

**Permanent availability** of your IT systems is undoubtedly crucial.

This is your company's heartbeat, it is important to ensure stable conditions for your complex system architecture. Rittal combines the key elementary infrastructure components to create an extremely variable, and above all secure system:

**Networking, Rack, Power, Cooling, Security,**

**Monitoring & Remote Management.**

With Rittal, a high level of IT availability is guaranteed.



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# Networking

## System comparison of enclosures

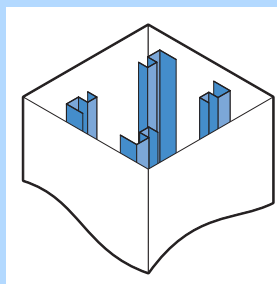
### Plan with the best network enclosure

#### for your requirements!

Customers' requirements of IT enclosures can be extremely varied. With this in mind, Rittal offers **three different system platforms with outstanding design features** for a variety of applications.

Rittal system comparison	TE 7000	TS 8	FR(i)
One platform for all requirements in the IT market			
<b>Load capacity</b>			
up to 400/700 kg	■■■	■■■	■■■
up to 1000 kg		■■■	■■■
<b>Baying</b>			
Side to side	■■■	■■■	■■■
In all levels		■■■	
<b>Climate control</b>			
Fans	■■■	■■■	■■■
Climate control device		■■■	
Air/water heat exchanger		■■■	
CPU liquid cooling		■■■	■■■
<b>Cabling</b>			
Cable space	■■■	■■	■■
Cable management	■■■	■■■	■■■
<b>Lock system</b>			
2-point	■■■	■■■	■■■
4-point		■■■	
<b>Security</b>			
Access control	■■■	■■■	■■■
Thermal management	■■■	■■■	■■■
<b>Dismantling</b>	■■■		■■
<b>Interior installation</b>			
Depth-variable	■■■	■■■	■■■
Partial installation		■■■	■
2-level principle		■■■	■
<b>Aesthetics</b>	■■	■■	■■■
<b>Standards</b>			
IEC 60 297-1-2	■■■	■■■	■■■
<b>Protection categories</b>	IP 20	■■	■■■
	IP 40		■■■
	IP 55		■■■

### TE 7000



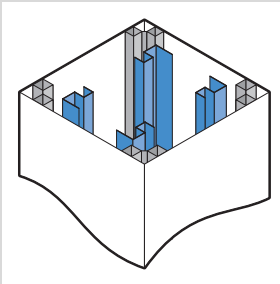
#### TE 7000 – Top efficiency, the global IT rack

Ready to use for network distribution. As little as possible, as much as necessary – the rack for rational, cost-effective cabling.

- At its core is the robust frame comprising two 482.6 mm (19") mounting levels.
- Two-point locking rod, optionally with Ergoform-S handle system.
- System accessories ensure fast, versatile configuration.

Network enclosures TE 7000, see page 740.

### Rittal TS 8



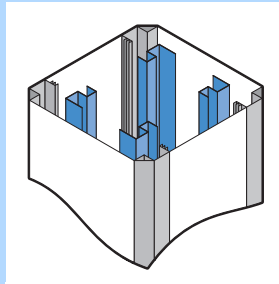
#### TS 8 – The Top enclosure system

This offers diversity and protection for your network, based on the ingenious rack profile. With two levels, it facilitates unlimited interior installation.

- Suitable for one or two 482.6 mm (19") mounting levels, partial or full installation.
- The ingenious symmetry concept of the frame offers baying on all sides.
- A high level of security, thanks to lock systems with a comfort handle and 4-point locking.
- Perfect integration of climate control components.
- Protection category up to IP 55.

Network enclosures TS 8, see page 745.

### Rittal flexRack(i)



#### flexRack(i) – The high-end designer rack

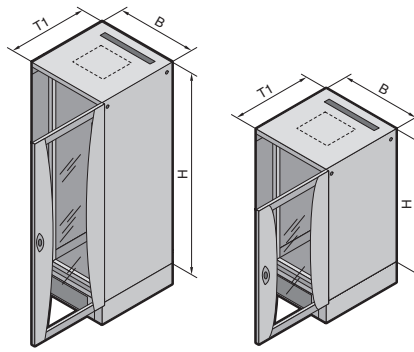
A stylish design, a high degree of stability, plus futuristic technology – with the hollow aluminium section.

- Cables may be routed and system accessories integrated within the hollow chamber of the frame section.
- Power management integrated directly into the frame section. Three-phase infeed using the plug & play system, with no loss of enclosure volume.

Network enclosures flexRack(i), see page 752.

