **Technical data**  
**QLock Swing Handle, HID (optional IP remote connection)**
    - 100...240VAC, power supply not included in the supply schedule
    - Operation with 12VDC/40mA (max. 430mA)
    - Multi-colour status – LED
    - Real-time clock



MIR20280

## @Lock® Junction Box, CX2001

The junction box is used to consecutively switch the swing handle of the HID series and connect with the server. The junction box has three ports – INPUT, MODULE and OUTPUT. INPUT – The INPUT is connected with the output of the previous junction box of the previous handle of the strand. The INPUT port of the first junction box is connected with the server. These connections are set up with the CN2001 cable.

MODULE– The MODULE port is connected via a CN2001 cable with the reader module of the HID series.

OUTPUT – The OUTPUT port is connected with the INPUT of the next junction box of the strand. If the junction box is the last of the strand, the termination pull-up resistor is attached to the OUTPUT port (included in the server supply schedule).

### Technical data

- Operating voltage, 12V DC/throughput current, 1.5 A max.
- 3 outputs, modular plug, 8p/8c (RJ45)
- 1 input, DC socket with 2.1 mm pin
- Earthing screw, M4, earth connected with GND

### Function/applications

- @Lock electrical connection
- Lightening and overvoltage protection module
- EMC fault attenuation
- Installation simplification
- Voltage connection (with circuit breaker)
- Interconnection of HID equipment
- HID equipment power supply



MIR20283

## @Lock® Server

The @Lock Server is the interface between the HID swing handles connected via the RS485 cable and the network connected via X-Port. It is used for intermediary storage of results and tasks and can administer up to 250 users (swing handle).

The X-Port can be configured using the RS 232 interface. The @Lock Server has an integrated real-time clock, which is buffered when power fails for up to 1 hour.

### Technical data

- Power supply: via an external plug-in power supply, 12V [DC]
- Nominal current: 80mA (DC)
- Max. power consumption: 200mA (DC)

- Main board interface: RS 485 cable (A, B, GND, +12V), max. length to the next gateway 5m
- PC interface: RS 232 cable (RXD, TXD, DTR, RTS, GND, +12V), RJ 45 plug, 8-pole
- Network interface: X-Port, RJ 34 plug, 8-pole
- Memory space for tasks: Max. 10 x 250 tasks
- Memory space for events: Max. 100 events
- Max. number swing handles: 250 units
- Integ. real-time clock: With buffering up to 60 min at 25°C



MIR20282

## @Lock® Software Programme

The @Lock software is the user interface for controlling and configuring the @Lock Swing Handle. Using this software, the administrator can create access codes and HID cards and assign users. The handle can be controlled in real-time from the software platform. All actions that are directly related with the swing handles are stored in an SQL database (e.g. opening, closing, granted accesses and accesses rejected on the basis of non-authorization).

### ■ Technical data

- MS Windows 2000/NT etc.
- SQL database
- TCP/IP network connection to the swing handles
- The number of handles and gateways is only restricted by the capacity of the computer
- Communication with swing handle via server (gateways) or directly with @Lock Swing Handle, IP

### ■ Functions/applications

- Stand-alone administration programme for the @Lock system
- Requires max. 3-4 seconds for a status update
- Administration of users and rights
- Administration of HID cards, opening of active keys and access codes, closing, activation or deactivation of swing handles
- Observation of authorised and unauthorised access attempts
- Recording of all events connected with swing handles
- Central observation of swing handle
- Combination of all swing handles and servers
- Events recording



MIR20281

## @Lock® Desktop Reader

The transponder cards are read into the administration software using the desktop reader. This enables the later configuration of the access media in the system (lock plan creation). The desktop reader is connected via the RS-232 interface with the PC on which the administration software is installed. The transponder card is inserted in the read-out unit for reading the transponder ID. The reading process can then be initiated in the administration software by hitting a key.

### ■ Technical data

- Power supply: 12V +/- 10% (DC max. 400mA) via low voltage socket
- Nominal current: 80mA (DC)
- RS232 interface: RS 232 cable (RXD, TXD, GND, reader present, PC present), 38,400 baud
- Connection cable: (reader – read-out unit) 8-pole, 250 cm, UL stranded wire AWG 26

Model	Order no.	UP
@Lock Server, HID	<b>01.180.011.9</b>	1 unit
@Lock Swing Handle, HID	<b>01.180.022.9</b>	1 unit
@Lock Swing Handle, IP	<b>01.180.023.9</b>	1 unit
@Lock Network Node, CX2001	<b>01.180.030.9</b>	1 unit
@Lock Network Cable, CX2001	<b>01.180.031.9</b>	1 unit
@Lock Desktop Reader HID	<b>01.180.028.9</b>	1 unit
@Lock Transponder Card	<b>01.180.040.9</b>	1 unit
Power Supply, PMI 2001, EU	<b>01.180.035.9</b>	1 unit
Power Supply, PMI 2001, UK	<b>01.180.036.9</b>	1 unit
Power Supply, PMI 2001, US	<b>01.180.037.9</b>	1 unit
Power Supply, PMI 2001, Japan	<b>01.180.038.9</b>	1 unit
Power Supply, PMI 2001, Australia	<b>01.180.039.9</b>	1 unit



MIR20095

## Combi Lock

### Security and flexibility realised mechanically

- This additional lock, the aptly named "Override", produces a combination swing handle with particularly special advantages
- Innovative combination swing handle with two activation options
- Independent opening and closing of the swing handle via combination or cylinder lock
- General key function possible with rack suites
- Can be used for right and left closing doors

#### Installation

In the standard installation opening of the Miracel rack doors. Quick mounting with plug-in connections and screw fittings.

#### Technical data

- Cylinder lock
- Combination lock can be individually set with 3 digits
- Independent activation

#### Supply schedule

1 swing handle with combi lock  
1 mounting material set

Model	Order no.	UP
Combi Lock	<b>01.137.013.9</b>	1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



# Network Technology



11.2 to 11.8

## TFT



11.9 to 11.33

## KVM





VHP20333



VHP21041

## TFT Drawer, 1 HU, TD17 For 19" installation

- For installation in all 19" racks with appropriate installation depth
- Space-saving with only 1 HU installation height
- Variable installation depth, 550 - 850 mm, integrated country-specific keyboard with touchpad
- TFT in the pushed in status protected from below (clamshell)
- Interlocking full extension rails
- Hand support of foam rubber for relaxe writing
- Right and left mouse button
- Touchpad with integrated right mouse button function and scroll function
- PS/2 port for mouse and keyboard; optional shared USB port (integrated USB hub)
- Integrated wide range input power supply (100 - 240 VAC ) with IEC 320 socket and mains cable
- TFT with analogue Sub-D 15 interface
- Compact keyboard:  
With integrated number block (88 keys)  
With separate number block (102 keys)

### Technical data (TD17)

- 17" TFT LCD display (435 mm)
- Resolution, 1280 x 1024 (SXGA)
- Brightness (typ.) 300 cd/m<sup>2</sup>
- Contrast ratio (typ.): 1000:1
- Colours: 16.2 mil
- Response time: 6 ms
- Viewing angle, hor./vert., 160°/160°


### Colour

Replace .x with the colour of your choice  
Final digit of order number .1, RAL 7035 light-grey  
Final digit of order number .8, RAL 7021 dark-grey


### Supply schedule

- 1 TFT drawer
- 1 mains cable, 1,5 m
- 2 telescopic slides with mounting set (D 800 - 1000 mm/d 550 - 850 mm)
- 1 2-point hinged cable router
- Operating instructions
- 1 VGA/PS-2 /Ps-2 cable, 2,0 m

### TFT Drawer, 1 HU, TD17

W	H	D	HU	Display	Keyboard	Model	Order no.	UP
19"	450	1	17"	With number block	Germany	06.110.002.x		1 unit
19"	450	1	17"	With number block	US English	06.111.002.x000001		1 unit
19"	450	1	17"	With number block	UK English	06.111.002.x000002		1 unit
19"	450	1	17"	With number block	France	06.111.002.x000003		1 unit
19"	450	1	17"	With number block	Italy	06.111.002.x000004		1 unit
19"	450	1	17"	With number block	Spain	06.111.002.x000005		1 unit
19"	450	1	17"	With number block	Denmark	06.111.002.x000006		1 unit
19"	450	1	17"	With number block	Benelux	06.111.002.x000007		1 unit
19"	450	1	17"	With number block	Switzerland	06.111.002.x000008		1 unit
19"	450	1	17"	With number block	Sweden	06.111.002.x000009		1 unit
19"	450	1	17"	With number block	US/Rus	06.111.002.x000010		1 unit
19"	450	1	17"	Compact	Germany	06.111.003.x		1 unit
19"	450	1	17"	Compact	US English	06.111.003.x000001		1 unit
19"	450	1	17"	Compact	UK English	06.111.003.x000002		1 unit
19"	450	1	17"	Compact	France	06.111.003.x000003		1 unit
19"	450	1	17"	Compact	Italy	06.111.003.x000004		1 unit
19"	450	1	17"	Compact	Spain	06.111.003.x000005		1 unit
19"	450	1	17"	Compact	Denmark	06.111.003.x000006		1 unit
19"	450	1	17"	Compact	Benelux	06.111.003.x000007		1 unit
19"	450	1	17"	Compact	Switzerland	06.111.003.x000008		1 unit
19"	450	1	17"	Compact	Sweden	06.111.003.x000009		1 unit
19"	450	1	17"	Compact	US/Rus	06.111.003.x000010		1 unit

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



VHP20148



VHP20284

## TFT Drawer with KVM Switch, TDK 8-17/TKD 16-17

### TFT description

- For installation in all 19" racks with installation depth
- Space-saving with only 1 HU installation height with integrated 8/16 port KVM switch
- Integrated, country-specific keyboard with touchpad
- TFT in the pushed in status protected from below
- Interlocking full extension rails
- Hand support of foam rubber for relaxed writing
- Touchpad with integrated right mouse button function
- Touchpad with scroll function
- Right and left mouse button
- Integrated wide range input power supply (100 - 240 VAC) with IEC 320 socket
- Socket and protected contact mains cable
- Keyboard with number block

### KVM description

- Integrated KVM switch for controlling up to 8/16 computers
- Enables access to servers with up to 30 m CAT5 cable
- Space-saving with only 1 HU installation height
- Selection and control of up to 8/16 Computers via an easy to use on-screen user interface on the TFT console
- The RICC module is connected to the keyboard, monitor and mouse outputs of the respective computer and provides fail-safe access to the computer with the keyboard/mouse emulation

- The RICCs are connected with the switch via a CAT 5 cable
- Multi-platform capable RICCs (in accessories range) enable the combination of PCs, SUNs and devices with USB interface Schnittstelle
- The keyboard and mouse emulation is integrated in the RICC for fault-free operation with interrupted cable connection

### Technical data (TD17)

- 17" TFT LCD display (435 mm)
- Resolution, 1280 x 1024 (SXGA)
- Brightness (typ.) 300 cd/m<sup>2</sup>
- Contrast ratio (typ.): 1000:1
- Colours: 16.2 mil
- Response time: 6 ms
- Viewing angle, hor./vert., 160°/160°

### Colour

Replace .x with the colour of your choice  
 Final digit of order number .1, RAL 7035 light-grey  
 Final digit of order number .8, RAL 7021 dark-grey

### Supply schedule

- 1 TFT drawer
- 1 mains cable, 1,8 m
- 1 KVM connection cable
- 2 telescopic slides with mounting set (D 800 - 1000 mm / d 550 - 850 mm)
- 1 2-point hinged cable router
- Operating instructions

### TFT drawer, 1 HU, TDK8-17

W	H	D	HU	Display	KVM	Model	Order no.	UP
19"	450	1	17"	8-port	Germany	<b>06.111.010.x</b>	1 unit	
19"	450	1	17"	8-port	US English	<b>06.111.010.x000001</b>	1 unit	
19"	450	1	17"	8-port	UK English	<b>06.111.010.x000002</b>	1 unit	
19"	450	1	17"	8-port	France	<b>06.111.010.x000003</b>	1 unit	
19"	450	1	17"	8-port	Italy	<b>06.111.010.x000004</b>	1 unit	
19"	450	1	17"	8-port	Spain	<b>06.111.010.x000005</b>	1 unit	
19"	450	1	17"	8-port	Denmark	<b>06.111.010.x000006</b>	1 unit	
19"	450	1	17"	8-port	Benelux	<b>06.111.010.x000007</b>	1 unit	
19"	450	1	17"	8-port	Switzerland	<b>06.111.010.x000008</b>	1 unit	
19"	450	1	17"	8-port	Sweden	<b>06.111.010.x000009</b>	1 unit	
19"	450	1	17"	8-port	US/Rus	<b>06.111.010.x000010</b>	1 unit	

### TFT Drawer, 1 HU, TDK16-17

W	H	D	HU	Display	KVM	Model	Order no.	UP
19"	450	1	17"	16-port	Germany	<b>06.111.014.x</b>	1 unit	
19"	450	1	17"	16-port	US English	<b>06.111.014.x000001</b>	1 unit	
19"	450	1	17"	16-port	UK English	<b>06.111.014.x000002</b>	1 unit	
19"	450	1	17"	16-port	France	<b>06.111.014.x000003</b>	1 unit	
19"	450	1	17"	16-port	Italy	<b>06.111.014.x000004</b>	1 unit	
19"	450	1	17"	16-port	Spain	<b>06.111.014.x000005</b>	1 unit	
19"	450	1	17"	16-port	Denmark	<b>06.111.014.x000006</b>	1 unit	
19"	450	1	17"	16-port	Benelux	<b>06.111.014.x000007</b>	1 unit	
19"	450	1	17"	16-port	Switzerland	<b>06.111.014.x000008</b>	1 unit	
19"	450	1	17"	16-port	Sweden	<b>06.111.014.x000009</b>	1 unit	
19"	450	1	17"	16-port	US/Rus	<b>06.111.014.x000010</b>	1 unit	



VHP20292

RICC	PS/2-PS/2-VGA	<b>06.100.882.9</b>	1 unit
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\*KVM extension module for up to 256 computers in KVM chapter, page xxx



VHP20174



VHP20175



VHP20203



VHP20176

## LCD TFT Monitors, TM 17/TM 19 For 19" installation

- For installation in all 19" racks with installation depth
- Space-saving with installation depth of only 100 mm
- Installation height, 9 HU (17")
- 2 handles for easy installation in 19" racks
- Monitor level, horizontal, pivot adjustable, +/-10°
- VESA (100 and 75 mm) adaption on the rear
- Integrated wide range input power supply (100 - 240 VAC ) with IEC 320 socket and protected contact mains cable
- Sheet steel housing, powder-coated
- Non-reflecting single safety glass panel in front of the LCD display protects against damaging

- Connections**
- VGA HD15
  - DVI
  - RGB
  - S-Video
  - Composite Video

- Display technical data (see table)**
- 16.7 million colours
  - On-screen menu

- Protection rating**
- IP55 on the front
  - IP20 on the rear

- Colour**
- Replace .x with the colour of your choice  
Final digit of order number .1, RAL 7035 light-grey  
Final digit of order number .8, RAL 7021 dark-grey

- Supply schedule**
- 1 TFT LCD monitor
  - 1 mains cable, 1,5 m
  - 1 power supply
  - 1 19" mounting kit
  - 1 VGA connection cable, 1,5 m

W	H	D	HU	Display	Resolution	Brightness	Contrast	Order no.	UP
19"		100	9	17"	1280x1024	300 cd/m <sup>2</sup>	1000:1	<b>06.111.051.x</b>	1 unit
19"		100	9	19"	1280x1024	420 cd/m <sup>2</sup>	500:1	<b>06.111.052.x</b>	1 unit

## LCD TFT Monitors, TM-T 17/TM-T 19 For 19" installation with touchscreen

- For installation in all 19" racks with installation depth
- Space-saving with installation depth of only 100 mm
- Installation height, 9 HU (17")
- 2 handles for easy installation in 19" racks
- Monitor level, horizontal, pivot adjustable, +/-10°
- VESA (100 mm) adaption on the rear
- Integrated wide range input power supply (100 - 240 VAC ) with IEC 320 socket and protected contact mains cable
- Sheet steel housing, powder-coated
- Non-reflecting single safety glass panel in front of the LCD display protects against damaging

- Connections**
- VGA HD15
  - DVI
  - RGB
  - S-Video
  - Composite Video

- Display technical data (see table)**
- 16.7 million colours
  - On-screen menu

**Touchscreen technical data**

- Resistive 4-wire touch
- With USB connection
- Supports Windows XP, Windows 2000, Windows 95/98, Windows ME, Windows NT 4.0, Windows CE 2.13/3.0.net, DOS, Linux RedHat, LinuxMandrake, Mac/OS9

- Protection rating**
- IP55 on the front
  - IP20 on the rear

- Colour**
- Replace .x with the colour of your choice  
Final digit of order number .1, RAL 7035 light-grey  
Final digit of order number .8, RAL 7021 dark-grey

- Supply schedule**
- 1 TFT LCD monitor
  - 1 mains cable, 1,5 m
  - 1 power supply
  - 1 19" mounting kit
  - 1 VGA connection cable, 1,5 m
  - 1 USB connection cable, 1,0 m

W	H	D	HU	Display	Resolution	Brightness	Contrast	Order no.	UP
19"		100	9	17" LCD	1280x1024	300 cd/m <sup>2</sup>	1000:1	<b>06.111.066.x</b>	1 unit
19"		100	9	19" LCD	1280x1024	420 cd/m <sup>2</sup>	500:1	<b>06.111.067.x</b>	1 unit



VHP20157



VHP20272

## LCD TFT Monitor, TM-V 17/TM-V 19 Without 19" frame

- Suitable for workstation and industrial applications
- Consists of monitor unit and 19" installation frame
- Sheet steel housing, powder-coated
- Non-reflecting single safety glass panel in front of the LCD display protects against damaging
- Port for VESA monitor adapter on the rear
- On-screen menu with additional autosync button on the front
- Power supply with wide range input, 100-240 VAC with IEC 320 socket and mains cable

### Connections

- VGA HD15
- DVI
- RGB
- S-Video
- Composite Video

### Display technical data (see table)

- 16.7 million colours
- On-screen menu

### Protection rating

- IP55 on the front
- IP20 on the rear

### Colour

- Replace .x with the colour of your choice
- Final digit of order number .1, RAL 7035 light-grey
- Final digit of order number .8, RAL 7021 dark-grey

### Supply schedule

- 1 TFT LCD monitor
- 1 mains cable
- 1 power supply
- 1 VGA connection cable, 1,5 m

W	H	D	HU	Display	Resolution	Brightness	Contrast	Order no.	UP
440	364	53		17"	1280x1024	300 cd/m <sup>2</sup>	1000:1	<b>06.111.057.x</b>	1 unit
440	364	53		19"	1280x1024	420 cd/m <sup>2</sup>	500:1	<b>06.111.058.x</b>	1 unit

W	H	D	HU	Model	Order no.	UP
250	200	300		Support base for TFT monitors, TM-V	<b>06.110.060.x</b>	1 unit



VHP21042

## Flight Case

- The ideal protection for all Knürr TD17 TFT drawers
- Specially developed for mobile use as service and diagnostics unit
- Solid aluminium case, lockable
- Sturdy carrying handle

- Fitted with special absorption mats
- Removable cover
- Additional storage space for all connection cables and any possibly required accessories

W	H	D	kg	Order no.	UP
540	590	120	9	<b>06.111.020.1</b>	1 unit



VHP21043



MEC00116

## 19" Keyboard Drawer, 1 HU With extension for PC mouse

- With hand support
- Mouse surface optionally right/left pull-out
- Storage drawer for PC mouse

### Dimensions

Useable storage surface  
Dimensions without hand support:  
W 372 mm x D 209 mm x H 32 mm

### Finish / Colour

Powder-coated texture, RAL 7035  
light-grey

### Supply schedule


1 keyboard drawer  
1 pair of telescopic slides  
1 hand support  
Mounting material

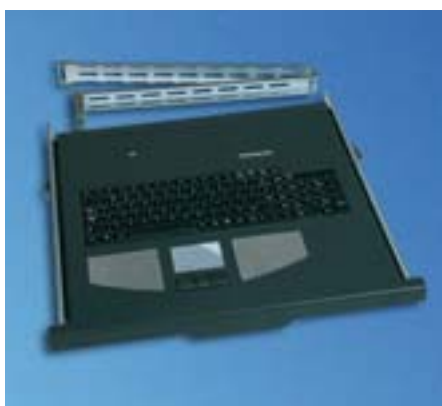
### How supplied

Flat-packed kit

### Note

Keyboard not included in supply schedule  
Not for rack depth D 600

W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	800/900	1			Miracel/Smaract	<b>01.136.379.1</b>	 1 unit



MEC80001

## 19" Keyboard Drawer, 1 HU For rack depths 800 - 1000 mm

- For all racks with installation depth from 550 mm to 850 mm
- Space-saving with only one installation height (1 HU)
- Interlocking full extension telescopic slides and 19" mounting brackets
- Integrated keyboard with number block (116 keys)
- Touchpad with integrated right mouse click and scroll function and additional 3 mouse buttons
- Hand support of sponge rubber for relaxed writing (integrated USB hub)
- Connection cable

### Dimensions

W 408 mm x D 405 mm x H 44 mm  
(without telescopic slide, hinged cable router and mounting brackets)

### Material

Sheet steel, 1.25 mm  
Hand support: sponge rubber

### Supply schedule


1 keyboard drawer  
1 pair of telescopic slides  
Hinged cable router  
Connection cable, 2 m  
Mounting material

### How supplied

Flat-packed kit

### Note

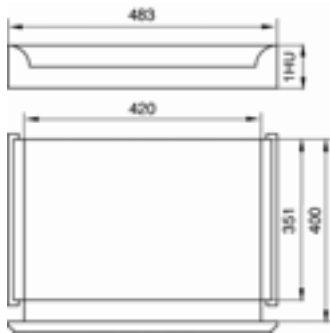
Installation bracket for rack depth 600 mm available in accessories

