

## @Lock – solutions for racks

### Access control for data centers and technical rooms

**Data centers are broken into on a regular basis. In many cases, the intention is simply to steal high-quality IT equipment. However, breaking in may only be a pretense for stealing data and/or putting in place a man-in-the-middle infrastructure.**

On 28 February 2011 for example, an important data center belonging to a global telecommunications service provider was paralyzed by intruders. Only a few weeks previously, a DC service provider working on behalf of a major health care company became the victim of an attempted break-in, which resulted in the entire security concept undergoing a TÜV audit. Generally speaking, attacks of this kind go undetected. Data centers are security areas and therefore need to be secured through various measures. An important part of this is controlling access to and in the data center.

Controlling access to the data center is usually achieved through a combination of organizational measures, e.g., gates and turnstiles, besides a building access control system.

Working with various partners, Emerson Network Power has developed system concepts which not only improve physical security through access controls within the data center but also simplify operative processes, making them less susceptible to errors. These concepts are known as "@Lock".



@lock solution with MLR handles in a co-location datacenter

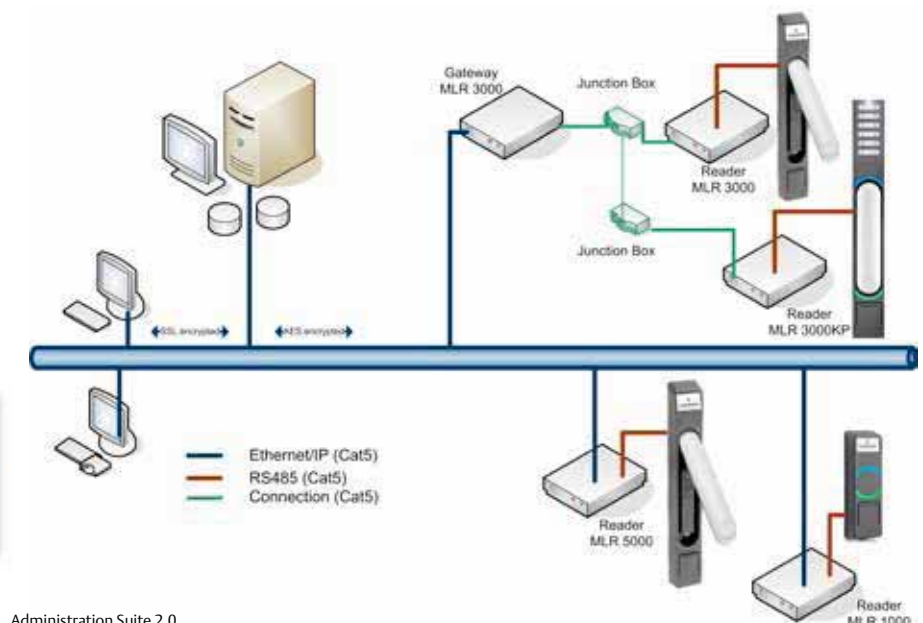
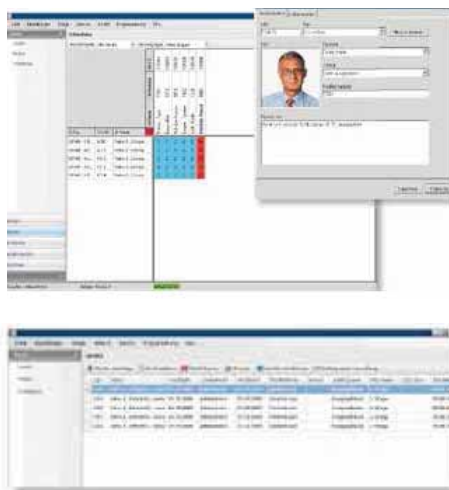


## Option 1: Transponder card system @Lock "transponder card system" concept

This system concept can be applied throughout – from the DC and cold aisle doors to the individual cabinets. In addition to the card readers and handles, the extensive "Administration Suite" management software is a key part of the system.

Thanks to its modular design and open infrastructure architecture, the new Administration Suite can be expanded as required and can also be implemented for third party providers.

- Encrypted data communication between the hardware, server and client.
- Runs on Windows 2000, Windows XP, Windows Vista, Windows Server 2003, Windows Server 2008, Citrix.
- Allows administration of various users with different types of authorization.
- Client/server capability.
- Web client-capable, SNMP alarming.
- Record changes made to the system by users.
- Straightforward user guidance in spite of extensive tools.
- Wide range of alarm messages.
- Automatic alarm notification via e-mail.
- Centralized locking plans and access management.
- Freely selectable four-eyes-principle.
- Support for the most common transponder types.
- Central management of various systems.
- Records all actions in "Log Events".
- Free replacement of the lock system if the authorizing medium is lost.
- Real-time visualization of the swing handle stations.
- Configuration of special days with different locking regimes.
- Allocation of time profiles for access.
- Able to export "Log Events".
- Multilingual software.



Administration Suite 2.0  
Order number: 01.180.049.9



**MLR 3000 and MLR 5000 handles are suitable for linking server or network cabinets to the transponder card system. The E-LINE, by Dirak mechatronic swing handles and the Administration Suite software, provide a convenient, reliable way of monitoring access to your data or server cabinet. With the Administration Suite software, security officers can conveniently monitor and manage access directly from a PC.**

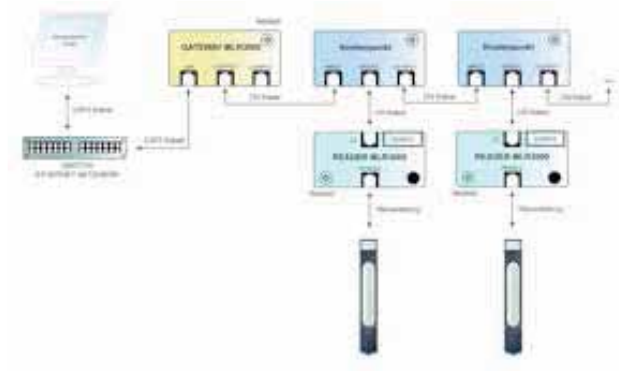
The integrated LEDs display alarm messages and types of authorization on the handle itself. As a result, technicians on site are given the same information that the Administration Suite software sends to the headquarters. LEDs at the top and bottom of the handle offer permanently high luminosity with low power consumption. As a result, the lock status can be determined quickly, even from a distance of several meters.

The top LED can indicate various statuses, such as that the handle is ready to be opened or locked. The bottom LED displays whether the handle is within or outside the temperature range for the cabinet selected by the customer. As a result, irregularities may be identified quickly, leaving enough time for appropriate action to be taken.

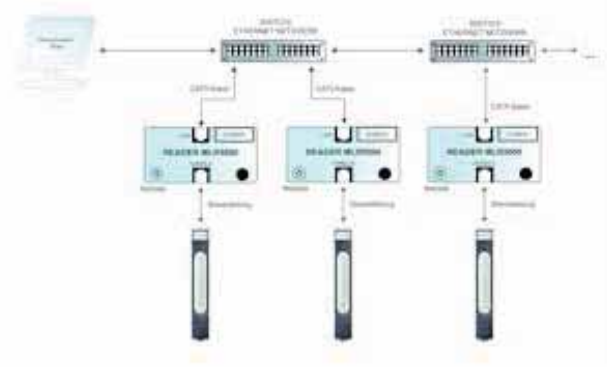
The information display integrated into the handle is backlit and allows customer-specific information, such as the cabinet row, cabinet number etc., to be added for extra clarity.

**Handles are also available with integrated Keypad (MLR5000KP). They can be used with either keycard, keypad or both (two-factor authentication).**

## @LockMLR3000



## @LockMLR5000



## Technical data – @Lock MLR3000/5000

Handle electronics	
Two-part hardware design	Swing handle and reader unit
Visualization	Multicolored status LED
Reader	For 125 kHz transponders (HID 26 bit system), alternatively 13.56 MHz (MIFARE)
Reader	
Housing	Reader unit in plastic housing can be fixed with screws or self-adhesive pad
Power supply	12 V ± 10 % (DC) via low voltage socket
Standby current (system ready)	40 mA (DC)
Max. current consumption (with connector tightening)	440 mA (DC)
RS232 interface for MLR3000	RS232 cable (RXD, TXD, GND, Reader present, PC present), 38,400 baud
Current increase for MLR5000 via Ethernet interface	125 mA (DC)
TCP/IP interface	Ethernet, 10/100 Autosense, up to 100 Mbaud
Connecting cable (reader - handle electronics)	8-pole, 350 cm, UL stranded wire AWG 26, one side with gated RJ45 plug, one side with crimped JST ZH connector ZHR-8
Relay output (via screw clamps)	2.5 mm <sup>2</sup> , can be screwed in from plug side, relay contact: 12 V, 3 A, 60 W, 120
Door contact input (via screw clamps)	2.5 mm <sup>2</sup> , can be screwed in from plug side, terminals 1 and 2
RS485 interface	RS485 cable to the E-LINE by DIRAK Gateway, (+/A, -/B), 38,400 baud
Memory capacity for transponder cards	2000 + 1 master transponder
Memory capacity for events	500 (ring memory)
Memory capacity for time profiles	30
Integrated real-time clock	With buffering of up to 60 min at 25 °C
Temperature range	-20°C – +70°C

Type	Model	Order No.	UP
@LockMLR3000	for Miracel and DCM front door	01.180.225.9	1 unit
@LockMLR3000	for twin door (e.g. DCM rear door)	01.180.227.9	1 unit
@LockMLR5000	for Miracel and DCM front door	01.180.228.9	1 unit
@LockMLR5000	for twin door (e.g. DCM rear door)	01.180.229.9	1 unit
@LockMLR5000KP	for Miracel and DCM front door	01.180.240.9	1 unit
@LockMLR5000KP	for twin door (e.g. DCM rear door)	01.180.241.9	1 unit

Accessories	Order No.	UP
Door contact	06.108.115.9	1 unit
HID transponder card	01.180.040.9	1 unit
Desktop reader for the initial reading of transponder cards	01.180.040.9	1 unit
MLR3000 Gateway	01.180.111.9	1 unit
Plug-in power supply (Europe)	01.180.035.9	1 unit

Other plug-in power supplies on request



## Technical data – MLU3000/5000

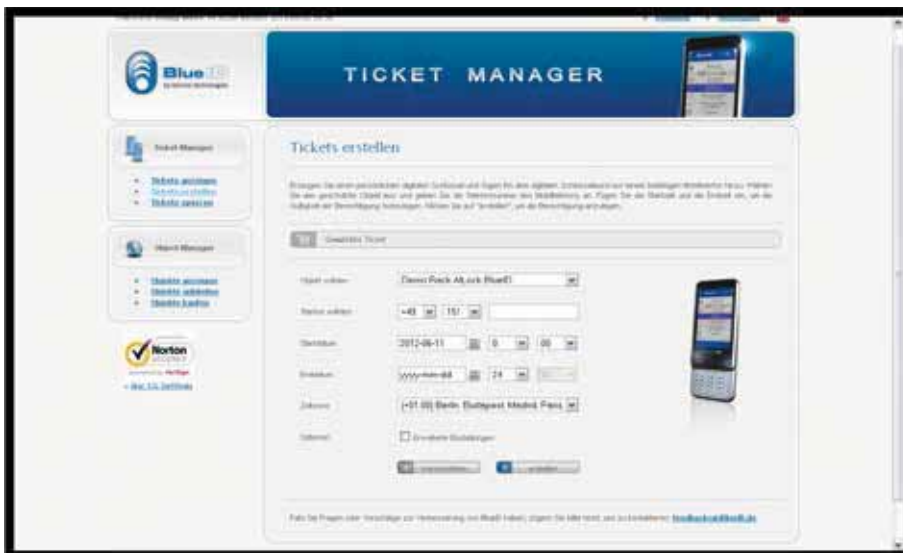
**MLU card readers can be used to connect a room door with existing electromechanical locking or motorized cold aisle door (Coolfex):**

- Three-part hardware design MLU3000 set comprising: external MLU reader, network reader unit and MLU1000 lock.
- Visualization on MLU reader: 2 x multicolored status LEDs and 1 x backlit information display.
- Antenna for 125 kHz transponders (HID 26 bit system).
- **Optional MLU1000 lock**
  - Die-cast zinc (GDZn), color: matt chrome.
  - 4 m control cable.
  - Power supply 24 V DC +/- 10% 100 mA.
  - Proximity sensor status contact.
  - Wall/sheeting thickness independent.
  - Electronic opening by interrupting the power supply.
- **MLU3000/MLU5000 network reader**
  - Housing reader unit in plastic housing can be fixed with screws or a self-adhesive pad.
  - Nominal input voltage 12/24/48 V ± 10 % (DC) depending on the electronic lock connected.
  - Standby current (system ready) 40 mA (DC).
  - Max. current consumption RJ12 (LOCK) 1.5 A (DC).
  - Max. current consumption via relay clamp 3.0 A (DC), clamps 10-11.
  - RS232 interface RS 232 cable (RXD, TXD, GND, Reader present, PC present), 38,400 baud.
  - Connecting cable (reader - external MLU antenna) 8-pole, 350 cm, UL stranded wire AWG 26, one side with gated RJ45 plug, one side with crimped JST ZH connector ZHR-8.
  - Relay output (via screw clamps) 2.5 mm, can be screwed on from plug side, relay contact: 12 V, 3 A, 60 W, 120 VA, terminals 3 - 5.
  - Door contact input (via screw clamps) 2.5 mm² can be screwed from plug side, terminals 1 and 2.
  - RS485 - RS485 interface - cable to the E-LINE by DIRAK Gateway, (+/A, -/B), 38,400 baud (MLU3000).
  - TCP/IP Ethernet interface, 10/100 Autosense, up to 100 MBit/s (MLU5000).
  - Power off when open/closed: depending on the electronic lock connected, this is configured in the Administration Suite Config Tool.
  - Memory capacity for transponder cards 2000: + 1 master transponder.
  - Memory capacity for events: 500 (ring memory).
  - Memory capacity for time profiles: 30.
  - Integrated real-time clock with buffering of up to 60 min at 25 °C.
  - Temperature range -20°C – +70°C.

## Option 2: BlueID @Lock "Blue ID" system concept

**@Lock BlueID is an innovative data center locking system which is highly flexible and user-friendly. Instead of a set of keys or transponder cards, "virtual" keys, kept on mobile communication devices (smartphones, tablets etc.), are used. These virtual keys are transferred to a mobile device via SMS. No online access is necessary to use the keys.**

The locking system comprises MLR1000 handles, a BlueID control system, a power supply, vouchers for generating keys (100 daily tickets, 10 yearly tickets, 10 reload tickets) and installation materials. Additional ticket packages or two additional MLR1000 handles per BlueID box can be ordered separately.



## Technical data – BlueID control system

- Dimensions: 157 x 86 x 58 mm (WxHxD) plus antenna and plug.
- Weight: 0.24 kg.
- Temperature range – storage: -40°C to +85°C.
- Temperature range – operation: -20°C to +70°C.
- Supply voltage: 7-32 V DC; max: 400 mA.
- Power consumption: 2 W.
- Relay switching voltage (max.): 250 V AC.
- Relay switching current (max.): 5 A.
- Contact clamps (potential-free): 4 x 2.
- Optocoupler inputs (potential-free): 4 x 2.
- Connection: Bluetooth 2.0 EDR.
- Connection: Ethernet (RJ45).
- Connection: WLAN/WiFi (optional, with BlueID WLAN/WiFi upgrade accessory, Art. No. 4260200780775).

- Internal antenna connection: RP-SMA (right hand thread).
- Bluetooth range: up to 5 m / up to 50 m / up to 150 m.
- Security specification: allocation of access authorization and command execution.
- RSA/AES-encrypted up to 4,096 bit.
- Security specification: connection to trust center infrastructure in ISO/IEC 27001:2005-certified data center.
- Security specification: FIPS 140-2-certified cryptography modules; security specification: certificate-based ticket issuing (SHA).
- Security specification: public key infrastructure (PKI).
- Protection class: IP20.
- Certification: CE.

Type	Order No.	UP
Knürr bundle. @LockBlueID for Knürr DCM	<b>01.180.320.0</b>	1 unit
Package of 100 daily tickets	<b>01.180.321.0</b>	1 unit
Package of 10 yearly tickets	<b>01.180.322.0</b>	1 unit
Package of 10 reload tickets	<b>01.180.323.0</b>	1 unit

## Option 3: Potential-free contacts @Lock "potential-free contacts" system concept

**Swing handles from the @Lock MLR1000 range are suitable for connecting electromechanical swing handles to existing building management systems or local identification systems, in addition to complementing @LockBlueID or rack monitoring systems.**

The handle can be opened as soon as its potential-free contacts are activated or a voltage of 12-24 V DC is supplied. Following activation, the MLR1000 switches to ready-to-open status.

During this period, the user can open the MLR1000 by pressing a button. The LED at the top of the handle offers permanently high luminosity with a low power consumption. As a result, the lock status can be determined quickly, even from a distance of several meters.

The information display integrated into the handle is backlit and allows customer-specific information such as the cabinet row, cabinet number etc., to be added for further clarity.

## Technical data – @LockMLR1000

Handle electronics	
Two-part hardware design	MLR1000 and MLR1000 Box
Visualization	Status LED
MLR1000 Box	
Housing	Interface unit, plastic housing can be fixed with screws or self-adhesive pad
Power supply	12 V DC ± 10 % via screw clamps
Standby current (system ready)	40 mA (DC)
Max. current consumption (with connector tightening)	410 mA (DC)
Operating mode	100 % ED
Relay control	12V DC
Operating time	Max. 3 seconds
Contact output	250 V AC, 2 A
Installation position	Vertical
Connection type	Screw clamps, 2.5mm <sup>2</sup>
Connecting cable (reader - handle electronics)	8-pole, 350 cm, UL stranded wire AWG 26, one side with gated RJ45 plug, one side with crimped JST ZH connector ZHR-8
Temperature range	-20°C – +70°C

	@Lock MLR5000	@Lock MLR3000	@Lock MLR1000	@Lock BlueID
Software necessary	Admin Suite	Admin Suite	Custom	Web browser, Mobile phone app
E-Line Administration Suite Software	Yes	Yes	No	No
External emergency power supply connector	Yes	Yes	Yes	No
Identification	Transponder card	Transponder card	Dependent on customer's equipment and software	BlueID
IP support	Yes	Gateway	No	Optional
Log files	Yes (in combination w. Administration Suite)	Yes (in combination w. Administration Suite)	Dependent on customer's equipment and software	Optional
User profiles	Yes (in combination w. Administration Suite)	Yes (in combination w. Administration Suite)	Dependent on customer's equipment and software	No
Four-eyes-principle	Yes (in combination w. Administration Suite)	Yes (in combination w. Administration Suite)	Dependent on customer's equipment and software	Yes
Off-line mode	No	No	No	Yes
Technology partner	Eline by Dirak	Eline by Dirak	Eline by Dirak	BlueID by Baimos Technologies

Type	Model	Order No.	UP
@LockMLR1000	for Miracel and DCM front door	01.180.224.9	1 unit
@LockMLR1000	for twin doors (e.g. DCM rear door)	01.180.226.9	1 unit

# Knürr Cable Management

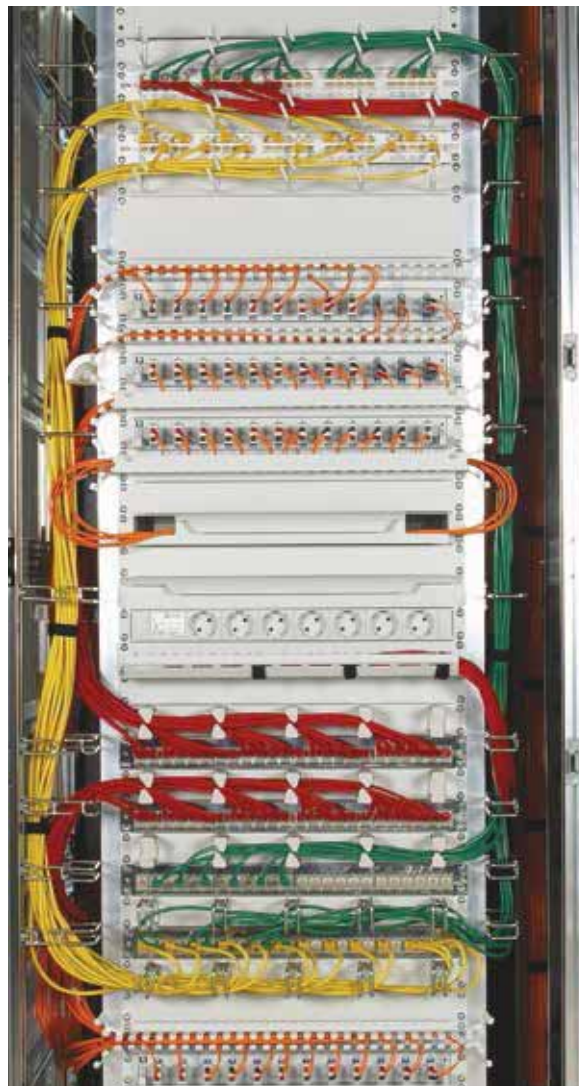
## Features

- Allows for prescribed cable radii.
- Components are easy to secure and use.
- Components feature addition functions.
- Extensive use of reusable Velcro strips precludes cable strain.
- No blockage of airflow within the rack.

**Obstacle-free cable management has been a longstanding feature in Knürr racks. While access is an important issue, the high density of cables and their varying structural connections play a significant role. This is where Knürr cable management comes in.**

The rack platform used in data centers or in network environments has been meticulously planned by Knürr, taking into account not only how active and passive components are arranged, but also ensuring that cabling is managed simply and efficiently.