# Networking

## Network enclosures, based on Rittal TE 7000, pre-configured



### Benefits:



- 19" mounting angles front and rear always included
- No frame structure, optimum accessibility
- Load capacity up to 400 kg, static
- Pre-configured solution, including extensive accessory kit

### Material:

Sheet steel

### Surface finish:

Mounting frame:  
Electrophoretic dipcoat-primed  
Enclosure panels:  
Powder-coated, RAL 7035

	Pre-configured	Pre-configured	Page
			

	Pre-configured	Pre-configured	Page
<b>U</b>	24	42	
<b>Width (B) mm<sup>1)</sup></b>	800	800	
<b>Height (H) mm<sup>1)</sup></b>	1200	2000	
<b>Depth (T1) mm<sup>1)</sup></b>	800	800	
Distance between 482.6 mm (19") mounting angles in its delivered state mm	495	495	
<b>Model No. TE</b>	<b>7000.840</b>	<b>7000.850</b>	
<b>Model No. TE as bayed enclosure without side panels, including baying kit</b>	–	<b>7000.852</b>	

### Supply includes

Self-supporting 482.6 mm (19") frame structure, depth-variable at the front and rear	■	■	
Glazed door at the front, including 130° hinge, two-point locking rod, recessed handle and security lock 3524 E	■	■	
Sheet steel door at the rear, including 130° hinge, two-point locking rod and security lock 3524 E	■	■	
Pluggable weight-reduced side panels, including security lock 3524 E	■	■ (7000.850 only)	
Base frame with maximum cut-out (for optional population with modular panels, solid, with passive ventilation or for cable entry)	■	■	
Roof plate including brush strip for cable entry and concealed cut-out for population via the active fan plate	■	■	
4 levelling feet (including base/plinth adaptor) supplied loose	■	■	
Spacers, 20 mm, supplied loose to raise the roof	■	■	
Base/plinth 100 mm, vented	■	■	
Tested frame earthing to EN 60 950, fitted	■	■	

### Accessory kit

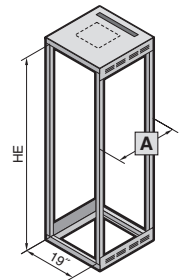
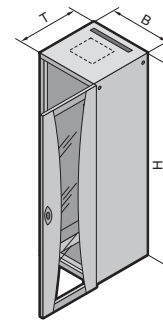
4 C rails, for cable clamping in the enclosure depth via cable clamps, supplied loose	■	■	
10 cable shunting rings made of plastic, 105 x 70 mm, supplied loose	■	■	
50 captive nuts, M6, conductive, supplied loose	■	■	
50 multi-tooth screws, M6, with plastic washers, supplied loose	■	■	

### Premium accessories TE, for direct mounting in the delivered state

Ergoform-S handle for semi-cylinder, to exchange for the existing lock	2435.000	2435.000	953
Fan module, with 2 fans and thermostat, pre-wired ready for connection	7000.670	7000.670	705
Slide rail for TE, for attachment between the 482.6 mm (19") mounting frames, length 424 mm	7963.410	7963.410	1098
19" component shelf for static installation, for direct screw fastening without an installation kit, 412 mm deep, load capacity 30 kg, static	7000.620	7000.620	1018
Punched section with mounting flange 17 x 73 mm, for mounting installation components, attached in the enclosure depth between the 482.6 mm (19") mounting frames	8612.040	8612.040	993
C rail, for cable clamping in the enclosure depth via cable clamps	■	■	
C rail, for cable clamping in the enclosure width via cable clamps, on the 482.6 mm (19") mounting frame at the rear	7828.060	7828.060	1000
Cable clamp rail, depth-variable 325 – 575 mm, for cable attachment in the enclosure depth via cable ties	7858.160	7858.160	1068
Cable clamp rail, for cable attachment in the enclosure width via cable ties, on the 482.6 mm (19") mounting frame at the rear	7828.062	7828.062	1068
Earthing kit for TE	■	■	
Economy socket strip, 8-way for earthing-pin plugs (German version only)	7000.630	7000.630	1041

■ Included with the supply. <sup>1)</sup> All sizes are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

## Network enclosures, based on Rittal TE 7000, width 600



**A** = Defined mounting distance for Premium accessories, see below.

### Benefits:

- Configured to order
- No frame structure, optimum accessibility
- Load capacity up to 400 kg, static

### Material:

Sheet steel

### Surface finish:

Mounting frame:  
Electrophoretic dipcoat-primed  
Enclosure panels: Powder-coated, RAL 7035/RAL 9005

### Supply includes:

Self-supporting 482.6 mm (19") frame structure, glazed door at the front, two-point locking rod,

recessed handle and security lock 3524 E, sheet steel door at rear, two-point locking rod and security lock 3524 E, plug-in side panels with security lock 3524 E, base frame with maximum cut-out (for optional population with module plates), roof plate for cable entry with concealed cut-out for fan,

levelling feet, spacers for raising the cover plate.

**Detailed drawing,** available on the Internet.

<b>U (HE)</b>	11	11	24	24	42	42	47	47	
<b>Width (B) mm<sup>1)</sup></b>	600	600	600	600	600	600	600	600	
<b>Height (H) mm<sup>1)</sup></b>	600	600	1200	1200	2000	2000	2200	2200	
<b>Depth (T) mm<sup>1)</sup></b>	600	800	600	800	600	800	600	800	
Distance between 482.6 mm (19") levels in its delivered state <b>A</b> mm	495	495	495	495	495	495	495	495	
<b>Model No. TE, RAL 7035</b>	<b>7000.390</b>	<b>7000.410</b>	<b>7000.430</b>	<b>7000.440</b>	<b>7000.500</b>	<b>7000.510</b>	<b>7000.560</b>	<b>7000.570</b>	
<b>Model No. TE as a bayed enclosure without side panels, including baying kit, RAL 7035</b>	-	-	-	-	<b>7000.502</b>	-	<b>7000.562</b>	-	
<b>Model No. TE including side panels, RAL 9005</b>	-	-	-	-	<b>7000.505<sup>2)</sup></b>	<b>7000.515<sup>2)</sup></b>	-	-	

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet. <sup>2)</sup> Delivery times available on request.