W	H	D	HU	Display	Keyboard	Model	Order no.	UP
19"		405	1			Germany	06.111.200.1	 1 unit
19"		405	1			Germany	06.111.200.8	 1 unit
19"		405	1			US English	06.111.201.1	1 unit
19"		405	1			US English	06.111.201.8	1 unit
19"		405	1			UK English	06.111.202.1	1 unit
19"		405	1			UK English	06.111.202.8	1 unit
19"		405	1			France	06.111.203.1	1 unit
19"		405	1			France	06.111.203.8	1 unit
19"		405	1			Italy	06.111.204.1	1 unit
19"		405	1			Italy	06.111.204.8	1 unit
19"		405	1			Spain	06.111.205.1	1 unit
19"		405	1			Spain	06.111.205.8	1 unit
19"		405	1			Denmark	06.111.206.1	1 unit
19"		405	1			Denmark	06.111.206.8	1 unit
19"		405	1			Benelux	06.111.207.1	1 unit
19"		405	1			Benelux	06.111.207.8	1 unit
19"		405	1			Switzerland	06.111.208.1	1 unit
19"		405	1			Switzerland	06.111.208.8	1 unit
19"		405	1			Sweden	06.111.209.1	1 unit
19"		405	1			Sweden	06.111.209.8	1 unit
19"		405	1			US/Rus	06.111.210.1	1 unit
19"		405	1			US/Rus	06.111.210.8	1 unit





MEC80002



SCH00055

## 19" Keyboard Drawer, 1 HU For 19" keyboard

- With hand support
- With cable strain relief

### Material

Main unit, sheet steel, 1.0 mm  
Front panel, sheet steel, 1.0 mm

### Finish / Colour

Powder-coated texture, RAL 7035  
light-grey

### Supply schedule

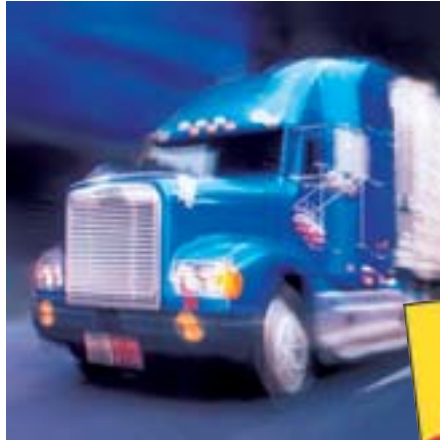
1 19" keyboard drawer, 1 HU  
1 pair of telescopic slides  
Velcro strip for keyboard fixing  
Mounting material

### How supplied

Preassembled

W	H	D	HU	d	L	For rack type	Order no.	UP
19"	43.6	600	1	440		Miracel/Smaract 19"	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	565		Miracel/Smaract LAN	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	640		Miracel/Smaract 19"	<b>02.011.101.1</b>	1 unit
19"	43.6	900	1	665		Miracel/Smaract LAN	<b>02.011.101.1</b>	1 unit
19"	43.6	900	1	740		Miracel/Smaract 19" server	<b>02.011.101.1</b>	1 unit
19"	43.6	1000	1	740		Miracel 19" server	<b>02.011.101.1</b>	1 unit
19"	43.6	600	1	435		DoubleProRack LAN	<b>02.011.101.1</b>	1 unit
19"	43.6	800	1	635		DoubleProRack LAN	<b>02.011.101.1</b>	1 unit

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



## Rapid service **Express item**

Swift express delivery service, smooth ordering process, attractive pricing and a market-oriented offer – that's Knürr reliability!

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Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world. Don't hesitate to use them to your advantage!

# KVM

11.10 to 11.33



## KVM

### Strong points

#### ■ Selection criteria / Strong points

Analogue KVM solutions	User	Servers/PCs
- SwitchMan	1	2/4 PCs
- MasterConsole	1/2	4/8/16 servers (up to 256 servers can be cascaded)
- Z-Series	1	64 servers
- Paragon II	2/4/8/16	32/42/64 servers (up to 10,000 servers can be cascaded)

#### ■ IP – Extender

	Users
IP Reach LARAeco	1
IP Reach, M-Series	1-2
IP Reach, TR-Series	4

#### ■ Digital KVM solutions

	User	Servers
- Dominion KX	1/2/4	16/32/64 servers
- MasterConsole IP	1	8/16 servers

#### ■ Serial console server

	User	Ports
- Dominion SX	1	16/32/48 serial ports

#### ■ Digital KVM solution + serial console server

	User	Ports
- Dominion KSX	1	4/8 serial ports 4/8 KVM ports

#### ■ Remote power management

	IEC320 socket control
PCR	8/12/20
PCS	8/12/20

#### ■ CommandCenter 2.0, NOC

**KVM****Strong points**

KVM stands for “Keyboard, Video and Mouse”. These three elements are referred to collectively as a KVM console.

The main function of a KVM switch is to connect a single KVM console with several pieces of equipment. This enables access to and control of several computers or servers for users via the console.

KVM switches provide organisations and companies of all sizes with the following advantages with individual or multi-user access to several servers:

■ **Reduced costs**

As the need to connect a keyboard, a monitor and a mouse no longer applies with integration of a KVM switch, only very few keyboard, monitor and mouse components are required for

administering numerous servers. This not only reduces hardware costs, but rather also saves valuable space and simplifies power supply, heating and cooling.

■ **Improved business continuity**

KVM switches enable “out-of-band” access to the servers and other IT equipment required within a company. They are not independent as such from the company backbone or company network. The access, administration and control of the servers are consequently also guaranteed with a downtime of the company network. A complete system restart can even be performed via a KVM switch from a remote location.

■ **Independent of hardware platforms and operating systems**

KVM switches are designed for

heterogeneous server environments. They are not dependent on the hardware or the operating system of a specific manufacturer. They can be used in IT environments with servers of different manufacturers, such as HP, IBM and Sun, and various operating systems, such as Solaris, Unix or Windows.

■ **Analogue and digital KVM switches: Which switch do you require for your organisations?**

There is no one “right” answer to this question. Both analogue switch solutions with modular KVM via IP functions and digital switch solutions with integrated KVM via IP provide specific advantages. An analogue “out-of-band” KVM solution is generally best suited for small to medium-sized data centers. Digital “in-band” KVM solutions by contrast are the best choice for large national or globally distributed data centers.

Digital and analogue solutions can be used independently of one another, or combined, depending on the requirements of your company. With one or two integrated switches in an analogue solution, you can set up a connection with a small number of servers. A digital KVM solution enables connection with a large number of data centers at several locations. Depending on the requirement, you can however also design a combined solution with analogue and digital KVM switches.

	<b>Analogue KVM Switch</b>	<b>Digital KVM switch</b>
<b>Access/connection</b>	<ul style="list-style-type: none"> <li>• Out-of-band</li> <li>• Network-independent</li> </ul>	<ul style="list-style-type: none"> <li>• In-band</li> <li>• Network-dependent</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Better video capacity/utilization</li> <li>• Unblocked access</li> <li>• Requires less bandwidth</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer cables</li> <li>• Easier and more cost-effective scalability</li> <li>• Uses existing LAN infrastructure</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• More Cat5 cables required</li> <li>• More components</li> <li>• Video quality reduced by distance</li> </ul>	<ul style="list-style-type: none"> <li>• Users are subject to the KVM via IP restrictions:               <ul style="list-style-type: none"> <li>- Latency</li> <li>- Unwanted image changes</li> </ul> </li> <li>• Busy network bandwidth</li> <li>• Access blocking (restricted console availability)</li> </ul>
<b>Typical applications</b>	Data center with up to 300 servers and up to 32 simultaneous users	Companies (500 and more servers, 50 and more simultaneous users or several locations/remote environment)

The table summarizes some of the more important differences between analogue and digital KVM solutions.

## SwitchMan

Controls 4 PCs from one keyboard, one monitor and one mouse



KVM20063



SIG20029



KVM20263

Organise your desk! Save space, time and money. SwitchMan is the desktop KVM switch for everyone that wants to operate 2 or more PCs from their workstation. Just connect the PCs and the selected keyboard, monitor and mouse to the SwitchMan. It's that easy! You now have access to and control of the PCs via your central keyboard, your monitor and your mouse.

### Use SwitchMan to:

- Save space by avoiding superfluous peripheral equipment
- Avoid costs of new peripheral equipment for new PCs
- Save time with central access to each PC

### SwitchMan is perfect for:

- People that operate several PCs at work or at home
- Software developers
- PC test procedures
- Network administrators

### Features

- Works with all PS2 and AT computers
- Fault-free booting and operation
- Complete keyboard/mouse emulation
- Dedicated processors for each channel
- Individual selector switches with LED displays
- 1600 x 1200 resolution
- PCs AutoScan with user-defined rate
- Supports Microsoft "IntelliMouse"
- Switching with the buttons on the front or with a simple HotKey command
- Power supply through connected PCs (with USB version, power supply included in supply schedule)

### SwitchMan PS2 specifications

#### Dimensions

256 mm (W) x 140 mm (D) x 53 mm (H), weight 0.7 kg

#### User connection

VGA monitor HD15 female  
 PS/2 keyboard Mini-DIN 6 pin, female  
 PS/2 mouse Mini-DIN 6 pin, female  
 PC connection VGA monitor

#### PC connection

HD 15 Female  
 PS/2 keyboard Mini-DIN 6 pin, female  
 PS/2 mouse Mini-DIN 6 pin, female  
 Serial mouse DB9 female

#### Certification

FCC Class B

### SwitchMan CP specifications

#### Dimensions

76 mm (W) x 98 mm (D) x 25 mm (H), weight 0.54 kg

#### User connection

VGA monitor HDDB15 female  
 PS/2 keyboard Mini-DIN 6 pin, female  
 PS/2 mouse Mini-DIN 6 pin, female

#### PC connection

VGA monitor HDDB15 female  
 PS/2 keyboard Mini-DIN 6 pin, female  
 PS/2 mouse Mini-DIN 6 pin, female

### SwitchMan USB specifications

#### Dimensions

SwitchMan:  
 1/2 USB 184 mm (W) x 123 mm (D) x 45 mm (H)

SwitchMan:  
 1/4 USB 235 mm (W) x 142 mm (D) x 45 mm (H)

SwitchMan 1/2 USB, weight 0.72 kg  
 SwitchMan 1/4 USB, weight 1.05 kg

#### User connection

VGA monitor HDDB15 female  
 Keyboard USB Type A  
 mouse USB Type A

#### PC connection

VGA monitor HDDB15 female  
 Keyboard USB Type B  
 mouse USB Type B

KVM	HU	Consoles	Computers	Connections	Order no.	UP
SwitchMan 1/2 PS2	0	1	2	VGA/PS2/PS2	<b>06.005.000.1</b>	1 unit
SwitchMan 1/4 PS2	0	1	4	VGA/PS2/PS2	<b>06.005.001.1</b>	1 unit
SwitchMan 1/4 USB	0	1	4	VGA/USB/USB	<b>06.005.004.1</b>	1 unit

Connection cable	Length	Connections	Order no.	UP
CSW18	1.8 m	PS2	<b>06.005.200.9</b>	1 unit
CSW30	3 m	PS2	<b>06.005.201.9</b>	1 unit
CSW USB 18	1.8 m	USB	<b>06.005.205.9</b>	1 unit
CSW USB 30	3.0 m	USB	<b>06.005.206.9</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound





KVM20293

Two-level configuration. Cascade the Master-Console unit and administer up to 128 or 256 servers, depending on the model.

Control your servers with this simple and completely equipped KVM solution. Recover valuable space and increase productivity.

### Area of application

By using this switch you can remove expensive and superfluous equipment by providing centralised control from a single workstation to 1 or 2 users.

## KVM Switch MasterConsole

Individual models control 4, 8 or 16 servers and the switches can be cascaded in such a way that you can administer up to 256 servers.

The solution functions with all leading server types:

PC, Sun®, Mac®, Alpha, RS/6000, HP/9000, SGI and serial-controlled devices; it also provides USB support.

The solution is compatible with all combinations of computers that run with Windows NT, Windows 2000, Novell NetWare®, Solaris, UNIX or Linux. Especially thin coaxial cables are used for connecting computers/servers. These require little space and ensure simple and straightforward cable management. The cable is available in lengths, 0.6, 2, 4, 6 or 9 metres.

### System components MasterConsole II

- Enables access for a single user to up to 256 servers by cascading several units
- Password protection integrated
- Offers selection of 3 models:
  - MCC4 for up to 4 servers
  - MCC8 for up to 8 servers
  - MCC16 for up to 16 servers

### MasterConsole MXU2

- Enables access for 2 simultaneous users to up to 128 servers by cascading several units
- Connection of the 2nd user is made via a Cat5 e-cable and enables a remote access over a distance of up to 300 metres (with the URKVMG model receiver at a remote workstation).
- Saves up to 120 usernames and profiles:
  - MXU28 for up to 8 servers
  - MXU216 for up to 16 servers

Component specifications						
W	H	D	kg	Power supply		Model
268	44	225	2.0	115V/230V 20 Watt Auto Sensing		MCC4
390	88	225	3.8	115V/230V 20 Watt Auto Sensing		MCC16
390	44	200	2.4	115V/230V 20 Watt Auto Sensing		MXU28
390	88	200	3.3	115V/230V 20 Watt Auto Sensing		MXU216

## KVM Switch MasterConsole

HU	Model	Model	Order no.	UP
<b>MasterConsole II (rack installation)</b>				
1	MCC4R	1 user x 4 server ports	<b>06.005.023.1</b>	1 unit
2	MCC16R	1 user x 16 server ports	<b>06.005.025.1</b>	1 unit
<b>MasterConsole MXU2</b>				
1	MXU28	2 users x 8 server ports	<b>06.005.040.1</b>	1 unit
2	MXU216	2 users x 16 server ports	<b>06.005.041.1</b>	1 unit
<b>MasterConsole MXU2 + URKVMG</b>				
2	MXU216G	2 users x 16 server ports	<b>06.005.043.1</b>	1 unit

Connection cable, PS/2 Server to MasterConsole				
Model	Length	Model	Order no.	UP
CCP06	0.6 m		<b>06.005.210.1</b>	1 unit
CCPT20	2.0 m		<b>06.005.211.9</b>	1 unit
CCPT40	4.0 m		<b>06.005.212.9</b>	1 unit
CCPT60	6.0 m		<b>06.005.213.9</b>	1 unit
CCPT90	9.0 m		<b>06.005.214.9</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight

 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound



KVM21016



KVM21017

## KVM Switch "SmartCat5 Switch" Controls 8/16 PCs from one keyboard, one monitor and one mouse

CAT5 cables are used for connecting the servers in order to prevent "cable spaghetti". A high-performance on-screen display guarantees monitoring and administration. The Smart CAT5 Switches support 8 or 16 computers and enable the control and operation of all servers with just one keyboard, one monitor and one mouse. The rack assembly kit is provided with all models.

### Better server administration

The Smart CAT5 Switch provides various KVM administration options, such as on-screen display, serial or hotkey monitoring.

### Innovative RIC cable

Supplement your system with platform-specific RIC cables (Remote Interface Connection) that guarantee SUN, USB and PS/2 support.

### Multi-layer security:

The Smart Switch is equipped with multi-user password protection.


### KVM description

- KVM switch for controlling up to 8/16 computers
- Access to servers up to 30 m away per port with CAT5 cable
- Space-saving with just 1 HU installation height
- Selection and control of up to 8 servers via an easy to use on-screen user interface on the monitor
- The RIC module is connected to the keyboard, monitor and mouse outputs of the respective computer and provides failure-safe access to the computer with the keyboard/mouse emulation
- The RICs are connected with the switch via a CAT5 cable
- Multi-platform capable RICs (in accessories range) enable the combination of PCs, SUNs and devices with USB interface
- The keyboard and mouse emulation for fault-free operation with interrupted connection cable is integrated in the RIC.

Model	Model	HU	Order no.	UP
Smart CAT5 Switch	8 ports	1	<b>06.008.000.8</b>	1 unit
Smart CAT5 Switch	16 ports	1	<b>06.008.001.8</b>	1 unit
			<b>06.100.882.9</b>	1 unit
			<b>06.100.885.9</b>	1 unit
			<b>06.100.886.9</b>	1 unit

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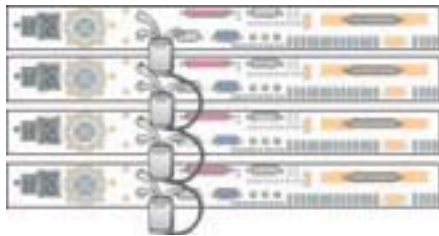
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KVM21021

Raritan's innovative Z-Series provides a "switchless" solution for access to and control of several servers. Access is made from a user console (keyboard, monitor and mouse) without using up valuable space in server racks or shelves. The MC Z series works with Raritan's unique data transmission technology, with which up to 64 servers can be controlled with this switch. The previously used Single Access KVM Switches with their expensive server-to-switch cabling are no longer required.



RACKDR1



KVM20052

## KVM Switch MasterConsole, Z Series

### The ultimate space-saver

This system supports the demanding requirements in the server management area. The Z-Series also proves its value with its low space requirement and CAT5(E) cabling technology, which enables remote access to computer systems up to an overall distance of 213 metres away.

#### Area of application

- High number of 1 HU and 2 HU rack-mount servers in the 19" racks
- Condensed data center, external business premises, ISPs, ASPs
- Computer test labs, call center, help desk, training rooms

#### Simplified installation and operation

The MC Z-Series replaces the traditional cabling of KVM switches for servers with the innovative, chain-like "server-to-server" cabling. This significantly reduces the expense for cabling while simultaneously increasing access distances. Small "Computer Interface Modules (Z-CIM)" are connected to the KVM ports of the computers and connected with one another with CAT5(E) cable. The Z-CIMs transmit the keyboard, monitor and mouse signals to the MC Z series user station, to which monitor, keyboard (PS/2, USB or SUN) and mouse are connected. The user can select and control up to 64 servers with the easy to operate on-screen menu. The Z-Series system is a "Plug & Play" system, to which individual servers can be added during running operation. The server operation is not affected.

#### System components

An MC Z series system consists of two components:  
The user console and the computer interface modules (MC Z CIMs).

#### The Computer Interface Module (MC Z-CIM)

is connected to the keyboard, monitor and mouse outputs of the respective computer and provides failure-safe access to the computer with the Raritan keyboard/mouse emulation. The Z-CIMs are connected via one single CAT5(E) cable respectively with the next module; the first MC Z-CIM in the chain is connected to the user console.

#### The user console

enables the selection and control of up to 64 servers via a simple on-screen user interface from the user console (PC, USB or SUN keyboard, mouse and monitor).

#### Component specifications

##### User console, MC-Z UST


Dimensions	(WxHxD) 292x44x266 mm
Weight	2.2 kg
Power	100V/240V 50/60 Hz 5VA

##### MC-Z Computer Interface Modules

##### MC-Z CIM

PS/2, USB, SUN  
Additional for local PC KVM ports

Model	Model	Order no.	UP
MZUST	MasterConsole-Z User Station	06.005.570.1	1 unit
MZCIM-PS2	MZCIM for PS/2	06.005.571.1	1 unit
MZCIM-USB	MZCIM for USB / SUN-USB	06.005.572.1	1 unit
MZCIM-SUN	MZCIM for SUN	06.005.573.1	1 unit
MZKIT6-PS2	MZUST + 6 MZCIM-PS2	06.005.580.1	1 unit
MZKIT12-PS2	MZUST + 12 MZCIM-PS2	06.005.581.1	1 unit
MZKIT24-PS2	MZUST + 24 MZCIM-PS2	06.005.582.1	1 unit
MZKIT6-USB	MZUST + 6 MZCIM-USB	06.005.583.1	1 unit
MZKIT12-USB	MZUST + 12 MZCIM-USB	06.005.584.1	1 unit
MZKIT24-USB	MZUST + 24 MZCIM-USB	06.005.585.1	1 unit
MZKIT6-SUN	MZUST + 6 MZCIM-SUN	06.005.571.2	1 unit
MZKIT12-SUN	MZUST + 12 MZCIM-SUN	06.005.571.2	1 unit
MZCIM-PS2-10PAC	10MZCIM-PS2	06.005.574.1	1 unit
MZCIM-PS2-20PAC	20MZCIM-PS2	06.005.575.1	1 unit
MZCIM-PS2-40PAC	40MZCIM-PS2	06.005.576.1	1 unit
MZCIM-USB-10PAC	10MZCIM-USB	06.005.577.1	1 unit
MZCIM-USB-20PAC	20MZCIM-USB	06.005.578.1	1 unit
MZCIM-USB-40PAC	40MZCIM-USB	06.005.579.1	1 unit
MZCIM-SUN-10PAC	10MZCIM-SUN	06.005.590.1	1 unit

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KVM20266

## KVM Switch Paragon II

### The stackable CAT5 KVM solution

Paragon II, is the leading stackable Cat5 KVM (keyboard/video/mouse) solution. It enables control access to servers and other equipment at all times and from everywhere. With Paragon II you can stack up to 128 ports per switch, and using multi-dimensional expansion you can add up to 10,000 ports. Equipment costs are significantly reduced and existing space is optimally used with the advanced Paragon II KVM switch technology. This Paragon generation also provides the highest degree of operating convenience, security and video quality for easy administration of data centers.

#### ■ Area of application

**“Non blocked” access** – Up to 64 users receive direct access to up to 10,000 servers.

**“Stackable”** – Each master switch can also be expanded by 128 ports via slave equipment.

Subsequent advantages:

- Reduced cable requirement between Paragon II units.
- Reduces investment costs by more than 30%.
- Reduces the space in the server rack and the required HVAC resources by a third.