Knürr cable management delivers products and solutions for server racks, active networks, passive network racks and special racks.





MEC20064



MEC20074



MEC20084

## Knürr Cable Management Proper Usage

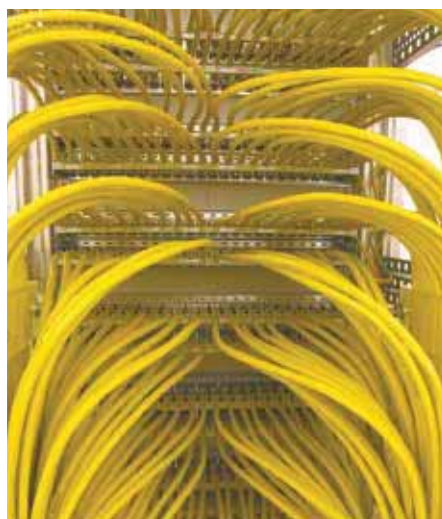
Laying cables involves ensuring that mechanical stresses are completely avoided.

### ■ Bending load

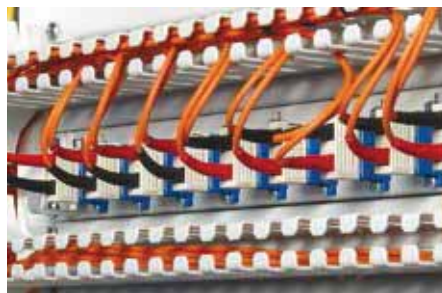
The bending radii may never fall below the values provided by the cable manufacturer in the respective data sheets. Where excessive bending occurs, the cables' electrical properties are impaired, and transmission bandwidths and ranges are adversely affected. If manufacturer specifications are not available, then the following rule of thumb applies: loose cabling should be at least 15 times the external cable diameter and fixed cabling at least 10 times the external cable diameter.

### ■ Buckling load

Extreme bending loads can cause the cable to break.



MEC20086



MEC20058

### ■ Tensile load

This is determined solely by the copper cross-section of the conductor, as all other materials are too soft. The cable may not be exposed to stress exceeding 50 N/mm<sup>2</sup> (Cu cross-section) as this causes the conductors to stretch which reduces the cross-section. If higher "pulling" forces are required, cables with additional strain-reduction 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 electrical transmission properties are impaired.

### ■ Torque strains (twisting)

Cables must never be subjected to torque strains, as they cause cable elements to shift and change their position relative to each other, thereby impairing transmission properties.



LIG00021



1. MEC20082

## Knürr Cable Management Proper Usage

- Various components for fiberglass and copper cables – especially fastening options such as Velcro and cable bundling using different colored strips – guarantee transparent cable management, providing an optimal starting point for both intelligent network expansion and ideal service convenience. (1)
- Special attention has been paid to ensuring that all cable management components can be fastened with Velcro strips which eliminate cable strain and can be reused at any time. Velcro cable ties also aid the installation technician as they are easily manageable, using pinch-free cable bundling. (2)
- Excess cable is stored separately from the patch fields while remaining easily accessible. Copper cable excess can be stored separately from fiber glass excess within the Knürr rack systems: the copper cables are stored on the side while the more sensitive fiberglass cables are stored in a drawer at the front. (3)
- A closer look at the individual products reveals their outstanding versatility. The cable-routing multifunctional brace, for example, not only provides the option of routing cables both horizontally and vertically using Velcro or cable ties, but additionally allows numerous components to be mounted with screws and caged nuts. These caged nuts can also be shifted in a slot with room for play, so that every mounting dimension is accommodated. (4)
- The prescribed radii are maintained with radius guides. These components prevent a reduction of the transmission bandwidths and ranges, as well as a cable break. (5)



2. MEC20070



3. MEC20099



3. MEC20079



4. MEC20077



4. MEC20091



5. MEC20071

# Knürr Cable Management

## Overhead Cabling

### Features

- Modular, extremely flexible.
- Robust construction.
- Includes integrated radius for cable entry into rack.
- New cover panel with lateral cable entry.
- Selection of cable troughs and mesh cable trays.
- Suitable for DCM® and Miracel®.
- Includes SmartAisle™ enclosure. Various combinations possible.

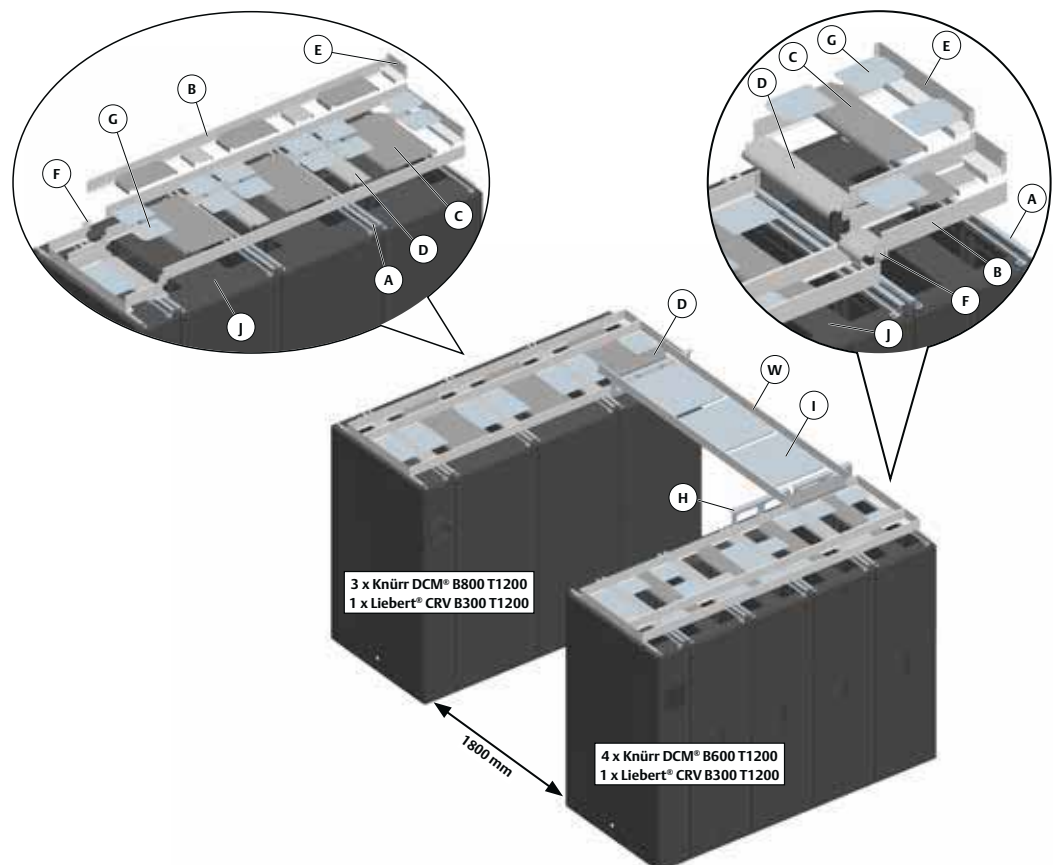
### Emerson Network Power's Overhead Cabling Solution

The Knürr overhead cable management system is a complete, modular system which offers a variety of cable-tray installment options. The components are very flexible and can be installed on site or modified with ease, to accommodate cable-management requirements that differ from rack to rack. This extremely sturdy and robust system can withstand high stress levels and is suitable for any application. Combined with other items from the Knürr cable-management product range, it provides a comprehensive solution that delivers proper cable bend radii.

### Example of Overhead Configuration

### Legend

- (A) Support bracket
- (W) Mounting bracket
- (C) Center panel insert
- (D) Transitional cover
- (E) End panel insert
- (F) Connecting panel insert
- (G) Cover plate
- (H) Support bracket cross-cabling
- (I) Cover cross-cabling
- (J) New cover panel with lateral cable entry

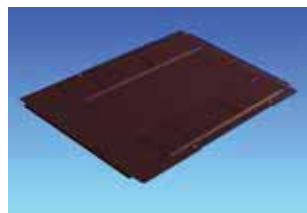
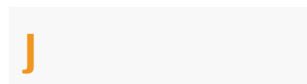


# Configuration Assistant

Sample Order	Name	Item	
<b>– Left rack suite</b>	Knürr DCM® B800 T1200	3	01.147.722.8
	New cover panel with lateral cable entry <b>(J)</b>	3	01.147.579.8
	Liebert® CRV B300 T1200	1	CR0302XXX-XXXXXX
	Support bracket <b>(A)</b>	4	05.045.005.X
	Mounting bracket <b>(B)</b>	2	05.045.011.X
		2	05.045.015.X
	Center panel insert <b>(C)</b>	3	05.045.023.X
		3	05.045.024.X
	Transitional cover <b>(D)</b>	3	05.045.031.X
		3	05.045.032.X
	End panel insert <b>(E)</b>	1	05.045.041.X
		1	05.045.042.X
	Connecting panel insert <b>(F)</b>	1	05.045.045.X
	Cover plate <b>(G)</b>	2	05.045.047.X
<b>– Right rack suite</b>	Knürr DCM® B800 T1200	4	01.147.714.8
	New cover panel with lateral cable entry <b>(J)</b>	4	01.147.574.8
	Liebert® CRV B300 T1200	1	CR0302XXX-XXXXXX
	Support bracket <b>(A)</b>	4	05.045.005.X
	Mounting bracket <b>(B)</b>	2	05.045.011.X
		8	05.045.012.X
	Center panel insert <b>(C)</b>	4	05.045.021.X
		4	05.045.022.X
	Transitional cover <b>(D)</b>	4	05.045.031.X
		4	05.045.032.X
	End panel insert <b>(E)</b>	1	05.045.041.X
		1	05.045.042.X
	Connecting panel insert <b>(F)</b>	2	05.045.045.X
	Cover plate <b>(G)</b>	2	05.045.047.X
<b>– Cross-cabling</b>	Support bracket <b>(H)</b>	1	05.045.052.X
		1	05.045.053.X
	Mounting bracket <b>(B)</b>	1	05.045.015.X
	Transitional cover <b>(D)</b>	2	05.045.032.X
	Cover <b>(I)</b>	1	05.045.057.X

Required Data for Overhead Cabling	Example
– Width of racks in the rack suite (300, 600 or 800 mm)	Rack width (W) = 800 mm
– Depth of racks in the rack suite (1000 to 1200 mm)	Rack depth (D) = 1200 mm
– Number of racks in one rack suite	
– Aisle width (Standard dimensions 1200, 1500 and 1800 mm ± 50 mm) – for cross-cabling	Aisle width (AW) = 1800 mm
– Color light-grey RAL 7035 or dark-grey RAL 7021	Dark-grey RAL 7021

## Prerequisites for Overhead Cabling

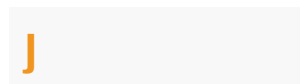


DCM20079

### DCM® cover panel with lateral cable entry

- With lateral cable entry on both sides (sliding plates).
- For orderly cable management with in the rack.
- Optional brush strips.
- **Material**
  - Sheet steel, 1.5 mm.
- **Finish / Color**
  - Powder-coated texture, RAL 7021, dark-grey.
- **Standard inclusion**
  - 1 x cover panel with lateral cable entry.
  - 1 x Mounting kit.
- **Delivery**
  - In sets.

W <sub>Rack</sub>	H	D <sub>Rack</sub>	For rack type	Order No.	UP
600	1000	DCM®		<b>01.147.572.8</b>	1 unit
600	1100	DCM®		<b>01.147.573.8</b>	1 unit
600	1200	DCM®		<b>01.147.574.8</b>	1 unit
800	1000	DCM®		<b>01.147.577.8</b>	1 unit
800	1100	DCM®		<b>01.147.578.8</b>	1 unit
800	1200	DCM®		<b>01.147.579.8</b>	1 unit



MIR20439

### Miracel® cover panel with lateral cable entry

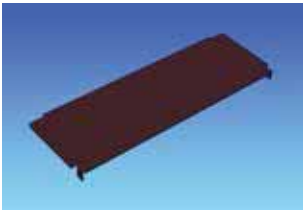
- With lateral cable entry on both sides (sliding plates).
- For orderly cable management with in the rack.
- Optional brush strips.
- **Material**
  - Sheet steel, 1.5 mm.
- **Finish / Color**
  - Final digit of order number .1: powder-coated, RAL 7035 light-grey.
  - Final digit of order number .8: powder-coated, RAL 7021 dark-grey.
- **Standard inclusion**
  - 1 x cover panel with lateral cable entry.
  - 1 x Mounting kit.
- **Delivery**
  - In sets.

W <sub>Rack</sub>	H	D <sub>Rack</sub>	For rack type	Order No.	UP
600	1000	Miracel®		<b>01.130.630.X-003</b>	1 unit
600	1100	Miracel®		<b>01.130.630.X-004</b>	1 unit
600	1200	Miracel®		<b>01.130.630.X-005</b>	1 unit
800	1000	Miracel®		<b>01.130.630.X-008</b>	1 unit
800	1100	Miracel®		<b>01.130.630.X-009</b>	1 unit
800	1200	Miracel®		<b>01.130.630.X-010</b>	1 unit

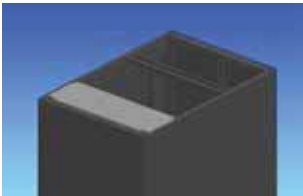
<b>Dimensions in mm:</b>			<b>Conversion:</b>	
W = Width	L = Length	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch
H = Height	R = Bending radius	(1 U = 44.45 mm)		1 kg = 2.2046 pounds
D = Depth		UP = Packaging unit		

## K

### DCM® cover panel short



DCM20081



DCM20080

- For covering the front overhead area; the rest remains open.
- Facilitates unobstructed cable entry inside the rack.

#### Material

- Sheet steel, 1.5 mm.

#### Finish / Color

- Powder-coated texture, RAL 7021, dark-grey.

#### Standard inclusion

- 1 x cover panel, short.
- 1 x Mounting kit.

#### Delivery

- In sets.

W <sub>Rack</sub>	L	D	For rack type	Order No.	UP
600	250		DCM®	<b>01.147.268.8</b>	1 unit
800	250		DCM®	<b>01.147.269.8</b>	1 unit

## K

### Miracel® cover panel short



MIR20441



MIR20440

- For covering the front overhead area; the rest remains open.
- Facilitates unobstructed cable entry inside the rack.

#### Material

- Sheet steel, 1.5 mm.

#### Finish / Color

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

#### Standard inclusion

- 1 x cover panel, short.
- 1 x Mounting kit.

#### Delivery

- In sets.

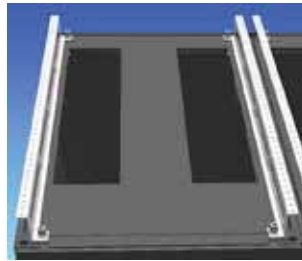
W <sub>Rack</sub>	L	D	For rack type	Order No.	UP
600	250		Miracel®	<b>01.130.628.X</b>	1 unit
800	250		Miracel®	<b>01.130.629.X</b>	1 unit

## A

### Support bracket



MEC20200



MEC20201

- Secures corner piece at the top of the rack.
- Quick and easy mounting.
- Suitable for both Miracel and DCM racks.
- Includes screw for securing the mounting brackets, transitional cover and end panel inserts.

#### Material

- Sheet steel 2.0 mm.

#### Finish

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

#### Standard inclusion

- 2 x support brackets.
- 1 x Mounting kit.

#### Delivery

- In sets.

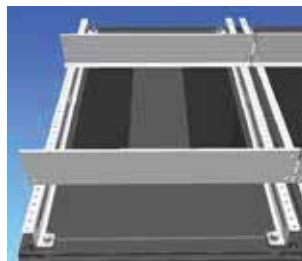
W / L	H	D <sub>Rack</sub>	For rack type	Order No.	UP
44	900		Miracel®/DCM®	<b>05.045.002.X</b>	1 set
44	1100		Miracel®/DCM®	<b>05.045.004.X</b>	1 set
44	1200		Miracel®/DCM®	<b>05.045.005.X</b>	1 set

## B

### Mounting brackets



MEC20202



MEC20203

- Secured on support bracket.
- Quick and easy mounting.
- Separate cable trays.

#### Material

- Sheet steel 1.0 mm.

#### Finish

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

#### Standard inclusion

- 2 x mounting brackets.
- 1 x Mounting kit.

#### Delivery

- In sets.

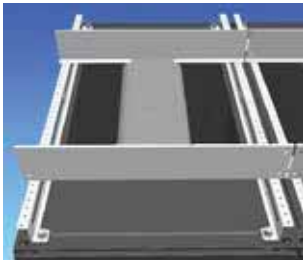
W / L	H	D	For rack type	Order No.	UP
300	90		Miracel®/DCM®	<b>05.045.011.X</b>	1 set
600	90		Miracel®/DCM®	<b>05.045.012.X</b>	1 set
800	90		Miracel®/DCM®	<b>05.045.013.X</b>	1 set
2400	90		Miracel®/DCM®	<b>05.045.015.X</b>	1 set
3000	90		Miracel®/DCM®	<b>05.045.016.X</b>	1 set

## C

### Center panel insert



MEC20205



MEC20204

- Secured on mounting bracket.
- Quick and easy mounting.
- With 25 mm radius for bending the cables.

■ **Material**  
– Sheet steel, 1.5 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

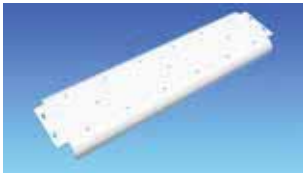
■ **Standard inclusion**  
– 1 x center panel insert.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

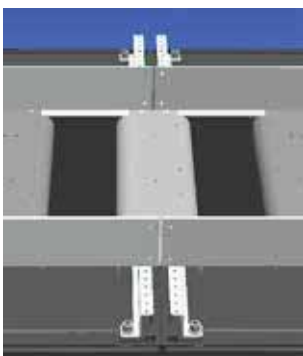
W / L	W <sub>Rack</sub>	D	R	For rack type	Order No.	UP
200	600	25		Miracel®/DCM®	<b>05.045.021.X</b>	1 set
600	600	25		Miracel®/DCM®	<b>05.045.022.X</b>	1 set
200	800	25		Miracel®/DCM®	<b>05.045.023.X</b>	1 set
600	800	25		Miracel®/DCM®	<b>05.045.024.X</b>	1 set

## D

### Transitional cover from rack to rack



MEC20206



MEC20212

- Secured on support bracket.
- Quick and easy mounting.
- With 25 mm radius for bending the cables.

■ **Material**  
– Sheet steel, 1.5 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

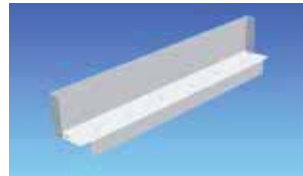
■ **Standard inclusion**  
– 1 x transitional cover.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

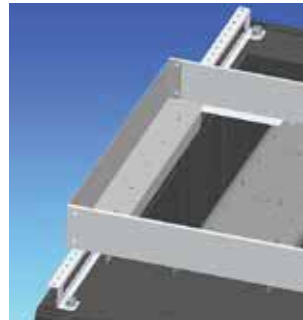
W / L	H	D	R	For rack type	Order No.	UP
200			25	Miracel®/DCM®	<b>05.045.031.X</b>	1 set
600			25	Miracel®/DCM®	<b>05.045.032.X</b>	1 set

## E

### End panel insert



MEC20207



MEC20214

- Secured on support bracket.
- Quick and easy mounting.
- Completes cable trays.

■ **Material**  
– Sheet steel 1.0 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

■ **Standard inclusion**  
– 2 x end panel inserts.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

W / L	H	D	For rack type	Order No.	UP
200			Miracel®/DCM®	<b>05.045.041.X</b>	1 set
600			Miracel®/DCM®	<b>05.045.042.X</b>	1 set

## F

### Connecting panel insert



MEC20208



MEC20213

- For joining mounting brackets.
- Quick and easy mounting.

■ **Material**  
– Sheet steel, 1.5 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

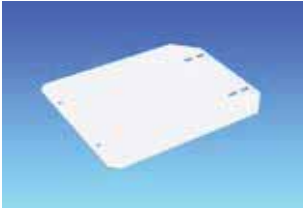
■ **Standard inclusion**  
– 10 x connecting panel inserts.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

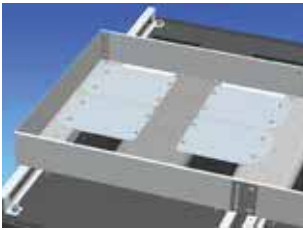
W	H	D	For rack type	Order No.	UP
64	86		Miracel®/DCM®	<b>05.045.045.X</b>	1 set

## G

### Cover plate



MEC20209



MEC20215

- For covering the space between the center panel inserts and transitional covers.
- Quick and easy mounting.

■ **Material**  
– Sheet steel 1.0 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

■ **Standard inclusion**  
– 10 x cover plates.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

L	W	D	For rack type	Order No.	UP
229	183		Miracel®/DCM®	<b>05.045.047.X</b>	1 set

## Option

### Mesh cable tray



MEC20218

- Secured on support bracket.
- Quick and easy mounting.

■ **Material**  
– Round steel, d = 4.5 mm.

■ **Finish**  
– Zinc-passivated.