**A** 495 mm – this is the distance between the two 482.6 mm (19") levels for all enclosure formats in their delivered state. Complies with TS 8 nominal depth 400 mm, inner level.

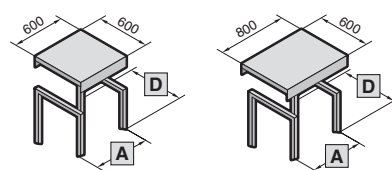
**B** Pitch spacing 50 mm. The distance between the two 482.6 mm (19") levels may be varied in increments of 50 mm (445 to 695 mm).

**C** Distance from door: 52.5 mm for depth 600  
152.5 mm for depth 800

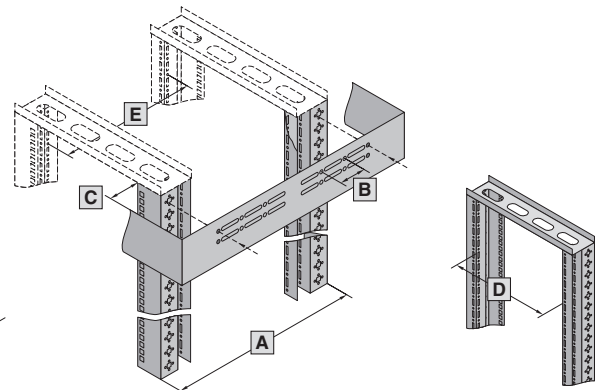
**D** The mounting distance in a rear mounting frame, horizontal, corresponds to the frame mounting dimensions of a 600 mm wide TS 8 (inner level, 512 mm).

**E** = **A** – 120 mm

The distance between levels is freely selectable via the slot fastening. All key mounting components – punched sections with mounting flanges, installation kits, slide rails, component shelves – are also available in a depth-variable version.

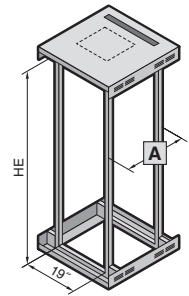
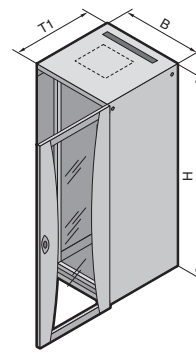


**German registered design no. M 403 07 489**



# Networking

## Network enclosures, based on Rittal TE 7000, width 800



**A** = Defined mounting distance for Premium accessories, see below.

### Benefits:

- Configured to order
- No frame structure, optimum accessibility
- Load capacity up to 400 kg, static

### Material:

Sheet steel

### Surface finish:

Mounting frame: Electrophoretic dipcoat-primed  
Enclosure panels: Powder-coated, RAL 7035/RAL 9005.

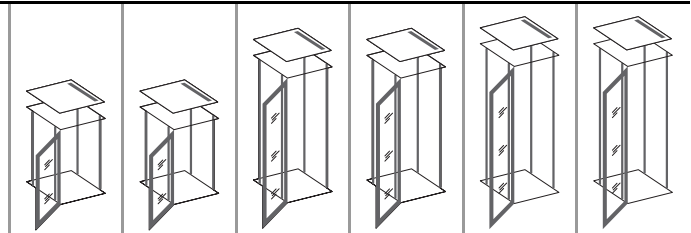
### Supply includes:

Self-supporting 482.6 mm (19") frame structure, glazed door at the front,

two-point locking rod, recessed handle and security lock 3524 E, sheet steel door at rear, two-point locking rod and security lock 3524 E, plug-in side panels with security lock 3524 E, base frame with maximum cut-out (for optional population with module plates), roof plate for cable entry with concealed cut-

out for fan, levelling feet, spacers for raising the cover plate.

**Detailed drawing,** available on the Internet.



<b>U (HE)</b>	24	24	42	42	47	47
<b>Width (B) mm<sup>1)</sup></b>	800	800	800	800	800	800
<b>Height (H) mm<sup>1)</sup></b>	1200	1200	2000	2000	2200	2200
<b>Depth (T1) mm<sup>1)</sup></b>	600	800	600	800	600	800
Distance between 482.6 mm (19") levels in its delivered state <b>A</b> mm	495	495	495	495	495	495
<b>Model No. TE, RAL 7035</b>	<b>7000.450</b>	<b>7000.460</b>	<b>7000.520</b>	<b>7000.530</b>	<b>7000.580</b>	<b>7000.590</b>
<b>Model No. TE as a bayed enclosure without side panels, including baying kit, RAL 7035</b>	-	-	-	<b>7000.532</b>	-	<b>7000.592</b>
<b>Model No. TE including side panels, RAL 9005</b>	-	-	<b>7000.525<sup>2)</sup></b>	<b>7000.535<sup>2)</sup></b>	-	-

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet. <sup>2)</sup> Delivery times available on request.

**A** 495 mm – This is the distance between the two 482.6 mm (19") levels for all enclosure formats in their delivered state. Complies with TS 8 nominal depth 400 mm, inner level.