A Paragon system consists of at least three components. All components are connected with one another with a category 5 E cable.

#### ■ Master Unit (P2-UMTxxxxM)

- A secure, intelligent and “non-blocked” control unit for connecting users and servers. Its stackable architecture enables an extremely high port density, which is why this switch is ideally suited for large data centers.

#### ■ User Station (P2-UST)

- Connects each user console (keyboard, monitor, mouse) with the master unit and consequently provides computers with user interface.

#### ■ Computer Interface Module (P2CIM)

- Connects each computer with the master unit and delivers dedicated “keep-alive” keyboard/mouse emulation and failure-safe server access.


#### Optional

#### ■ Stacking Unit (P2-UMTxxxxS)

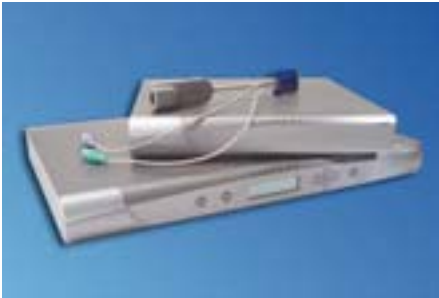
- The cost-effective and space-saving expansion unit with which the KVM system can be expanded to up to 128 ports without any difficulty with maintenance of a “non-blocked” access, whereby 90% less cable per switch is required. The stacking units are compatible with the Paragon II models, UMT832M and UMT1664M.

Dimensions in mm: W = Width  
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KVM20255

## KVM Switch Paragon II

### The stackable CAT5 KVM solution

#### ■ Features

- Connection of all components is made with one single category 5 UTP cable
- Localises users and computers up to 300 metres from one another
- Cross-platform support with seamless access to all operating systems, platforms and connections: Linux, Windows® NT, UNIX®, Novell, Sun®, IBM® RS/6000 and pSeries™, HP9000, Alpha™, SGI, ASCII/serial USB or PS/2.
- High video quality over further distances. The automatic Paragon II video optimization provides the best possible video quality.
- Optional flexible server access both in and outside the data center, worldwide via IP
- Easy plug-and-play installation with automatic configuration
- “Keep-alive” keyboard/mouse emulation for fault-free operation
- “Hot-swappable” components with no effect on server operation
- User station supports PS/2 and Sun keyboard
- High-performance, intuitive on-screen user interface for easy operation
- Tailor-made user profiles
- Flexible, multi-level security for guaranteeing authorised computer access
- Three system operation modes:
  - Private mode — Exclusive user control of the selected computer
  - PublicView mode — Users can have shared use of the video of the selected computer
  - PC Share mode — Users can use shared operation of the selected computer
- Flash firmware update

Dimensions in mm: W = Width  
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KVM20227

Component specifications						
W	H	D	kg	Power supply	Model	
440	44	290	4.54	110V/240V 50/60 Hz/0.6A	P2-UMT 242	
440	44	290	4.59	110V/240V 50/60 Hz/0.6A	P2-UMT 442	
440	44	290	4.46	110V/240V 50/60 Hz/0.6A	P2-UMT 832M	
440	89	290	5.68	110V/240V 50/60 Hz/0.6A	P2-UMT 1664M	
440	44	290	4.08	110V/240V 50/60 Hz/0.6A	P2-UMT 832S	
440	89	290	5.44	110V/240V 50/60 Hz/0.6A	P2-UMT 1664S	
290	44	255	1.90	110V/240V 50/60 Hz/0.6A	PS-UST	
32	15.6	77.4	0.07		P2-CIM-x	

HU	Model	Model	Order no.	UP
<b>Master Unit</b>				
1	P2-UMT242	2 users x 42 server ports	<b>06.005.500.1</b>	1 unit
1	P2-UMT442	4 users x 42 server ports	<b>06.005.501.1</b>	1 unit
1	P2-UMT832M	8 users x 32 server ports	<b>06.005.502.1</b>	1 unit
2	P2-UMT1664M	16 users x 64 server ports	<b>06.005.503.1</b>	1 unit
<b>Stacking Unit</b>				
1	P2-UMT832S	32 expansion server ports for P2-UMT832M	<b>06.005.512.1</b>	1 unit
2	P2-UMT1664S	64 expansion server ports for P2-UMT1664M	<b>06.005.513.1</b>	1 unit
1	P2-SC	System controller for integrating into CommanderCenter	<b>06.005.505.1</b>	1 unit
<b>Analogue user station</b>				
1	P2-EUST	Analogue access 1 with PS/2 USB or SUN USB console with improved video quality	<b>06.005.526.1</b>	1 unit
<b>Digital user station</b>				
1	P2-USTIP1	1 digital access, 1 local port with PS/2, USB or SUN USB for Paragon II	<b>06.005.524.1</b>	1 unit
1	P2-USTIP2	2 digital accesses, 1 local port with PS/2, USB or SUN USB for Paragon II	<b>06.005.525.1</b>	1 unit
<b>Computer Interface Module</b>				
	P2CIM-PS2	CIM for PS/2	<b>06.005.530.1</b>	1 unit
	P2CIM-PS2-32PAC	CIM for PS/2	<b>06.005.531.1</b>	32 unit
	P2CIM-PS2-64PAC	CIM for PS/2	<b>06.005.532.1</b>	64 units
	P2CIM-SUN	CIM for SUN	<b>06.005.533.1</b>	1 unit
	P2CIM-USB	CIM for USB	<b>06.005.534.1</b>	1 unit
	P2CIM-SUSB	CIM for SUN USB	<b>06.005.535.1</b>	1 unit

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KVM



KVM

## IP Extender / IP Reach

KVM IP remote access via Internet, LAN/WAN or modem/ISDN

With IP Reach you can quickly, easily and extremely reliably access remote-controlled to several servers that are connected with a KVM (keyboard, video, mouse) switch and operate them regardless of where you or your servers are.

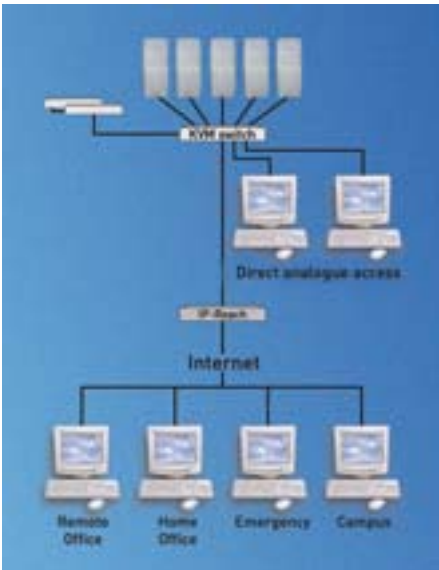
### Area of application

IP Reach can be connected to outputs for keyboard, monitor and mouse of a server or to a KVM switch. It uses a high-performance real-time video-digitalised and video compression algorithm, with which the video signal is received, digitalised and compressed and then transmitted to a remote PC.

The remote user has the ability to directly access and fully control the destination server.

Use IP Reach at any time and from anywhere for convenient server access:

- Server control from inside and outside a building
- Central administration of servers in branch offices
- Provides remote support for global data centers
- Problem-free, reconfiguration and restart of servers from your home
- Provides convenient and secure lights-out server administration



KVM20261

### Features (TR and M Series)

- Up to 4 IP access ports for KVM switches or servers and up to 4 direct, analogue access ports
- Web-based KVM access via Internet, LAN/WAN or dial-in modem
- Web-based access to serial console
- Web-based administration of IP Reach environments
- DHCP or fixed IP configuration
- Network-independent access via integrated modem (TR Series) or dedicated modem port (M Series)
- High-performance energy supply and fault-free Ethernet (TR Series)
- SNMP-capable
- Keyboard macro mapping
- No effect on the performance capacity of the destination server
- Upgrades of firmware possible via network
- SSL 128 bit, RSA public key, 128 bit private input encryption
- User confirmation with optional RADIUS support
- Use of only one additional, open network port for protecting firewall settings
- Individually configurable user profiles for multi-level security
- Private security button and IP filtering
- User event logging
- Ability to deactivate modem and browser access
- Automatic log-out of inactive users

Dimensions in mm: W = Width  
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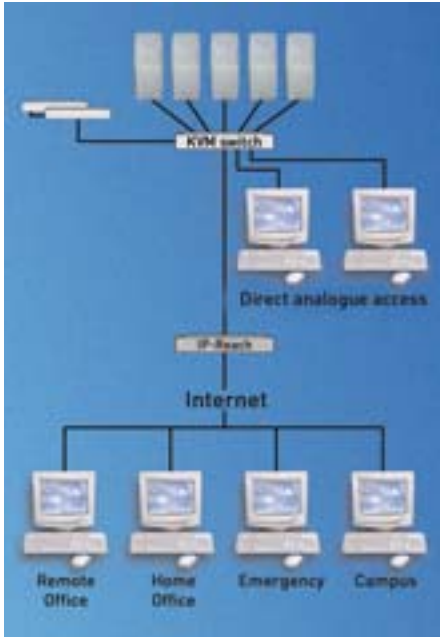
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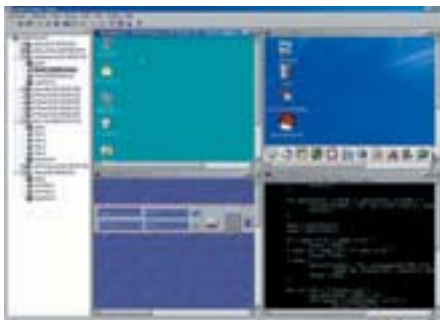
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KVM20259



KVM20261



KVM20260

IP Reach works using standard web browsers and enables simultaneous observation of the server across the platforms. It is compatible with KVM switches from Raritan and other manufacturers.

## IP Extender / IP Reach KVM IP remote access via Internet, LAN/WAN or modem/ISDN

- Weight:**  
13.4 Kg
- Power supply:**  
Redundant, 110/220V auto-switching; 50-60 Hz
- KVM ports:**  
DB25 female — for servers or KVM switch  
IPR-TR364 — 4 Ports
- Users connections:**  
DB25 male — for user consoles  
Direct analogue access  
IPR-TR364 — 4 ports
- Serial connection:**  
DB9M (DTE)
- Admin connection:**  
PS/2 keyboard; PS/2 mouse;  
HD15 VGA Video

- Remote access**
- Network: Dual failover, 10/100 Ethernet (RJ45)
- Modem: Integrated 56K V.90 (RJ11 port)
- Protocols: TCP/IP, UDP, RADIUS, SNMP, SNTIP, DHCP, PAP, CHAP, HTTP

- Screen resolution**
- PC text mode: 720x400
- PC graphic mode: 640x480, 800x600, 1024x768, 1152x864, 1280x1024
- Sun® video mode: 1024x768, 1152x900, 1280x1024

- Accessories (included in the supply schedule)**
- Cable: All cables for connection to the PC or a KVM switch
- Remote acc. software: Raritan Remote Control software or access via web browser (Win32)

## IP Reach, M Series

- Model:** 1HU, wall rack including Rackmount bracket
- Dimensions:** 436mm (W) x 264mm (D) x 44mm (H)
- Weight:** 3.91 Kg — IPR-M2  
3.82 Kg — IPR-M1
- Power supply:** 110/220V auto-switching; 50-60 Hz
- KVM connections:** DB25 female
- For servers or KVM switch**  
IPR-M2 — 2 ports  
IPR-M1 — 1 port

- User connections:** PS/2 keyboard; PS/2 mouse; HD15 VGA video; for user consoles, direct analogue access
- IPR-M2 — 2 ports  
IPR-M1 — 1 port
- Serial connection:** DB9M (DTE)
- Admin connection:** PS/2 keyboard; PS/2 mouse; HD15 VGA video

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length  
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 = Express item

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KVM20259

### IP Reach, Lara ECO

Dimensions: 107mm (W) x  
177mm (D) x 22mm  
(H)  
Weight: 0.5 kg  
Power supply: Ext. plug-in power  
3.3V/2.5A

#### Ports

Local port: 2 x PS/2 for keyboard and mouse  
HD 15 connector for monitor  
Serial port: Configuration, external modem

#### KVM transmission

Transmission: Keyboard, video and mouse signals  
Screen resolution: Max. 1280x1024 pixels with 75 Hz frame frequency  
Data rate: Automatic adjustment to the transmission channel  
Operation: Via all Java-capable browsers

#### Remote access

Network: 10/100 Ethernet (RJ45)  
IP configuration: With DHCP/bootp or static protocols:  
HTTP/1.1 and HTTPS (secure) Web Server Proprietary Console Video Protocol

HU	Model	Model	Order no.	UP
1	IPR LARA eco	1 user	<b>06.005.162.1</b>	1 unit
2	IPR - TR464	4 users	<b>06.005.128.1</b>	1 unit

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KVM20256



KVM21015

## KVM Switch, Dominion KX KVM control using web browser

The Dominion KX is a secure, digital KVM device in the enterprise class that combines analogue switching with the high performance KVM via IP technology (remote access).

### Area of application

On the server rack the Dominion KX enables control at BIOS level of up to 32 servers and other IT devices via just one keyboard, one monitor and one mouse. In contrast to most other KVM solutions the Dominion KX has additional integrated capacities for remote access. Using a web browser you consequently obtain the same control at BIOS level of the servers from everywhere. The Dominion KX, which is designed for all IT areas, combines unrestricted access with a high degree of security, integrated interface for power supply control, easy administration and the highest possible video quality. This is all combined in one device with only 1 HU that can be either operated as "stand alone" or with other solutions, including CommandCenter™.

### System components

The Dominion KX consists of two components: the digital KVM Switch and the Computer Interface Module (CIM).

Each CIM is connected with the KVM ports of a server and delivers a "keep alive" keyboard/mouse emulation, which ensures that the server never crashes. The CIMs also convert video signals for transmission via UTP cable (Cat5/5e/6).

The Dominion KX Switch is connected with each CIM and provides KVM via IP capacities for remote access and a port for local access for controlling the servers in the server rack.

Remote users can access the Dominion KX via each networked workstation with a standard web browser.

### Features

- Easy to install in server rack with a form factor of 1HU
- Local user port for access in the server rack
- Integrated user interface for power supply control
- UTP cabling (Cat5/5e/6)
- Highest port density
- Plug&Play installation
- Multi-platform CIMs for PS/2, Sun and USB equipment
- Dual Fail Over 10/100 Ethernet
- Public SSL 128 bit RSA "public key", 128 bit "private key" encryption
- All data, including video transmission, is encrypted
- Central authentication with LDAP, RADIUS or active directory support
- Protocolling and authentication of the local access and remote access
- Use of only one configurable TCP port for maintenance of strict firewall settings
- Adjusted user profiles
- Flash firmware updates
- Integrated web-based solution for access and administration
- Intuitive graphic user interface (GUI)
- High colour support (15-Bit+)
- Adjustable video settings for various bandwidths
- Lowest bandwidth requirement
- Quickest mouse synchronisation

Dimensions in mm: W = Width  
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KVM20256

## KVM Switch, Dominion KX KVM control using web browser

### Model

1HU/19" width  
 (19" brackets also supplied)  
 Operating temperature: 0° – 40°C  
 Humidity: 20% - 85% RH

### Port for local access

Video: HD15(F) VGA  
 Keyboard/mouse: Mini DIN6(F) PS/2  
 mouse: USB A (F)

### Screen resolutions

PC text mode: 720x400  
 PC graphic mode: 640x480, 800x600,  
 1024x768, 1152x864,  
 1280x1024  
 Sun® video mode: 1024x768, 1152x900,  
 1280x1024

### Remote connection

Network: Dual Fail Over  
 10/100 Ethernet (RJ45)  
 Modem port: DB9(F) DTE  
 Protocols: TCP/IP, HTTP,  
 HTTPS, UDP,  
 RADIUS, LDAP(S),  
 SNTP, DHCP, PAP,  
 CHAP

### Component specifications

W	H	D	kg	HU	Power supply	Model
429	44	290	3.90	1	100V/240V, 50/60Hz, 0.6A	KX116 / kX132
429	44	290	3.90	1	100V/240V, 50/60Hz, 0.6A	KX216 / kX410
429	44	290	4.10	1	100V/240V, 50/60Hz, 0.6A	KX232 / kX432
429	88	290	4.50	2	100V/240V, 50/60Hz, 0.6A	DKX464
33	15	76	0.09			DCIM-x

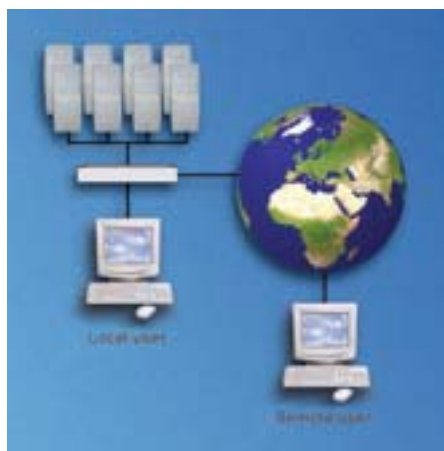
Model	Model	Order no.	UP
DKX101	1 remote user, 1 server port	<b>06.005.179.1</b>	1 unit
DKX116	1 remote user, 1 local port, 16 server ports	<b>06.005.370.1</b>	1 unit
DKX132	1 remote user, 1 local port, 32 server ports	<b>06.005.371.1</b>	1 unit
DKX216	2 remote users, 1 local port, 16 server ports	<b>06.005.372.1</b>	1 unit
DKX232	2 remote users, 1 local port, 32 server ports	<b>06.005.373.1</b>	1 unit
DKX416	4 remote users, 1 local port, 16 server ports	<b>06.005.374.1</b>	1 unit
DKX432	4 remote users, 1 local port, 32 server ports	<b>06.005.375.1</b>	1 unit
DKX464	4 remote users, 1 local port, 64 server ports	<b>06.005.376.1</b>	1 unit

### Computer Interface Module

DCIM-PS2	CIM for PS/2	<b>06.005.173.1</b>	1 unit
DCIM-SUN	CIM for SUN	<b>06.005.174.1</b>	1 unit
DCIM-USB	CIM for USB	<b>06.005.175.1</b>	1 unit
DCIM-SUSB	CIM for SUN USB	<b>06.005.176.1</b>	1 unit

Dimensions in mm: W = Width  
 H = Height  
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 h = Installation height  
 d = Useable depth  
 L = Length  
 HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pound



KVM20294

## KVM Switch MasterConsole, IP KVM control using web browser

The Dominion IP provides an 8 or 16-port high performance KVM switch that combines analogue switching with the high performance KVM via IP technology (remote access).

### Area of application

The MasterConsole IP requires only 1 HU. It reliably controls up to 8 or 16 servers locally or remotely, and provides complete web browser-based remote access – also for local access via standard monitor, keyboard and mouse. And all this in the best possible picture quality. The switch is operated via an on-screen display or a web-based interface.

### Features

- Compact solution in only 1 HU
- No additional software or licenses required
- Quickest browser-based screen video
- Highest possible security thanks to SSL Standard up to 256 bit
- Auto calibration and automatic adjustment of the display window on the screen resolution of the remote computer
- Support of all Vesa graphic and text modes
- Intuitive on-screen display
- Individual user access to specific KVM ports can be restricted
- Up to 200 user profiles can be individually defined with individual rights

- Certificate management
- Configurable TCP/IP port numbers
- Individual user access to specific KVM ports can be restricted

### Component specifications

Dimensions: 438mm (W) x 279mm (D) x 44mm (H)  
Power supply: 115 V/230 V autosensing

### Remote connection

Network: 10/100 BaseT – Ethernet with autosensing (RJ45) LEDs for link, 10/100 Mbit/s and activity  
Protocols: TCP/IP, HTTP, HTTPS, SNMP, DHCP

### Port for local access

Video: HD15(F) VGA  
Keyboard/mouse: Mini DIN6(F) PS/2

### KVM Port

MCIP18 8 x HD 15 Comboconnector  
MCIP116 16 x HD 15 Comboconnector

### Screen resolutions

Local port: 1920x1440 with 60Hz  
IP port: 1600x1200 with 75Hz

HU	Model	Model	Order no.	UP
1	MCIP18-PAC	MasterConsole IP18, 1 user 8 ports, bundle incl. 8x CMCIP20 2M, cable	<b>06.005.554.1</b>	1 unit
1	MCIP116-PAC	MasterConsole IP116, 1 user, 16 ports, bundle incl. 8x CMCIP20 2M, 8x CMCIP40 4M, cable	<b>06.005.555.1</b>	1 unit

Connection cable	Length	Connections	Order no.	UP
MCIP system cable, 1.8	1.8 m		<b>06.005.565.9</b>	1 unit
MCIP system cable, 3.0	3.0 m		<b>06.005.566.9</b>	1 unit
MCIP system cable, 6.0	6.0 m		<b>06.005.567.9</b>	1 unit





KVM20256

## Serial Console Server SX

### Strong points

Dominion SX enables IT employees to safely monitor and control all serial equipment at all times and from anywhere.

#### ■ Area of application

The Dominion SX Series includes everything that you could ever expect from a secure console server – and more! A secure and scalable solution, easy to install and easy to use. The Dominion SX enables central administration of all users, servers and IT equipment, including:

- Servers and headless servers:  
Sun Solaris®, Sun Cobalt®, HP-UX®, UNIX®, Linux servers, IBM®/AIX® servers, Windows® 2003 servers
- WAN equipment  
ISDN terminal adapter, channel banks, CSU/DSU, PBX/PABX
- Network equipment  
Routers, Ethernet switches, Ethernet firewalls, Ethernet load balancer
- Power management All serial controlled power strips and UPS equipment

#### ■ System components

Depending on the model, the devices have 16 or 32 ports. Connection of the serial devices is made via Cat5(E)/6 with a corresponding adapter as 9DB or 25DB plug-in.