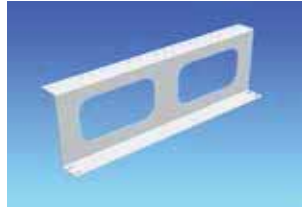
■ **Standard inclusion**  
– 1 x mesh cable tray.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

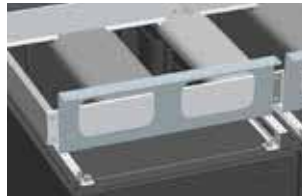
B	L	H	For rack type	Order No.	UP
200	3000	54	Miracel®/DCM®	<b>05.045.061.9</b>	1 set
600	3000	54	Miracel®/DCM®	<b>05.045.062.9</b>	1 set

## H

### Support bracket Cross-cabing



MEC20210



MEC20216

- For cable management at the top between rack suites.
- Quick and easy mounting.
- Includes screw for securing the mounting brackets, transitional covers and cover plates.

■ **Material**  
– Sheet steel 2.0 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

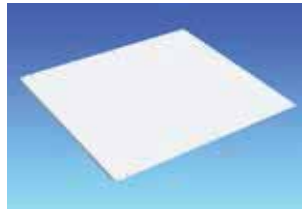
■ **Standard inclusion**  
– 2 x support brackets, cross-cabing.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

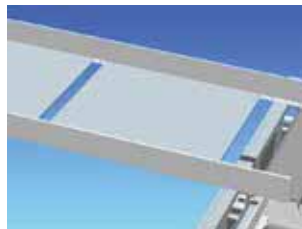
W / L	H	W <sub>Rack</sub>	For rack type	Order No.	UP
166	600		Miracel®/DCM®	<b>05.045.052.X</b>	1 set
166	800		Miracel®/DCM®	<b>05.045.053.X</b>	1 set

## I

### Cross-cabing Cover



MEC20211



MEC20217

- Provides support for cables and covers the space between the rack suites.
- Secured on mounting bracket.
- Quick and easy mounting.

■ **Material**  
– Sheet steel 1.0 mm.

■ **Finish**  
– Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

■ **Standard inclusion**  
– 5 x cover plates.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

L	W	H	For rack type	Order No.	UP
200	200		Miracel®/DCM®	<b>05.045.055.X</b>	1 set
200	600		Miracel®/DCM®	<b>05.045.056.X</b>	1 set
600	600		Miracel®/DCM®	<b>05.045.057.X</b>	1 set

#### Dimensions in mm:

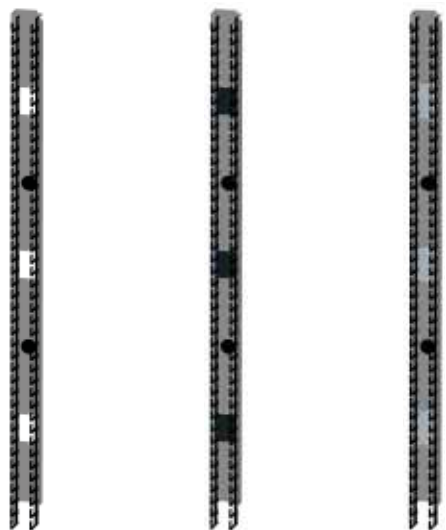
W = Width L = Length U = Standard rack unit  
H = Height R = Bending radius (1 U = 44.45 mm)  
D = Depth UP = Packaging unit

kg = Weight

#### Conversion:

1 mm = 0.03937 inch  
1 kg = 2.2046 pounds

## Knürr cable manager



Type 1

Type 2

Type 3

### ■ Features

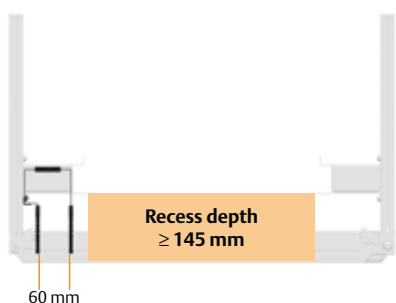
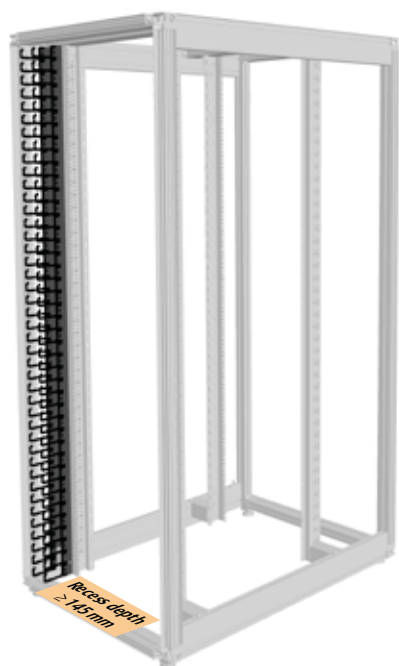
- Organized cabling of jumper cables.
- Suitable for 19" Knürr, DCM® and Miracel® racks.
- Also available optionally as cold/warm partitioning.
- Cutouts for cabling from front to back.
- Lightweight plastic construction of the cable fingers ensures durability and simple installation (clip-on).
- Distance between fingers provides sufficient space for all patch cords.
- Rounded edges on the fingers protect cables against damage.

## Cable manager models

- **Type 1:** Standard (open cutouts).
- **Type 2:** Version with brush strips in cutouts for cable routing towards the rear.
- **Type 3:** Version with sheet-steel cover plates in cutouts as part of the cold/warm partitioning.

## Technical data and required recess depths

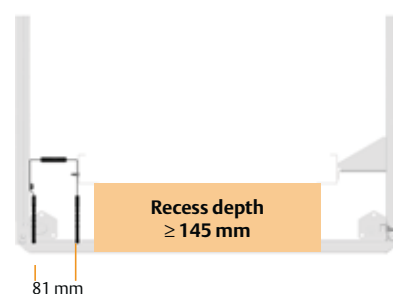
### Knürr DCM®



### Knürr DCM®



### Knürr Miracel®





DCM20118



DCM20119

## DCM® cable manager, vertical

### Description

- **Left and right models (2 cable managers) included in the delivery.**
- Ideal for organizing cabling of jumper cables (copper and fiber optic cables).
- Retrofitting is possible.
- Prepared for full cold/warm partitioning.
- Cable fingers can be easily installed (clipped on).
- Cabling towards the rear through rubber bushings or cutouts.
- **Can be used for recess depths from 145 mm.**

### Material / Finish

- Cable duct: Sheet steel, 2.0 mm.  
Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.
- Cable fingers: Polyamide (UL 94 V-0), black.

### Standard inclusion

- 1 x cable duct, left.
- 1 x cable duct, right.
- 4 x rows with cable fingers.
- 4 x rubber bushings.
- 1 x Mounting kit.

### Delivery

- In pairs (cable fingers unassembled).

$W_{\text{Rack}}$	$H_{\text{Rack}}$	D	U	Recess depth	Cutout size	Order No.	UP
800	2000	42		Starting from 145 mm	66 x 100 mm	<b>05.045.102.X</b>	1 pair
800	2200	47		Starting from 145 mm	66 x 100 mm	<b>05.045.103.X</b>	1 pair



DCM20120



DCM20121

## DCM® cover panel for vertical cable manager

- **For only 1 cable manager, i. e., 2 kits required for B800 rack.**
- Covers the vertical cable manager.
- Tool-less fastening – clips onto cable finger.
- Can be swiveled on both sides and removed completely.

### Material / Finish

- Cover: sheet steel, 2.0 mm.  
Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.
- Clip: polyamide (UL 94 V-0), black.

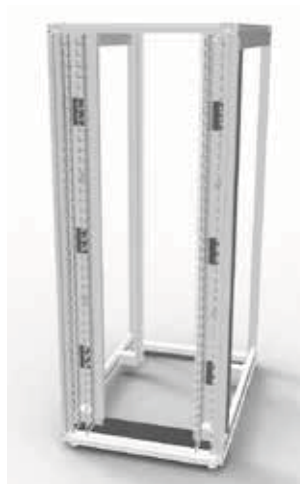
### Standard inclusion

- 2 x covers.
- 8 x clips.

### Delivery

- In sets (clips pre-assembled).

W	H	D	U	Model	Order No.	UP
55	927	42			<b>05.045.112.X</b>	1 set
55	1038	47			<b>05.045.113.X</b>	1 set



DCM20117

## DCM® kit for air partitioning for vertical cable manager

- **Suitable for DCM racks.**
- Separates the cold and hot areas within the rack.
- Prevents hot-spots (air recirculation).

### Material / Finish

- Bottom plate, cover plate:  
sheet steel, 1.0 mm.  
Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.  
Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.
- High-density foam: PUR foam (UL94 HF-1).

### Standard inclusion

- 1 x bottom plate.
- 6 x covers for cable routing.
- 1 x Foam element, side.
- 1 x Foam element, top.
- 1 x Mounting kit.

### Delivery

- In sets.

$W_{\text{Rack}}$	H	D	U	Order No.	UP
800		42 and 47		<b>05.045.132.X</b>	1 set



MIR20456

MIR20457

## Miracel® cable manager, vertical

### Description

- Compatible with B800 and B700 racks, asymmetrical.
- **1 item suitable for left and right models (i.e., 2 items needed for B800 racks).**
- Ideal for orderly cabling of jumper cables (copper and fiber optic cables).
- **Retrofitting is not possible.**
- Prepared for full cold/warm partitioning.
- Cable fingers can be easily installed (clipped on).
- Cabling towards the rear through rubber bushings or cutouts.
- **Can be used for recess depths from 145 mm.**

### Material / Finish

- Cable duct: Sheet steel, 2.0 mm
- Final digit of order number .1: powder-coated, RAL 7035 light-grey.
- Final digit of order number .8: powder-coated, RAL 7021 dark-grey.
- Cable fingers: Polyamide (UL 94 V-0), black.

### Standard inclusion

- 1 x cable duct.
- 2 x rows with cable fingers.
- 2 x rubber bushings.
- 1 x Mounting kit.

### Delivery

- Single items (cable fingers unassembled).

W <sub>Rack</sub>	H <sub>Rack</sub>	D	U	Recess depth	Cutout size	Order No.	UP
800	2000	41		Starting from 145 mm	66 x 100 mm	<b>05.045.107.X</b>	1 unit
800	2200	46		Starting from 145 mm	66 x 100 mm	<b>05.045.108.X</b>	1 unit



MIR20458

MIR20459

## Miracel® cover for vertical cable manager

- **For only 1 cable manager, i. e., 2 kits required for B800 rack.**
- For covering the vertical cable manager.
- Tool-less fastening – clips onto cable finger.
- Can be swiveled on both sides and removed completely.

### Material / Finish

- Cover: Sheet steel, 2.0 mm
- Final digit of order number .1: powder-coated, RAL 7035 light-grey.
- Final digit of order number .8: powder-coated, RAL 7021 dark-grey.
- Clip: polyamide (UL 94 V-0), black.

### Standard inclusion

- 2 x covers.
- 12 x clips.

### Delivery

- In sets (clips pre-assembled).

W	H	D	U	Model	Order No.	UP
76	905	41			<b>05.045.117.X</b>	1 set
76	1015	46			<b>05.045.118.X</b>	1 set



MIR20455

## Miracel® kit for air partitioning for vertical cable manager

- **Suitable for Miracel racks.**
- Separates the cold and hot areas in the rack.
- Prevents hot-spots (air recirculation).
- **Can only be used for recess depths of 200 mm.**

### Material / Finish

- Bottom plate, covers: Sheet steel, 1.0 mm.
- Final digit of order number .1: powder-coated, RAL 7035 light-grey.
- Final digit of order number .8: powder-coated, RAL 7021 dark-grey.
- High-density foam: PUR foam (UL94 HF-1).

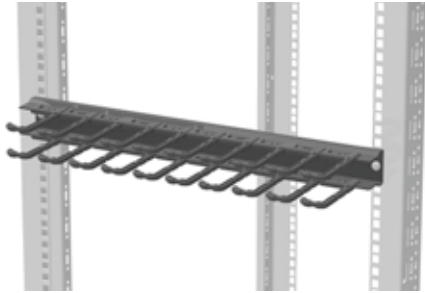
### Standard inclusion

- 1 x bottom plate.
- 1 x cover, top.
- 6 x covers for cable routing.
- 1 x Foam element, side.
- 1 x Mounting kit.

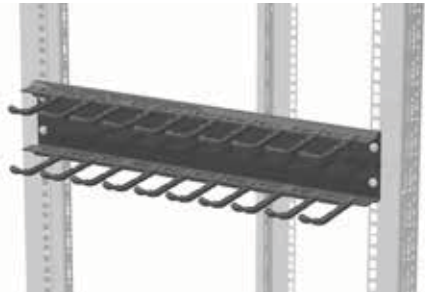
### Delivery

- In sets.

W <sub>Rack</sub>	H	D	U	Order No.	UP
800		41		<b>05.045.133.X</b>	1 set
800		46		<b>05.045.134.X</b>	1 set



DCM20112



DCM20114

## 19" cable manager, horizontal

### Description

- 1 U and 2 U models.
- For organized cabling of jumper cables (copper and fiber optic cables).
- Front-mounting on 19" extrusions.
- Cable fingers can be easily installed (clipped on).
- **Can be used for recess depths from 145 mm.**

### Standard inclusion

- 1 x cable duct.
- 2 x rows with cable fingers.
- 1 x Mounting kit.

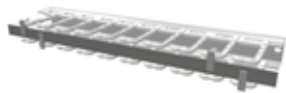
### Delivery

- In sets (cable fingers unassembled).

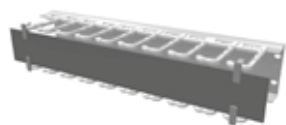
### Material / Finish

- Cable duct: sheet steel, 2.0 mm.
- Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.
- Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.
- Cable fingers: polyamide (UL 94 V-0), black.

W	H	D	U	Recess depth	Order No.	UP
483			1	Starting from 145 mm	<b>05.045.120.X</b>	1 unit
483			2	Starting from 145 mm	<b>05.045.122.X</b>	1 unit



DCM20113



DCM20115

## Cover for 19" horizontal cable manager

- Covers the horizontal cable managers.
- Tool-less fastening – clips onto cable finger.
- Can be swiveled on both sides and removed completely.

### Material / Finish

- Cover: sheet steel, 2.0 mm.
- Final digit of order number .1:  
powder-coated, RAL 7035 light-grey.
- Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.
- Clip: polyamide (UL 94 V-0), black.

### Standard inclusion

- 1 x cover.
- 4 x clips.

### Delivery

- In sets (clips pre-assembled).

W	H	D	U	Order No.	UP
483	20		1	<b>05.045.121.X</b>	1 set
483	65		2	<b>05.045.123.X</b>	1 set



MIR20093



DCM20122

## Set of brush strips for vertical cable manager

- Upgrade kit for vertical cable manager for routing cables toward the rear.
- Inserted in openings in cable duct (1 pair of brushes per opening).

### Standard inclusion

- 3 x pairs of brushes (length: 99 mm).

### Delivery

- In sets.

L	H	D	U	for cutouts	Order No.	UP
99				66 x 100 mm	<b>05.045.130.9</b>	1 set

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit
H = Height	d = Insertion depth	(1 U = 44.45 mm)
D = Depth	L = Length	UP = Packaging unit

### Conversion:

1 mm = 0.03937 inch
1 kg = 2.2046 pounds



DCM20116

## DCM® kit for cascading; vertical cable manager

- Separates individual cable groups.
- Tool-less fastening – clips onto cable finger.
- Protects the cables and can be used for labeling.

### Material / Finish

- Cascade: sheet steel, 2.0 mm. Powder-coated texture, RAL 7021 dark-grey.
- Clip: polyamide (UL 94 V-0), black.

### Standard inclusion

- 10 x cascades.
- 20 x clips.

### Delivery

- In sets (clips pre-assembled).

W	H	D	U	Order No.	UP
55	10			<b>05.045.136.8</b>	1 set



MIR20454

## Miracel® kit for cascading; vertical cable manager

- For separating individual cable groups.
- Tool-less fastening – clips onto cable finger.
- Protects the cables and can be used for labeling.

### Material / Finish

- Cascade: sheet steel, 2.0 mm. Powder-coated texture, RAL 7021 dark-grey.
- Clip: polyamide (UL 94 V-0), black.

### Standard inclusion

- 10 x cascades.
- 20 x clips.

### Delivery

- In sets (clips pre-assembled).

W	H	D	U	Order No.	UP
76	10			<b>05.045.137.8</b>	1 set



MEC00110

Type 1

## 19" cable routing board 1 U

- For orderly cable routing.
- Enables safe and secure cable routing of copper and fiberglass cables.



MEC20014

Type 2

### Material / Finish

- Type 1: Front plate, sheet steel, 1.5 mm, powder coated.
- Type 2: Front plate, sheet steel, 1.0 mm, powder coated.

### Color

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

### External dimensions

- Cable routing:
- Type 1: 55 x 22 mm, plastic.
- Type 2: 95 x 32 mm, steel.

### Standard inclusion

- 1 x 19" front plate.
- 5 x cable routers.

### Delivery

- Pre-assembled.

### Note

- Please also order mounting material for front plates.



MEC20103

Type 1



MEC20104

Type 2

W	H	D	U	Jumpering space	Model	Order No.	UP
483			1	from 80 mm	Type 1	<b>05.040.111.X</b>	1 unit
483			1	from 123 mm	Type 2	<b>01.117.144.X</b>	1 unit

### Dimensions in mm:

W = Width h = Installation height U = Standard rack unit  
H = Height d = Insertion depth (1 U = 44,45 mm)  
D = Depth L = Length UP = Packaging unit

### Conversion:

1 mm = 0.03937 inch  
1 kg = 2.2046 pounds



MEC20041

## 19" cable routing board, flexible, 1 U

- For orderly cable routing.
- Enables safe and secure cable routing of copper and fiberglass cables.



MEC20102

### Material / Finish

- Front plate, sheet steel, 1.5 mm, powder coated.
- Cable routing bracket, round steel, d = 5 mm, zinc-passivated.

### Color

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

### External dimensions

- Cable routers (a x b):
- 1 U: 82 x 43 mm.
- 2 U: 102 x 82 mm.

### Standard inclusion

- 1 x front plate.
- 5 x cable routing boards.

### Delivery

- Pre-assembled.

### Note

- Please also order mounting material for front plates.

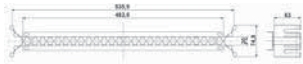


MEC20076

W	H	D	U	Jumpering space	Model	Order No.	UP
483			1	from 100 mm	Type 1	<b>05.040.100.X</b>	1 unit
483			2	from 120 mm	Type 2	<b>05.040.101.X</b>	1 unit



MEC20081



MEC20105



MEC20058

## Fiber optic cable routing panel 1 U

- For orderly cable routing.
- Enables safe and secure cable routing of fiber optic cables.
- Optionally with cover plates to protect the cables and can be used for labeling.

### Material / Finish

- Sheet steel, 1.5 mm, powder-coated texture.

### Color

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

### Standard inclusion

- 1 x 19" cable routing board.

### Delivery

- Single items.

### Note

Please also order mounting material for front plates and cover.  
Not suitable for rack widths of 600 mm and 700 mm (asymmetrical).

W	H	D	U	Model	Order No.	UP
483			1	Cable routing board	<b>05.040.050.1</b>	1 unit
				Accessories: cover	<b>05.040.051.1</b>	1 unit
483			1	Cable routing board	<b>05.040.050.8</b>	1 unit
				Accessories: cover	<b>05.040.051.8</b>	1 unit



MEC20049



MEC20063

## 19" cable trough

- For organized cable management at the 19" front plate.
- Mounting possible on front plates.
- Cables can be fastened with Velcro.

### Material / Finish

- Sheet steel, 1.5 mm, powder-coated texture.

### Color

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

### Standard inclusion

- 1 x cable trough.

### Delivery

- Single items.

### Note

Please also order mounting material for front plates and Velcro rolls.

W	H	D	U	Model	Order No.	UP
483		100	1		<b>05.040.055.1</b>	1 unit
483		100	1		<b>05.040.058.8</b>	1 unit



MEC20224



MEC20067

## Cable trough

- For orderly cable management in the Miracel and DCM racks.
- Cables secured with Velcro strips or cable ties.
- 9 mm slit width for securing various parts to caged nuts.

### Material / Finish

- Sheet steel, 1.5 mm, zinc passivated, powder-coated.

### Color

- .1; RAL 7035 light grey.
- .8; RAL 7021, dark-grey.

### Standard inclusion

- 1 x cable trough.
- 1 x Mounting kit.

### Delivery

- In sets.

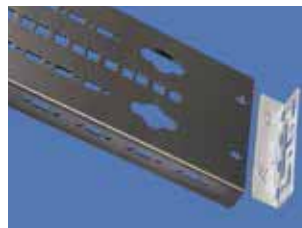
### Note

If required, please also order Velcro rolls.

W	H	w	Model	Order No.	UP
	2000	100	For Miracel and DCM racks	<b>05.040.251.X</b>	1 set
	2200	100	For Miracel and DCM racks	<b>05.040.252.X</b>	1 set
	2000	150	For Miracel and DCM racks	<b>05.040.254.X</b>	1 set
	2200	150	For Miracel and DCM racks	<b>05.040.255.X</b>	1 set
	2000	200	For Miracel and DCM racks	<b>05.040.257.X</b>	1 set
	2200	200	For Miracel and DCM racks	<b>05.040.258.X</b>	1 set



DCM20077



DCM20076

## DCM® PDU bracket

- For organized cable management in the rack.
- Tool-less mounted trade-standard PDUs.
- Especially suited to Knürr and Liebert PDUs.

### Material / Finish

- Sheet steel, 1.5 mm, zinc passivated, powder-coated.

### Color

- RAL 7021, dark-grey.