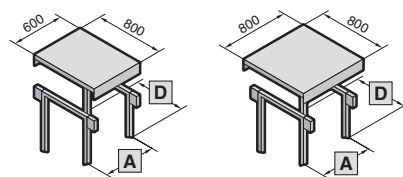
**B** Pitch spacing 50 mm. The distance between the two 482.6 mm (19") levels may be varied in increments of 50 mm (445 to 695 mm).

**C** Distance from door: 52.5 mm for depth 600  
152.5 mm for depth 800

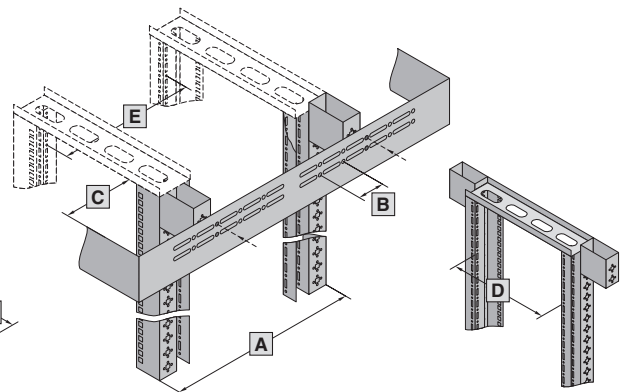
**D** The mounting distance in a rear mounting frame, horizontal, corresponds to the frame mounting dimensions of a 600 mm wide TS 8 (inner level, 512 mm).

**E** = **A** – 120 mm

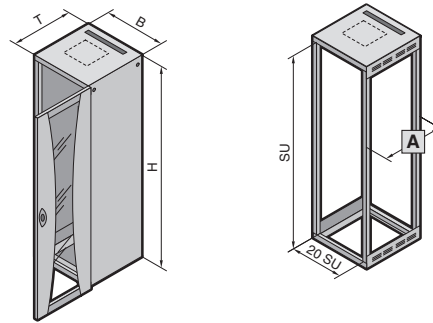
The distance between levels is freely selectable via the slot fastening. All key mounting components – punched sections with mounting flanges, installation kits, slide rails, component shelves – are also available in a depth-variable version.



### German registered design no. M 403 07 489



## Network enclosures, based on Rittal TE 7000, metric attachment levels



### Benefits:

- Configured to order
- No frame structure, optimum accessibility
- Load capacity up to 400 kg, static

### Material:

Sheet steel

### Surface finish:

Nanoceramic coating, electrophoretic dipcoat-priming, powder-coating in RAL 7035.



### Supply includes:

Self-supporting metric frame structure, glazed door at the front, two-point locking rod, recessed handle and security lock 3524 E,

sheet steel door at rear, two-point locking rod and security lock 3524 E, plug-in side panels with security lock 3524 E, base frame with maximum cut-out (for optional population with module plates), roof plate for cable entry with concealed cut-out for fan, spacers for raising the cover plate, levelling feet.

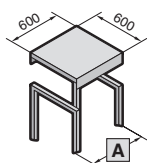
### Detailed drawing,

available on the Internet.

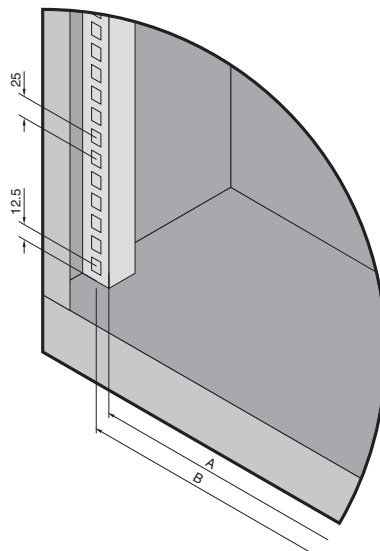
		
<b>SU</b>	76	82
<b>Width (B) mm<sup>2)</sup></b>	600	600
<b>Height (H) mm<sup>2)</sup></b>	2000	2200
<b>Depth (T) mm<sup>2)</sup></b>	600	600
Distance between metric levels as delivered <b>A</b> mm	495	495
<b>Model No. TE</b>	<b>7000.508<sup>1)</sup></b>	<b>7000.568<sup>1)</sup></b>
<b>Model No. TE as bayed enclosure without side panels, including baying kit</b>	<b>7000.504<sup>1)</sup></b>	<b>7000.564<sup>1)</sup></b>

<sup>1)</sup> Delivery times on request. <sup>2)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

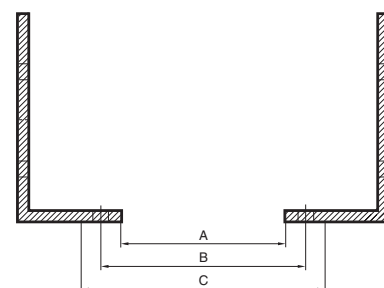
**A** 495 mm – This is the distance between the two metric levels for all enclosure formats in their delivered state. Complies with TS 8 nominal depth 400 mm, inner level. The distance between levels is freely selectable via the slot fastening.