#### ■ Features

- Light and convenient point-and-click access via a web browser from a desktop computer or laptop.
- Procurement, administration and maintenance of SSH and/or terminal client software for host and client not required.
- TCL scripts for remote monitoring and results notification simplify the system administration tasks.
- Can be put into operation in minutes with Plug&Play and without client software.
- Maximum security – Encrypts the entire communication with the 128 bit secure socket layer (SSL) handshake protocol and RC4.
- The architecture prevents unauthorized and unintentional adding, changing and deletion and refuses access to the console server's operating system.
- All users and administrators use the same type of authentication, authorization and accounting (AAA).
- Supports user-defined security certificates.
- Encrypts and saves usernames and passwords with the MD5 hash code.

Dimensions in mm: W = Width      HU = Standard height unit  
 H = Height                      1 HU = 44.45 mm  
 D = Depth                      UP = Unit of packaging  
 h = Installation height      kg = Weight  
 d = Useable depth  
 L = Length                       = Express item

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KVM20256

## Serial Console Server SX

### Secure control using web browser

Dominion SX enables IT employees to safely monitor and control all serial equipment at all times and from anywhere.

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The Dominion SX Series includes everything that you could ever expect from a secure console server – and more! A secure and scalable solution, easy to install and easy to use. The Dominion SX enables central administration of all users, servers and IT equipment, including:

- Servers and headless servers: Sun Solaris®, Sun Cobalt®, HP-UX®, UNIX®, Linux servers, IBM®/AIX® servers, Windows® 2003 servers

- WAN equipment  
ISDN terminal adapter, channel banks, CSU/DSU, PBX/PABX
- Network equipment  
Routers, Ethernet switches, Ethernet firewalls, Ethernet load balancer
- Power management: all serial controlled power strips and UPS equipment

#### ■ System components

Depending on the model, the devices have 16 or 32 ports. Connection of the serial devices is made via Cat5(E)/6 with a corresponding adapter as 9DB or 25DB plug-in.

HU	Model	Model	Order no.	UP
1	SX16	16 serial ports	<b>06.005.134.1</b>	1 unit
1	SX32	32 serial ports	<b>06.005.135.1</b>	1 unit
Serial adapter				
	ASCSDB9F	RJ45 on DB9 (F)	<b>06.005.136.1</b>	1 unit
	ASCSDB9M	RJ45 on DB9 (M)	<b>06.005.137.1</b>	1 unit
	ASCSDB25F	RJ45 on DB25 (F)	<b>06.005.138.1</b>	1 unit
	ASCSDB25M	RJ45 on DB25 (M)	<b>06.005.139.1</b>	1 unit



## See also: The current Telecom Special Catalogue!

Where you will find more products:

- Indoor 19" rack systems
- Outdoor 19" rack systems
- Free-standing and wall cabinets
- Power supply systems
- Thermal management

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KVM20264

## Serial / KVM Switch, Dominion KSX Remote Office / Remote Branch

Dominion KSX is the first hardware solution that combines an IP access via web browser on KVM and serial device management in one single device.

### Area of application

With the Dominion KSX you no longer have to be personally present in your branch office. In contrast to software-based remote management solutions, the Dominion KSX provides:

- A complete overview over all IT devices that are operated in a branch office.
- A single operating system-independent solution that provides you with centralised and secure control.
- A network-independent access via a built-in modem for access in emergency situations, even when the network has been shutdown.
- Control of your KVM equipment at BIOS level and serial equipment at console level.

### System components

Depending on the model, the devices have 4 or 8 serial ports and 4 or 8 KVM ports. Connection of the serial devices is made via Cat5(E)/6 with a corresponding adapter as 9DB or 25DB plug-in. The KVM ports are connected via CCPT cable, which is available in lengths, 0.6m, 2m, 4m, 6m and 9m.

### Features

- Complete overview via a web browser of all servers and network equipment from one single screen. No additional software required.

- One single log-on and interface ensure easy access to servers and other network equipment
- Built-in modem for emergency access in the event of a network downtime
- Equipment control using cursor, clicking or with command lines
- Secure centralised monitoring and displays
- Easy Plug and Play installation and operation
- Convenient flash upgrades
- Dedicated interface for remote power control
- Port integrated for local access
- One height unit (1HU) — 19" rack
- Multi-platform, PS/2, Sun and USB server
- 64K intermediate storage per serial port
- SSL 128 bit, RSA public key, 128 bit private input encryption
- User identification with RADIUS
- Use of a single open network port in conjunction with firewall settings
- Individually set user profiles
- Automatic logout of inactive users
- Option of deactivating the modem and user access
- To choose from: 4 or 8 KVM console ports and serial ports

### Component specifications

Model:	1 HU, 19" mounting
Dimensions:	44mm (H) x 440mm (W) x 540mm (D)
Weight:	11 kg
Power supply:	110/240V, auto-switching; 50-60 Hz
KVM	4 (KSX 440) / 8

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KVM20264



KVM20265

## Serial / KVM Switch, Dominion KSX

### Remote office solution, KVM and serial in one device

Dominion KSX is the first hardware solution that combines an IP access via web browser on KVM and serial device management in one single device.

#### Area of application

With the Dominion KSX you no longer have to be personally present in your branch office. In contrast to software-based remote management solutions, the Dominion KSX provides:

- A complete overview over all IT devices that are operated in a branch office.
- A single operating system-independent solution that provides you with centralised and secure control.

- A network-independent access via a built-in modem for access in emergency situations, even when the network has been shutdown.
- Control of your KVM equipment at BIOS level and serial equipment at console level.

#### System components

Depending on the model, the devices have 4 or 8 serial ports and 4 or 8 KVM ports. Connection of the serial devices is made via Cat5(E)/6 with a corresponding adapter as 9DB or 25DB plug-in. The KVM ports are connected via CCPT cable, which is available in lengths, 0.6m, 2m, 4m, 6m and 9m.

HU	Model	Model	Order no.	UP
1	KSX440	1 remote user x 4 serial ports x 4 KVM ports	<b>06.005.132.1</b>	1 unit
1	KSX880	1 remote user x 8 serial ports x 8 KVM ports	<b>06.005.133.1</b>	1 unit
<b>Serial adapter</b>				
	ASCSDB9F	RJ45 on DB9 (F)	<b>06.005.136.1</b>	1 unit
	ASCSDB9M	RJ45 on DB9 (M)	<b>06.005.137.1</b>	1 unit
	ASCSDB25F	RJ45 on DB25 (F)	<b>06.005.138.1</b>	1 unit
	ASCSDB25M	RJ45 on DB25 (M)	<b>06.005.139.1</b>	1 unit

Connection cable	Length	Connections	Order no.	UP
CCP06	0.6 m		<b>06.005.210.1</b>	1 unit
CCPT20	2.0 m		<b>06.005.211.9</b>	1 unit
CCPT40	4.0 m		<b>06.005.212.9</b>	1 unit
CCPT60	6.0 m		<b>06.005.213.9</b>	1 unit
CCPT90	9.0 m		<b>06.005.214.9</b>	1 unit

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KVM20262



DOS80002



DOS80002

## KVM Remote Power Control Socket Strips

### Strong points

These socket strips for remote control enable system administrators to safely monitor and control the power for data center equipment from any location via web browser, serial or via an "out-of-band" access.

#### Area of application

In the event of a system fault and/or a system blocking, rebooting is often the only option and is of decisive importance. The remote socket strips make manual interruption and dispatching personnel unnecessary; the downtimes and mean times to repair (MTTR) are reduced and productivity is ultimately increased. The socket strips provide full compatibility with Paragon, IP -Reach™, Dominion™, and CommandCenter, the solutions for managing data centers, and therefore enable remote monitoring, rebooting and shutdown of all equipment, without requiring procurement of additional expensive devices, navigation of several different menus or maintenance of different levels of passwords or IDs. Access and control of remote power control units is attained using one of the following options:

- Via a serial interface with the AUATC serial terminal converter or the SCS232 ConsoleSwitch™.
- Via the dedicated power control interface with the Dominion.
- Via a Raritan remote client with IP Reach.

#### System components

Depending on the model, the socket strips have 8, 12 or 20 IEC-320 sockets. Each strip has individually controllable relays, which enable the user to monitor current, voltage and energy.

#### Features

- Absolute compatibility with Paragon, IP-Reach™, Dominion™ and CommandCenter
- "True RMS" current and voltage monitoring with alarm signal with overloading and LED indicators
- Switching status remains with power failure
- Individual or multiple controlling of individual sockets
- Programmable unit IDs and name assignment of the individual socket strip connections
- Voltage monitoring
- Available in 1 HU or zero HU model
- 10 or 16 amp current intensity
- Acoustic overvoltage signal
- Outputs individually monitored

#### IP Ready

- Web interface
- IPMI 2.0 interface
- SMASH CLI interface
- SNMP alarm signalling and SNMP MIB
- Controls with the Raritan Command Center Secure Gateway

#### Supervision and control

- All outputs can be controlled remote and local
- Power, current, voltage
- RMS power and RMS current
- "History" function

#### Safety

- Modern fuse systems
- Alarm and trap signals to different destinations
- AES 256 hardware
- User authentication via LDAP, MSAD, CCSG
- SSH CLI

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## ■ Monitoring

- Internal temperature sensor
- “Feature bus” (RS 485 + single wire) for external sensors

## ■ Power metering

- Max. load rating: 30A, 7200 W
- Available measured variables per output:
  - Average power consumption
  - Real power effective value
  - Voltage effective value
  - Current effective value
  - Apparent power
- The maximum actual value present is saved and can be also be deleted
- All measurement results can be retrieved via IPMI, SNMP, DES SMASH CLI or HTML interface
- HTML interface for visualising data history

## ■ Power control

- Each connection can be controlled separately
- Programmable switch-on delay
- User-definable
- Outputs can be programmed in virtual groups
- Groups can be defined and real connections can be assigned to groups
- All outputs can communicate with IPMI, SNMP, SMASH CLI and HTML interface protocols
- 2 fuses per output and group
- Settable tripping current

## ■ Alarm signalling

- Limit values for current and voltage can be freely set
- Alarm signalling via e-mail (SMS), SNMP trap

- Critical values are displayed red in the browser window
- Alarm states
- Fuse tripping
- Alarm with an internal temperature of 80°C; automatic alarm switch-off when the temp. goes back below 70°C

- Alarm when set current and voltage limit values are reached
- Total power display of the connected devices and the effective power consumption
- Status display of fuses
- Connection option for sensors
  - Temperature / air humidity
  - Digital sensors

## ■ Housings / Connections

- All 0, 1 and 2 HU models have: LED displays
- Can switch between different outputs
- Show the current power consumption
- Status display of fuses
- Serial RJ 11
- SMASH CLI (IPMI profiles)
- RJ 45 Ethernet 10/100
- All IP-based connections
- Links status and 10/100 Status per LED
- Feature connector
- RS 485 interface
- 1 wire bus
- Connection for external sensors
- Beeper for acoustic signal (release of circuit breaker)

## ■ LEDs control

- Off = unit is not connected to power, control circuitry’s power supply is defective, LED is defective
- Red = ON (relay closed) and LIVE (voltage present)

- Red flashing = ON and LIVE, but there is overload, current has crossed critical threshold
- Green = OFF (Relay open) and LIVE
- Yellow flashing = ON but NOT LIVE (circuit breaker open, or other high voltage rail error)
- Green flashing = OFF but NOT LIVE

## ■ Linux Core (2.6)

- Standard Security Architecture
  - Independent authentication
  - Authentication on LDAP, MSAD, NDS
  - Server-side certificates
  - User rights per outlet
  - SSL encryption
- Standard interfaces
  - Web-based access
  - IPMI, IPMI clients with LAN channel support
  - SMASH CLI (serial, LAN)
  - WS MAN (1Q 2007)
  - Baytech SNMP over serial
- Standard protocols
  - IP v4, IP v6 (from Q2 2007)
  - SNMP

## ■ Integration in KVM products

- Seamless integration into Raritan IT management and access products
  - Analogue KVM Switches–Paragon II
  - Digital KVM Switches–Dominion KX
  - Serial Console Servers–Dominion SX
  - Remote Office Products–Dominion KXS
- Compatible with earlier Raritan Remote Power Control units
- Command Center Ready (from CC SG 3.1+)
- Connection with a Power CIM to the CAT 5 ports (KX, KXS, Paragon II)

Model	HU	Model	V/A	Plug	Order no.	UP
DPCS 12A-16 Remote PDU	0	12x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.281.1</b>	1 unit
DPCS 20A-16 Remote PDU	0	20x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.282.1</b>	1 unit
DPCS 20A-32 Remote PDU	0	20x IEC320 C13	230V/32A	IEC60309 32A	<b>06.005.283.1</b>	1 unit
DPCR 8A-16 Remote PDU	1	8x IEC320 C13	230V/16A	IEC60309 16A	<b>06.005.284.1</b>	1 unit
DPCR 20A-32 Remote PDU	2	20x IEC320 C13	230V/32A	IEC60309 32A	<b>06.005.287.1</b>	1 unit
P2-PWR-CIM					<b>06.005.280.1</b>	1 unit
D2-PWR-CIM					<b>06.005.288.1</b>	1 unit





KVM20258

## CommandCenter – Secure Gateway

### Strong points

CommandCenter is the administration solution from Raritan. The CommandCenter designed for the complete control of the entire company combines the administration of the Raritan Dominion™ Series, the Paragon® and IP-Reach™ Switches and all servers and IT equipment connected to Raritan devices. CommandCenter enables secure access to each device in the entire network and their display via just one IP address. With the integration of servers and network equipment into one single structure view, CommandCenter enables user access and central administration of a global network, at all times and from any location.

#### Area of application

CommandCenter is the ideal solution for companies with at least one data center or several remote branch offices and provides:

- Access to all equipment in the data center and control of all devices via an intuitive graphic interface.
- Temporally and spatially unrestricted options for monitoring, diagnostics and network problem solutions.
- Secure and centralised administration in several data centers, branch offices/subsidiaries and at remote locations via a secure and network-independent device.

#### Features

Centralised server administration

- Single IP address reduces the complexity of administering several Raritan Dominion, Paragon and IP Reach devices, including firmware updates and user access authorizations

- Combines KVM, serial consoles, power strips and devices in remote branch offices/subsidiaries into a single structure view
- Selection between secure remote access with web browser or SSH via the Internet, intranet or VPN to all connected devices

#### Complete security

- CommandCenter combines efficient security features that enable integration into existing authentication tools such as Active Directory, LDAP-S, RADIUS and TACACS+ as well as the use of central security guidelines
- An integrated authentication server provides failure-safety in the event of a problem with an external server or the network
- Solid security guidelines for the authorization of individual users up to port level
- 128 bit-SSL “private” and “public key” encryption
- IP-based access control lists and IP filtering grant or restrict user access
- Flexible options for session timeout and password expiry
- “Strict” authentication of usernames and passwords
- Application architecture executed with embedded, secured Linux operating system

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## CommandCenter

Central control of global IT devices via a web interface

### Hardware

- Processor: 1 GHz AMD Opteron 146
- Working memory: 2 GB
- CD ROM hard drive
- DVD ROM
- Dimensions: 615x485x44mm
- Weight: 10.80kg
- Installation height: 1 HU

### Power supply

1 power supply (1 x 300 watt)

### Operating temperature

0 - 30° C 10 - 35° C  
Mean time between failure (MTBF) 36,354 hours

### KVM administration port

DB15 + PS2 or USB keyboard/mouse  
Serial administration port, DB9

### Software features

- Plug&Play devices – No server or client software installation required
- All features such as access, configuration and administration are accessible via the web browser

- High-performance portal interface enables adjustable groupings and device views based on authorizations
- Automatic detection of Raritan devices with information on device availability, device status and alarm signals
- Flexible user access license model
- Syslog and SNMP integration

### Remote connection

- Network interfaces (2) 10/100/1000 Eth. (RJ45)
- Hard disk and controller (2) 80-GB SATA @7200 rpm, RAID
- Protocols: TCP/IP, UDP, RADIUS, LDAP, TACACS+, SNMP, SNTP, HTTP, HTTPS

### Guarantee

- Two years
- Guarantee extensions by a further two years are also possible

### Component specifications

W	H	D	kg	HU	Model	Order no.	UP
485	44	615	10.8	1	CommandCenter SG CC-V1-128	<b>06.005.167.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG CC-V1-256	<b>06.005.168.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG CC-2x V1-256	<b>06.005.169.1</b>	1 unit
Optional licenses:							
485	44	615	10.8	1	CommandCenter SG-V1 CCL-64	<b>06.005.360.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG-V1 CCL-128	<b>06.005.361.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG-V1 CCL-256	<b>06.005.362.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG-V1 CCL-512	<b>06.005.363.1</b>	1 unit
485	44	615	10.8	1	CommandCenter SG-V1 CCL-1024	<b>06.005.364.1</b>	1 unit
Guarantee extensions (further 2 years)							
					CommandCenter SG WARCC-V1-128-1	<b>06.005.365.1</b>	1 unit
					CommandCenter SG WARCC-V1-256-1	<b>06.005.366.1</b>	1 unit
					CommandCenter SG WARCC-V1-2x 256-1	<b>06.005.367.1</b>	1 unit

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KVM21020

CommandCenter NOC100, NOC250 and NOC2500 are multifunctional management appliances for administering the IT infrastructure, which can resolve the diverse range of problems in a company before they even arise. These products integrate high-grade network and system management, traffic analyses, vulnerability scanning, intrusion detection, asset management and reporting functionalities in an easy to set up appliance.

#### ■ Area of application

CommandCenter NOC subjects your IT infrastructure to continuous testing and consequently ensures the availability of the applications and an optimization of the resources. This provides a decisive minimisation of network failures, degradation, performance slowdowns, security gaps and external attacks on the system. The devices also provide IT decision-makers with sound and proven information for implementing IT

## CommandCenter® NOC

### Strong points

compliance tactics and strategies. External service providers, such as MSPs (managed service providers) or consultants can also monitor your IT environment.

- Network management proactive monitoring and maintenance of all devices and services of a network and alarm function with changes within the IT environment.
- Windows system management enables network administrators to manage servers and workstations using a single repository for performance, inventory and event data.
- Vulnerability scanning and assessment enables network administrators to manage servers and workstations using a single repository for performance, inventory and event data.
- Intrusion detection administrators can monitor and analyse unauthorised access attempts to the system resources.
- Network Traffic Analysis Analysis of traffic flow and compilation of reports on the presence, quantity, direction and frequency of data traffic.
- Asset Inventory and Tracking Ad-hoc inventory reports on hardware and software.

#### ■ The CommandCenter NOC Family

- **CommandCenter NOC 100** supports up to 100 client PCs, 10 servers and 10 network devices.
- **CommandCenter NOC 250** supports up to 250 client PCs, 25 servers and 25 network devices.
- **CommandCenter NOC 2500** is designed for companies or departments of large companies with up to 2500 client PCs, 250 servers and 250 network devices in a network with several locations.

#### Dimensions

(WxHxD): 426x43x358 mm, 1 HU,  
Rack mount-enabled  
Weight: 7.0 kg  
Power: 110V/240V 50/60Hz 5A  
Operating temperature:  
5-40C; 41-104F  
Relative humidity:  
20% - 90% RH

#### ■ Hardware

Processors: Intel Pentium 4-based industrial components  
Screen resolution: PC Text Mode – 720 x 400 (local access/configuration)  
Remote connection Network: Two 10/100/1000 Ethernet (RJ45), LAN 1: Network connection LAN 2: Traffic and intrusion detection  
Local access port - Serial: RS 232(m). Video: HD-15(F) VGA.  
Keyboard: Mini-DIN6(F) or USB A(F).  
Protocols: TCP/IP, HTTP, HTTPS, UDP, SNMP, DHCP

Component specifications							Order no.	UP
W	H	D	kg	HU	Power supply			
426	44	358	7	1	CommandCenter NOC100		1 unit	
426	44	358	7	1	CommandCenter NOC250		1 unit	
426	44	358	7	1	CommandCenter NOC2500		1 unit	

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



## Rapid service

### Express item

Swift express delivery service, smooth ordering process, attractive pricing and a market-oriented offer – that's Knürr reliability!

Each express item that is marked accordingly in this catalog, leaves our European central store 24 hours after your order is received. High-grade quality and standardised solutions that always leave you that decisive step ahead of the competition!

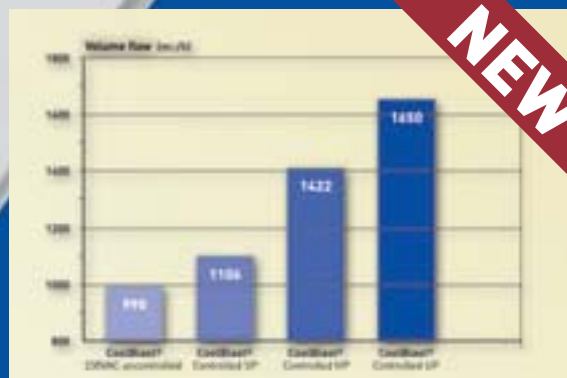
Global sales offices where expert application technicians and sales engineers specifically apply themselves to your special requirements and personally advise you are also available for you around the world. Don't hesitate to use them to your advantage!

# Thermal Management

12.2 to 12.14



# CoolBlast®: “Power up – Cool down!”



## Modularity

Selection according to required volume flow. Adjustment is made specifically via fan selection in acc. with three performance classes:

- **Standard Performance** (axial fan)
- **High Performance** (axial fan with high speed)
- **Ultra High Performance** (diagonal fan)



## Grid (optimised flow)

- With very low pressure loss so that high module cooling power is guaranteed
- The structural design contributes to considerable noise reduction



## Thermostat

- Switching the unit on and off – thermostat-regulated
- Can be set to desired temperatures





1 LUF20125



1 LUF20140



2 LUF20056



3 LUF20054



4 LUF20077

## CoolBlast® Fan Unit Strong points

The constantly increasing power losses of electronic modules make high demands on the effective cooling of electronic modules.