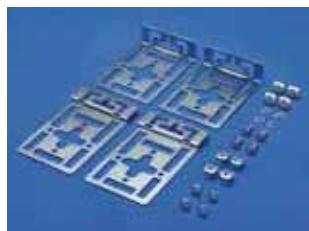
### Standard inclusion

- 1 x PDU bracket.
- 1 x Mounting kit.

### Delivery

- In sets.

W	H <sub>Rack</sub>	D	U	Model	Order No.	UP
125	2000	25	42		<b>01.147.816.8</b>	1 set
125	2200	25	47		<b>01.147.817.8</b>	1 set



MEC20222

Type 1



MEC20223

Type 2

## PDU mounting kit

- For securing various rack PDUs.
- Suitable for Miracel and DCM racks.
- For installing 1 or 2 PDUs.
- Installation options are described in the "Installation instructions for PDUs" manual.

### Material / Finish

- Sheet steel, 2 mm, zinc passivated.

### Standard inclusion

- 2 x L mounting brackets.
- 2 x angular mounting brackets.
- 1 x Mounting kit.

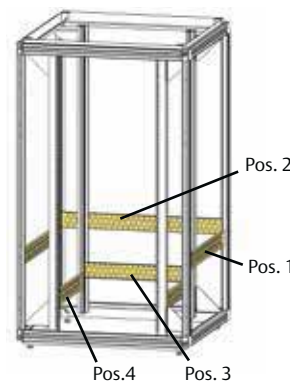
### Delivery

- In sets.

W	H	D	d	Model	For rack type	Order No.	UP
				Type 1: short	DCM/Miracel	<b>01.147.813.9</b>	1 set
				Type 2: long	DCM/Miracel	<b>01.147.814.9</b>	1 set



MIR00089



MIR88003

## Multifunctional brace

- For cable management with cable ties.
- Provides universal securing options.
- 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.

### Installation positions

- 1 toward rear of basic frame.
- 2 across width of basic frame.
- 3 across width of 19" extrusions.
- 4 toward rear of 19" extrusions.

### Material

- Sheet steel, 1.5 mm.

### Finish

- Zinc-passivated.

### Standard inclusion

- 4 x multifunctional braces.

### Delivery

- In sets.

W <sub>Rack</sub>	D <sub>Rack</sub>	d	Installation position	For rack type	Order No.	UP
600		1		Miracel	<b>05.040.160.9</b>	4 units
800		1		Miracel	<b>05.040.161.9</b>	4 units
900		1		Miracel	<b>05.040.162.9</b>	4 units
1000		1		Miracel	<b>05.040.163.9</b>	4 units
1100		1		Miracel	<b>05.040.164.9</b>	4 units
1200		1		Miracel	<b>05.040.165.9</b>	4 units
600		2		Miracel/Smaract	<b>05.040.173.9</b>	4 units
800		2		Miracel	<b>05.040.174.9</b>	4 units
		3		Miracel/Smaract/DPR	<b>05.040.175.9</b>	4 units
600	365	4		Miracel/Smaract	<b>05.040.168.9</b>	4 units
800	565	4		Miracel/Smaract	<b>05.040.169.9</b>	4 units
900	740	4		Miracel/Smaract	<b>05.040.172.9</b>	4 units
1000	740	4		Miracel/Smaract	<b>05.040.172.9</b>	4 units

### Dimensions in mm:

W = Width h = Installation height U = Standard rack unit  
H = Height d = Insertion depth (1 U = 44.45 mm)  
D = Depth L = Length UP = Packaging unit

kg = Weight

### Conversion:

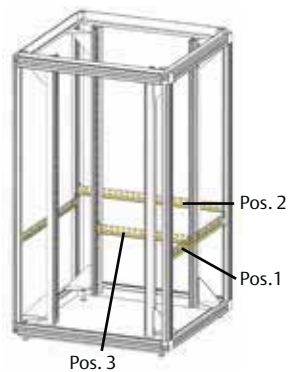
1 mm = 0.03937 inch  
1 kg = 2.2046 pounds



MEC20091



MEC20078



MIR88001

W <sub>Rack</sub>	H <sub>Rack</sub>	D <sub>Rack</sub>	L	Model	For rack type	Order No.	UP
		600	455	Pos. 1	Miracel	<b>05.040.200.9</b>	4 units
		800	655	Pos. 1	Miracel	<b>05.040.201.9</b>	4 units
		900	755	Pos. 1	Miracel	<b>05.040.202.9</b>	4 units
		1000	855	Pos. 1	Miracel	<b>05.040.203.9</b>	4 units
		1200		Pos. 1	Miracel	<b>05.040.205.9</b>	4 units
600			534	Pos. 2	Miracel/Smaract	<b>05.040.213.9</b>	4 units
800			734	Pos. 2	Miracel	<b>05.040.214.9</b>	4 units
			468	Pos. 3	Miracel/Smaract/DPR	<b>05.040.215.9</b>	4 units

## 1 cable routing brace

- Fitted to the Miracel/Smaract basic frame and the 19" extrusion.
- Cables fastened using Velcro and cable ties.
- For organized cable management with in the rack.
- Two-sided installation.
- Provides universal mounting using caged nuts (all dimensions can be accommodated; caged nuts are flexible).

■ **Material**  
- Sheet steel, 1.5 mm.

■ **Finish**  
- Zinc-passivated.

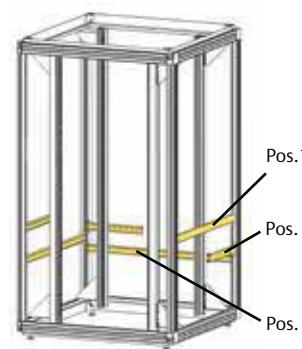
■ **Standard inclusion**  
- 4 x cable routing braces.  
- 1 x Mounting kit.

■ **Delivery**  
- Single items.

■ **Note**  
If required, please also order Velcro rolls.



MEC00113



MIR88004

W <sub>Rack</sub>	D <sub>Rack</sub>	W <sub>Rack</sub>	Installation position	For rack type	Order No.	UP
	600		1	Miracel	<b>05.040.180.9</b>	4 units
	800		1	Miracel	<b>05.040.181.9</b>	4 units
	900		1	Miracel	<b>05.040.182.9</b>	4 units
	1000		1	Miracel	<b>05.040.183.9</b>	4 units
	1200		1	Miracel	<b>05.040.185.9</b>	4 units
			3	Miracel/Smaract	<b>05.040.195.9</b>	4 units
	800		2	Miracel/Smaract	<b>05.040.194.9</b>	4 units
	600		2	Miracel/Smaract	<b>05.040.193.9</b>	4 units

## C extrusion rail

- Cables secured with U-clamps or cable clamping bars.
- Space-saving installation between the extrusions on the basic rack.
- Two-sided installation.

■ **Material**  
- Sheet steel, 1.5 mm, zinc-passivated.

■ **Finish**  
- Zinc-passivated.

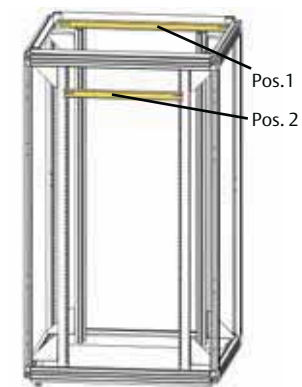
■ **Standard inclusion**  
- 4 x extrusion rails.  
- 1 x Mounting kit.

■ **Delivery**  
- In sets.

■ **Note**  
Please also order U-clamps, cable clamping bars or threaded plates.



MIR880096



MIR88002

## C extrusion rail

- Cables secured with U-clamps or cable clamping bars.
- Cable clamping close to entry point (type 1).
- Suitable for use with cover panel including cable entry.

■ **Material / Finish**  
- Sheet steel, 1.5 mm, zinc passivated.

■ **Standard inclusion**  
- 1 x C extrusion rail.  
- 1 x Mounting kit.

■ **Delivery**  
- In sets.

■ **Note**  
Please also order U-clamps, cable clamping bars or threaded plates.

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



MEC00114

## Cable clamping bar

- Clips onto the C extrusion rail.
- **Material**
  - Polyamide, black.
- **Standard inclusion**
  - 1 set of 10 cable clamping bars.
- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							01.130.869.9	10 units



MIR00096

## U clamp

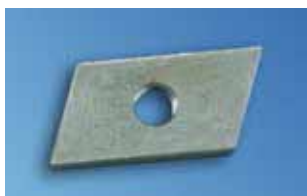
- Reduces cabling strain and permits individual routing of cables and lines.
- Clamping range, 8–64 mm.

- **Material**
  - Steel / plastic.
- **Standard inclusion**
  - 25 x U clamps.
  - 25 x clamping saddles.
- **Delivery**
  - In sets.



ELM00086

W	H	D	U	d	L	Clamping range	Order No.	UP
						8 - 12 mm	05.040.150.9	1 unit
						12 - 16 mm	05.040.151.9	1 unit
						16 - 22 mm	05.040.152.9	1 unit
						22 - 28 mm	05.040.154.9	1 unit
						34 - 40 mm	05.040.155.9	1 unit
						46 - 52 mm	05.040.157.9	1 unit
						58 - 64 mm	05.040.159.9	1 unit



MEC20051

## M5 threaded plate

- Used with Cextrusion rails.
- **Material / Finish**
  - Flat rolled steel, 4.0 mm, zinc passivated.

- **Standard inclusion**
  - 20 x threaded plates.

- **Delivery**
  - In sets.



MEC20069

W	H	D	L	Order No.	UP
				05.040.077.9	1 set



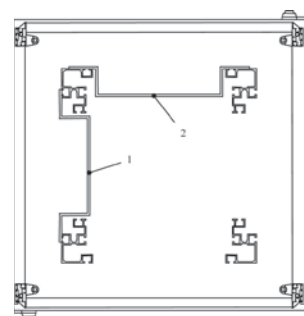
MEC20136

Type 1



MEC20120

Type 1



MIR00094

## Assembly crossbar

- Cable management with Velcro strips.
- Universal mounting option for installation accessories, socket strips, telecommunication installation units, mounting panels, etc.
- For side and cross installation.

- **Material / Finish**
  - Sheet steel 1.5 mm, powder-coated texture, RAL 7035, light-grey.

- **Standard inclusion**
  - 1 x assembly crossbar.

- **Delivery**
  - Single items.

- **Note**
  - Please also order the appropriate mounting material.

W/d	U	w1	w2	X	Type	Model	Order No.	UP
19"	1	482	442.6	81.5	1	Pos. 2 Miracel/Smaract	05.040.018.1	1 unit



MEC20042

## Cable trough between the racks

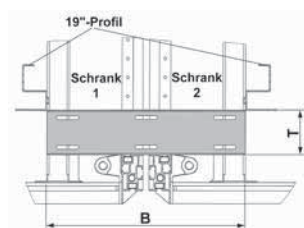
- For orderly cable routing between linked racks, adjacent racks.
- Velcro strips can be used for fastening.

- **Material / Finish**
  - Sheet steel, 1.5 mm.
  - Powder-coated texture, RAL 7035 light-grey.

- **Standard inclusion**
  - 1 x cable trough.
  - 1 x Mounting kit.

- **Delivery**
  - In sets.

- **Note**
  - Please also order Velcro rolls.



MEC20119

W	H	D	U	Model	Order No.	UP
265		60			05.040.058.1	1 unit



MEC20047

## FOC 19" excess cable drawer, 1 U

- For storing excess fiber optic cable.
- Pull-out.
- Cables can be fastened with Velcro.

### Material / Finish

- Sheet steel, 1.5 mm.
- Powder-coated texture, RAL 7035 light-grey.

### Standard inclusion

- 1 x unit.
- 1 x drawer.

### Delivery

- In sets.

### Note

- Please also order mounting material for front plates and Velcro rolls.



MEC20099

W	H	D	Model	Order No.	UP
483	44	350		05.040.047.1	1 set



MEC20044

## Excess fiber optic cable storage

- For orderly cable routing of Fiber optic cables in Miracel rack (from B 800 mm).
- For storing excess cable.

### Material / Finish

- Base plate: powder-coated texture, RAL 7035 light-grey.
- Cable routing head: polyamide, black.

### Standard inclusion

- 1 x base plate.
- 1 x cable routing head.
- 1 x Mounting kit.

### Delivery

- In sets.



MEC20146

W	H	D	U	Model	Order No.	UP
			2		05.040.041.1	1 set



MEC20038

## Universal cable routing bracket

- Used for extrusion distance (from front) 123 mm and 73 mm.
- For organized cable management.
- Open version, no threading.
- Mounting on the external side of the 19" extrusion.
- Any installation position selectable.

### Material

- Round steel, d = 6 mm.

### Finish

- Zinc-passivated.

### Standard inclusion

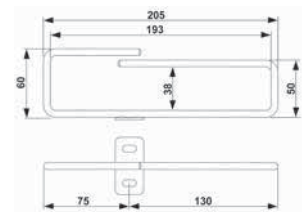
- 4 x cable routing brackets.
- 1 x Mounting kit.

### Delivery

- In sets.



MEC20072



MEC20106

W <sub>Rack</sub>	For rack type	Order No.	UP
from 800	Miracel	05.040.220.9	4 Stk



MEC20039

## Square cable routing bracket

- For orderly cable management.
- Open version, no threading.
- Mounted on the external side of the 19" extrusion.
- Any installation position selectable.
- For high cable density.

### Material

- Round steel, d = 6 mm.

### Finish

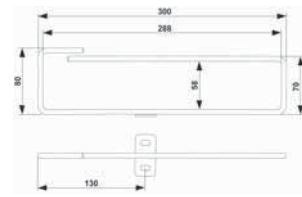
- Zinc-passivated.

### Standard inclusion

- 4 x square cable routing brackets.
- 1 x Mounting kit.

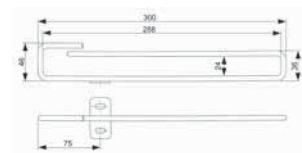
### Delivery

- In sets.



MEC20107

Type 1



MEC20116

Type 2

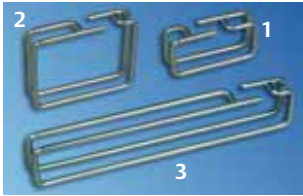
W <sub>Rack</sub>	Type	For rack type	Order No.	UP
from 800	Type 1	Miracel	05.040.221.9	4 units
from 700	Type 2	Miracel	05.040.222.9	4 units
600	Type 2	Smaract	05.040.222.9	4 units

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit	kg = Weight
H = Height	d = Insertion depth	(1 U = 44.45 mm)	
D = Depth	L = Length	UP = Packaging unit	

### Conversion:

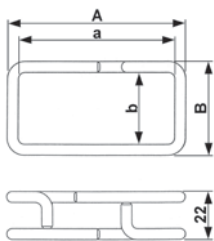
1 mm = 0.03937 inch
1 kg = 2.2046 pounds



MEC20035



MEC20065



MEC20108

A	a	W	w	Model	Order No.	UP
82	72	43	33	Fig. 1	05.040.231.9	10 units
222	212	30	20	Fig. 3	05.040.232.9	10 units
102	92	82	72	Fig. 2	05.040.233.9	10 units

## Cable routing bracket, flexible

- Enables flexible and organized cable routing.
- Can be easily installed in various positions within the rack.
- Open version, no threading.

■ **Material**  
– Round steel, d = 5 mm.

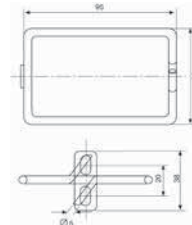
■ **Finish**  
– Zinc-passivated.

■ **Standard inclusion**  
– 10 x cable routing brackets.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.



MIR00564



MEC00122

## Cable routing bracket

- For organized cable management.
- Open version, no threading.

■ **Material / Finish**  
– Round steel, d = 5 mm.

■ **Finish**  
– Zinc-passivated.

■ **Standard inclusion**  
– 4 x cable routing brackets.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.

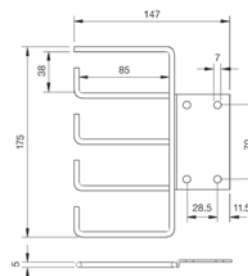
Model	Order No.	UP
95 x 60	05.040.225.9	4 units

## Section support bracket



ELM00028

Z56-1/FH



ELM00029

- Ideal for vertical routing and reducing cabling strain.
- Open version, no threading.
- Mounted on the external lateral T-slot of the 19" extrusion.
- Any installation position selectable.
- From rack width 600 mm.

■ **Material / Finish**  
– Round steel, d = 5 mm, zinc-passivated.

■ **Standard inclusion**  
– 2 x section support brackets.

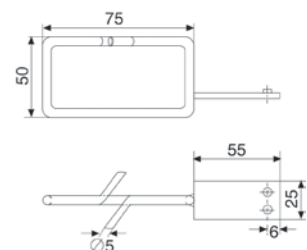
■ **Delivery**  
– In sets.

■ **Note**  
Please also order the appropriate mounting material.

W	H	D	U	d	L	Model	Order No.	UP
							01.117.033.7	2 units



ELM00117



ELM00106

## Square cable routing bracket

- For organized cable management.
- Open version, no threading.
- Mounted on the external lateral T-slot of the 19" extrusion.
- Any installation position selectable.

■ **Material**  
– Round steel, d = 5 mm.

■ **Finish**  
– Zinc-passivated.

■ **Standard inclusion**  
– 4 x cable routing brackets.  
– 1 x Mounting kit.

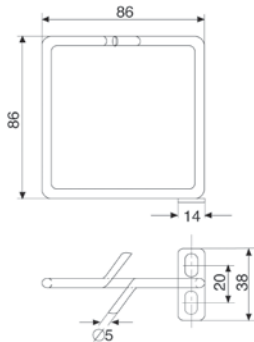
■ **Delivery**  
– In sets.

For rack type	Order No.	UP
DoubleProRack	05.040.226.9	4 units

Dimensions in mm:				Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch	
H = Height	d = Insertion depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds	
D = Depth	L = Length	UP = Packaging unit			



MIR00183



ELM00057

W <sub>Rack</sub>	Model	Order No.	UP
from 800	86 x 86	05.040.224.9	4 units

## Cable routing bracket, square

- For organized cable management.
- Open version, no threading.
- Mounted on the external lateral T-slot of the 19" extrusion.
- Any installation position selectable.
- From rack width 800 mm.

- **Finish**
  - Zinc-passivated, Zn 10c, white.
- **Standard inclusion**
  - 4 x vertical cable routing brackets.
  - 1 x Mounting kit.
- **Delivery**
  - In sets.



MEC20185



MEC20186

## Quick-Strip ties for T-slot Tool-less mounting

- Quick tool-less securing.
- For bundling cables.
- Can be unfastened and reused.
- For organized cable management.
- Can be fitted into T-slots in any position.

- **Material**
  - Polyethylene and nylon.
  - F.R.T., UL-94 HB.

- **Color**
  - Black.

- **Standard inclusion**
  - 10 x Quick-Strip Velcro ties.

- **Delivery**
  - In sets.

W	H	D	U	d	L	For rack type	Order No.	UP
						DCM, Miracel	00.218.506.0	1 set



ELM20008



ELM20007

## Cable routing ring

- For organized cable management.
- Open version, no threading.
- Secured on the T-slots of the vertical extrusions.
- Any installation position selectable.

- **Material / Finish**
  - PA 6, GF 15, black, UL 94-HB.

- **Standard inclusion**
  - 5 x cable routing rings.
  - 1 x Mounting kit.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
						54 x 118 mm	01.312.207.9	5 units



MEC20187



MEC20188

## Quick-Clamp plastic cable routing bracket for T-slot mounting without tools

- Quick tool-less securing.
- For organized cable management.
- Open version, no threading.
- Secures T-slots in any position.

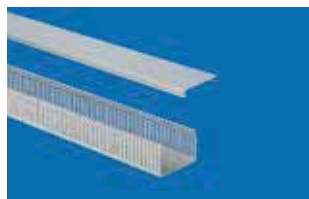
- **Material**
  - Nylon.
  - F.R.T., UL-94 HB.

- **Color**
  - Black.

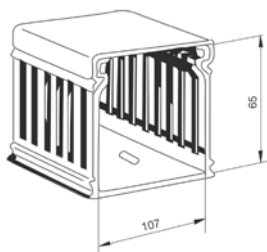
- **Standard inclusion**
  - 10 x plastic cable routing brackets.

- **Delivery**
  - In sets.

W	H	D	U	d	L	For rack type	Order No.	UP
						DCM, Miracel	00.218.505.0	1 set



ELM00004



ELM00052

## Cable duct

- Ideal for organized and covered cable management of jumper cables.

- **Material**
  - Hard PVC.

- **Finish**
  - Stone-grey RAL 7030.

- **Standard inclusion**
  - 1 x cable duct with cover.
  - 1 x Mounting kit.

W	H	D	U	d	L	Model	Order No.	UP
					2000		01.117.098.3	1 unit



LIG00068



LIG00021

## Fiber optic cable router

- For safe and organized cable management of fiber optic cables.
- With step-index extrusion of the slots to reduce cabling strain on the fiber optic cables.
- Mounted on the external side of the 19" extrusion.

- **Material**
  - PA UL (94-VO).

- **Standard inclusion**
  - 1 x pair of fiber optic cable routers.
  - 1 x Mounting kit.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							01.117.099.1	1 pair



MEC20158

## Cable routing ring

- For organized cable management.
- Dimensions:
  - Exterior 61 mm x 42.5 mm.
  - Interior 52 mm x 23 mm.

- **Material / Finish**
  - Cable support: PPO, similar to RAL 7035 light-grey.
  - Soft rubber extrusion: EPDM, similar to RAL 7021 dark-grey.