### Size systems



### Explanation of the fastening dimensions Interior installations

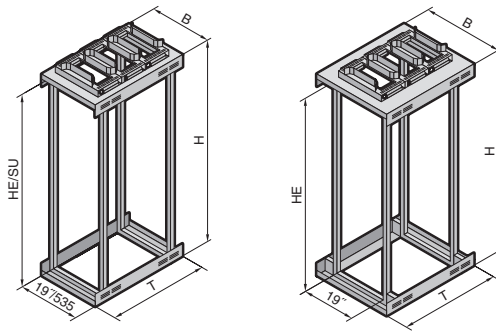


Installation width	A mm	B mm	C mm
20 SU	500	515	535

A = Clearance width  
B = Mounting dimension  
C = External dimension of slide-in equipment or front panel

# Networking

## TE 7000 open



### Benefits:

Unlimited applications covering all tasks in the IT sector. Both as a network distribution frame with maximum accessibility from all sides for assembly and installation, and as a server rack with a high load capacity of up to 700 kg. Unrestricted airflow, due to the open design. The standard cable trays in the roof area mean that even large quantities of cables are easily routed to the various levels without kinks.

In a bayed configuration, the 800 mm width in particular offers plenty of space for cable routing between units. There is an extensive range of accessories available for individual cable management solutions. The distance between attachment levels is infinitely variable.

### Material:

Sheet steel

### Surface finish:

Powder-coated, RAL 7035





### Load capacity:

700 kg, static

### Supply includes:

Self-supporting frame structure, with a 482.6 mm (19") or metric attachment level front and rear depending on the design. Open roof frame for cable entry, 3 cable routing trays. Open base frame with 2 punched sections with mounting flanges for individual configuration in the width, levelling feet.

**Detailed drawing,** available on the Internet.

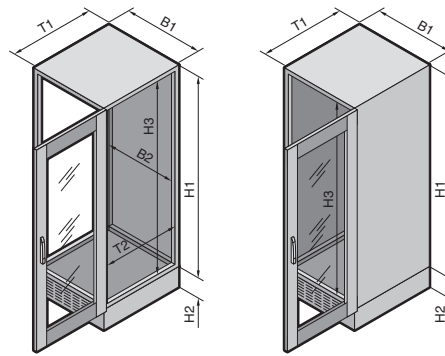
				
<b>U/SU (HE/SU)</b>	42/76	47/82	42/-	47/-
<b>Width (B) mm</b>	600	600	800	800
<b>Height<sup>3)</sup> (H) mm</b>	2000	2200	2000	2200
<b>Depth (T) mm</b>	1000	1000	1000	1000
<b>Distance between levels (mm) as delivered</b>	745	745	745	745
<b>Model No. TE with 482.6 mm (19") attachment level</b>	<b>7000.940</b>	<b>7000.942</b>	<b>7000.944</b>	<b>7000.946</b>
<b>Model No. TE with metric (535 mm) attachment level</b>	<b>7000.960<sup>1)</sup></b>	<b>7000.962<sup>1)</sup></b>	-	-
<b>482.6 mm (19") accessories</b>	Packs of			
Cable management panel 482.6 mm (19"), 1 U for horizontal cable routing, with 5 steel rings, zinc-plated, passivated, size 100 x 37 mm	1	7257.035	7257.035	7257.035
Cable management panel 482.6 mm (19"), 2 U for horizontal cable routing, with 5 steel rings, zinc-plated, passivated, size 120 x 80 mm	1	7257.100	7257.100	7257.100
Shunting rings to accommodate large quantities of cables, or mounting on the side of the mounting frame, dimension 300 x 90 mm	2	7220.600	7220.600	7220.600
Cable management panel 482.6 mm (19"), 2 U for horizontal cable routing, with removable front panel	1	7158.100	7158.100	7158.100
Component shelf 482.6 mm (19"), 1/2 U static installation, depth-variable in the range from 600 – 900 mm	1	7063.720 <sup>2)</sup>	7063.720 <sup>2)</sup>	7063.720
Slide rail 482.6 mm (19"), load capacity 100 kg, static for distance between 482.6 mm (19") levels (internal) 740 mm	2	7063.740 <sup>2)</sup>	7063.740 <sup>2)</sup>	7063.740
Slide rail 482.6 mm (19"), depth-variable within the range from 590 – 930 mm, load capacity 80 kg, static	2	7063.883 <sup>2)</sup>	7063.883 <sup>2)</sup>	7063.883
C rail, variable within the range 450 – 850 mm	1	7016.140	7016.140	7016.140
T-head rail, variable within the range 450 – 850 mm	1	7016.150	7016.150	7016.150
Cable route for vertical cable management, for mounting at the side rear of the 482.6 mm (19") mounting frame, W = 100 mm, H = 1700 mm	1 set	7000.685	7000.685	7000.685

<sup>1)</sup> Delivery times available on request.

<sup>2)</sup> Not suitable for use with a metric attachment level.

<sup>3)</sup> Plus 100 mm roof-mounting/cable-routing trays.