Large airflow volumes ensure secured heat dissipation, whereby higher airflow speeds reach the components, which leads to better heat transfer.

The packing densities of electronics in racks also continue to increase. Fans with high pressure jump overcome the resulting higher increased pressure loss.

The space-saving 1 HU construction guarantees maximum installation space for our customers' equipment.

1 The **CoolBlast®** fan unit from Knürr is available as a slot in unit with 3 and 6 fans for vertical ventilation of installed modules. The airflow required for cooling is primarily determined by the fan selection.

Fans in three different performance classes are available (Standard, High, and Ultra High Performance). Quiet axial fans and special diagonal fans with an especially high support rate for cooling air can be selected.

2 To ensure that plenty of cooling air reaches the electronic components, **CoolBlast®** has an IP protective grid with high free cross-section surface. The grid form minimises the pressure loss of the streaming airflow and reduces the streaming noise.

3 The Knürr **CoolBlast®** adjusts its cooling airflow to the power loss to be cooled. The temperature-regulated control of the fan rotation optimises noise emission and the lifetime of the fans. The maximum reference temperature is set at the front.

A fan failure detector ensures high operational reliability. Exceeding the reference tempera-

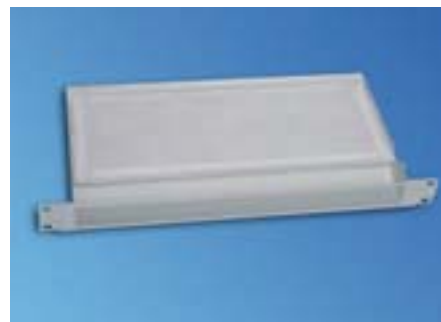
ture is also detected in the same way. The fault signalling can be processed further with the rack monitoring system, **RMS**.

A simple thermostat-controlled model is also available.

4 Optimum heat dissipation of the-cooled module is attained with the high airflow volumes and pressure jumps in the **CoolBlast®** fan unit. Building-specific CFD simulations can optimise each customer thermal management application.

5 Air conduction components, optionally with filter, round off the product range. The filter mat protects the electronic components in use from dirt build-ups and dust, and can be changed during running operation.

In addition to the **CoolBlast®** fan unit, a number of other components and accessory parts are also available for thermal management in server and network rack systems.



5 LUF20133



LUF20125



LUF20139

## CoolBlast® Fan Unit Non-regulated

- Fan unit for vertical cooling of modules in 19" racks
- Chassis runners are recommended for mounting. Chassis runners are required with 6-piece CoolBlast.

### Material

Sheet steel, high-grade steel grid

### Finish / Colour

Housing, zinc-plated  
Front panel, powder-coated, smooth  
in RAL 7035 light-grey

### How supplied

Assembled, wired and tested

### Approvals

CE Label in acc. with  
low voltage directive 73/23/EEC,  
EMC directive 89/366/EEC

### Supply schedule

1 CoolBlast fan unit,  
packed with operating instructions

Only with DC devices:  
1 connection cable, 2 m with connector  
plug and free ends

Only with 230V AC devices:  
1 2 m power supply lead, Euro

### Note

Please also order specific mains cable  
[see page 12.15]!

Name	W	H	D	kg	n	Elec. connection	P(W)	$\dot{V}$ (m <sup>3</sup> /h)	$\Delta P$ (Pa)	p(dB(A))	Order no.
CoolBlast 230V 3-piece	440	43.6	230	3	3	207 ... 253VAC; 50/60Hz	45	495	74	45.2	<b>03.027.001.1</b>
CoolBlast 230V 6-piece	440	43.6	390	6	6	207 ... 253VAC; 50/60Hz	90	990	74	48.8	<b>03.027.002.1</b>
CoolBlast 115V 3-piece	440	43.6	230	3	3	103.5 ... 126.5VAC; 50/60Hz	44	576	88	47.3	<b>03.027.004.1</b>
CoolBlast 115V 6-piece	440	43.6	390	6	6	103.5 ... 126.5VAC; 50/60Hz	88	1152	88	50.8	<b>03.027.005.1</b>
CoolBlast 24V 3-way SP	440	43.6	230	2.5	3	12 ... 27VDC	23	553	68	49.6	<b>03.027.031.1</b>
CoolBlast 24V 6-way SP	440	43.6	390	5	6	12 ... 27VDC	46	1106	68	53.3	<b>03.027.032.1</b>
CoolBlast 24V 3-way HP	440	43.6	230	3	3	12 ... 25VDC	30	711	160	55.8	<b>03.027.034.1</b>
CoolBlast 24V 6-way HP	440	43.6	390	6	6	12 ... 25VDC	60	1422	160	59.1	<b>03.027.035.1</b>
CoolBlast 24V 3-way UP	440	43.6	230	3	3	16 ... 26VDC	62	825	310	61.8	<b>03.027.037.1</b>
CoolBlast 24V 6-way UP	440	43.6	390	6	6	16 ... 26VDC	123	1650	310	65.1	<b>03.027.038.1</b>
CoolBlast 48V 3-way SP	440	43.6	230	3	3	36 ... 55VDC	24	553	68	49.6	<b>03.027.041.1</b>
CoolBlast 48V 6-way SP	440	43.6	390	6	6	36 ... 55VDC	48	1106	68	53.2	<b>03.027.042.1</b>
CoolBlast 48V 3-way HP	440	43.6	230	3	3	36 ... 55VDC	54	826	160	58.6	<b>03.027.044.1</b>
CoolBlast 48V 6-way HP	440	43.6	390	6	6	36 ... 55VDC	108	1652	160	62	<b>03.027.045.1</b>
CoolBlast 48V 3-way UP	440	43.6	230	3	3	36 ... 53VDC	60	825	310	61.9	<b>03.027.047.1</b>
CoolBlast 48V 6-way UP	440	43.6	390	6	6	36 ... 53VDC	119	1650	310	65.3	<b>03.027.048.1</b>



LUF20127



LUF20138

## CoolBlast® Fan Unit Thermostat-controlled

- Fan unit for vertical cooling of modules in 19" racks
- Fan function (ON/OFF) thermostat-controlled, setting from 0°C to 60°C
- Chassis runners are recommended for mounting. Chassis runners are required with 6-piece CoolBlast.

### Material

Sheet steel, high-grade steel grid

### Finish / Colour

Housing, zinc-plated  
Front panel, powder-coated, smooth  
in RAL 7035 light-grey

### How supplied

Assembled, wired and tested

### Approvals

CE Label in accordance with  
low voltage directive 73/23/EEC,  
EMC directive 89/366/EEC

### Supply schedule

1 CoolBlast fan unit,  
packed with operating instructions

Only with DC devices:  
1 connection cable, 2 m with connector  
plug and free ends

Only with 230V AC devices:  
1 2 m power supply lead, Euro

Name	W	H	D	kg	n	Elec. connection	P(W)	$\dot{V}$ (m <sup>3</sup> /h)	$\Delta P$ (Pa)	p(dB(A))	Order no.
CoolBlast 230V 3-piece, thermostat	440	43.6	230	3	3	207 ... 253VAC; 50/60Hz	45	495	74	45.2	<b>03.027.011.1</b>
CoolBlast 230V 6-piece, thermostat	440	43.6	390	6	6	207 ... 253VAC; 50/60Hz	90	990	74	48.8	<b>03.027.012.1</b>
CoolBlast 115V 3-piece, thermostat	440	43.6	230	3	3	103.5 ... 126.5VAC; 50/60Hz	44	576	88	47.3	<b>03.027.014.1</b>
CoolBlast 115V 6-piece, thermostat	440	43.6	390	6	6	103.5 ... 126.5VAC; 50/60Hz	88	1152	88	50.8	<b>03.027.015.1</b>



LUF20128



LUF20140

## CoolBlast® Fan Unit Speed-controlled

- Fan unit for vertical cooling of modules in 19" racks
- Reference temperature can be set (20°C to 55°C)
- Speed regulation 30% to 100% of the nominal speed; with sensor break 100% speed
- Individual fan monitoring
- Digital alarm output for excess temperature alarm and fan failure
- Optical status display for O.K., excess temperature and fan failure
- Acoustic warning with push-button
- Chassis runners are recommended for mounting. Chassis runners are required with 6-piece CoolBlast.

**Material**  
Sheet steel, high-grade steel grid

**Finish / Colour**  
Housing, zinc-plated  
Front panel, powder-coated, smooth in RAL 7035 light-grey

**Approvals**  
CE Label in accordance with low voltage directive 73/23/EEC, EMC directive 89/366/EEC

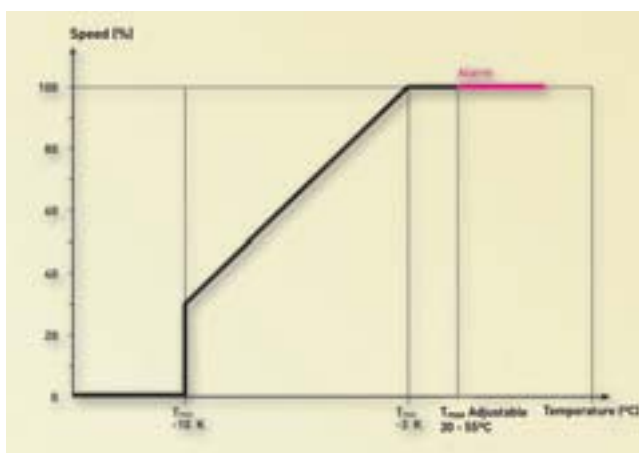
**Supply schedule**  
1 CoolBlast fan unit, packed with operating instructions  
1 sensor cable, 2 m (plug-in)  
1 signal cable, 2 m (plug-in)

Only with DC devices:  
1 connection cable, 2 m with connector plug and free ends

Only with AC devices:  
1 2 m power supply lead, Euro

**How supplied**  
Assembled, wired and tested

**Note**  
Further characteristics can be implemented project-related in line with standards.



LUF20179

Name	W	H	D	kg	n	Elec. connection	P(W)	V̇(m³/h)	ΔP(Pa)	p(dB(A))	Order no.
CoolBlast 115/230V, 3-piece, controlled SP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	25	553	68	49.6	<b>03.027.021.1</b>
CoolBlast 115/230V, 6-piece, controlled SP	440	43.6	390	6.2	6	100 to 253VAC; 50/60Hz	48	1106	68	53.3	<b>03.027.022.1</b>
CoolBlast 115/230V, 3-piece, controlled HP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	32	711	173	55.8	<b>03.027.024.1</b>
CoolBlast 115/230V, 6-piece, controlled HP	440	43.6	390	6.2	6	100 to 253VAC; 50/60Hz	62	1422	173	59.1	<b>03.027.025.1</b>
CoolBlast 115/230V, 3-piece, controlled UP	440	43.6	230	3.4	3	100 to 253VAC; 50/60Hz	64	825	310	61.8	<b>03.027.027.1</b>
CoolBlast 115/230V, 6-piece, controlled UP	440	43.6	390	6.4	6	100 to 253VAC; 50/60Hz	125	1650	310	65.1	<b>03.027.028.1</b>
CoolBlast 24/48V, 3-piece, controlled SP	440	43.6	230	3.1	3	20 to 60VDC	25	553	68	49.6	<b>03.027.051.1</b>
CoolBlast 24/48V, 6-piece, controlled SP	440	43.6	390	6.1	6	20 to 60VDC	48	1106	68	53.3	<b>03.027.052.1</b>
CoolBlast 24/48V, 3-piece, controlled HP	440	43.6	230	3.1	3	20 to 60VDC	32	711	173	55.8	<b>03.027.054.1</b>
CoolBlast 24/48V, 6-piece, controlled HP	440	43.6	390	6.1	6	20 to 60VDC	62	1422	173	59.1	<b>03.027.055.1</b>
CoolBlast 24/48V, 3-piece, controlled UP	440	43.6	230	3.3	3	20 to 60VDC	64	825	310	61.8	<b>03.027.057.1</b>
CoolBlast 24/48V, 6-piece, controlled UP	440	43.6	390	6.3	6	20 to 60VDC	125	1650	310	65.1	<b>03.027.058.1</b>

Dimensions in mm: W = Width  
H = Height  
D = Depth  
h = Installation height  
d = Useable depth  
L = Length

HU = Standard height unit  
1 HU = 44.45 mm  
UP = Unit of packaging  
kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch      1 kg = 2.2046 pound

SP = Standard Performance  
HP = High Performance  
UP = Ultra High Performance

n = Number of fans  
P = Power consumption (W)  
V̇ = Airflow volume (m³/h)  
ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pa)  
I<sub>nom</sub> = Nominal current (A)  
I<sub>max</sub> = Residual current (A)  
V = Voltage (400V = 3-phase)  
p = Sound pressure (dB(A)) in 1 m from the rack (600 mm x 600 mm; raised cover)



LUF20148



1 LUF20056



2 LUF20136



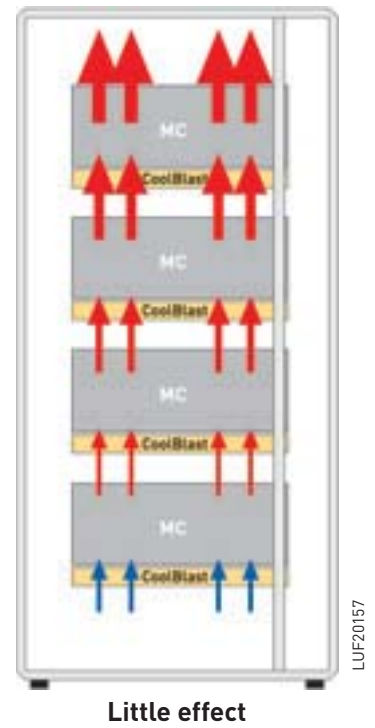
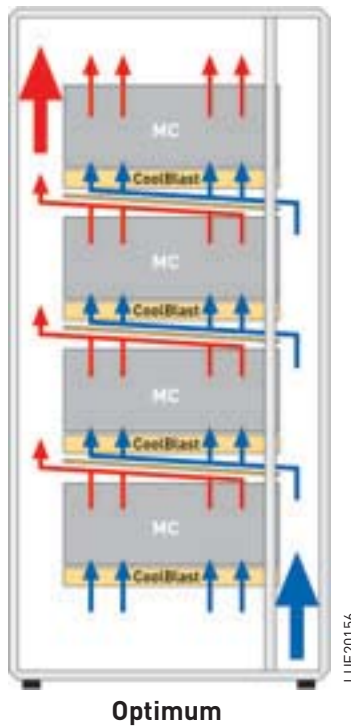
3 LUF20146

## CoolBlast® Airflow via Front Intake Strong points

The front intake unit for the **CoolBlast®** is used for the targeted cooling of module chassis that are situated on top of one another (heat sources).

- 1 The optimised airflow guides the cooled air specifically to the rear (see graphic 1). This prevents increased warming up of the vertical airflows from module chassis to module chassis (see graphic 2).

- 2 The optionally available front panel can be mounted later on and is often used for optical appearance reasons.
- 3 The filter mats protect the electronic components in use from dirt build-up and dust, and they can also be swapped out during running operation.



### Possible configurations:

Consists of	Figure	Order no.		Airflow volume loss	
		3-piece	6-piece	3-piece	6-piece
Airflow	1	03.027.094.1	03.027.095.1	30 %	45 %
Airflow plus front panel	1 + 2	03.027.094.1 03.027.097.1	03.027.095.1 03.027.097.1	40 %	55 %
Airflow plus front panel and filter	1 + 2 + 3	03.027.094.1 03.027.097.1 03.027.098.1	03.027.095.1 03.027.097.1 03.027.099.1	50 %	60 %



LUF20131

## Air Guide for Front Intake, 1 HU CoolBlast®



- For CoolBlast® fan unit, 3-piece and 6-piece for front intake
- Use as air guide plate
- Can be supplemented with front panel and filter mat

**Material**  
Sheet steel

**Finish / Colour**  
Powder-coated texture, RAL 7035 light-grey

**Supply schedule**  
1 air guide

**How supplied**  
In units

W	H	D	Model	Order no.	UP
19"	43.6	230	For 3-piece	<b>03.027.094.1</b>	 1 unit
19"	43.6	390	For 6-piece	<b>03.027.095.1</b>	 1 unit



LUF20142



LUF20136

## Front Panel for Front Intake Air Guide, 1 HU CoolBlast®


- For use with the front intake air guide
- Can be mounted later on

**Material**  
Sheet steel

**Finish / Colour**  
Powder-coated texture, RAL 7035 light-grey, smooth

**Supply schedule**  
1 front panel

**How supplied**  
In units

W	H	D	Model	Order no.	UP
19"	43.6			<b>03.027.097.1</b>	 1 unit



LUF20135

## Filter for front intake CoolBlast®



- For use with the front intake air guide
- Can be mounted later on and filter can be swapped out during running operation

**Filter class**  
G2

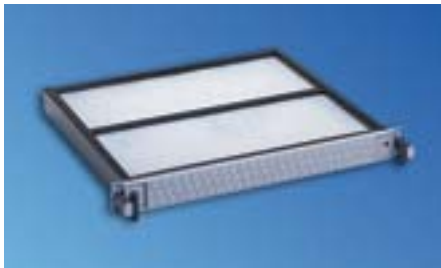
**Material**  
Viledon K15/150

**Supply schedule**  
1 filter

**How supplied**  
In units

W	H	D	Model	Order no.	UP
400		160	For 3-piece	<b>03.027.098.1</b>	 1 unit
400		320	For 6-piece	<b>03.027.099.1</b>	 1 unit





LUF00205

## 19" filter unit, 1 HU

- Suitable for use with the CoolBlast® fan unit
- Adjusted to the respective chassis depth

### Material

Housing: sheet steel  
 Front panel: ABS (UL94 V-0)  
 Handle: extruded aluminium  
 Filter: Viledon P 15/150

### Filter class

G2

### Finish / Colour



Housing: powder-coated texture  
 - RAL 9011 black  
 Front panel: RAL 7035  
 - Light-grey  
 Handle: powder-coated texture  
 - RAL 5008 grey-blue

### Supply schedule

1 filter unit  
 1 filter

### How supplied

In units

W	H	D	kg	W	n	Model	Order no.	UP
19"	43.6	282	2.0				<b>03.025.250.1</b>	 1 unit
19"	43.6	660	4.0				<b>03.025.253.1</b>	 1 unit



LUF00280

## Replacement Filter

- For 19" filter unit

### Material

Filter: Viledon P 15/150

### Filter class



G2

### Supply schedule

1 filter

### How supplied

In units

W	H	D	kg	W	n	Model	Order no.	UP
		282					<b>03.025.246.1</b>	 1 unit
		660					<b>03.025.249.1</b>	 1 unit

Dimensions in mm: W = Width  
 H = Height  
 D = Depth  
 h = Installation height  
 d = Useable depth  
 L = Length

HU = Standard height unit  
 1 HU = 44.45 mm  
 UP = Unit of packaging  
 kg = Weight  
 = Express item

Conversion: 1 mm = 0.03937 inch    1 kg = 2.2046 pound

SP = Standard Performance  
 HP = High Performance  
 UP = Ultra High Performance

n = Number of fans  
 P = Power consumption (W)  
 V̇ = Airflow volume (m³/h)  
 ΔV̇ = Airflow volume loss (%)

ΔP = Pressure increase (Pa)  
 I<sub>nom</sub> = Nominal current (A)  
 I<sub>max</sub> = Residual current (A)  
 V = Voltage (400V = 3-phase)  
 p = Sound pressure (dB(A))  
 1 mm from the rack  
 (600 mm x 600 mm;  
 raised cover)



## Axial single fan technical data

	CoolBlast®	CoolBlast®	CoolBlast®	CoolBlast®	CoolBlast®
<b>Item number</b>	<b>01.914.070.9</b>	<b>01.914.075.9</b>	<b>01.914.090.9</b>	<b>01.914.071.9</b>	<b>01.914.076.9</b>
Dim: L x W x H	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38
Max. volume flow, free blowing	184.2 m³/h	237 m³/h	275 m³/h	184.2 m³/h	275.4 m³/h
Voltage	24 VDC	24 VDC	24 VDC	48 VDC	48 VDC
Frequency					
Power consumption	7.4 W	11 W	20.5 W	7.7 W	17.8 W
Noise, free blowing	43 dB(A)	59 dB(A)	60 dB(A)	43 dB(A)	57 dB(A)
Bearing system	Ball bearing	Ball bearing	Ball bearing	Ball bearing	Ball bearing
Nominal speed	2950 min <sup>-1</sup>	4400 min <sup>-1</sup>	6000 min <sup>-1</sup>	2950 min <sup>-1</sup>	4200 min <sup>-1</sup>
Permitted environ. temp.	-10 °C to +70 °C	-30 °C to +55 °C	-20 °C to +65 °C	-10 °C to +70 °C	-10 °C to +70 °C
Lifetime, L10 at 40°C	75,000 h	70,000 h	70,000 h	75,000 h	105,000 h
Approvals	CE, VDE	CE, VDE	CE, VDE	CE, VDE	CE, VDE
<b>Use in fan unit:</b>	03.027.031.1	03.027.034.1	03.027.037.1	03.027.041.1	03.027.044.1
	03.027.032.1	03.027.035.1	03.027.038.1	03.027.042.1	03.027.045.1
	03.027.021.1	03.027.024.1	03.027.027.1		
	03.027.022.1	03.027.025.1	03.027.028.1		
	03.027.051.1	03.027.054.1	03.027.057.1		
	03.027.052.1	03.027.055.1	03.027.058.1		
	03.027.321.1	03.027.324.1	03.027.327.1		
	03.027.322.1	03.027.325.1	03.027.328.1		