- **Standard inclusion**
  - 10 x cable routers.

- **Delivery**
  - In sets.

- **Note**
  - Please also order the appropriate mounting material.

W	H	D	Model	Order No.	UP
			Screw-on	05.040.113.9	10 units
			For 9.5 x 9.5 mm cutout. Plug-in	05.040.112.9	10 units



MEC20048

## Velcro rolls (by the meter)

- For strain-free fastening and bundling of Cu and fiber optic cables.
- Velcro rolls can be cut to any required length.

- **Material / Color**
  - Black, One-Wrap fastener.
  - F.R.T., UL 94-V2.
  - Blue: One-Wrap fastener.

- **Standard inclusion**
  - 1 meter or 25 meter Velcro rolls.

- **Delivery**
  - Sold by the meter.

MEC20147

W	H	D	L	Model	Order No.	UP
16			1000	Black	05.040.060.9	1 meter
16			1000	Blue	05.040.061.9	1 meter
16			25000	Black	05.040.065.9	25 meters
16			25000	Blue	05.040.066.9	25 meters

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit	kg = Weight
H = Height	d = Insertion depth	1 U = 44.45 mm	
D = Depth	L = Length	UP = Packaging unit	

### Conversion:

1 mm = 0.03937 inch
1 kg = 2.2046 pounds



MEC20025

## Velcro strip with plastic eyelet

- For mounting non-standard components.
- For bundling cables.

- **Material / Color**  
– Polypropylene / Polyamide, black.

- **Standard inclusion**
  - 20 x Velcro strips.

- **Delivery**  
– In sets.

W	H	D	L	Model	Order No.	UP
16			300		01.240.550.9	1 set



ELM00049



ELM00050

## Cable band clip

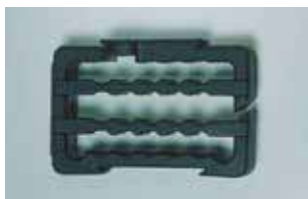
- For organized cable management.
- For securing harnesses and cables with large cross sections.
- Quick and easy mounting.
- Clips into T-slots in any position.
- Includes releasable clip.

- **Material**
  - PA 6.6, black, UL 94-V0.

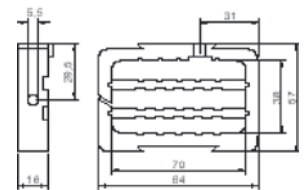
- **Standard inclusion**  
– 20 units.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							<b>01.240.548.9</b>	20 units



MEC20048



MEC20147

## Cable clamping frame

- For organized 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.
- Mounting options: lengthwise or across the width.

- **Material**
  - Polypropylene, black.

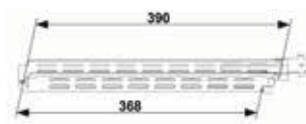
- **Standard inclusion**
  - 1 x cable clamping frame.
  - 1 x Mounting kit.

- **Delivery**
  - In sets.

<b>W</b>	<b>H</b>	<b>D</b>	<b>U</b>	<b>d</b>	<b>L</b>	<b>Model</b>	<b>Order No.</b>	<b>UP</b>
							<b>01.113.153.9</b>	1 unit



MEC20154



MEC88005

## Cable cantilever

- Easy mounting in rack /on the shelf; easy connection/disconnection from shelf or rack with a spring clip.
- Guarantees defined and kink-free cable management.
- Minimum space requirement at the back of shelves: 40 mm.

- **Material / Finish**
  - Sheet steel, 1.5 mm, zinc passivated.

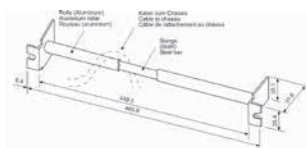
- **Standard inclusion**
  - 1 x cable cantilever.
  - 1 x Mounting kit.

- **Delivery**
  - In sets.

W	H	D	U	d	W x L	Type	Order No.	UP
						2-piece	05.040.096.0	1 unit



TEL00034



TEL00051

## Cable support bar

- For 19" racks and enclosures.
- Reduces the cable load on slot-in.
- Orders cabling.
- Prevents cable-slack.

- **Material**
  - Sheet steel, 1.5 mm.

- **Standard inclusion**
  - 1 x cable support bar.

W	H	D	U	d	L	Model	Order No.	UP
							<b>05.043.327.9</b>	1 unit

# Knürr System Accessories

### Features

#### BLANKING PANELS

- Design identical to racks
- Tool-less, threaded version available.
- Varying sizes for quick mounting and efficient cooling.

#### CHASSIS RAILS

- Various designs catering to different requirements.
- Height positioning for different corpus heights of the subracks possible (not defined according to 19" standard).

#### DRAWERS AND SHELVES

- Various designs catering to different loads.
- Shelves with tool-less mounting available.

**Mechanical accessories are fundamental to effective and economical use of server- and network racks.**

Blanking panels are an essential feature in operating an energy-efficient data center, as they ensure that cold and warm air in the rack are separated.

When there are no mounting adapters for IT components, chassis rails and shelves are required.

Drawers are used to store manuals, spare parts and tools needed on site.







MEC20179

## QuickFix 19" blanking panel Tool-less assembly

- For covering free 19" spaces (cold-hot separation).
- Quick and easy tool-less assembly (one click) and disassembly (quarter turn).
- Suitable for 9.5 x 9.5 square holes.

### 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.

### Standard inclusion

- X (see Order Number for quantity) QuickFix 19" blanking panel.
- Mounting kit.

### Delivery

- In sets (see Order Number for quantity); fixing clips pre-assembled.



MEC20180



MEC20178

W	H	D	U	d	L	For rack type	Order No.	UP
482.6	43.6		1				01.103.301.X	6 units
482.6	88.1		2				01.103.302.X	3 units
482.6	132.5		3				01.103.303.X	2 units
482.6	265.9		6				01.103.306.X	1 unit
482.6	399.2		9				01.103.309.X	2 units
482.6	932.6		21				01.103.321.X	1 unit



CUD00021

## 19" blanking panel, cable port, threaded connection

- For organized cable management inside the rack.
- With edge protector.

### 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.

### Standard inclusion

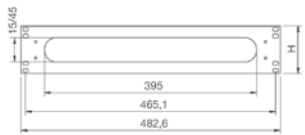
- 6 x QuickFix 19" blanking panel cable ports.

### Delivery

- In sets.

### Note

- Please also order mounting kit for front panel.



CUD00023



CUD00022

W	H	D	U	For rack type	Order No.	UP
483	44		1		01.103.231.X	6 units
483	88		2		01.103.232.X	3 units



MEC20181

## 19" QuickFix blanking panel, tool-less assembly

- For orderly cable management inside the rack.
- Quick and easy tool-less assembly (one click) and disassembly (quarter turn).
- Suitable for 9.5 x 9.5 square holes.

### 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.

### Standard inclusion

- 6 x QuickFix 19" blanking panel cable ports.
- 1 x Mounting kit.

### Delivery

- In sets (clips pre-assembled).

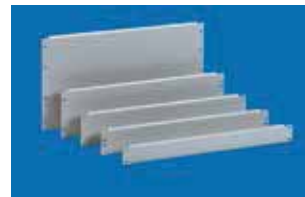


MEC20178



MEC20229

W	H	D	U	d	L	For rack type	Order No.	UP
482.6	43.6		1				01.103.331.X	6 units



CUD00005

## 19" blanking plate Screw-on

- For covering free 19" spaces (cold-hot separation).

### 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.

### Standard inclusion

- X (see Order Number for quantity) QuickFix 19" blanking panel.

### Delivery

- In sets (see ON for quantity).

### Note

- Please also order front panel mounting material.

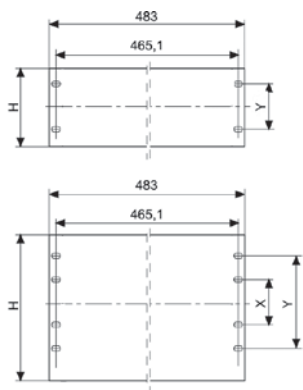


CUD00004

W	H	D	U	d	L	For rack type	Order No.	UP
482.6	43.6		1				01.103.201.X	6 units
482.6	88.1		2				01.103.202.X	3 units
482.6	132.5		3				01.103.203.X	2 units
482.6	265.9		6				01.103.206.X	1 unit
482.6	399.2		9				01.103.209.X	2 units



FR000005



MEC20109

## 19" front plate Aluminum 3 mm

### Material / Finish

- Final digit of order number .0:  
AlMg3 - F23 polished 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 (anodize-enabled), anodized E6/EV1.
- Final digit of order number .8:  
AlMg3 - F23, powder-coated, RAL 7021, dark-grey.

### Standard inclusion

- 1 x 19" front plate.

### Delivery

- Single items.

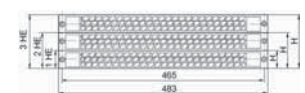
### Note

Please also order the appropriate mounting kit for the front plates.

H	X	Y	U	Model	Order No.	UP
43.6		31.7	1	Polished	02.008.021.0	1 unit
88.1		76.2	2	Polished	02.008.022.0	1 unit
132.5		57.1	3	Polished	02.008.023.0	1 unit
177.0		101.6	4	Polished	02.008.024.0	1 unit
221.4		146.0	5	Polished	02.008.025.0	1 unit
265.9	76.2	190.4	6	Polished	02.008.026.0	1 unit
43.6		31.7	1	Powder-coated, RAL 7035	02.008.021.1	1 unit
88.1		76.2	2	Powder-coated, RAL 7035	02.008.022.1	1 unit
132.5		57.1	3	Powder-coated, RAL 7035	02.008.023.1	1 unit
177.0		101.6	4	Powder-coated, RAL 7035	02.008.024.1	1 unit
221.4		146.0	5	Powder-coated, RAL 7035	02.008.025.1	1 unit
265.9	76.2	190.4	6	Powder-coated, RAL 7035	02.008.026.1	1 unit
43.6		31.7	1	Powder-coated, RAL 7021	02.008.021.8	1 unit
88.1		76.2	2	Powder-coated, RAL 7021	02.008.022.8	1 unit
132.5		57.1	3	Powder-coated, RAL 7021	02.008.023.8	1 unit
43.6		31.7	1	Anodized	02.008.071.6	1 unit
88.1		76.2	2	Anodized	02.008.072.6	1 unit
132.5		57.1	3	Anodized	02.008.073.6	1 unit
177.0		101.6	4	Anodized	02.008.074.6	1 unit
221.4		146.0	5	Anodized	02.008.075.6	1 unit
265.9	76.2	190.4	6	Anodized	02.008.076.6	1 unit



LUF88006



LUF00093

## 19" vented front cover plate

- Provides additional ventilation for 19" racks and 19" plinths compliant with IEC 297.

### Material / Color

- Final digit of order number .1:  
ABS (UL 94 V0), light-grey RAL 7035.
- Final digit of order number .9:  
ABS (UL 94 V0), black RAL 9011.

### Standard inclusion

- 1 x vented front cover plate.
- 2 x connectors.

### Delivery

- In sets.

### Note

Please also order the appropriate mounting kit for the front plates.

W	H	D	U	Model	Order No.	UP
483	43.6		1		02.008.111.1	1 unit
483	43.6		1		02.008.111.9	1 unit



MEC20144



MEC20149

## Cover-plate filter for 19" vented front cover plate

- Used with 19" vented front cover plate.

### Material / Color

- Non-woven and screen cloth.

### Standard inclusion

- 1 x cover-plate filter.
- 1 x Mounting kit.

### Delivery

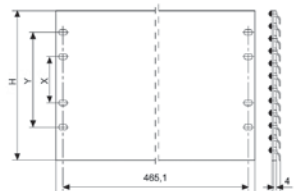
- In sets.

W	H	D	U	Model	Order No.	UP
			1		02.008.131.9	1 unit

Dimensions in mm:				Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch	
H = Height	d = Insertion depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds	
D = Depth	L = Length	UP = Packaging unit			



LUF00217



MEC20110

## 19" ventilation front panel

- Provides additional ventilation for 19" racks and 19" plinths compliant with IEC 297.

### Material

– Aluminum.

### Finish

- Final digit of order number .1: powder-coated, RAL 7035 light-grey.
- Final digit of order number .6: colorless anodized E 6 / EV 1.

### Standard inclusion

– 1 x ventilation front plate.

### Delivery

– Single items.

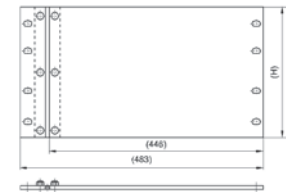
### Note

Please also order the appropriate mounting kit for the front plates.

H	X	Y	U	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	Anodized	<b>02.008.101.6</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	Anodized	<b>02.008.103.6</b>	1 unit



FRO00007



FR000006

## 19" front plate hinged

- With 19" adapter and hinge.

### Material

– Aluminum, 3 mm.

### Finish

– Anodized.

### Standard inclusion

- 1 x front plate, hinged.
- 1 x 19" adapter.
- 1 x hinge.

### Delivery

– In sets.

### Note

Please also order the appropriate mounting kit for the front plates.

W	H	D	U	Model	Order No.	UP
			3	Anodized	<b>01.110.780.6</b>	1 unit
			6	Anodized	<b>01.110.781.6</b>	1 unit



MEC20162



MEC20167



MEC20167

## Chassis runner

Can be hooked on and screwed on

- For installation in 19" rack and 19" enclosure.
- Can be hooked on for quick and easy mounting.
- Can also be attached with screws to accommodate heavier loads.
- Can be screwed from inside (used in rack suites).
- Adjustable height to suit various main-section heights.

### Material / Finish

- Sheet steel, 2.0 mm.
- Zinc-passivated, blue chrome-plated.

### Load rating

– 1000 N max. with even load distribution.

### Standard inclusion

- 2 x chassis runners.
- 1 x Mounting kit.

### Delivery

– In pairs.

### Note

When selecting the chassis runner, please take into account the depth "d" of the rack or enclosure. Four 19" extrusions are required for mounting.

W	H	D <sub>Rack</sub>	U	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

Dimensions in mm:				Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch	
H = Height	d = Insertion depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds	
D = Depth	L = Length	UP = Packaging unit			



MEC20189

## Aluminum chassis runner

- Can be screwed on.
- For installation in 19" rack and 19" enclosure.
- Can be screwed from inside (used in rack suites).
- Height can be adjusted to suit various main-section heights.

■ **Material / Finish**  
– Extruded aluminum, polished.

■ **Load rating**  
– 700 N max. with even load distribution.

■ **Standard inclusion**  
– 2 x chassis runners.  
– 1 x Mounting kit.

■ **Delivery**  
– In pairs.

■ **Note**  
When selecting the chassis runner, please take into account the depth "d" of the rack or enclosure. Four 19" extrusions are required for mounting.

W <sub>Rack</sub>	H <sub>Rack</sub>	D <sub>Rack</sub>	U	d	L	For rack type	Order No.	UP
		600	365	336		Miracel/Smaract	<b>01.103.101.0</b>	1 pair
		600	440	411		Miracel/Smaract	<b>01.103.102.0</b>	1 pair
		800	565	536		Miracel/Smaract	<b>01.103.103.0</b>	1 pair
		800	640	611		Miracel/Smaract	<b>01.103.104.0</b>	1 pair
		800	665	636		Miracel/Smaract	<b>01.103.105.0</b>	1 pair
		from 900	740	711		Miracel/Smaract/ CoolTherm	<b>01.103.106.0</b>	1 pair
		500	285	254		ConAct	<b>01.103.111.0</b>	1 pair
		600	385	354		ConAct	<b>01.103.112.0</b>	1 pair
		600	435	403		DoubleProRack with door	<b>01.103.118.0</b>	1 pair
		800	635	603		DoubleProRack with door	<b>01.103.119.0</b>	1 pair
		500	460	428		DoubleProRack, no door	<b>01.103.122.0</b>	1 pair
		600	560	528		DoubleProRack, no door	<b>01.103.123.0</b>	1 pair
		700	660	628		DoubleProRack, no door	<b>01.103.124.0</b>	1 pair



MEC20163



MEC20166

## Chassis runner, adjustable depth

- For installation in 19" rack and 19" enclosure.
- Adjustable depth.
- Can be screwed from inside (used in rack suites).
- Height can be adjusted to suit various main-section heights.

■ **Material / Finish**  
– Sheet steel, 1.25 mm.  
– Zinc-passivated, blue chrome-plated.

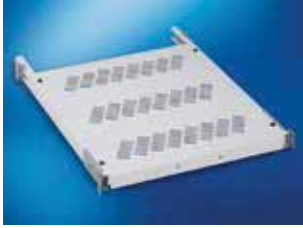
■ **Load rating**  
– 200 N max. with even load distribution.

■ **Standard inclusion**  
– 2 x basic rails.  
– 2 x extension rails.  
– 1 x Mounting kit.

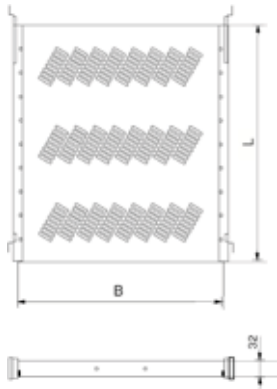
■ **Delivery**  
– In pairs.

■ **Note**  
When selecting the chassis runner, please take into account the depth "d" of the rack or enclosure. Four 19" extrusions are required for mounting.

W	H	D	U	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



MEC00451



MEC20018

## 19" shelf Fixed

- Integrated mounting holes; front and rear for handle or hinged cable routing.
- Perforated to optimize air supply.

### Material / Finish

- Sheet steel 1.0 mm, electroplated zinc, powder-coated texture.

### Color

- 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.

### Standard inclusion

- 2 x mounting rails, incl. mounting bracket.
- 1 x shelf board.
- 1 x extension board (from L = 600).
- 1 x Mounting kit.

### Delivery

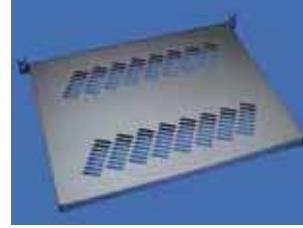
- In sets.

### Note

Please order requisite mounting adapter when used for DCM or Miracel/Smaract server extrusion.

W	H	D	d	WxL	For rack type	Order No.	UP
		365		430 x 300	DCM / Miracel /Smaract	<b>01.102.001.1</b>	1 unit
		440		430 x 300	DCM / Miracel /Smaract	<b>01.102.002.1</b>	1 unit
		565		430 x 500	DCM / Miracel /Smaract	<b>01.102.003.X</b>	1 unit
		640		430 x 600	DCM / Miracel /Smaract	<b>01.102.004.X</b>	1 unit
		740		430 x 600	DCM / Miracel /Smaract	<b>01.102.005.X</b>	1 unit
		435, 460		430 x 300	DoubleProRack	<b>01.102.002.1</b>	1 unit
		560		430 x 500	DoubleProRack	<b>01.102.003.1</b>	1 unit
		635, 660		430 x 600	DoubleProRack	<b>01.102.004.1</b>	1 unit
		285		430 x 200	ConAct	<b>01.102.000.1</b>	1 unit
		385		430 x 300	ConAct	<b>01.102.001.1</b>	1 unit

Dimensions in mm:				Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch	
H = Height	d = Insertion depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds	
D = Depth	L = Length	UP = Packaging unit			



MEC20221

## 19" QuickFix shelf tool-less assembly

- Quick and easy tool-less mounting. Mounted on 19" cutouts.
- Quick and easy tool-less fitting (one click) and removal (quarter turn).
- Suitable for all racks and enclosures with 19" mounting hole extrusions (9.0 x 9.0 square holes).
- Adjustable depth to accommodate variable recess depths and special dimensions.
- Perforated to optimize air supply.

### 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.

### Load rating

- 700 N static with even load distribution.

### Standard inclusion

- 1 x 19" QuickFix shelf.
- 1 x Mounting kit.

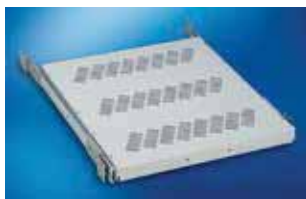
### Delivery

- In sets.

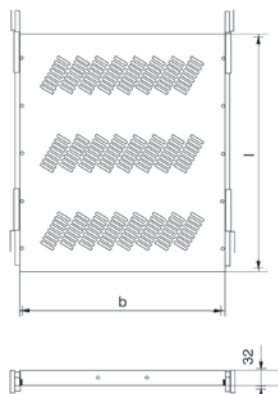
### Note

Cannot be used for 19" t-slot extrusions.

W	H	D	U	d	w x l	Order No.	UP
				365-500	430 x 300	<b>01.102.071.X</b>	1 unit
				565-740	430 x 500	<b>01.102.072.X</b>	1 unit



MEC00452



MEC20019

## 19" shelf partially retractable

- Integrated mounting holes, front and rear for handle or hinged cable routing.
- Perforated to optimize air supply.
- Locks in retracted position (friction lock); easy conversion to form lock with stop spring.
- Quick separator for tool-less removal and decoupling of shelf board.

### Material / Finish

- Sheet steel 1.0 mm, electroplated zinc, powder-coated texture.

### Color

- 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.

### Standard inclusion

- 1 x pair of telescopic slides.
- 1 x shelf board.
- 1 x extension board (from L = 600).
- 1 x Mounting kit.

### Delivery

- In sets.