## Network enclosures, based on Rittal TS 8, pre-configured



### Material:

Sheet steel

### Surface finish:

Enclosure frame:  
Dipcoat-primed  
Doors, roof and base/plinth:  
Dipcoat-primed,  
powder-coated in RAL 7035  
Gland plates, punched sections  
with mounting flanges and  
mounting angles:  
Zinc-plated, passivated

### Supply includes:

Enclosure frame with doors or rear panel, roof plate, vented base/plinth 100 mm, earthing of all enclosure panels;  
Supplied loose:  
Levelling feet incl. base/plinth adaptor,  
4 spacers for raising the roof,  
4 cable clamp rails for the inner frame level,  
10 cable shunting rings (105 x 70 mm, plastic, for DK 7930.100 in 44 x 70 mm),  
50 captive nuts M6, conductive,  
50 multi-tooth screws M6.

### Version 1

Designer glazed door at the front, 180°, with comfort handle for semi-cylinder and security lock 3524 E;  
Sheet steel door at the rear, 130°, with swivel handle and security lock 3524 E.  
482.6 mm (19") mounting angles, front, fitted approx. 150 mm behind the frame front edge, screw-fastened to the TS punched sections with mounting flange as depth stays.  
Gland plate, one-piece, vented, with cable entry.

### Version 2

Designer glazed door at the front, 180°, with comfort handle for semi-cylinder and security lock 3524 E;  
Sheet steel door at the rear, 130°, with swivel handle and security lock 3524 E.  
482.6 mm (19") mounting angles at the front and rear, distance between levels pre-configured at 498 mm. Cranked mounting angles screw-fastened to installation brackets approx. 150 mm behind the frame front edge.  
Gland plate at the front, fitted as an infill panel.

**Detailed drawing,**  
available on the Internet.

	Version 1	Version 2	Version 2	Version 2
<b>U</b>	24	38	42	47
<b>Width (B1) mm<sup>1)</sup></b>	600	800	800	800
<b>Height (H1 + H2) mm<sup>1)</sup></b>	1200 + 100	1800 + 100	2000 + 100	2200 + 100
<b>Depth (T1) mm<sup>1)</sup></b>	600	800	800	800
Clearance width (B2) mm	512	712	712	712
Clearance height (H3) mm	1112	1712	1912	2112
Clearance depth (T2) mm	512	712	712	712
<b>Model No. DK including 2 plug-in side panels, with security lock 3524 E</b>	<b>7930.100<sup>3)</sup></b>	<b>7930.800<sup>3)</sup></b>	<b>7930.200<sup>3)</sup></b>	<b>7930.220<sup>3)</sup></b>
<b>Model No. DK as bayed enclosure without side panels, including baying kit TS 8800.500</b>	<b>-</b>	<b>7930.850<sup>2)3)</sup></b>	<b>7930.250<sup>3)</sup></b>	<b>7930.270<sup>2)3)</sup></b>

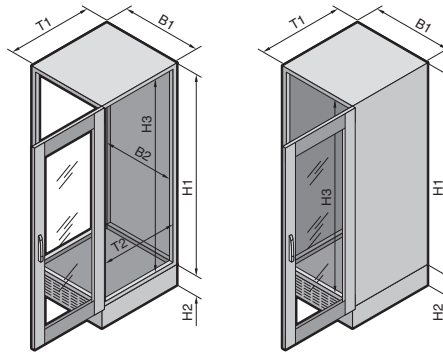
<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

<sup>3)</sup> Glazed aluminium door, delivery times available on request.

# Networking

## Network enclosures, based on Rittal TS 8, pre-configured



**Material:**

Sheet steel

**Surface finish:**

Enclosure frame:  
Dipcoat-primed  
Doors, roof and base/plinth:  
Dipcoat-primed,  
powder-coated in RAL 7035  
Gland plates, punched sections  
with mounting flanges and  
mounting angles:  
Zinc-plated, passivated

**Supply includes:**

Enclosure frame with doors or  
rear panel, roof plate,  
vented base/plinth 100 mm,  
earthing of all enclosure panels;  
Supplied loose:  
Levelling feet incl. base/plinth  
adaptor,  
4 spacers for raising the roof,  
4 cable clamp rails for the inner  
frame level,  
10 cable shunting rings  
(105 x 70 mm, plastic)  
50 captive nuts M6, conductive,  
50 multi-tooth screws M6.

**Version 3**

Glazed front door, vented, 180°,  
with comfort handle for semi-cyl-  
inder and security lock 3524 E;  
Sheet steel door at the rear,  
vented, 180°, with swivel handle  
and security lock 3524 E.  
482.6 mm (19") mounting angles  
at the front and rear, distance  
between levels pre-configured  
at 740 mm.  
L-shaped mounting angles  
screw-fastened to 2 or 3 depth  
stays respectively.  
Gland plate, one-piece, vented,  
with cable entry.

**Detailed drawing,**

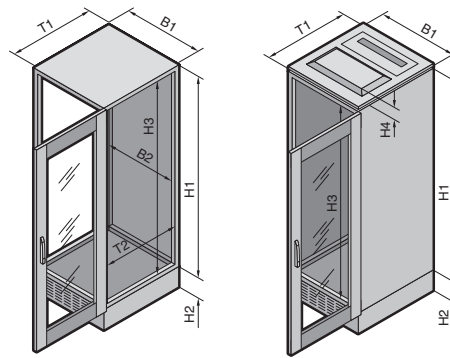
available on the Internet.