	CoolBlast®	CoolBlast®	CoolBlast®	CoolBlast®
<b>Item number</b>	<b>01.914.091.9</b>	<b>01.914.050.9</b>	<b>01.914.051.9</b>	<b>01.914.051.9-2</b>
Dim: L x W x H	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38	119 x 119 x 38
Max. volume flow, free blowing	275 m³/h	192 m³/h	165 m³/h	120 m³/h
Voltage	48 VDC	115 VAC	230 VAC	230 VAC
Frequency		50 Hz	50 Hz	50 Hz
Power consumption	19.7 W	14.5 W	15 W	7.5 W
Noise, free blowing	60 dB(A)	41 dB(A)	38 dB(A)	32 dB(A)
Bearing system	Ball bearing	Ball bearing	Ball bearing	Ball bearing
Nominal speed	6000 min <sup>-1</sup>	2900 min <sup>-1</sup>	2600 min <sup>-1</sup>	2100 min <sup>-1</sup>
Permitted environ. temp.	-20 °C to +65 °C	-40 °C to +60 °C	-40 °C to +60 °C	-40 °C to +70 °C
Lifetime, L10 at 40°C	70,000 h	43,500 h	43,500 h	43,500 h
Approvals	CE, VDE	CE, VDE	CE, VDE	CE, VDE
<b>Use in fan unit:</b>	03.027.047.1	03.027.004.1	03.027.001.1	02.111.181.9
	03.027.048.1	03.027.005.1	03.027.002.1	05.010.307.1
		03.027.014.1	03.027.011.1	
		03.027.015.1	03.027.012.1	
			03.027.300.1	
			03.027.301.1	
			03.027.302.1	
			03.027.310.1	
			03.027.311.1	
			03.027.312.1	
			02.111.180.9	
			05.010.306.1	
			01.113.430.0	
			01.113.431.0	
			01.243.428.1	
			03.028.110.8	



DOS00076

## Euro Mains Cable For DIN 49 440 and French/Belgian standard

- Mains plug CEE/VII - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.054.9</b>	1 unit
5000								<b>04.000.050.9</b>	1 unit



DOS00077

## Euro Mains Cable For Swiss standard

- Mains plug: Type 12 - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.055.9</b>	1 unit



DOS00078

## Euro Mains Cable For British standard

- Mains plug: Type BS 1363 - Euro socket IEC320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
2000								<b>04.000.056.9</b>	1 unit



DOS00519

## Euro Connection Cable

- Mains plug: IEC 320 - Euro socket IEC 320
- Cable: H05VV-F 3G 1 mm<sup>2</sup>

**Mains voltage**  
250 VAC

**Nominal current**  
10 A

L	S	n	F1	F2	19"	Safe	Model	Order no.	UP
900								<b>04.000.051.9</b>	1 unit



ELM00137

## Door Contact Switch

- On/off switch, 4 A, 230 V -
- Activation with opening and closing of the door

**Supply schedule**  
1 door contact switch (not wired)  
1 mounting brackets  
Mounting material

W	H	S	HU	h	d	w	Model	Order no.	UP
								<b>01.110.722.9</b>	1 unit



LUF20057

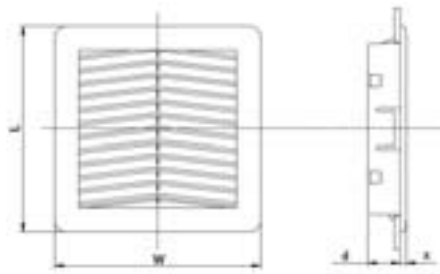


LUF20058

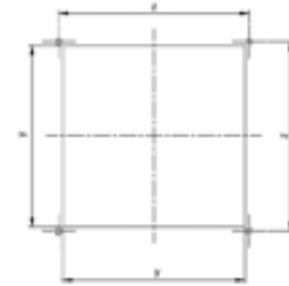
## Filter Fan

- For specific use with hot spots
- Also suitable for later mounting, quick and easy
- The filter mats provide high filtering-out properties, are easily exchanged and can be cleaned
- The fans do not require maintenance and their value is especially emphasized by their long lifespan and low noise factor
- Airflow: blowing in the rack (pre-setting)
- Can be used as blowing-out or taking-in

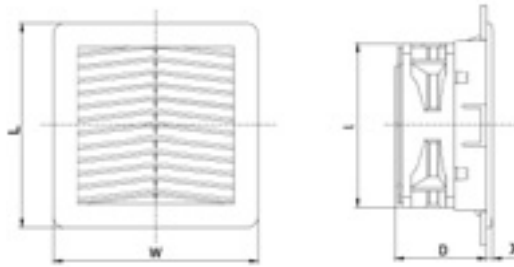
- Material**  
Heat-resistant ABS plastic, UL 94 V-0
- Colour**  
RAL 7035 light-grey
- Approvals**  
CE Symbol
- Protection rating**  
IP 54



LUF80011



LUF80012



LUF800040

LxW	D/l/x	y/z	kg	Max. AF	El. conn.	L	Noise	N	Life/40°	Model	Order no.	UP
150x150	71/120/5	125/131	0.812	57 m³/h	230V / 50/60Hz 20 W	43 dB(A)	2650/min	40,000 h	Filter fan	<b>03.026.501.1</b>	1 unit	
204x204	90/120/5,7	177/185	1	90 m³/h	230V / 50/60Hz 20 W	43 dB(A)	2650/min	40,000 h	Filter fan	<b>03.026.502.1</b>	1 unit	
250x250	113/172/6	223/230	1.690	240m³/h	230V / 50/60Hz 29 W	50 dB(A)	2800/min	40,000 h	Filter fan	<b>03.026.503.1</b>	1 unit	
325x325	125/208/7	291/302	3.620	520m³/h	230V / 50/60Hz 67 W	63 dB(A)	2770/min	50,000 h	Filter fan	<b>03.026.504.1</b>	1 unit	
150x150	24/5	125/131	0.140						Exit filter	<b>03.026.511.1</b>	1 unit	
204x204	20.5/5.7	177/185	0.275						Exit filter	<b>03.026.512.1</b>	1 unit	
250x250	25/6	233/230	0.440						Exit filter	<b>03.026.513.1</b>	1 unit	
325x325	26/7	291/302	0.780						Exit filter	<b>03.026.514.1</b>	1 unit	
150x150									Replacement filter mat	<b>03.026.521.9</b>	6 units	
204x204									Replacement filter mat	<b>03.026.522.9</b>	6 units	
250x250									Replacement filter mat	<b>03.026.523.9</b>	6 units	
325x325									Replacement filter mat	<b>03.026.524.9</b>	6 units	

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, kg = Weight,  = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

Standard Performance = SP, High Performance = HP, Ultra High Performance = UP

n = Number of fans, W = Power consumption (W), m³/h = Airflow volume, Pa = Pressure increase, I nom = Nominal current (A), I max = Residual current (A), P = Power consumption (W), V = Voltage (400V=3-phase)



LUF00237a

## Temperature Module

- For monitoring the inside temperature of the rack
- Temperature display (+ 10°C... + 70°C)
- Setting the alarm temperature via frontal potentiometer
- Optical alarm display (LED red)
- Alarm signalling via floating switching contact (1 changeover contact 250 VAC / 8 A)
- Power supply 230 V / 50Hz

### Approvals

CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/336/EEC


### Supply schedule

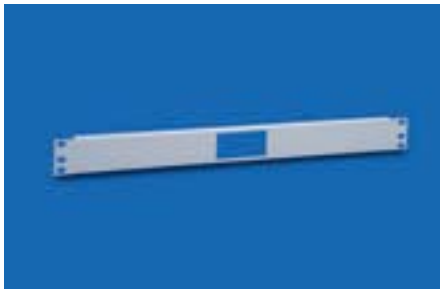
1 temperature module  
1 temperature sensor (3 m)

### How supplied

Assembled, wired and tested

- **Material**  
Plastic

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								<b>01.117.525.1</b>	 1 unit



LUF00256

## 19" Front Panel, 1 HU for Temperature Module

- For installing the temperature module

### Material / Finish


Sheet steel 1.5 mm, powder-coated

### Colour

RAL 7035 light-grey

### Supply schedule

1 19" front panel

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								<b>01.117.526.1</b>	 1 unit



LUF00255

## Bracket for Temperature Module

- For non-standard installation of temperature module, e.g. laterally on the 19" extrusion

### Material / Finish


Aluminium, 2 mm, sheer

### Supply schedule

1 bracket  
Mounting material

### How supplied

Flat-packed kit

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								<b>01.117.527.0</b>	 1 unit



LUF20000

## Thermostat

- For controlling the inside temperature of the rack in conjunction with fan units and heating fans
- Setting range: + 10°C ... + 60°C
- Switching temperature difference (hysteresis) 2K
- Contact type: 1 changeover contact
- Sensor: thermostatic bimetal
- Contact rating: 230 VAC/10 A (heating), 5 A (cooling)
- Interference suppression: in acc. with DIN 55014

- **Material**  
Plastic

### Protection rating

IP 30

### Approvals


CE Label in acc. with low voltage directive 73/23/EEC, EMC directive 89/336/EEC

### Dimensions

74 x 74 x 23 mm

### Supply schedule

1 thermostat  
1 mounting bracket  
Mounting material

W	H	D	LxW	kg	W	n	Model	Order no.	UP
								<b>01.113.384.3</b>	 1 unit



LUF00114



LUF00249

## Installation Set for 19" Cooling Unit

- With PG screw fittings for cable routing

**Finish**  
Powder-coated texture, RAL 7035  
light-grey

**Supply schedule**  
1 bottom cover  
1 connection panel, 9 HU  
2 chassis runners  
Mounting material

**How supplied**  
Flat-packed kit

**Note**  
Please order a rear door shortened by 9 HU. Installation of this set is not possible in a rack with plinth!

W	H	D	kg	W	For rack type	Order no.	UP
600		800			Miracel	<b>01.131.610.1</b>	1 set
800		800			Miracel	<b>01.131.612.1</b>	1 set



LUF20209

## Cooling Unit Wall installation

- Maintenance-free operation with biggest possible lamella spacing and filter-less operation
- Condensation vaporization or condensation run-off
- For mounting on rear panel, rear door or side panel of a rack
- Temperature regulation via electronic board
- CFC-free cooling agent, R 134a
- No danger to your electronic components from dust build-up and spray water: IP 54 on the rack side
- Even temperature distribution in the rack

**Material**  
Sheet steel housing

**Finish / Colour**  
Housing, powder-coated texture, RAL 7035 light-grey

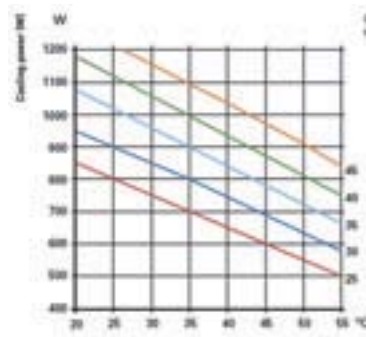
**Approvals**  
CE

**Supply schedule**  
1 cooling unit  
Mounting material  
Operating instructions

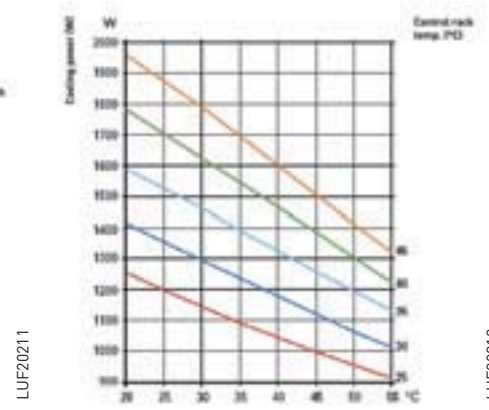
**Technical data (general)**  
- Mains voltage: 230V ~1  
- Mains frequency: 50Hz/60Hz  
- Temperature range: 20°C to 55°C  
- Cooling agent: R134a (CFC-free)  
- Protection rating: IP54

**Electronic board functions**  
- Reference temperature (internal rack temperature) can be set between 25°C and 45°C  
- LED display of the actual temperature and operating state; compressor "On", "Off"  
- High and low temperature alarm display; test alarm  
- Floating break contact for error messages  
- Connection option for optional door contact switch

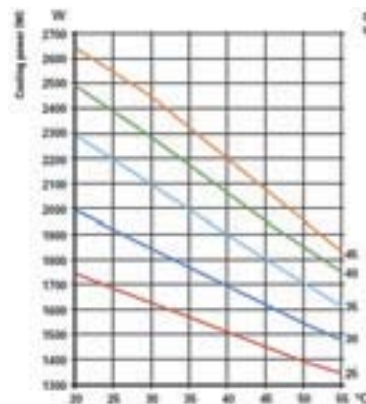
Qn L35L35	W	H	D	Wt	V rack side	I nom	I max	Sound press.in 1m (dB(A))		Order no.	UP
900	322	784	221	29	330	3	14.5	65	Type 1	<b>03.032.330.1</b>	1 unit
1400	406	934	244	42	575	5	17	65	Type 2	<b>03.032.331.1</b>	1 unit
2000	406	934	244	44	860	5	20	65	Type 3	<b>03.032.332.1</b>	1 unit
2700	508	1234	375	86	860	9	38	70	Type 4	<b>03.032.333.1</b>	1 unit



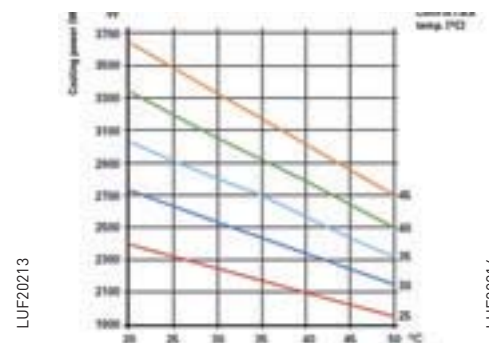
Type 1



Type 2



Type 3



Type 4

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, Wt = Weight (kg), = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SP = Standard Performance, HP = High Performance, UP = Ultra High Performance, n = Number of fans, W = Power consumption (W), V = Volume flow (m³/h), Pa = Pressure increase, I nom = Nominal current (A), I max = Residual current (A), P = Power consumption (W), Qn = Nominal cooling power (W)





LUF20210

## Cooling Unit Top-mounting

- Maintenance-free operation with biggest possible lamella spacing and filter-less operation
- Condensation vaporization or condensation run-off
- Easy set-up on the top of the rack
- Temperature regulation via electronic board
- CFC-free cooling agent, R 134a
- No danger to your electronic components from dust build-up and spray water: IP 54 on the rack side
- Even temperature distribution in the rack

### Material

Sheet steel housing

### Finish / Colour

Housing, powder-coated texture, RAL 7035 light-grey

### Approvals

CE

### Supply schedule

- 1 cooling unit
- Mounting material
- Operating instructions

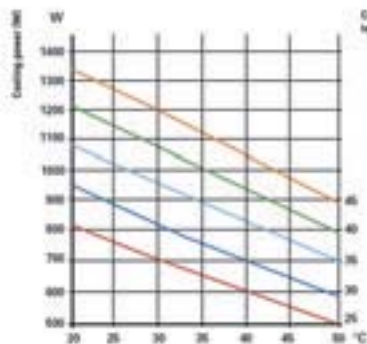
### Technical data (general)

- Mains voltage: 230V ~1
- Mains frequency: 50Hz/60Hz
- Temperature range: 20°C to 55°C
- Cooling agent: R134a (CFC-free)
- Protection rating: IP54

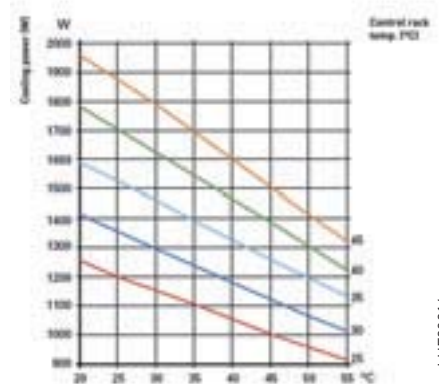
### Electronic board functions

- Reference temperature (internal rack temperature) can be set between 25°C and 45°C
- LED display of the actual temperature and operating state; compressor "On", "Off"
- High and low temperature alarm display; test alarm
- Floating break contact for error messages
- Connection option for optional door contact switch

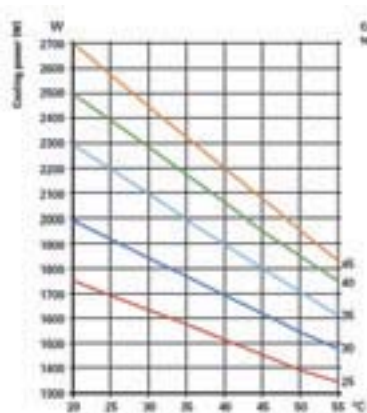
Qn L35L35	W	H	D	Wt	V rack side	I nom	I max	Sound press.in 1m (dB(A))		Order no.	UP
900	600	330	320	38	345	2.7	15	65	Type 5	<b>03.032.340.1</b>	1 unit
1400	604	350	448	45	575	4.3	17	65	Type 6	<b>03.032.341.1</b>	1 unit
2000	604	350	448	44	860	5	22	65	Type 7	<b>03.032.342.1</b>	1 unit
2700	808	487	480	81	860	8	38	67	Type 8	<b>03.032.343.1</b>	1 unit



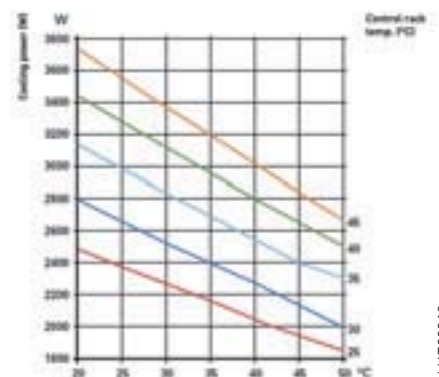
Type 5



Type 6



Type 7



Type 8

Dimensions in mm: W = Width, H = Height, D = Depth, h = Installation height, d = Useable depth, L = Length, HU = Standard height unit (1 HU = 44.45 mm), UP = Unit of packaging, Wt = Weight (kg),  = Express item

Conversion: 1 mm = 0.03937 inch, 1 kg = 2.2046 pound

SP = Standard Performance, HP = High Performance, UP = Ultra High Performance, n = Number of fans, W = Power consumption (W), V = Volume flow (m³/h), Pa = Pressure increase, I nom = Nominal current (A), I max = Residual current (A), P = Power consumption (W), Qn = Nominal cooling power (W)

Express item  
in 24 hours ex plant:  
With Knürr you're  
always ahead of  
the competition



## Rapid service **Express item**

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# Engineering

13.2 to 13.15



# Service

13.17 to 13.21



# Engineering Communication/ Data Networks

Structure	13.2
Components	13.3
Standards / Specifications	13.4
Areas of Application	13.10
Technical Abbreviations	13.12
Index	13.13

# Service Worldwide

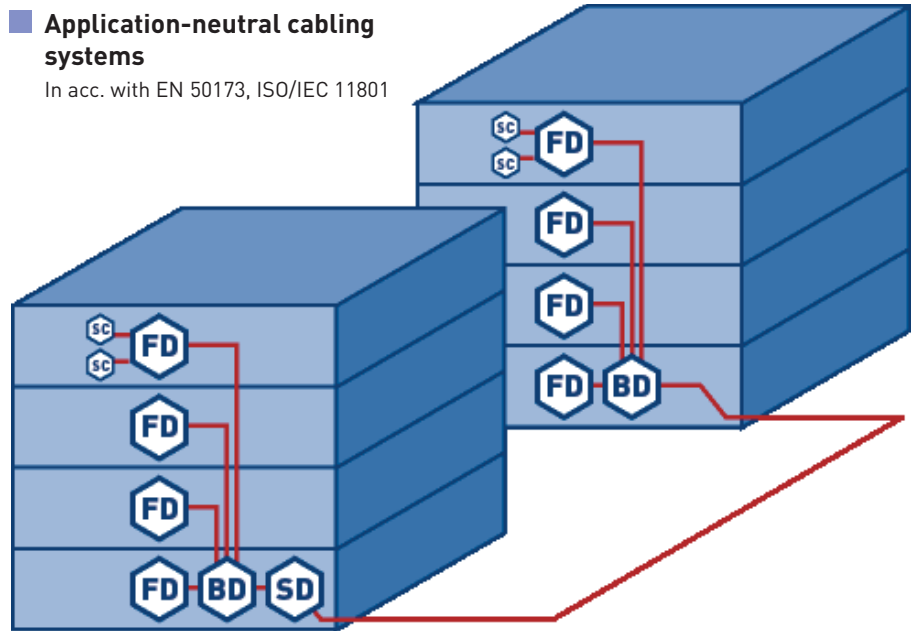
Support Services	13.18
Advice and Support	13.19
Planning, Project Planning and Project Management	13.19
Set-up and Installation	13.20
Start-up	13.20
Service Contracts	13.20
Guarantee Extension	
Guarantee	13.20
Global Presence	13.21
Knürr Service Contact	13.21

## Communication/ Data Networks

### Communication/data network structure

#### Application-neutral cabling systems

In acc. with EN 50173, ISO/IEC 11801

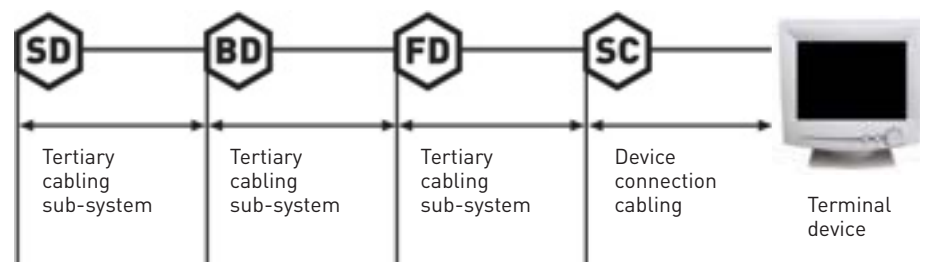


Cabling areas (in acc. with prEN 50173:2001)