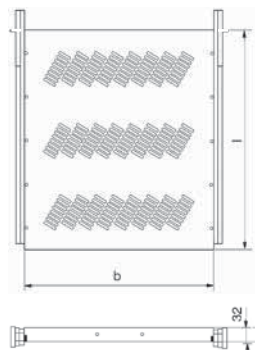
### Note

Order requisite mounting adapter when used for DCM or Miracel/Smaract server extrusion.

d	WxL	For rack type	Order No.	UP
365-560	430 x 360		<b>01.102.042.X-001</b>	1 unit
565-750	430 x 560		<b>01.102.043.X-001</b>	1 unit



MEC00462



MEC20020

## 19" shelf fully retractable

- Integrated mounting holes, front and rear for handle or hinged cable routing.
- Perforated to optimize air supply.
- Locks in retracted position (friction lock); easy conversion with stop spring.
- Quick separator for tool-less removal and decoupling of shelf.

### Material / Finish

- Sheet steel 1.0 mm, electroplated zinc, powder-coated texture.

### Color

- RAL 7035 light-grey.

### Load rating

- 500 N static per item.

### Standard inclusion

- 1 x pair of telescopic slides.
- 1 x shelf board.
- 1 x extension board (from L = 600).
- 1 x Mounting kit.

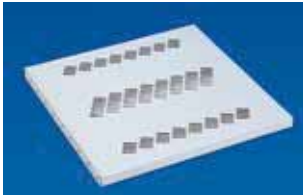
### Delivery

- In sets.

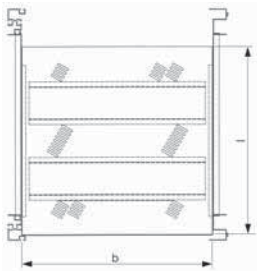
### Note

Please order requisite mounting adapter when used for DCM or Miracel/Smaract server extrusion.

d	WxL	For rack type	Order No.	UP
365-560	430 x 360		<b>01.102.040.X-001</b>	1 unit
565-750	430 x 560		<b>01.102.041.X-001</b>	1 unit



MEC00120



MEC20117

## 19" heavy-duty shelf fixed

- Perforated utility space.
- Installed as base plate for server or battery.

### Material / Finish

- Sheet steel 1.5 mm, electroplated zinc, powder-coated texture.

### Color

- 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.

### Standard inclusion

- 1 x shelf, fixed, threaded connection.
- 2 x mounting braces.
- 1 x Mounting kit.

### Delivery

- In sets.

### Note

Please order requisite mounting adapter when used for DCM or Miracel/Smaract server extrusion.

W	H	D	d	WxL	For rack type	Order No.	UP
			565	467 x 460	DCM / Miracel / Smaract	<b>01.131.473.X</b>	1 unit
			640	467 x 460	DCM / Miracel / Smaract	<b>01.131.475.X</b>	1 unit
			665	467 x 460	DCM / Miracel / Smaract	<b>01.131.476.X</b>	1 unit
			740	467 x 560	DCM / Miracel / Smaract	<b>01.131.474.X</b>	1 unit



MEC20154



MEC88005

## Cable cantilever

- Can be tilted outward from the rear, facilitating easy access to the rear (only 3 piece).
- For easy mounting in side the rack/on the shelf; shelf or rack easily attached or decoupled with spring clip.
- Guarantees defined and kink-free cable management.
- Minimum space requirement at the back of shelves: 40 mm.

### Material / Finish

- Sheet steel, 1.5 mm, zinc passivated.

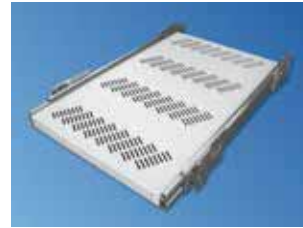
### Standard inclusion

- 1 x cable cantilever.
- 1 x Mounting kit.

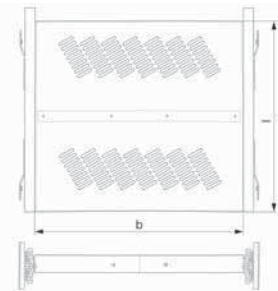
### Delivery

- In sets.

W	H	D	U	d	w x l	Type	Order No.	UP
						2-piece	<b>05.040.096.0</b>	1 unit



MEC20022



MEC20113

## 19" heavy-duty shelf fully retractable

- Perforated to optimize air supply.
- Locks in pushed-in and fully retracted position.
- Easy mounting with patented quick-mounting system.
- Installed as base plate for server or battery.

### Material / Finish

Sheet steel, 1.5 mm, powder-coated texture.

### Color

- 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.

### Standard inclusion

- 1 x pair of telescopic slides.
- 1 x shelf board.
- 1 x Mounting kit.

### Delivery

- In sets.

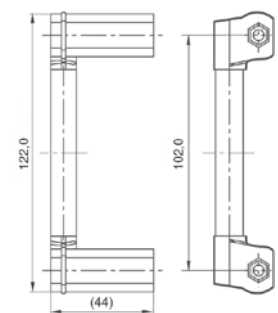
### Note

Please order requisite mounting adapter when used for DCM or Miracel/Smaract server extrusion.

W	H	D	d	WxL	For rack type	Order No.	UP
			565, 640	412 x 460	DCM / Miracel / Smaract	<b>01.102.031.X</b>	1 unit
			665, 740	412 x 660	DCM / Miracel / Smaract	<b>01.102.032.X</b>	1 unit



MEC20138



MEC20111

## Handle

- Suitable for traditional and heavy-duty shelves.
- With M5 internal thread.

### Material

- Die-cast aluminum consoles.
- Extruded aluminum handles.
- Cap made of ABS UL 94 HB.

### Finish

- Handle, powder-coated, grey-blue, RAL 5008/
- Cap, light-grey, RAL 7035.

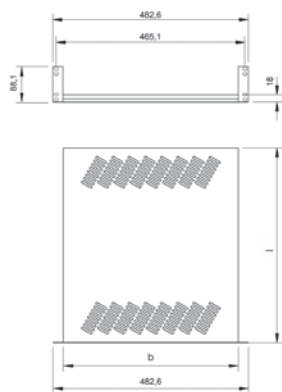
### Standard inclusion

- 2 x handles.

W	H	D	U	d	w x l	For rack type	Order No.	UP
							<b>00.050.503.1</b>	1 set



MIR00373



MIR00375

W	H	D	w x l	For rack type	Order No.	UP
482.6	88.1		442 x 280		01.113.736.1	1 unit
482.6	88.1		442 x 380		01.113.737.1	1 unit

## 19" shelf, 2 U Fixed

- Installed in racks with fixed 19" components, front.
- Quick and easy mounting on 19" extrusions.
- Also for swing frame in the 19" rack and 19" enclosure.

■ **Finish / Color**  
– Powder-coated texture, RAL 7035.  
– Light-grey.

■ **Material**  
– Sheet steel, 1.5 mm.

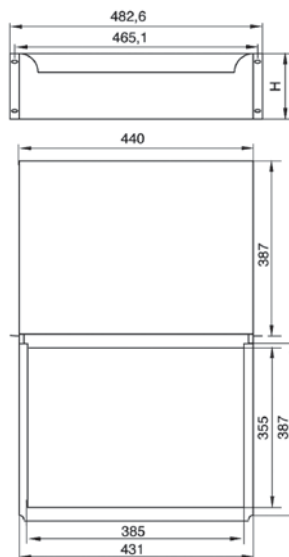
■ **Load rating**  
– 200 N static.

■ **Standard inclusion**  
– 1 x shelf, fixed.  
– 1 x Mounting kit.

■ **Delivery**  
– In sets.



SCH00058



SCH00054

W	H	D	U	For rack type	Order No.	UP
482.6	43.6	600-1000	1	Miracel/Smaract/ DoubleProRack/ConAct	01.113.926.1	1 unit
482.6	88.1	600-1000	2	Miracel/Smaract/ DoubleProRack/ConAct	01.113.927.1	1 unit
482.6	132.5	600-1000	3	Miracel/Smaract/ DoubleProRack/ConAct	01.113.928.1	1 unit

## 19" drawer Installed on the front

- Installed on 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.

■ **Color**  
– Final digit of order number .1:  
RAL 7035, light grey.  
– Final digit of order number .8:  
RAL 7021 dark-grey.

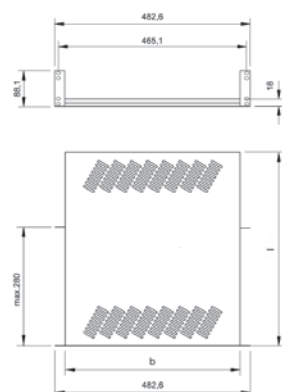
■ **Load rating**  
– 150 N static.

■ **Standard inclusion**  
– 1 x 19" drawer with lock, including key.  
– 1 x pair of telescopic slides.  
– 1 x Mounting kit.

■ **Delivery**  
– Pre-assembled.



MIR00102



MIR00103

W	H	D	w x l	For rack type	Order No.	UP
482.6	88.1		442 x 280		01.113.409.1	1 unit
482.6	88.1		442 x 380		01.113.410.1	1 unit
482.6	88.1		442 x 480		01.113.411.1	1 unit

## 19" shelf, 2 U Adjustable

- Installed in racks with adjustable 19" components, front.
- Quick and easy mounting on 19" extrusions.
- Also for swing frame in the 19" rack and 19" enclosure.
- Depth can be adjusted in increments of 25 mm.

■ **Material / Finish**  
– Sheet steel, 1.5 mm, powder-coated texture.

■ **Color**  
– RAL 7035, light-grey.

■ **Load rating**  
– 200 N static.

■ **Delivery**  
– In sets.

### Dimensions in mm:

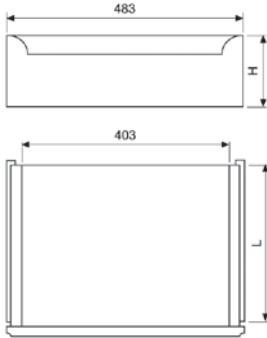
W = Width    h = Installation height    U = Standard rack unit    kg = Weight  
H = Height    d = Insertion depth    (1 U = 44.45 mm)  
D = Depth    L = Length    UP = Packaging unit

### Conversion:

1 mm = 0.03937 inch  
1 kg = 2.2046 pounds



SCH00057



SCH00053

## 19" drawer with lock Mounted on 19" components front and rear

- Installed in racks with fixed 19" components on the front and rear.
- Fully retractable.
- With lock.

### Material / Finish

- Drawer, sheet steel 1.0 mm, powder-coated texture; telescopic slides, cold rolled steel, Sendzimir zinc-coated.

### Color

- Drawer RAL 7035 light-grey.

### Load rating

- 1 U - 200 N static.
- 2 U - 400 N static.
- 3 U - 400 N static.
- 4 U - 400 N static.

### Standard inclusion

- 1 x 19" drawer with lock, including key.
- 1 x pair of telescopic slides.
- 1 x Mounting kit.

### Delivery

- Pre-assembled.

W	H	U	d	WxL	For rack type	Order No.	UP
1	365, 440, 565	412 x 460	DCM / Miracel /Smaract	<b>02.045.151.1</b>	1 unit		
2	440, 565	412 x 660	DCM / Miracel /Smaract	<b>02.045.152.1</b>	1 unit		
3	440, 565	412 x 460	DCM / Miracel /Smaract	<b>02.045.153.1</b>	1 unit		
4	440, 565	412 x 660	DCM / Miracel /Smaract	<b>02.045.154.1</b>	1 unit		
1	640, 665, 740	412 x 460	DCM / Miracel /Smaract	<b>02.045.161.1</b>	1 unit		
2	665, 740	412 x 660	DCM / Miracel /Smaract	<b>02.045.162.1</b>	1 unit		
3	665, 740	412 x 460	DCM / Miracel /Smaract	<b>02.045.163.1</b>	1 unit		
4	665, 740	412 x 660	DCM / Miracel /Smaract	<b>02.045.164.1</b>	1 unit		
1	435, 460, 560	412 x 460	DoubleProRack	<b>02.045.151.1</b>	1 unit		
2	435, 460, 560	412 x 660	DoubleProRack	<b>02.045.152.1</b>	1 unit		
3	435, 460, 560	412 x 460	DoubleProRack	<b>02.045.153.1</b>	1 unit		
4	435, 460, 560	412 x 660	DoubleProRack	<b>02.045.154.1</b>	1 unit		
1	635, 660	412 x 460	DoubleProRack	<b>02.045.161.1</b>	1 unit		
2	635, 660	412 x 660	DoubleProRack	<b>02.045.162.1</b>	1 unit		
3	635, 660	412 x 460	DoubleProRack	<b>02.045.163.1</b>	1 unit		
4	635, 660	412 x 660	DoubleProRack	<b>02.045.164.1</b>	1 unit		

### Dimensions in mm:

W = Width h = Installation height U = Standard rack unit  
H = Height d = Insertion depth (1 U = 44.45 mm)  
D = Depth L = Length UP = Packaging unit

kg = Weight

### Conversion:

1 mm = 0.03937 inch  
1 kg = 2.2046 pounds



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.

### Color

- RAL 7035, light-grey.

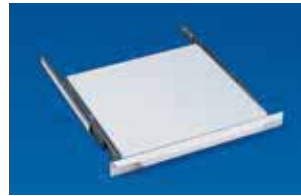
### Standard inclusion

- 1 x writing board.
- 1 x Mounting kit.

### Delivery

- In sets.

W	H	D	U	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



MEC00118

## 19" shelf, 1 U 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 / Color

- Powder-coated texture.
- RAL 7035, light-grey.

### Load rating

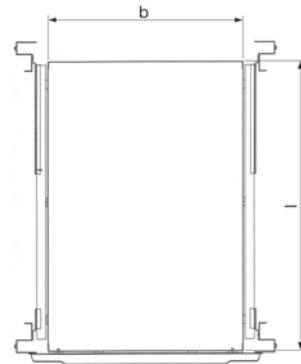
- 200 N static.

### Standard inclusion

- 1 x shelf.
- 1 x pair of telescopic slides.
- 1 x Mounting kit.

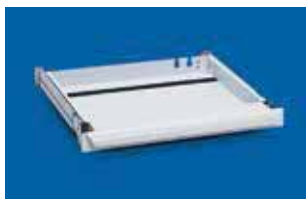
### Delivery

- Pre-assembled.

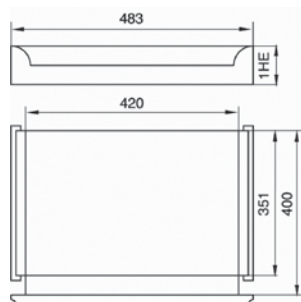


MEC20118

d	WxL	For rack type	Order No.	UP
365-560	430 x 360		<b>01.102.045.X-001</b>	1 unit
565-750	430 x 560		<b>01.102.046.X-001</b>	1 unit



SCH00059



SCH00055

## 19" keyboard drawer, 1 U for 19" keyboard

- With hand support.
- With cable strain relief.
- No telescopic slides locks.

### Material

- Main unit, sheet steel, 1.0 mm.
- Front panel, sheet steel, 1.0 mm.

### Finish / Color

- Powder-coated texture, RAL 7035 light-grey.

### Standard inclusion

- 1 x 19" keyboard drawer, 1 U.
- 1 x pair of telescopic slides.
- 1 x Velcro for securing the keyboard.
- 1 x Mounting kit.

### Delivery

- Pre-assembled.

W	H	D	U	d	For rack type	Order No.	UP
			1	440, 565, 640, 665, 740	DCM / Miracel / Smaract	02.011.101.1	1 unit
			1	435, 635	DoubleProRack	02.011.101.1	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/DCmax. 18 mA.
- Mains cable (1.6 m) with taps 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	U	A1	A2	P <sub>max</sub>	Model	Order No.	UP
							German	06.002.048.3	1 unit



MEC20027

## Document holder

- Self-adhesive; for higher loads use 6 mm holes.
- For DIN A4 documents.

### Material

- High-impact PS.

### Color

- Grey.

### Standard inclusion

- 1 x document holder.

W	L	D	Order No.	UP
264	236	30	05.016.045.0	1 unit

## The right mounting set for every rack type

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order No.	UP
	●				●						T-Slot mounting set, M5, wide	05.041.320.9	1 set
		●				●					Mounting set Mount. holes M5/BI 1.5	05.041.321.9	1 set
●			●	●			●				Mounting set Mount. holes M5/BI 2.5	05.041.325.9	1 set
								●			Mounting set dpr T-slot, M5 narrow	05.041.323.9	1 set
									●		Mounting set dpr mount. holes M5	05.041.322.9	1 set
										●	Mounting Set, ConAct M5	05.041.324.9	1 set

## The right mounting set for front panel mounting Model: Z-form screw

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order No.	UP
	●				●						FP mounting set, T-slot M5, wide	05.041.335.9	1 set
		●				●				●	FP mounting set Mount. holes M5/BI 1.5	05.041.336.9	1 set
●			●	●			●		●		FP mounting set Mount. holes M5/BI 2.5	05.041.337.9	1 set
								●			FP mounting set, T-slot M5, narrow	05.041.338.9	1 set

## The right mounting set for front panel mounting Model: countersunk screw + rosette

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order No.	UP
	●				●						FP mounting set, T-slot M5, wide	05.041.340.9	1 set
		●				●				●	FP mounting set Mount. holes M5/BI 1.5	05.041.341.9	1 set
●			●	●			●		●		FP mounting set Mount. holes M5/BI 2.5	05.041.342.9	1 set
								●			FP mounting set, T-slot M5, narrow	05.041.343.9	1 set

## The right accessories for every rack type

DCM	Miracel T-slot	Miracel Mount. holes	Miracel Server	Miracel Swing frame	Smaract T-slot	Smaract Mount. holes	Smaract Server	Double ProRack T-slot	Double ProRack Mount. holes	ConAct	Name	Order No.	UP
	●				●						Spring nut, M5 wide	<b>01.350.431.9</b>	1 set
								●			Spring nut, M5 narrow	<b>05.041.503.9</b>	1 set
	●				●						Spring nut M6	<b>01.350.405.9</b>	1 set
		●				●				●	Cage nut M5/BI 1.5	<b>05.041.513.7</b>	1 set
●			●	●			●		●		Cage nut M5/BI 2.5	<b>05.041.518.7</b>	1 set
	●				●			●			Oval-head screws, Z-form, M5 x 10	<b>05.041.330.9</b>	1 set
●		●	●	●		●	●		●	●	Oval-head screws, Z-form, M5 x 16	<b>05.041.331.9</b>	1 set
	●				●			●			Countersunk screw M5 x 12 + rosette	<b>05.041.203.9</b>	1 set
●		●	●	●		●	●		●	●	Countersunk screw M5 x 16 + rosette	<b>05.041.290.9</b>	1 set



MIR00114

## Mounting tool for cage nuts

- Allows easy clipping of cage nuts on extrusions.

- **Material**
  - Spring steel.

- **Standard inclusion**
  - 1 x mounting tool.

W	H	D	U	d	L	Model	Order No.	UP
							01.130.985.9	1 unit



MEC20125

## T-Slot mounting set, M5, wide for Miracel® / Smaract®

- For securing 19" front panels and 19" components.

- **Standard inclusion**
  - 100 x spring nuts, M5 wide.
  - 100 x oval-head screws, Z-form, M5 x 10.
  - 20 x cage nuts M5 /plate, 1.5 mm.
  - 20 x cylinder screws, M5 x 8.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							05.041.320.9	1 set



MEC20126

## Mounting set, M5 / plate, 1.5 mm for Miracel® / Smaract®

- For securing 19" front panels and 19" components.

- **Standard inclusion**
  - 100 x cage nuts M5 /plate, 1.5 mm.
  - 100 x oval-head screws, Z-form, M5 x 16.
  - 20 x spring nuts, M5 wide.
  - 20 x cylinder screws, M5 x 8.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							05.041.321.9	1 set



MEC20126

## Mounting set; mounting holes server extrusion M5 / plate, 2.5 mm for Miracel® /DCM®/Smaract®

- For securing 19" front panels and 19" components.

- **Standard inclusion**
  - 100 x cage nuts M5 /plate, 2.5 mm.
  - 100 x oval-head screws, Z-form, M5 x 16.
  - 20 x spring nuts, M5 wide.
  - 20 x cylinder screws, M5 x 8.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							05.041.325.9	1 set



MEC20127

## T-slot mounting set, M5, narrow for DoubleProRack®

- For securing 19" front panels and 19" components.

- **Standard inclusion**
  - 100 x spring nuts, M5 narrow.
  - 20 x oval-head screws, Z-form, M5 x 10.
  - 50 x cylinder screws, M5 x 10.
  - 30 x oval-head screws, Z-form, M5 x 8.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							05.041.323.9	1 set



MEC20126

## Mounting set; mounting holes M5 for DoubleProRack®

- For securing 19" front panels and 19" components.

- **Standard inclusion**
  - 100 x cage nuts M5 /plate, 2.5 mm.
  - 50 x oval-head screws, Z-form, M5 x 16.
  - 40 x spring nuts, M5 narrow.
  - 40 x cylinder screws, M5 x 10.

- **Delivery**
  - In sets.

W	H	D	U	d	L	Model	Order No.	UP
							05.041.322.9	1 set

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit	kg = Weight
H = Height	d = Insertion depth	(1 U = 44.45 mm)	
D = Depth	L = Length	UP = Packaging unit	

### Conversion:

1 mm = 0.03937 inch
1 kg = 2.2046 pounds



MEC20096

## Mounting holes, mounting set, M5 for ConAct®

- For securing 19" front panels and 19" components.

### ■ Standard inclusion

- 50 x cage nuts M5 /plate, 1.5 mm.
- 50 x oval-head screws, Z-form, M5 x 16.
- 50 x cylinder screws, M5 x 8.
- 25 x locking nuts, M5.