	Version 3	Version 3	Version 3	Version 3	Version 3
<b>U</b>	24	42	42	47	47
<b>Width (B1) mm<sup>1)</sup></b>	800	800	800	800	800
<b>Height (H1 + H2) mm<sup>1)</sup></b>	1200 + 100	2000 + 100	2000 + 100	2200 + 100	2200 + 100
<b>Depth (T1) mm<sup>1)</sup></b>	900	900	1000	900	1000
Clearance width (B2) mm	712	712	712	712	712
Clearance height (H3) mm	1112	1912	1912	2112	2112
Clearance depth (T2) mm	812	812	912	812	912
<b>Model No. DK including 2 plug-in side panels, with security lock 3524 E</b>	<b>7830.120</b>	<b>7830.300</b>	<b>7830.330</b>	<b>7830.320<sup>2)</sup></b>	<b>7830.340<sup>2)</sup></b>
<b>Model No. DK as bayed enclosure without side panels, including baying kit TS 8800.500</b>	<b>-</b>	<b>7830.350</b>	<b>7830.335</b>	<b>7830.370<sup>2)</sup></b>	<b>7830.380<sup>2)</sup></b>

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

## Network enclosures, based on Rittal TS 8, pre-configured



### Material:

Sheet steel

### Surface finish:

Enclosure frame:  
Dipcoat-primed  
Doors, roof and base/plinth:  
Dipcoat-primed,  
powder-coated in RAL 7035  
Gland plates, punched sections  
with mounting flanges and  
mounting angles:  
Zinc-plated, passivated

### Supply includes:

Enclosure frame with doors or  
rear panel, roof plate,  
vented base/plinth 100 mm,  
earthing of all enclosure panels;  
Supplied loose:  
Levelling feet incl. base/plinth  
adaptor,  
4 spacers for raising the roof  
or vent panel,  
4 cable clamp rails for the inner  
frame level,  
10 cable shunting rings  
(105 x 70 mm, plastic)  
50 captive nuts M6, conductive,  
50 multi-tooth screws M6.

### Version 4

Designer glazed door at the  
front, 180°, with comfort handle  
for semi-cylinder and security  
lock 3524 E;  
Sheet steel door at the rear,  
130°, with swivel handle and  
security lock 3524 E.  
Empty enclosure for individual  
configuration, 482.6 mm (19")/  
metric partial installation or a  
combination of mounting angles/  
482.6 mm (19") mounting frames  
supported. Gland plate at the  
front, fitted as an infill panel.

### Version 5

Designer glazed door at the  
front, 180°, with comfort handle  
for semi-cylinder and security  
lock 3524 E;  
Sheet steel door at the rear,  
130°, with swivel handle and  
security lock 3524 E.  
482.6 mm (19") mounting angles  
at the front and rear, distance  
between levels pre-configured  
at 598 mm.  
L-shaped mounting angles  
screw-fastened to depth stays  
in the centre. Roof plate with cut-  
out for fan insert and vent panel  
on spacers. Gland plate at the  
front, fitted as an infill panel.

### Version 6

Designer glazed door at the  
front 180°, with comfort handle  
for semi-cylinder and security  
lock 3524 E.  
Sheet steel rear panel.  
Swing frame, large, with side  
trim panel for the installation of  
482.6 mm (19") mounting com-  
ponents whilst utilising the full  
enclosure height (130°, 150 kg).  
Full installation at the front, rear  
panel, including swing frame  
installation kit SR 1995.825 up to  
150 kg total load capacity, static.  
Roof plate with cut-out for fan  
insert and vent panel on spacer-  
s. Gland plate, one-piece,  
vented, with cable entry.

**Detailed drawing,**  
available on the Internet.

	Version 4	Version 5	Version 6
<b>U</b>			
<b>Width</b> (B1) mm <sup>1)</sup>	42	42	40
<b>Height</b> (H1 + H2) mm, (H1 + H2 + H4) mm <sup>1)</sup>	800	800	800
<b>Depth</b> (T1) mm <sup>1)</sup>	2000 + 100	2000 + 100 + 25	2000 + 100 + 25
Clearance width (B2) mm	800	800	800
Clearance height (H3) mm	712	712	712
Clearance depth (T2) mm	712	712	712
<b>Model No. DK including 2 plug-in side panels, with security lock 3524 E</b>	<b>7930.400<sup>3)</sup></b>	<b>7930.500<sup>3)</sup></b>	<b>7930.660<sup>3)</sup></b>
<b>Model No. DK as bayed enclosure without side panels, including baying kit TS 8800.500</b>	<b>-</b>	<b>7930.550<sup>2)3)</sup></b>	<b>7930.670<sup>2)3)</sup></b>

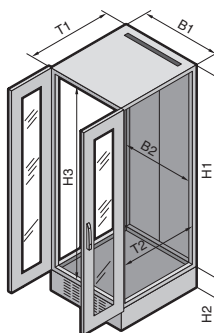
<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

<sup>3)</sup> Glazed aluminium door, delivery times available on request.