- SD:** Site Distributor      Miracel
- BD:** Building Distributor      Miracel, Smaract
- FD:** Floor Distributor      Miracel, Smaract, ConAct
- SC:** Subscriber Connection      SOHO



Hierarchical structure of the universal cabling (in acc. with prEN 50173:2001)



Transmission path (in acc. with prEN 50173:2001)

■ **Small Office Home Office (SOHO)**  
In acc. with Draft ISO/IEC 15018

■ **Potential equalization and earthing**  
In acc. with EN 50310, VDE 0100-444

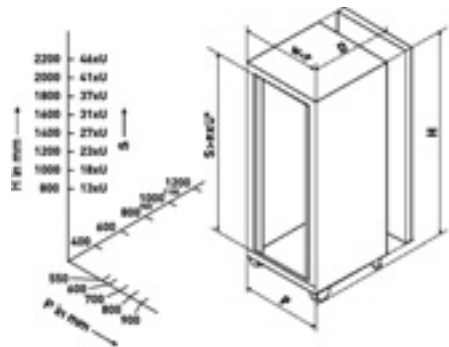
■ **Setup and operation of communication cabling**  
In acc. with EN 50174

**Communication/data network components**

■ **Classification of transmission paths**  
In acc. with prEN 50173:2001

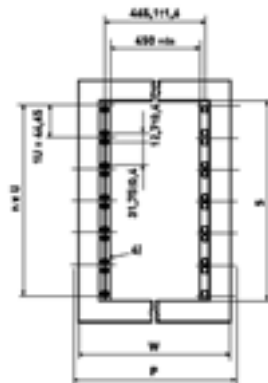
- **Symmetrical cabling**
  - Class A Up to 100 kHz
  - Class B Up to 1 MHz
  - Class C Up to 16 MHz
  - Class D Up to 100 MHz
  - Class E Up to 250 MHz
  - Class F Up to 600 MHz

- **Fibre optic cabling**
  - Class OF-300 Transmission path, min. 300 m
  - Class OF-500 Transmission path, min. 500 m
  - Class OF-2000 Transmission path, min. 2,000 m



■ **Cable and plug connector**

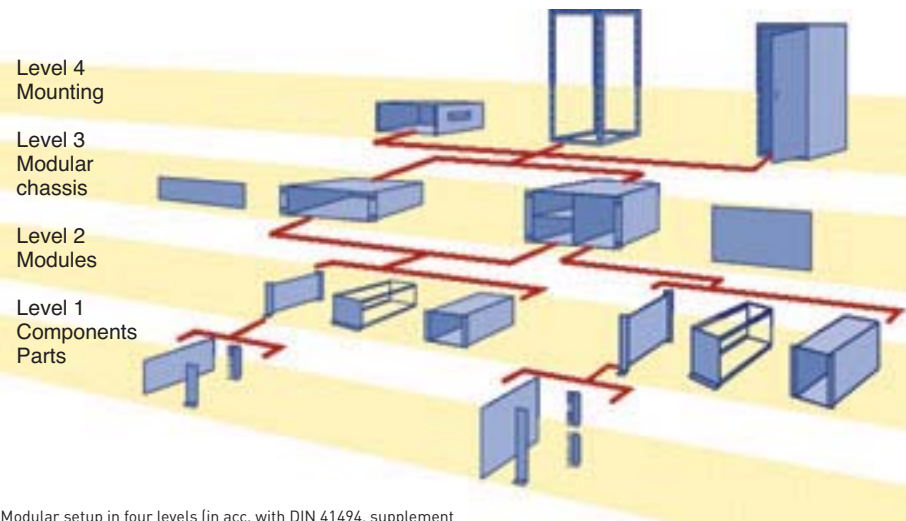
- **Communication cable**  
EN 50288, 50289, 50290  
IEC 61156 (symmetrical cable)  
EN 60794 (fibre optic cable)
- **Plug connector for symmetrical cable**  
EN 60603, IEC 61076
- **Plug connector for fibre optic cable**  
EN 60874, IEC 60874



■ **Equipment and systems**

- **Structures for electronic installations: 482.6 mm (19") construction**  
DIN 41494, EN/IEC 60297

External and internal dimensions for racks and frames (in acc. with DIN 41494, supplement 1:1992)



Modular setup in four levels (in acc. with DIN 41494, supplement 1:1992)

- **Structures for electronic installations: 25 mm construction**  
EN/IEC 60917

**Standards and specifications**

**Protection ratings with racks/enclosures (IP code)**  
EN/IEC 60529

First digit	Contact protection	Foreign matter prot.	Second digit Ziffer	Water prot.
0	No special protection		0	No special protection
1	Against large matter	Large foreign body matter, diameter > 50 mm	1	Against vertically falling drop water
2	Against finger or similar size objects	Medium-size foreign body matter, diameter > 12 mm	2	Against drop water falling at an angle (up to 15° deviation the vertical)
3	Against tools, wires, and similar with a thickness of > 2.5 mm	Small foreign body matter, diameter > 2.5 mm	3	Against spray water (any direction up to 60° deviation from the vertical)
4	Against tools, wires, and similar with a thickness of > 1 mm	Grain shape foreign matter diameter > 1 mm	4	Against spray water from all directions
5	Complete protection	Dust protected; dust build-ups are permissible, but their amount may not endanger the function of the equipment	5	Against spray water from a nozzle from all directions
6	Complete protection	Dust-proof	6	Against flooding
			7	Against immersion
			8	Against submersion



BGT00085

**EMC emitted interference and EMC interference immunity**

EN 61000/55011/55022  
Protection of electronic equipment and systems against electro-magnetic disturbances.  
The shielding protects against both the danger of electro-magnetic disturbances from outside and the outward emission of electro-magnetic energy.  
The shielding requires detailed know-how and comprehensive experience.

- **Attention must be paid to:**
  - EMC-compatible construction
  - Highly conductive surfaces
  - Material combinations with low potential difference
  - Low-impedance material connections
  - Seals
  - EMC cable entry

Shielding measures on, for example, primus modular chassis:








- **Surfaces**
  - Highly conductive zinc-passivated sheet steel
- Shielding and optimum ventilation with corresponding perforation
- Excellent contact points on side panels to top cover/bottom cover
- The contact points of the front panels and rear panel on the modular chassis are made via the EMC spring



**Heat transfer**  
 VDE 0660 Part 507, procedure for determining heat build-up, (identical to IEC 60890)

5 heat transfer options are available depending on the value of the power loss. Selection and dimensioning are made while taking the framework conditions in accordance with the installation site (IP protection, noise level, room size and thermal management, etc.) into account.

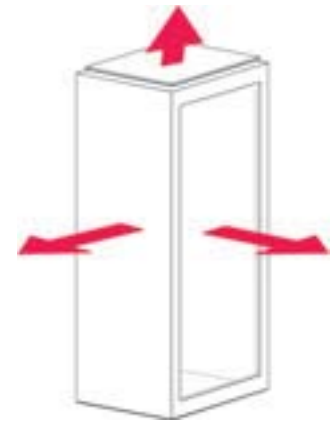
**Calculation of the effective rack surface**

	Individual enclosure, free-standing $A = 1.8 \times H \times (W + D) + 1.4 \times W \times D$		In-between enclosure, free-standing $A = 1.8 \times W \times H + 1.4 \times W \times D + D \times H$
	Individual enclosure for wall mounting $A = 1.4 \times W \times (H + D) + 1.8 \times D \times H$		In-between enclosure for wall mounting $A = 1.4 \times W \times (H + D) + D \times H$
	Start-end enclosure, free-standing $A = 1.4 \times D \times (H + W) + 1.8 \times W \times H$		In-between enclosure for wall mounting with covered top surface $A = 1.4 \times W \times H + 0.7 \times W \times D + D \times H$
	Start-end enclosure, for wall mounting $A = 1.4 \times H \times (W + D) + 1.4 \times W \times D$	Enclosure configuration in acc. with IEC 60890	

**1. Through rack surface**

$$P_0 = c \times A \times (T_i - T_e) \text{ (W)}$$

- $P_0$  Dissipation transferred through rack surface
- $c$  Heat transmission coefficient ~ 5 W/m<sup>2</sup> K
- $A$  Effective rack surface
- $T_i$  Internal rack temperature
- $T_e$  Environmental temperature
- $\Delta T = T_i - T_e$  (K) temperature difference
- $P_0 > 0$  : Heat release
- $P_0 < 0$  : Heat absorption

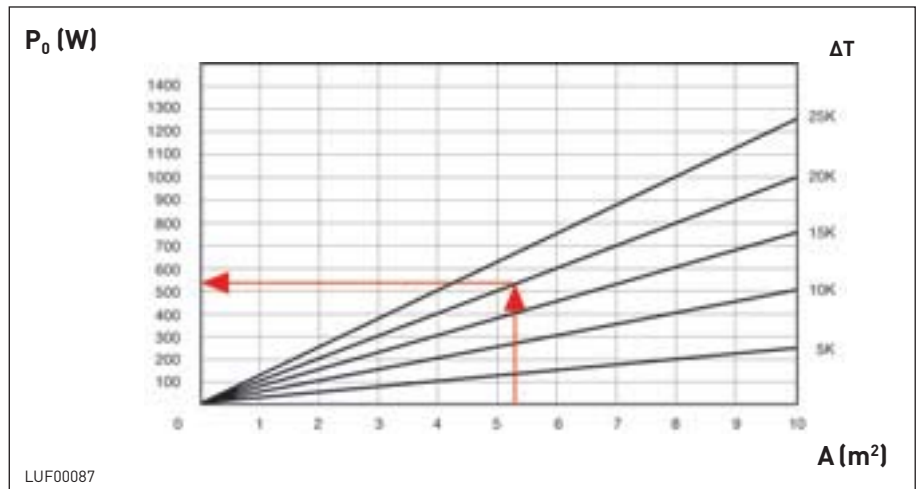


LUF00083

**Example**  
 $c = 5 \text{ W/m}^2 \text{ K}$  (sheet steel)  
 $A = 5.38 \text{ m}^2$   
 $T_i = 40^\circ \text{ C}$   
 $T_e = 20^\circ \text{ C}$

$$P_0 = 5 \times 5.38 \times (40 - 20) = 538 \text{ W}$$

**Definition via chart (alternative)**



LUF00087

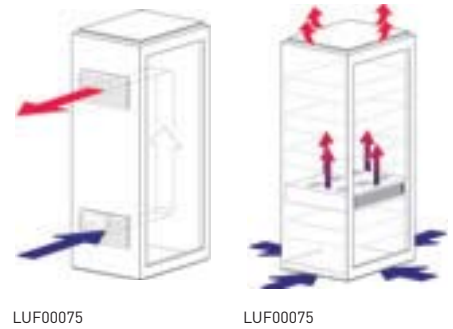
W = Control rack width  
 H = Control rack height  
 D = Control rack depth

## 2. Direct heat exchange using fans

Calculation of the required airflow volume

$$V = f (h) \times P_L / \Delta T \text{ (m}^3\text{/h)}$$

- V Required airflow volume
- $P_L$  Power dissipation in the rack
- $T_i$  Internal rack temperature
- $T_e$  Environmental temperature
- $\Delta T = T_i - T_e$  (K) temperature difference,  $T_i > T_e$
- $f_a$  Auxiliary factor



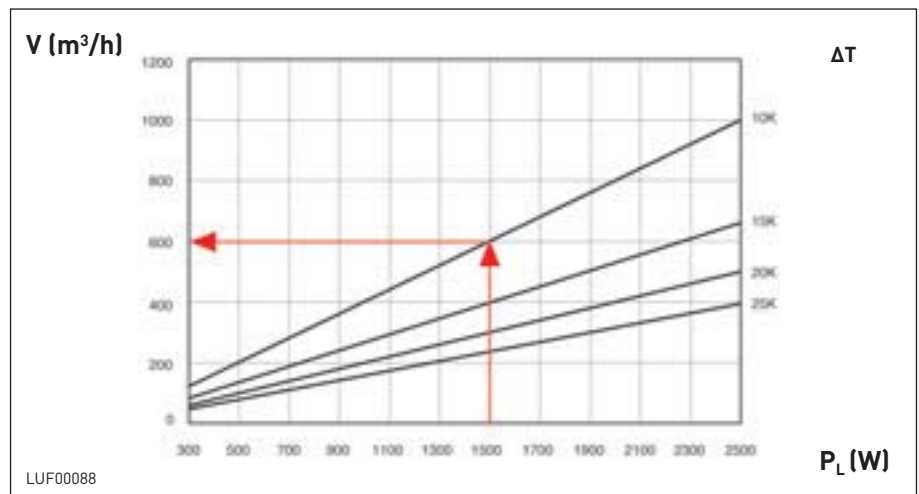
Example

- $P_L = 1500$  W
- $T_i = 35^\circ$  C
- $T_e = 25^\circ$  C
- $h = 1000$  m

$$V = 3.5 \times 1500 / (35 - 25) = 525 \text{ m}^3\text{/h}$$

h to f ratio	
h (m)	f (m <sup>3</sup> k/wh)
0-100	3.1
100-250	3.2
250-500	3.3
500-750	3.4
750-1000	3.5

Definition via chart



LUF00088

## 3. Heat exchanger, air-to-air

Calculation of the required cooling output

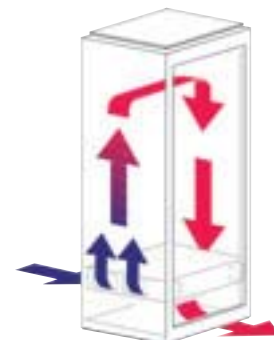
$$Q_c = P_L - P_D \text{ (W)}$$

- $Q_c$  Required cooling output of the heat exchanger
- $P_L$  Power dissipation in the rack
- $P_D$  Dissipation through rack surface

Example

- $P_L = 1300$  W
- $P_D = 538$  W
- $T_i = 40^\circ$  C
- $T_e = 20^\circ$  C ( $T_i > T_e$ )
- $A = 5.38$  m<sup>2</sup>

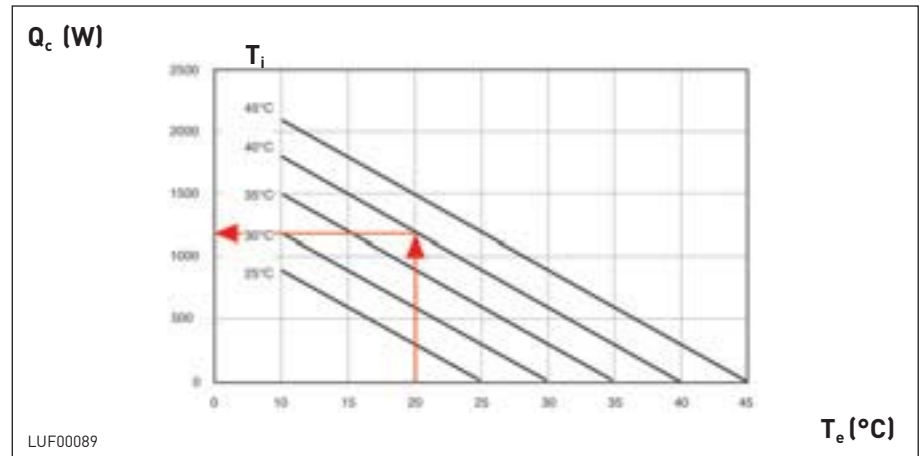
$$Q_c = 1300 - 538 = 762 \text{ W}$$



LUF00080

As defined by chart  
 $Q_c = - 1200 \text{ W}$

I.e., the device is sufficiently dimensioned for the abovementioned use

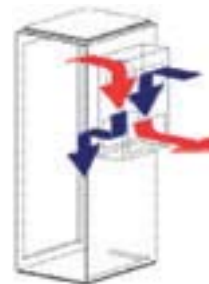


#### 4. Cooling unit with cooling agent

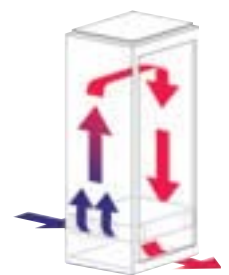
Calculation of the required cooling output

$$Q_c = P_L - P_D \text{ (W)}$$

- $Q_c$  Required cooling output of the cooling unit
- $P_L$  Power dissipation in the rack
- $P_D$  Dissipation through rack surface



LUF00082



LUF00080

#### Special case

As in this case  $T_i = T_e > T_i$  is possible, the heat dissipation  $P_D$  can become negative

#### Example

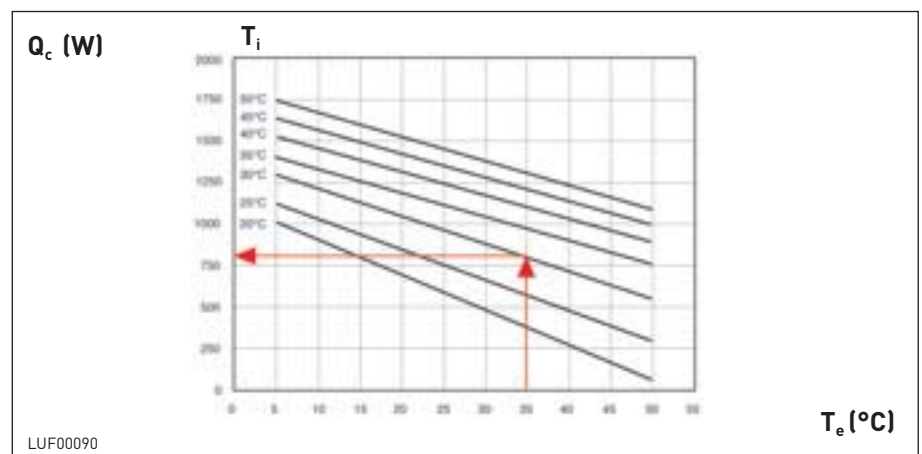
- $c = 5 \text{ W/m}^2 \text{ K}$
- $A = 5.38 \text{ m}^2$
- $T_i = 30^\circ \text{ C}$
- $T_e = 35^\circ \text{ C}$
- $P_L = 500 \text{ W}$

$$P_D = k \times A \times (T_i - T_e) = - 134.5 \text{ W}$$

$$Q_c = P_L - P_D = 500 - (- 134.5) = 634.5 \text{ W}$$

As defined by chart  
 $Q_c = - 800 \text{ W}$

I.e., the device is sufficiently dimensioned for the abovementioned use



## 5. Air-to-water heat exchanger

Calculation of the required cooling output

$$Q_c = P_L - P_D \text{ (W)}$$

- $Q_c$  Required cooling output of the heat exchanger
- $P_L$  Power dissipation in the rack
- $P_D$  Dissipation through rack surface

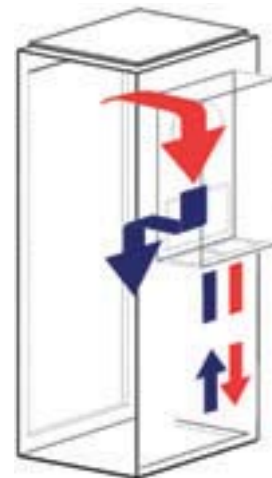
**Special case**  
As in this case  $T_i = T_e > T_i$  is possible, the heat dissipation  $P_D$  can become negative

**Example**  
 $c = 5 \text{ W/m}^2 \text{ k}$   
 $A = 5.38 \text{ m}^2$   
 $P_L = 1000 \text{ W}$   
 $T_i = 30^\circ \text{ C}$   
 $T_e = 35^\circ \text{ C}$

$$P_D = k \times A \times (T_i - T_e) = - 134.5 \text{ W}$$

$$Q_c = P_L - P_D = 1000 - (- 134.5) = 1134.5 \text{ W}$$

$T_i = 30^\circ \text{ C}$   
 $(T_e = 35^\circ)$   
 $T_w = 15^\circ \text{ C}$

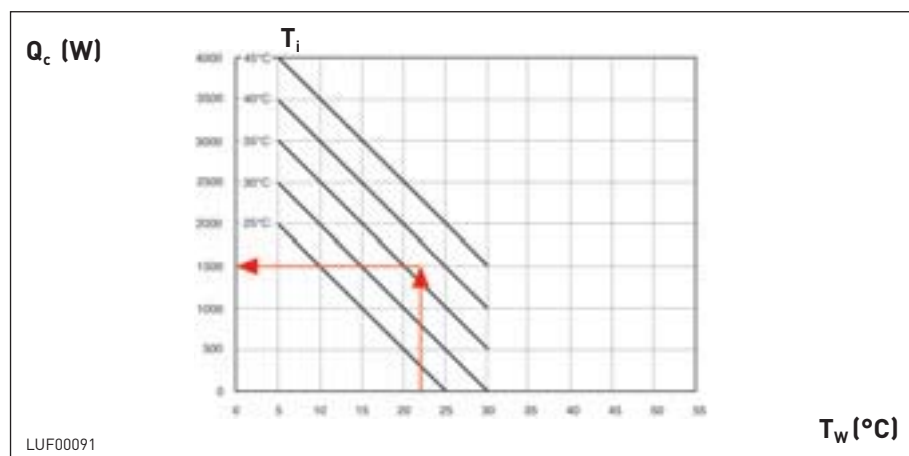


LUF20066

Environmental temperature does not have any influence on the cooling output of the air/water heat exchanger. It does, however, on the water temperature,  $T_w$ .