### ■ Delivery

- In sets.

W	H	D	U	d	L	Model	Order No.	UP
							<b>05.041.324.9</b>	1 set



MEC20129

## Front panel mounting set, T-slot, M5 wide for Miracel® / Smaract®

- For securing 19" front panels and 19" components.

### ■ Standard inclusion

- Type 1:  
50 x spring nuts, M5 wide.
- 50 x oval-head screws, Z-form, M5 x 10.
- Type 2:  
50 x spring nuts, M5 wide.
- 50 x countersunk screws, M5 x 12.
- 50 x rosettes.

### ■ Delivery

- In sets.

W	H	D	U	d	L	Model	Order No.	UP
						Type 1: Z-form screw	<b>05.041.335.9</b>	1 set
						Type 2: screw + rosette	<b>05.041.340.9</b>	1 set



MEC20098

## Front panel mounting set for Miracel®/Smaract®/ConAct®

- For securing 19" front panels and 19" components.
- Mounting holes.

### ■ Standard inclusion

- Type 1:  
50 x cage nuts M5 /plate, 1.5 mm.
- 50 x oval-head screws, Z-form, M5 x 16.
- Type 2:  
50 x cage nuts M5 /plate, 1.5 mm.
- 50 x countersunk screws, M5 x 16.
- 50 x rosettes.

### ■ Delivery

- In sets.

W	H	D	U	d	L	Model	Order No.	UP
						Type 1: Z-form screw	<b>05.041.336.9</b>	1 set
						Type 2: screw + rosette	<b>05.041.341.9</b>	1 set



MEC20098

## Front panel mounting set; mounting holes, M5/plate, 2.5 mm for Miracel®/DCM®/Smaract®/DoubleProRack®

- For securing 19" front panels and 19" components.

### ■ Standard inclusion

- Type 1:  
50 x cage nuts M5 /plate, 2.5 mm.
- 50 x oval-head screws, Z-form, M5 x 16.
- Type 2:  
50 x cage nuts M5 /plate, 2.5 mm.
- 50 x countersunk screws, M5 x 16.
- 50 x rosettes.

### ■ Delivery

- In sets.



MEC20097

W	H	D	U	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



MEC20129

## Front panel mounting set, T-slot for DoubleProRack®

- For securing 19" front panels and 19" components.

### ■ Standard inclusion

- Type 1:  
50 x spring nuts, M5 narrow.
- 50 x oval-head screws, Z-form, M5 x 10.
- Type 2:  
50 x spring nuts, M5 narrow.
- 50 x countersunk screws, M5 x 12.
- 50 x rosettes.

### ■ Delivery

- In sets.



MEC20130

W	H	D	U	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



MEC00060

## Spring nut

- To clip on T-slot where required.
- Type 1: M5 wide for Miracel / Smaract. T-slot size: 10 x 13 mm.
- Type 2: M5 narrow for DoubleProRack. T-slot size: 8 x 13 mm.
- Type 3: M6 for Miracel / Smaract. T-slot size: 10 x 13 mm.

■ **Standard inclusion**  
– 50 x spring nuts.

■ **Delivery**  
– In sets.

W	H	D	U	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



MEC20139

## Cage nut

- For clipping into extrusions with mounting holes.
- 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.

■ **Standard inclusion**  
– 50 x cage nuts.

■ **Delivery**  
– In sets.

W	H	D	U	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 = Installation height    U = Standard rack unit    kg = Weight  
H = Height    d = Insertion depth    (1 U = 44.45 mm)  
D = Depth    L = Length    UP = Packaging unit

### Conversion:

1 mm = 0.03937 inch  
1 kg = 2.2046 pounds



MEC20140

## Oval-head screw

- IEC DIN 967.

■ **Standard inclusion**  
– 50 x oval-head screws, Z-form.

■ **Delivery**  
– In sets.

W	H	D	U	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

■ **Standard inclusion**  
– 50 x countersunk screws.  
– 50 x rosettes.

■ **Delivery**  
– In sets.

W	H	D	U	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



MEC80020

## Oval-head screw self-guiding

- DIN 7500.
- Suitable for system accessories fixed on the inside of the 19" extrusions.
- Suitable for 19" steel and 19" aluminum extrusions.
- Easy screwing.

■ **Standard inclusion**  
– 50 x oval-head screws, M6x10.

■ **Delivery**  
– In sets.

W	H	D	U	d	L	Model	Order No.	UP
						M6 x 10	<b>05.041.334.9</b>	1 set



MEC20227



MEC20228

## Oval-head screw With Phillips head

– IEC DIN EN ISO 7045.

### Standard inclusion

– 1 x set of 50 units.

W	H	D	U	d	L	Model	Order No.	UP
					8	M 5 no washer	05.041.611.8	1 set
					12	M 4 no washer	05.041.609.8	1 set
					12	M 5 with washer	05.041.613.8	1 set
					16	M 5 with washer	05.041.614.8	1 set
					16	M 6 with washer	05.041.616.8	1 set



MEC20226

## Cylinder screw With hexagon head

– IEC ISO 4762 (modified).

### Standard inclusion

– 1 x set of 50 units.

W	H	D	U	d	L	Model	Order No.	UP
					8	M 5	05.041.574.8	1 set
					8	M 5 microencapsulated	05.041.575.9	1 set



MEC20225

## Tensiloc nut

### Material

– Steel nickel-plated.

### Standard inclusion

– 1 x set of 50 units.

W	H	D	U	d	L	Model	Order No.	UP
						M 5	05.041.533.8	1 set



HEI00234

## Cable entry rail

– Alternative to cable entry: use brush strips when distributor box is installed in open frames.

### Material / Finish

– Zinc-passivated sheet steel.

### Standard inclusion

– 1 x cable routing panel.  
– 11 x bushing sockets.  
– 1 x Mounting kit.

W	H	D	Model	Order No.	UP
				03.013.386.1	1 unit



ELM00058

## Luminestra Rack lighting

- Only for rack type Miracel W 700, W 800.
- Mounted on the basic frame above the vertical extrusions.
- With 13 watt fluorescent tube.
- With on/off rocker switch.
- With 2 m power supply cable and EURO plug.
- Complete with mounting material.
- Only with 123 mm front clearance space.

### Color

– White.

### Standard inclusion

– 1 x Luminestra rack lamp.  
– 2 x mounting brackets.  
– 1 x Mounting kit.

W	H	D	U	h	d	w	Model	Order No.	UP
70	20	555						01.131.227.9	1 unit



ELM00135

## Compact rack lamp

### Features

- Magnetic mounting.
- Energy-saving lamp.
- Protective contact socket.
- ON/OFF switch.
- Power supply lead 3 m.
- Cover panel.

### Compliance

– 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  $\approx$  75 W bulb.
- Light intensity: 900 Lm.
- Interference suppression compliant 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	U	h	d	w	Model	Order No.	UP
65	65	365						01.131.465.9	1 unit



HEI00379

## Distribution box

- For mounting trade-standard installation technology DIN rail components, such as fuses, clamps, relays, etc.
- When installed, the mounting level can be pulled out at the front and locked in position, significantly simplifying the wiring of the individual components. Not available for "fixed installation" model. Up on request: Delivered assembled and wired. Further versions and models up 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 available for "fixed installation" model.
- "Snap-in" mounting of DIN rail components.
- Easy access to the protective grounding and neutral conductor rails from the front.
- Various positioning options available for N and PE rails. Not available for "fixed installation" model.
- 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.
- Labeling strips on the front, above and below the installation space.
- Installation options available for power distribution with 230 V AC, but also in the low-voltage range (e.g. 48 V DC).
- 19" slot-in, 3 U, depth 150 mm.

### Material / Finish

- Panels powder-coated texture, RAL 7035 light-grey.
- Main unit, sheet steel, zinc-passivated.

### Standard inclusion

- 1 x distribution box.
- Including N and PE rails, cable entry, cable strain relief, empty panel covers and grounding set.

### Delivery

- Fully assembled.

W	H	D	U	19"	Model	Order No.	UP
482.6	134	150	3	•	Pull-out	<b>03.013.385.1</b>	1 unit
482.6	134	150	3	•	Fixed	<b>03.013.470.1</b>	1 unit



HEI20282



ELM00137

## Door contact switch

- On/off switch, 4 A, 230 V ~.
- Activated by opening and closing door.

### Standard inclusion

- 1 x door contact switch (not wired).
- 1 x mounting bracket.
- 1 x Mounting kit.

W	H	S	U	h	d	w	Model	Order No.	UP
								<b>01.110.722.9</b>	1 unit



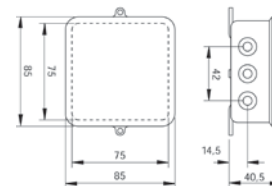
ELM00033

## Cable junction box

- For 230 V electrical installation on-site.
- As fixed-location exchange point.
- Quick and easy mounting.

### Standard inclusion

- 1 x cable junction box.



ELM00034

W	H	D	U	h	d	w	Model	Order No.	UP
								<b>00.078.720.9</b>	1 unit



ELM00128

## Modular terminal box

- For 230V electrical installation on-site.
- With series terminal, 8 x 42.
- Pg 11/16 entry.
- IP 54.

### Material

- High-impact, fire-resistant polystyrene.

### Standard inclusion

- 1 x modular terminal box.
- 4 pg compression glands, pg11.

W	H	S	U	h	d	w	Model	Order No.	UP
								<b>01.117.521.9</b>	1 unit



ELM00114

## 1 equipotential bonding bar

- For central grounding of all protective conductors.
- With sealable 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 single or multi-wire conductors up to 16 mm<sup>2</sup> or fine-wire conductors up to 10 mm<sup>2</sup>.

### Material

- Base plate and cover plate, high-impact plastic.
- Brass nickel-plated contact strip.

### Standard inclusion

- 1 x equipotential bonding bar.

W	H	S	U	h	d	w	Model	Order No.	UP
								01.117.524.3	1 unit



ELM00068

## Grounding bar

- For safe grounding or potential equalization of equipments and components.

### Material

- Electrolyte copper 9 x 9.

### Standard inclusion

- 1 x grounding bar.
- 2 x brackets.
- 1 x Mounting kit.

W	H	S	U	h	d	w	Model	Order No.	UP
			24				For DoubleProRack	01.240.546.9	1 unit
			21				For DoubleProRack	01.240.545.9	1 unit
			18				For DoubleProRack	01.240.544.9	1 unit
			15				For DoubleProRack	01.240.543.9	1 unit
			45				For Miracel	01.110.709.9	1 unit
			41				For Miracel	01.110.708.9	1 unit
			12				For Miracel	01.110.703.9	1 unit



DOP20016

## Contact clamp

- Enables safe connection of equipment and components to grounding bar.
- For cables up to 25 mm<sup>2</sup>.

### Standard inclusion

- 20 x contact clamps.

W	H	S	U	h	d	w	Model	Order No.	UP
								01.110.715.9	20 units

Dimensions in mm:						Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch			
H = Height	d = Insertion depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds			
D = Depth	L = Length	UP = Packaging unit					

# Knürr Fan Units

### Features

#### CoolBlast®

- Modular construction for varying heat loads; different designs available.
- Top-mounting fan and 19-fan unit available.
- Special protection grid keeps pressure losses to a minimum and reduces noise levels.
- Energy-efficient speed-controlled design also available.

#### Silent top-mounting fan

- Minimal noise level for use in office environment.
- Provides forced rack cooling.

#### Filter fan

- Protection class IP54.
- Filter can be replaced quickly and easily.
- Can be used to draw or push air.

**The ever-increasing power losses of electronic modules make for high demands on effective cooling. Large air-flow volumes ensure secured heat dissipation. The packing density of the electronic equipment in racks and enclosures is also increasing.**

The sharp rise in the price of electricity has resulted in energy efficiency gaining importance and environmental concerns increasingly become a prominent decision-making factor. Consequently, the use of speed-controlled fan units is rising. The additional costs generally prove to be a worthwhile investment.







LUF20203



LUF20205



LUF20124

## Knürr CoolBlast® Fan Unit for Cover Panel Installation Unregulated and thermostat-controlled

- Provides powerful rack cooling.
- Suitable for retrofitting in cover panel of Miracel® rack.
- DC versions and 115 VAC versions upon request (see Knürr CoolBlast® fan inserts).
- Thermostat-controlled model: Fan function (ON/OFF) thermostat-controlled; setting range from 0° to + 60° C.

### Material

- Enclosure: sheet steel, high-grade steel grid.

### Finish

- Zinc-passivated.

### Technical data for single fan

- See page 126.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/366/EEC.

### Standard inclusion

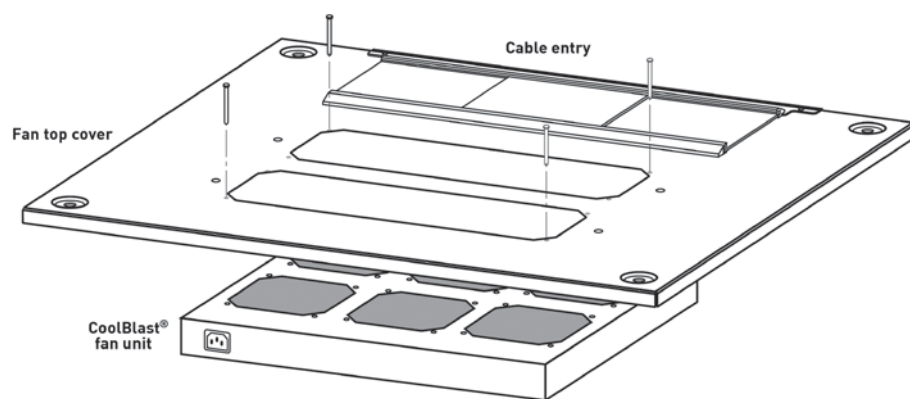
- 1 x CoolBlast fan unit.
- 1 x mains cable, 3 m with safety plug (230 VAC).
- 1 x Mounting kit.
- 1 x Operating instructions.

### Delivery

- Assembled, wired and tested.

### Note

- Please also order corresponding mains cable (see page 133).

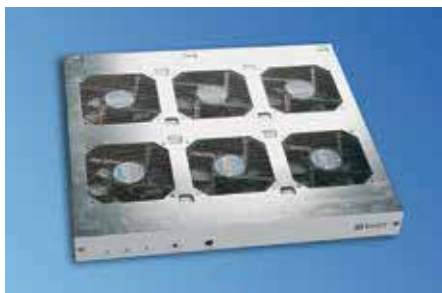


LUF20175

Name	Model	Electrical connection	P(W)	V' (m³/h)	ΔP(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
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



LUF20160



LUF20161



LUF20124

## Knürr CoolBlast® Fan Unit for Cover Panel Installation speed-controlled

- Provides powerful rack cooling.
- Suitable for retrofitting in top cover of Miracel rack.
- DC version upon request (see CoolBlast fan inserts).
- Settable reference temperature (20° to 55° C).
- Speed control, 30 to 100 %, if sensor fails, 100 % rotation.
- Individual fan monitoring.
- Potential-free common alarm output for excess temperature and fan failure.
- Visual status display for O.K., excess temperature and fan failure.
- Acoustic warning inclusive reset button.

### Material

- Enclosure: sheet steel, high-grade steel grid.

### Finish

- Zinc-passivated front cover plate, powder-coated, smooth in RAL 7035 light-grey.

### Technical data for single fan

- See page 126.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/366/EEC.

### Standard inclusion

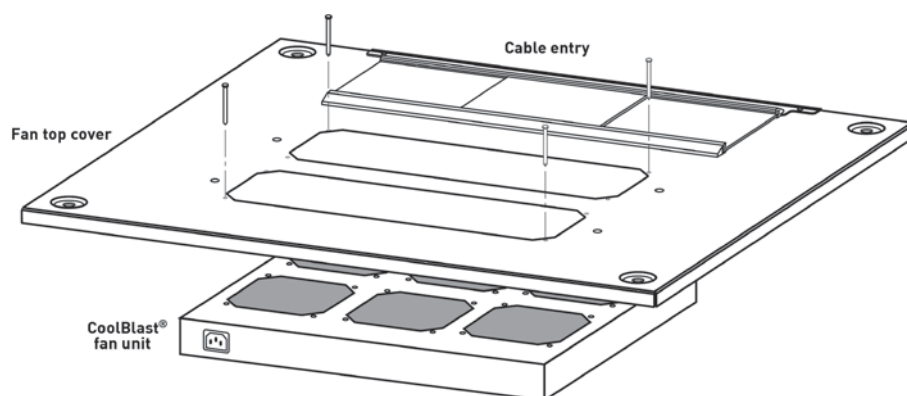
- 1 x CoolBlast fan unit.
- 1 x sensor cable, 2 m (plug-in).
- 1 x signal cable, 2 m (plug-in).
- 1 x mains cable, 3 m with safety plug (230 VAC).
- 1 x Mounting kit.
- 1 x Operating instructions.

### Delivery

- Assembled, wired and tested.

### Note

- Please also order specific mains cable (see page 133).

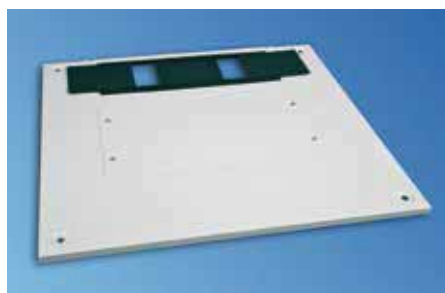


LUF20175

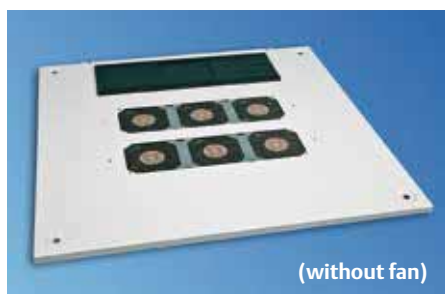
Name	Model	Electrical connection	P(W)	V' (m³/h)	ΔP(Pa)	p(dB(A))	Order No.	UP
CoolBlastT 230V 3-piece	Regulated SP	100...253 VAC; 50/60 Hz	25	553	68	49.6	<b>03.027.321.1</b>	1 unit
CoolBlastT 230V 6-piece	Regulated SP	100...253 VAC; 50/60 Hz	48	1106	68	53.3	<b>03.027.322.1</b>	1 unit
CoolBlastT 230V 3-piece	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

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit (1 U = 44.45 mm)	kg = Weight	Conversion: 1 mm = 0.03937 inch 1 kg = 2.2046 pounds
H = Height	d = Usable depth			
D = Depth	L = Length	UP = Packaging unit		
SP = Standard Performance	V' = Air-flow volume (m³/h)			
HP = High Performance	ΔV' = Air-flow volume loss (%)			
UP = Ultra High Performance	ΔP = Pressure increase (Pa)			
n = Number of fans	I nom = Nominal current (A)			
W = Power consumption	I max = Residual current (A)			
V = Voltage (400V = 3-phase)	p = Sound pressure (dB(A)) distance from the rack 1 m (600 mm x 600 mm; raised cover)			



LUF20163



LUF20169

## Fan Top Cover for Knürr CoolBlast®

- Used with CoolBlast fan unit.
- Suitable for installation in Miracel.
- With cable routing (sliding plate).
- Two-part cover to facilitate retrofitting and servicing.

### Material

- Sheet steel.

### Finish / Color

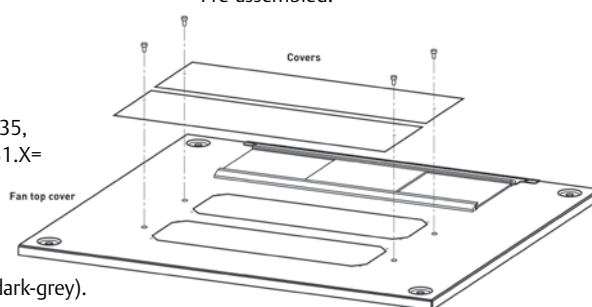
- Final digit of order number .1:  
Powder-coated texture, RAL 7035, light-grey (e. g. X=1; 01.149.031.X=01.149.031.1=light-grey).
- Final digit of order number .8:  
Powder-coated texture, RAL 7021 dark-grey (e. g. X=8; 01.149.031.X=01.149.031.8=dark-grey).

### Standard inclusion

- 1 x cover panel with cover strip and cable entry.
- 2 x covers.

### Delivery

- Pre-assembled.

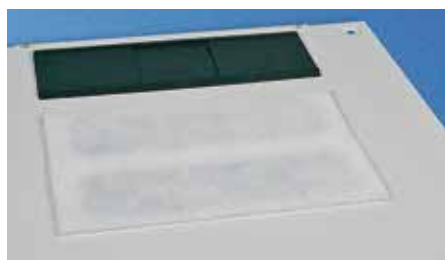


LUF20176

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

## CoolBlast® Dust/Particle Protection Solution 1: Filter Mat

- Used with CoolBlast® fan top cover.
- Simple filter cover preventing the ingress of dust when the fan stops (regulated or thermostat-controlled version available).
- For all top-cover sizes; filter and adhesive tape can be cut to the required length.

### Material

- Filedon (filter class G2).

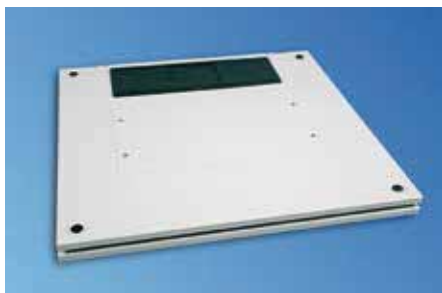
### Standard inclusion

- 1 x filter.
- 1 x Adhesive tape.