**As defined by chart**  
 $Q_c = - 1500 \text{ W}$

I.e., the device is sufficiently dimensioned for the abovementioned use

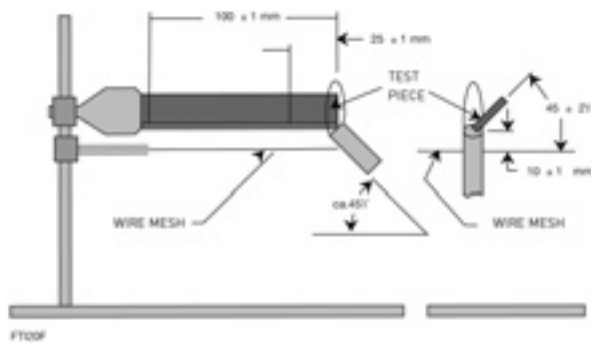


**Fire behaviour**

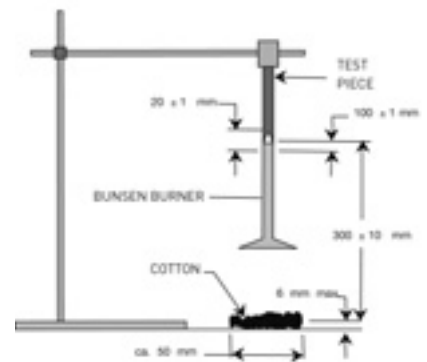
- **Flammability**  
UL 94. The Standard for Flammability of Plastic Materials for Parts in Devices and Applications harmonised with IEC 60607, 60695-11-10, 60695-11-20, ISO 9772 and 9773.
- **Ignition Resistance** UL 746A. The Standard for Polymeric Materials, similar to IEC 60112, 60695 and 60950.

- **Classifications in acc. with UL 94**  
**Vertical:** Six classes for materials that are frequently used in enclosures, structural components and insulation: 5VA, 5VB, V-0, V-1, V-2, HB. Three classes for thin films: VTM-0, VTM-1, VTM-2  
**Horizontal:** Three classes for foam material: HF-1, HF-2, HBF

**Horizontal fire behaviour**



**Vertical fire behaviour**



Setup for determining horizontal and vertical fire behaviour

**Main criteria for foam material:**

		HF-1	HF-2
Afterburn time	80%	<2s	<2s
	100%	<10s	<10s
Afterglow time		<30s	<30s
Burning dripping		No	Allowed

**HBF**

Burning speed not > 40 mm / min. over 100 mm burn length; self-extinguishing before the 125 mm mark

**Main criteria:**

	V-0	V-1	V-2
Afterburn time	<10s	<30s	<30s
Total burn time	<50s	<250s	<250s
Burning dripping	No	No	Allowed

- **Fire load in escape/rescue routes**

VDE 0108

Fire load in escape/rescue routes max. 7 kWh/m<sup>2</sup>, with use of halogen-free thermowells and cables (VDE 0250, 0266) with improved fire behaviour, 14 kWh/m<sup>2</sup>

## Areas of application

### Supported mains applications

For symmetrical copper cabling  
(in acc. with prEN 50173:2001)

Mains application	Source	Date	Other names	Comm.
<b>Class A for symmetrical cable (up to 100 kHz defined)</b>				
PBX	National requirements			
X.21	ITU-T Recommendation X.21	1984	ISDN basic connection (physical layer)	
V.11	ITU-T Recommendation X.21	1984	ISDN basic connection (physical layer)	
<b>Class B symmetrical cable (up to 1 MHz defined)</b>				
S <sub>0</sub> bus (extended)	ITU-T Recommendation 1.430	1993	ISDN basic connection (physical layer)	
S <sub>0</sub> Point-to-Point	ITU-T Recommendation 1.430	1993	ISDN basic connection (physical layer)	
S <sub>1</sub> /S <sub>2</sub>	ITU-T Recommendation 1.431	1993	ISDN primary multiplexes (physical layer)	
CSMA/CD 1BASE5	ISO/IEC 8802-3	1996	Star Lan	
<b>Class C for symmetrical cable (up to 16 MHz defined)</b>				
CSMA/CD 10Base-T	ISO/IEC 8802-3	1996	Ethernet	
CSMA/CD 100BASE-T4	ISO/IEC 8802-3	1997	Fast Ethernet	
CSMA/CD 100BASE-T2	ISO/IEC 8802-3 ISO/IEC 8802-3	1997 1997	Fast Ethernet Fast Ethernet	
Token Ring 4 Mbit/s	ISO/IEC 8802-5	1998		
ISLAN	ISO/IEC 8802-9	1996	Integrated Services LAN	
ISLAN16-T	ISO/IEC 8802-9 DAM 1	1997	Isochronous Ethernet	
Demand Priority	ISO/IEC 8802-12	1998	VGAnyLAN	
ATM LAN 25.60 Mbit/s	ATM Forum af-phy-0040.000	1995	ATM-25/Category 3	
ATM LAN 51.84 Mbit/s	ATM Forum af-phy-0018.000	1994	ATM-52/Category 3	
ATM LAN 155.52 Mbit/s	ATM Forum af-phy-0047.000	1995	ATM-155/Category 3	
<b>Class D for symmetrical cable (up to 100 MHz defined)</b>				
CSMA/CD 100BASE-TX	ISO/IEC 8802-3	1997	Fast Ethernet	
Token Ring 100 Mbit/s	ISO/IEC 8802-5t	1999	High Speed Token Ring	
CSMA/CD 1000BASE-T	ISO/IEC 8802-3	1999	Gigabit Ethernet	
Token Ring 16 Mbit/s	ISO/IEC 8802-5	1998		
TP-PMD	ISO/IEC FCD 9314-10	2000	Media-dependent physical layer for twisted pairs	
ATM LAN 155.52 Mbit/s	ATM Forum af-phy-0015.000	1994	ATM-155/Category 5	



**Supported mains applications**

For fibre optic cabling (in acc. with prEN 50173:2001)

Mains application	Optical transmission budget (dB)			Transmission path in acc. with EN 50173 supported by								
	Multi-mode 1)	Multi-mode 1)	One-mode	OM1-optic fibre		OM2-optic fibre		OM3-optic fibre		OS1-optic fibre		
	850 nm	1300 nm	1310 nm	850 nm	1300 nm	850 nm	1300 nm	850 nm	1300 nm	1310 nm	1500 nm	
ISO/IEC 8802-3: FOIRL <sup>2)</sup>	9.0 (3.3)	-	-	OF-2000		OF-2000		OF-2000				
ISO/IEC 8802-3: 10BASE-FL, FP & FB <sup>2)</sup>	12.5 (6.8)			OF-2000		OF-2000		OF-2000				
ISO/IEC TR 11802-4: 4 & 16 Mbit/s Token Ring <sup>2)</sup>	13.0 (8.0)			OF-2000		OF-2000		OF-2000				
ISO/IEC 8802-12: Demand Priority <sup>2)</sup>	7.5 (2.8)	-	-	OF-500		OF-500		OF-500				
ATM with Mbit/s <sup>3)</sup>	N/A	10.0 (5.3)	10.0		OF-2000		OF-2000		OF-2000	OF-2000	OF-2000	
ATM with Mbit/s <sup>3)</sup>	7.2	10.0 (5.3)	7.0	OF-500	OF-2000	OF-500	OF-2000	OF-500	OF-2000	OF-2000	OF-2000	
ATM with Mbit/s <sup>2) 3) 4)</sup>	4.0	6.0 (2.0)	7.0	OF-500	OF-500	OF-500	OF-500	OF-500	OF-500	OF-500	OF-2000	
DIS 14165-111: Fibre Channel (FC-PH) with 133 Mbit/s <sup>2)</sup>	NA	6.0			OF-2000		OF-2000		OF-2000			
DIS 14165-111: Fibre Channel (FC-PH) with 266 Mbit/s <sup>3)</sup>	12.0	6.0 (5.5)	6.0	OF-2000	OF-2000	OF-2000	OF-2000	OF-2000	OF-2000	OF-2000	OF-2000	
DIS 14165-111: Fibre Channel (FC-PH) with 531 Mbit/s <sup>3)</sup>	8.0	-	14.0	OF-500		OF-500		OF-500		OF-500		
DIS 14165-111: Fibre Channel (FC-PH)	4.0	-	6.0	OF-500		OF-500		OF-500		OF-2000		
ISO/IEC 8802-3: 1000BASE-SX <sup>4)</sup>	2.6 (3.56)	-	-	OF-300 <sup>5)</sup>		OF-500		OF-500				
ISO/IEC 8802-3: 1000BASE-LX <sup>3) 4)</sup>	-	2.35	5.0		OF-500		OF-500		OF-500	OF-2000		
ISO/IEC 9314-9: FDDI LCF-PMD <sup>2)</sup>	-	7.0 (2.0)	-		OF-500		OF-500		OF-500			
ISO/IEC 9314-3: FDDI PMD <sup>2)</sup>	-	11.0 (6.0)	-		OF-2000		OF-2000		OF-2000			
ISO/IEC 9314-4: FDDI SMF-PMD <sup>3)</sup>	-	-	10.0								OF-2000	
ISO/IEC 8802-3: 100BASE-FX <sup>2)</sup>	-	11.0 (6.0)	-		OF-2000		OF-2000		OF-2000			
IEEE 802.3: 100BASE-LX4 <sup>6)</sup>	-	Draft	-		OF-300		OF-300					
IEEE 802.3: 10GBASE-ER/EW <sup>3) 6)</sup>	-	-	Draft									OF-2000
IEEE 802.3: 10GBASE-SR/SW <sup>6)</sup>	Draft	-	-					OF-300				
IEEE 802.3: 10GBASE-LR/LW <sup>3) 6)</sup>	-	Draft	Draft								OF-2000	

- 1) The values apply for both 50/125 µm fibres and for 62.5/125 µm fibres; with different values the numbers in brackets apply for 50/125 µm optic fibre cables.
- 2) The length of the transmission path can be restricted with 50 µm fibres. For details see the corresponding mains application standard.
- 3) The length of the transmission path can be greater with single-mode fibres, however this is not within the area of application of this standard. For details see the corresponding mains application standard.
- 4) The given transmission path lengths result in a mains application with limited bandwidth. Use of components with lower attenuation for creating transmission paths that exceed the given values is not recommended.
- 5) Not guaranteed by the mains application standard.
- 6) Mains application being developed.



SON00012

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SON20038



<b>A</b>		
A/B power feed transfer switch	0.6	
AC Voltage Monitoring	10.6	
Access control	10.6	
Accessories	6.1	
Active racks	1.31	
@Lock	10.8	
Adapter front panel, 19" RMSCompact	10.4	
Analogue KVM switch	11.12	
ASP rack	1.14	
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		Rear panel, DoubleProRack	3.8		
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# Straight from the Source. Competent. Direct.

We focus on your requirements, we speak your language, and we are available for you 24 hours a day. 365 days a year!

With our presence on the World Wide Web we provide you directly with all the information you require regarding:

- The diversity of solutions provided by Knürr products.
- Knürr service and capacities.
- The company and its partners.

Downloads are of course available, which is particularly interesting with regard to our catalogs and our wide range of brochures.

### **Our dialogue with you is extremely important!**

The corresponding options are available for you, whether it be notification per e-mail, or a request for a callback.

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# Service

13.18 to 13.21



## First-class support services for complex system solutions

### Data and network technology is advancing faster than your infrastructure support strategy

A business-critical IT, power supply and cooling infrastructure must be able to react to business changes if it is going to be successful.

In today's business world, IT managers deal with bigger changes and more uncertainty than ever before. The data center, the computer room, the network distribution rack, the entire IT operation - they are all constantly changing. It's no longer about managing the availability and growth of the system, today it is about controlling uncertainties, server densities and performance and efficiency.

#### What are the influencing factors?

- Unpredictable capacity growth
- Consolidation of critical facilities
- Convergence of voice, video and data to what's known as "Triple Play"
- Processor capacities that double every two years
- Liability risks that grow constantly
- Continually changing requirements with respect to cost-effectiveness

You need an infrastructure that can anticipate and adapt to change, can work across your enterprise and assure the continuity of your Business.

### Key factors of business-critical infrastructure systems

#### High availability

Four classes according to application case with downtimes of less than a second a year.

- **Tier 1: Hardware protection**  
(prevention of voltage peaks)  
Availability: 99.9 % (3 nines)  
Max. annual downtime: 8.7 hours
- **Tier 2: Orderly shut down**  
Availability: 99.99 % (4 nines)  
Max. annual downtime: 52 minutes
- **Tier 3: Business-critical applications**  
Availability: 99.9999 % (5-6 nines)  
Max. annual downtime: 5.2 min. - 31 sec.
- **Tier 4: Company-critical applications**  
Availability: 99.999999 % (7-8 nines)  
Max. annual downtime: 3 sec. - 0.31 sec.

Bigger data centers are often rated as tier 3 and 4; small data centers are frequently tier 1 or 2.

However higher availability may be necessary with small systems, depending on the application.

VoIP, for example, requires tier 3 or 4.

#### Improved adaptability/flexibility

How flexible are your systems for changes and expansions?

Knürr products and systems can be easily adapted to new technologies with constantly growing performance densities.

#### Cost reduction

Investment costs and operating costs together result in the "Total Cost of Ownership (TCO).

The use of Knürr products and system solutions successfully pursues the goal of ensuring that the systems generate the lowest possible total costs over their entire lifetime.

### Solutions for high availability, flexibility and cost-effectiveness of business-critical systems

Optimization of high availability, flexibility and cost-effectiveness requires the setting up and managing of an infrastructure that contains the right systems.

- Highly available, flexible and efficient mechanical components
- Highly available, flexible and efficient power supply and distribution
- Highly available, flexible and efficient cooling system
- Corresponding monitoring and management of these sub-systems
- As a decisive factor: the corresponding **Knürr support services**

## Knürr support services at a glance

	Consulting support	Planning Project management	Installation	Start-up	Warranty extension	Maintenance	Emergency service
Mechanical	●	●	●	●	●	Not required	●
Power supply and distribution	●	●	●	●	●	●	●
Cooling	●	●	●	●	●	●	●
Control and monitoring	●	●	●	●	●	●	●

### Consulting and support

Knürr provides consulting services in standard operation as well as with changes or extensions in systems, whether it be part of a free of charge concept consultancy, an in-depth consultancy, or as part of a detailed

#### Data center environment assessment.

Rack-optimized computer environments provide numerous advantages in the data center, but with constantly increasing heat loads, they also bring some problems with them, such as increased power and cooling requirements, for example.

A conversion or upgrade in a data center therefore requires a detailed inventory analysis and an equally careful planning of any required expansions:

- Evaluation of the existing infrastructure and inspection to see if this is sufficient for current and planned system installations.
- Simplified implementation of pizza servers and blade servers.
- Reduced risks with recommendations for optimising your data center.

The following components and systems are analysed:

- Building: construction work, fire protection, standards, racks' set-up
- Power supply: feed, distribution, redundancies, fusing
- Thermal management: equipment, redundancies, utilisation/reserves
- Monitoring: operation, access, fire alarm

Service	Order no.
Consulting	<b>07.011.000.1</b>
Data Center Environment Assessment	<b>07.011.001.1</b>

### Planning, project planning and project management

These services provide sustained support with changes or expansions in systems.

This service package can begin with the adjustment and integration of our products into a system that is adjusted to the requirements and challenges of service, availability, flexibility and efficiency.

A further step is the planning and administration of the complete project, from product completion to delivery and provision, through to installation of your IT infrastructure system by an experienced Knürr project manager.

Service	Order no.
Planning, Project Planning	<b>07.012.000.2</b>
Project Management	<b>07.012.001.2</b>

## Set-up and Installation

Highly qualified and experienced Knürr employees and certified Knürr service partners bring our products to their installation point, set them up and install them in a complete system.

Service	Order no.
Set-up, Installation	<b>07.013.000.2</b>

## Start-up

After installation has been completed products and systems are checked, functional check is made and all components are set according to a defined sequence; a start-up log documents the professionally

performed acceptance and brief instruction for the user. The start-up ensures a fault-free functioning of the systems over a long usage period.

Service	Order no.
Start-up	<b>07.014.000.1</b>

## Service contracts

**Knürr service contracts guarantee the reliability and high availability of the systems.**

**The three packages offered include different levels of the following components:**

- Hotline for emergencies with agreed availabilities
- Preventive maintenance
- Emergency repair service with agreed response times
- Replacement parts

### ■ “Basic” Protection Level

Our service hotline can be reached Monday to Friday from 8 a.m. until 5 p.m. With response times of only two working days, this is the beginner variant.

### ■ “Essential” Protection Level

This package provides services of the “Basic” level including one preventive maintenance per year and all travel and work costs at an attractive flat-rate price.

### ■ “Preferred” Protection Level

Services of the “Essential” level, however with 24/7 telephone hotline and shorter response time of 24 hours for an even higher availability. Upgrades to shorter response times down to 4 hours and inclusion of wear and tear parts are optional.

Knürr service contract	Order no.
“Basic” Protection Level	<b>07.010.001.2</b>
“Essential” Protection Level	<b>07.010.002.2</b>
“Preferred” Protection Level	<b>07.010.003.2</b>

## Warranty extension

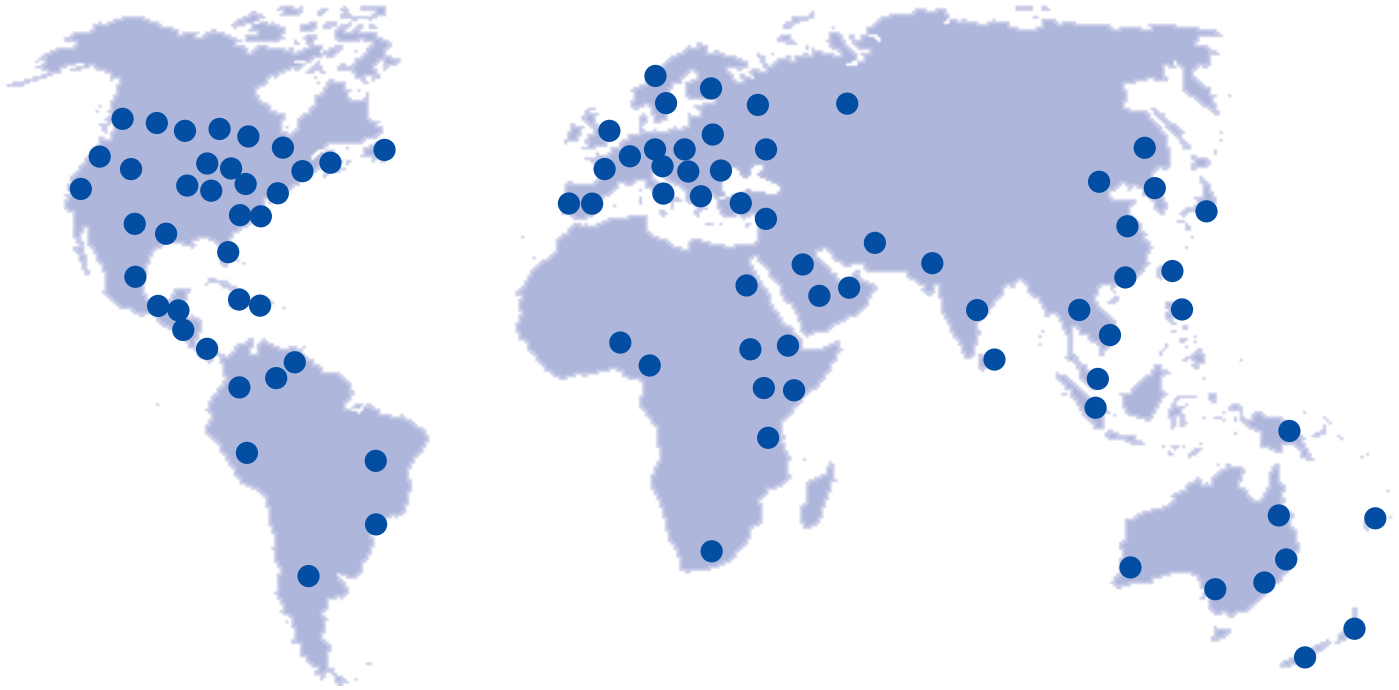
In combination with a service contract we offer an optional warranty period extension for our products.

Service	Order no.
Warranty Extension	<b>07.015.000.1</b>

## Global presence

In Europe Knürr is a traditional, recognised premium brand name that includes a corresponding commitment to the customer. This in particular entails an appropriate service offering as one of the market and technology leaders in the field of high-performance cooling in data centers for customers around the world.

Knürr is part of the Emerson Network Power Organisation and the company provides a highly developed and full-coverage service network with over 2,000 of its own internal service technicians and external service providers.



## Knürr Service

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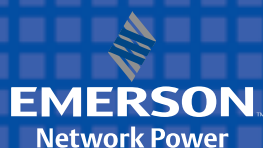
Emerson Network Power is a consistent global technology leader and recognised expert that helps to secure business-critical processes, and by doing so contributes to a "business-critical continuity".

A series of the most diverse applications, including the tried, tested and proven Knürr rack system solutions and the thermal management connected with them, ensure the required network stability with the highest technological adaptability at the same time.

Knürr system solutions in the world of information and network technology are part of an adaptive Emerson Network Power architecture, which flexibly adjusts to all changes concerning security/safety, high-density and all associated capacities. Companies profit in a sustainable and long-term way from the high IT availability, operative flexibility and impressive reduction in investment and operating costs.

Knürr AG is recognised around the world as one of the leading developers, manufacturers and distributors of rack and enclosure platforms in the indoor and outdoor area, including all relevant active/passive components of 19" structures and the technologies connected with them.

Knürr is certified in accordance with EN ISO 9001 and the EN ISO 14001 standard. Knürr's quality management continuously guarantees the highest level of quality in all areas of the company.



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