### Delivery

- In sets.

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

## Knürr CoolBlast® Dust/Particle Protection Solution 2: Vent Cover

- Used with CoolBlast fan top cover.
- Closed cover panel with cable entry for protection against foreign particles and dust.
- Mounting on the spacer bolts on the standard cover.

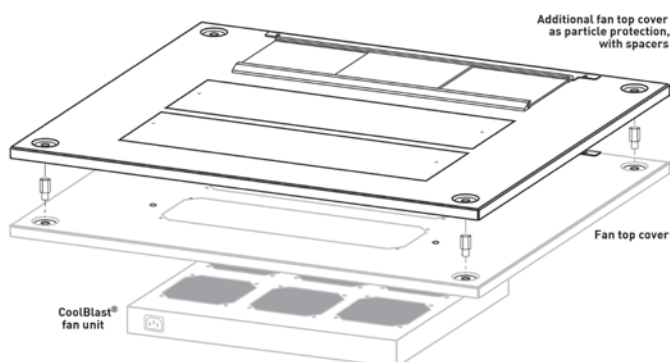
- **Material**
  - Sheet steel.

- **Finish / Color**
  - Final digit of order number 1: powder-coated, RAL 7035 light-grey.
  - Final digit of order number 8: powder-coated, RAL 7021 dark-grey.

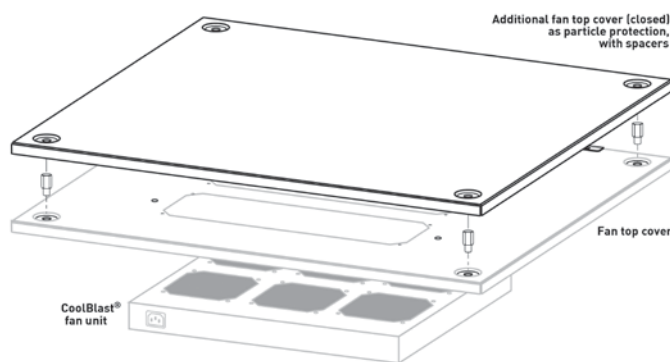
- **Standard inclusion**
  - 1 x cover panel with cable entry.

- **Delivery**
  - In sets.

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



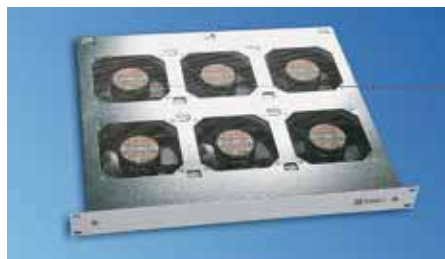
LUF20177



LUF20178



LUF20125



LUF20139

## 19" Knürr CoolBlast® Fan Unit Unregulated and thermostat-controlled

- Fan unit for vertical ventilation of modules in 19" racks.
  - Chassis rails are recommended for mounting. Chassis rails are required with 6-piece CoolBlast.
  - Thermostat-controlled model: Fan function (ON/OFF) thermostat-controlled; setting range from 0° to + 60° C.
- **Material**
    - Sheet steel, high-grade steel grid.
  - **Finish / Color**
    - Enclosure zinc-passivated.
    - Front cover plate, powder-coated, smooth in RAL 7035 light-grey.
- **Delivery**
    - Assembled, wired and tested.
  - **Compliance**
    - CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/366/EEC.
  - **Standard inclusion**
    - 1 x CoolBlast fan unit, packed with operating instructions.
    - 1 x connection cable, 2 m; Euro power plugs and sockets.
  - **Note**
    - Please also order specific mains cable (see page 133).

Name	W	H	D	kg	n	Electrical connection	P(W)	V' (m³/h)	ΔP(Pa)	p(dB(A))	Order No.	UP
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 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>	

## Technical data for Axial Single Fan

	Knürr CoolBlast®	Knürr CoolBlast®	Knürr CoolBlast®	Knürr CoolBlast®	Knürr CoolBlast®
Item number	01.914.070.9	01.914.075.9	01.914.050.9	01.914.051.9	01.914.051.9-2
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	192 m³/h	165 m³/h	120 m³/h
Voltage	24 VDC	24 VDC	115 VAC	230 VAC	230 VAC
Frequency			50 Hz	50 Hz	50 Hz
Power consumption	7.4 W	11 W	14.5 W	15 W	7.5 W
Noise, free blowing	43 dB(A)	59 dB(A)	41 dB(A)	38 dB(A)	32 dB(A)
Bearing system	Ball bearing	Ball bearing	Ball bearing	Ball bearing	Ball bearing
Nominal speed	2950 min-1	4400 min-1	2900 min-1	2600 min-1	2100 min-1
Permitted ambient temp.	-10 °C to + 70 °C	-30 °C to + 55 °C	-40 °C to + 60 °C	-40 °C to + 60 °C	-40 °C to + 70 °C
Service life, L10 at 40°C	75,000 h	70,000 h	43,500 h	43,500 h	43,500 h
Compliance	CE, VDE	CE, VDE	CE, VDE	CE, VDE	CE, VDE
<b>Use in fan unit:</b>	03.027.021.1 03.027.022.1 03.027.051.1 03.027.052.1 03.027.321.1 03.027.322.1	03.027.024.1 03.027.025.1 03.027.054.1 03.027.055.1 03.027.324.1 03.027.325.1	03.027.004.1 03.027.005.1 03.027.014.1 03.027.015.1	03.027.001.1 03.027.002.1 03.027.011.1 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	02.111.181.9 05.010.307.1



LUF20128



LUF20140



LUF20054

## 19" Knürr CoolBlast® Fan Unit Speed-controlled

- Fan unit for vertical ventilation of modules in 19" racks.
- Reference temperature can be set (20°C to 55°C).
- Speed control, 30 to 100 %; if sensor fails, 100 % rotation.
- Individual fan monitoring.
- Potential-free alarm output for excess temperature alarm and fan failure.
- Visual status display for O.K., excess temperature and fan failure.
- Acoustic alarm can be switched off with switch.
- Chassis rails are recommended for mounting. Chassis rails are required with 6-piece CoolBlast.

### Material

- Sheet steel, high-grade steel grid.

### Finish / Color

- Enclosure zinc-passivated.
- Front cover plate, powder-coated, smooth in RAL 7035 light-grey.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/366/EEC.

### Standard inclusion

- 1 x CoolBlast fan unit, packed with operating instructions.
- 1 x sensor cable, 2 m (plug-in).
- 1 x signal cable, 2 m (plug-in).

Only with DC devices:

- 1 x connection cable, 2 m with connector plug and free ends.

Only with AC devices:

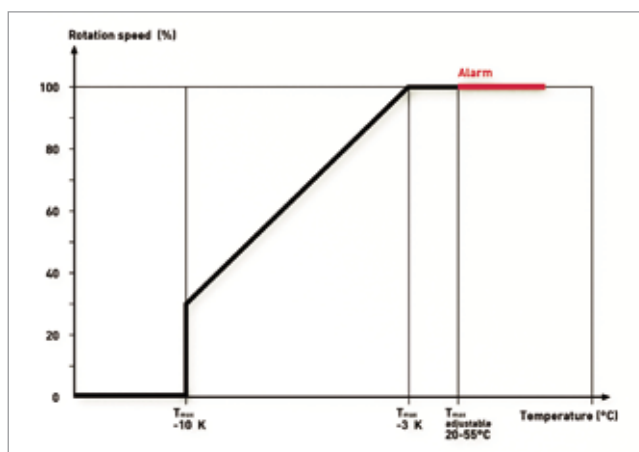
- 1 x connection cable, 2 m; Euro power plugs and sockets.

### Delivery

- Assembled, wired and tested.

### Note

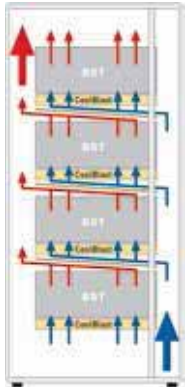
Further project-specific characteristics can be realized in line with standards.



LUF20179

Name	W	H	D	kg	n	Electrical connection	P(W)	V' (m³/h)	ΔP(Pa)	p(dB(A))	Order No.	UP
CoolBlast 115/230V, 3-piece, controlled SP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	25	553	68	49.6	03.027.021.1	
CoolBlast 115/230V, 6-piece, controlled SP	440	43.6	390	6.2	6	100 to 253VAC; 50/60Hz	48	1106	68	53.3	03.027.022.1	
CoolBlast 115/230V, 3-piece, controlled HP	440	43.6	230	3.2	3	100 to 253VAC; 50/60Hz	32	711	173	55.8	03.027.024.1	
CoolBlast 115/230V, 6-piece, controlled HP	440	43.6	390	6.2	6	100 to 253VAC; 50/60Hz	62	1422	173	59.1	03.027.025.1	
CoolBlast 24/48V, 3-piece, controlled SP	440	43.6	230	3.1	3	20 to 60VDC	25	553	68	49.6	03.027.051.1	
CoolBlast 24/48V, 6-piece, controlled SP	440	43.6	390	6.1	6	20 to 60VDC	48	1106	68	53.3	03.027.052.1	
CoolBlast 24/48V, 3-piece, controlled HP	440	43.6	230	3.1	3	20 to 60VDC	32	711	173	55.8	03.027.054.1	
CoolBlast 24/48V, 6-piece, controlled HP	440	43.6	390	6.1	6	20 to 60VDC	62	1422	173	59.1	03.027.055.1	

## Knürr CoolBlast® Air-flow Routing via Front Intake Main features



LUF20156

The "front-intake unit" for the Knürr CoolBlast fan delivers targeted cooling for module supports arranged on top of each other (heat sources).



LUF20131

### Knürr CoolBlast® – Air-flow Routing via Front Intake, 1 U

- For Knürr CoolBlast slot-in unit 3- and 6 piece for front intake.
- Used as cooling baffle.
- Can be supplemented with front plate and filter mat.

- **Material**
  - Sheet steel.
- **Finish / Color**
  - Powder-coated texture, RAL 7035.
  - Light-grey.
- **Standard inclusion**
  - 1 x air-flow guide.
- **Delivery**
  - Single items.



LUF20142

W	H	D	Model	Order No.	UP
43.6	230		For 3-piece	<b>03.027.094.1</b>	1 unit
43.6	390		For 6-piece	<b>03.027.095.1</b>	1 unit



LUF00205

### 19" Filter Unit, 1 U

- Suitable for use with CoolBlast slot-in unit.
- Adjusted to the respective recess depth.

- **Material**
  - Enclosure: sheet steel.
  - Front cover plate: ABS (UL94 V-0).
  - Handle: extruded aluminum.
  - Filter: Viledon P 15/150.
- **Filter class**
  - G2.
- **Finish / Color**
  - Enclosure: powder-coated texture, RAL 9011 dark-grey.
  - Front cover plate: RAL 7035, light-grey.
  - Handle: powder-coated texture, RAL 5008 grey-blue.
- **Standard inclusion**
  - 1 x filter insert.
  - 1 x filter.
- **Delivery**
  - Single items.

W	H	D	kg	W	n	Model	Order No.	UP
43.6	282	2.0					<b>03.025.250.1</b>	1 unit
43.6	660	4.0					<b>03.025.253.1</b>	1 unit



LUF20136

### Knürr CoolBlast® Front Plate for Air-flow Routing via Front Intake, 1 U

- For use with air-flow guide for front intake.
- Can be retrofitted.
- **Material**
  - Sheet steel.
- **Finish / Color**
  - Powder-coated, RAL 7035.
  - Light-grey, smooth.
- **Standard inclusion**
  - 1 x front plate.
- **Delivery**
  - Single items.

W	H	D	Model	Order No.	UP
43.6				<b>03.027.097.1</b>	1 unit

Dimensions in mm:				Conversion:	
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch	
H = Height	d = Usable depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds	
D = Depth	L = Length	UP = Packaging unit			
SP = Standard Performance	V' = Air-flow volume (m³/h)				
HP = High Performance	ΔV' = Air-flow volume loss (%)				
UP = Ultra High Performance	ΔP = Pressure increase (Pa)				
n = Number of fans	I nom = Nominal current (A)				
W = Power consumption	I max = Residual current (A)				
V = Voltage (400V = 3-phase)	p = Sound pressure (dB(A) distance from the rack 1 m (600 mm x 600 mm; raised cover)				



LUF20135

## Knürr CoolBlast® Filter for Front Intake

- For use with air-flow routing via front intake.
- Can be retrofitted; filter can also be replaced during operation.

■ **Filter class**  
– G2.

■ **Material**  
Viledon K15/150.

■ **Standard inclusion**  
– 1 x filter.

■ **Delivery**  
– Single items.

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



LUF00280

## Replacement Filter

- For 19" filter insert.

■ **Material**  
– Filter: Viledon P 15/150.

■ **Filter class**  
– G2.

■ **Standard inclusion**  
– 1 x filter.

■ **Delivery**  
– Single items.

W	H	D	kg	W	n	Model	Order No.	UP
		282					<b>03.025.246.9</b>	1 unit
		660					<b>03.025.249.9</b>	1 unit



LUF20194

## Silent Top-mounting Fan

- Used for applications with silent environment (e. g. offices).
- Suitable for installation in Miracel.
- High volume flow with low noise generation (e.g. for office applications).

■ **Material / Finish**  
– Sheet steel.

■ **Technical data for single fan**  
– Max. volume flow (free blowing): ~1500 m³/h.  
– Voltage / frequency: 230 V / 50 Hz.  
– Power consumption: 117 W.  
– Noise level: 40 dB(A).  
– Temperature range: -25 to 40°C.

■ **Finish / Color**  
– Final digit of order number 1:  
powder-coated, RAL 7035 light-grey.  
– Final digit of order number .8:  
powder-coated, RAL 7021 dark-grey.

■ **Standard inclusion**  
– 1 x top-mounting fan.  
– 1 x mains cable, 3 m with safety plug (230 VAC).  
– 1 x Mounting kit.

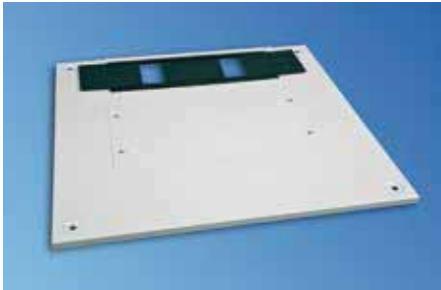
■ **Delivery**  
– In sets.

■ **Note**  
Please also order suitable cover panel.



LUF20195

W	H	D	For rack type	Order No.	UP
449	237	490	Miracel	<b>03.028.111.X</b>	1 unit



LUF20163



LUF20195

## Fan Top Cover for Silent, Top-mounting Fan

- Used with silent-fan top cover.
- Suitable for installation in Miracel.
- With cable routing (sliding plate).
- Two-part cover to facilitate retrofitting and servicing.

### Material / Finish

- Sheet steel.

### Finish / Color

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

### Standard inclusion

- 1 x cover panel with cover strip and cable entry.
- 1 x Mounting kit.

### Delivery

- In sets.

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



LUF20180

## Knürr CoolBlast® Fan Installation Kit with Thermostat

- For flexible positioned ventilation of racks.
- Miracel / Tecoras Indoor.
- Installed in the top cover area.
- No loss of 19" installation space.
- Retrofitting also possible.
- With 2 fans (160 m³/h per fan).

### Material / Finish

- Sheet steel, 1.5 mm, zinc passivated.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/336/EEC.

### Technical data for thermostat

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

### Standard inclusion

- 1 x mounting panel for fans.
- 2 x fans.
- 1 x connection cable, 2.0 m with safety plug.
- Type 1: with thermostat.
- Type 2: without thermostat.
- 1 x Mounting kit.

### Delivery

- Assembled, wired and tested.

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



LUF20057



LUF20058

## Filter Fan

- For specific use where hot spots occur.
- Also suitable for retrofitting, quick and easy.
- The filter mats provide high-level filtration, are easily exchanged and can be cleaned.
- These maintenance-free fans feature a long service life and low noise levels.
- Air-flow routing: blows into the rack (pre-set).
- Can be used to draw in or move air out.

### Material

- Heat-resistant ABS plastic, UL 94 V-0.

### Color

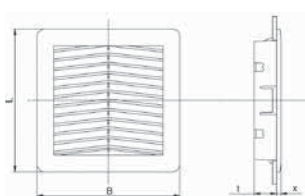
- RAL 7035 light-grey.

### Compliance

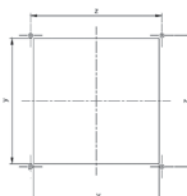
- CE marking.

### Protection rating

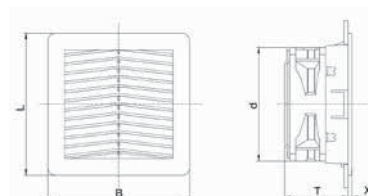
- IP 54.



LUF80011



LUF800040



LUF80012

LxW	D/l/x	y/z	kg	Max. AF	El. conn.	L	G	N	Service life/40°	Model	Order No.	UP
150 x 150	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
204 x 204	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
250 x 250	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
325 x 325	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
150 x 150	24/5	125/131	0.140							Exit filter	<b>03.026.511.1</b>	1 unit
204 x 204	20.5/5.7	177/185	0.275							Exit filter	<b>03.026.512.1</b>	1 unit
250 x 250	25/6	233/230	0.440							Exit filter	<b>03.026.513.1</b>	1 unit
325 x 325	26/7	291/302	0.780							Exit filter	<b>03.026.514.1</b>	1 unit
150 x 150										Replacement filter mat	<b>03.026.521.9</b>	6 unit
204 x 204										Replacement filter mat	<b>03.026.522.9</b>	6 unit
250 x 250										Replacement filter mat	<b>03.026.523.9</b>	6 unit
325 x 325										Replacement filter mat	<b>03.026.524.9</b>	6 unit

### Dimensions in mm:

W = Width	h = Installation height	U = Standard rack unit	kg = Weight
H = Height	d = Usable depth	(1 U = 44.45 mm)	
D = Depth	L = Length	UP = Packaging unit	
SP = Standard Performance	V' = Air-flow volume (m³/h)		
HP = High Performance	ΔV' = Air-flow volume loss (%)		
UP = Ultra High Performance	ΔP = Pressure increase (Pa)		
n = Number of fans	I nom = Nominal current (A)		
W = Power consumption	I max = Residual current (A)		
V = Voltage (400V = 3-phase)	p = Sound pressure (dB(A) distance from the rack 1 m (600 mm x 600 mm; raised cover)		

### Conversion:

1 mm = 0.03937 inch
1 kg = 2.2046 pounds



LUF00237a

## Temperature Module

- For monitoring the inside temperature of the rack.
- Temperature display (+ 10°C to + 70°C).
- Alarm temperature set via potentiometer at the front.
- Visual alarm display (LED red).
- Alarm signaling via potential-free switching contact (1 changeover contact 250 VAC / 8 A).
- Power supply 230 V / 50 Hz.

### Material

- Plastic.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/336/EEC.

### Standard inclusion

- 1 x Temperature module.
- 1 x Temperature sensor (3 m).

### Delivery

- Assembled, wired and tested.

W	H	D	LxW	kg	W	n	Model	Order No.	UP
								01.117.525.1	1 unit



LUF00256

## 19" Front Plate 1 U for Temperature Module

- For temperature module installation.

### Material / Finish

- Sheet steel, 1.5 mm, powder-coated texture.

### Color

- RAL 7035 light-grey.

### Standard inclusion

- 1 x 19" front plate.

W	H	D	LxW	kg	W	n	Model	Order No.	UP
								01.117.526.1	1 unit



LUF00255

## Bracket for Temperature Module

- For non-standard temperature module installation, e.g., on the side of the 19" extrusion.

### Material / Finish

- Aluminum, 2 mm, polished.

### Standard inclusion

- 1 x bracket.
- 1 x Mounting kit.

### Delivery

- In sets.

W	H	D	LxW	kg	W	n	Model	Order No.	UP
								01.117.527.0	1 unit



LUF20000

## Thermostat

- For monitoring the inside temperature of the rack with respect to slot-in units and heating fans.
- Setting range: + 10°C to + 60°C.
- Switching temperature difference (hysteresis) 2 K.
- Contact type: 1 changeover contact.
- Sensor: thermo-bimetal.
- Contact rating: 230 VAC/10 A (heating), 5 A (cooling).
- Interference suppression: compliant with DIN 55014.

### Material

- Plastic.

### Protection rating

- IP 30.

### Compliance

- CE marking compliant with Low Voltage Directive 73/23/EEC; EMC directive 89/336/EEC.

### Dimensions

- 74 x 74 x 23 mm.

### Standard inclusion

- 1 x thermostat.
- 1 x mounting bracket.
- 1 x Mounting kit.

W	H	D	LxW	kg	W	n	Model	Order No.	UP
								01.113.384.3	1 unit



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



DOS00519

## Euro Plug 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



DOS00078

## Euro Mains Cable for British Standard

- Mains plug: Type BS 1363 - IEC320 Euro socket.
- 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

Dimensions in mm:				Conversion:
W = Width	h = Installation height	U = Standard rack unit	kg = Weight	1 mm = 0.03937 inch
H = Height	d = Usable depth	(1 U = 44.45 mm)		1 kg = 2.2046 pounds
D = Depth	L = Length	UP = Packaging unit		
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n = Number of fans	I nom = Nominal current (A)			
W = Power consumption	I max = Residual current (A)			
V = Voltage (400V = 3-phase)	p = Sound pressure (dB(A) distance from the rack 1 m (600 mm x 600 mm; raised cover)			