# Networking

## Network enclosures, based on Rittal TS 8, pre-configured



**Material:**

Sheet steel

**Surface finish:**

Enclosure frame:  
Dipcoat-primed  
Doors, roof and base/plinth:  
Dipcoat-primed,  
powder-coated in RAL 7035  
Gland plates, punched sections  
with mounting flanges and  
mounting angles:  
Zinc-plated, passivated

**Supply includes:**

Enclosure frame with doors or rear panel, roof plate, vented base/plinth 100 mm, earthing of all enclosure panels;  
Supplied loose:  
Levelling feet incl. base/plinth adaptor,  
4 spacers for raising the roof,  
4 cable clamp rails for the inner frame level,  
10 cable shunting rings (105 x 70 mm, plastic)  
50 captive nuts M6, conductive,  
50 multi-tooth screws M6.

**Version 7**

Glazed front door, vertically divided, 180°, sheet steel rear door, vertically divided, 180°. 482.6 mm (19") mounting angles at the front and rear, distance between levels pre-configured at 498 mm.  
Cranked mounting angles screw-fastened to installation brackets approx. 150 mm behind the frame front edge.  
Gland plate at the front, fitted as an infill panel.

**Detailed drawing,**

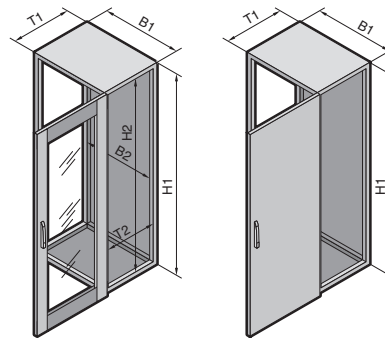
available on the Internet.

Networking

B  
5.1

<b>U</b>		42
<b>Width (B1) mm</b>		800
<b>Height (H1 + H2) mm</b>		2000 + 100
<b>Depth (T1) mm</b>		800
Clearance width (B2) mm		712
Clearance height (H3) mm		1912
Clearance depth (T2) mm		712
<b>Model No. DK as bayed enclosure without side panels, including baying kit TS 8800.500</b>	<b>Version 7</b>	<b>7830.260</b>
<b>Accessories</b>		Page
Two plug-in side panels, with security lock 3524E	7824.208	919

## Network enclosures, based on Rittal TS 8, types 1 and 2



### Type 1

Designer glazed aluminium door at the front (180°), with 3 mm single-pane safety glass, comfort handle for semi-cylinder and security lock 3524 E; sheet steel door at rear (130°) with handle and security lock 3524 E.

### Type 2

Sheet steel door at front (180°), with comfort handle for semi-cylinder and security lock 3524 E; sheet steel door at rear (130°) with handle and security lock 3524 E.

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure frame: Dipcoat-primed  
Doors and roof: Dipcoat-primed, powder-coated in RAL 7035  
Gland plates and punched sections with mounting flanges: Zinc-plated, passivated

**Supply includes:**  
Enclosure frame with doors, roof plate, multi-piece gland plate, 2 punched sections with mounting flanges in the enclosure depth.

**Approvals,**  
see page 92.

**Detailed drawing,**  
available on the Internet.

U	15	20	20	24	24	24	24	24
Width (B1) mm <sup>1)</sup>	600	600	800	600	800	800	800	800
Height (H1) mm <sup>1)</sup>	800	1000	1000	1200	1200	1200	1200	1200
Depth (T1) mm <sup>1)</sup>	600	600	600	600	600	800	900	1000
Clearance width (B2) mm	512	512	712	512	712	712	712	712
Clearance height (H2) mm	712	912	912	1112	1112	1112	1112	1112
Clearance depth (T2) mm	512	512	512	512	512	712	812	912
<b>Model No. DK, type 1 with designer glazed door at the front</b>	<b>7920.100<sup>3)</sup></b>	<b>7920.200<sup>3)</sup></b>	<b>7920.240<sup>2)3)</sup></b>	<b>7920.300<sup>3)</sup></b>	<b>7920.340<sup>2)3)</sup></b>	<b>7920.350<sup>3)</sup></b>	<b>7920.355<sup>3)</sup></b>	<b>7920.360<sup>2)3)</sup></b>
<b>Model No. DK, type 2 with sheet steel door at the front</b>	<b>7821.100</b>	<b>7821.200</b>	<b>7821.240<sup>2)</sup></b>	<b>7821.300</b>	<b>7821.340</b>	<b>-</b>	<b>7821.355</b>	<b>-</b>

U	29	29	29	33	33	33	38	38
Width (B1) mm <sup>1)</sup>	600	600	800	600	600	800	600	600
Height (H1) mm <sup>1)</sup>	1400	1400	1400	1600	1600	1600	1800	1800
Depth (T1) mm <sup>1)</sup>	600	800	600	600	800	600	600	800
Clearance width (B2) mm	512	512	712	512	512	712	512	512
Clearance height (H2) mm	1312	1312	1312	1512	1512	1512	1512	1712
Clearance depth (T2) mm	512	712	512	512	712	512	512	712
<b>Model No. DK, type 1 with designer glazed door at the front</b>	<b>7920.400<sup>2)3)</sup></b>	<b>7920.410<sup>3)</sup></b>	<b>7920.440<sup>2)3)</sup></b>	<b>7920.500<sup>3)</sup></b>	<b>7920.510<sup>3)</sup></b>	<b>7920.540<sup>2)3)</sup></b>	<b>7920.600<sup>3)</sup></b>	<b>7920.610<sup>3)</sup></b>
<b>Model No. DK, type 2 with sheet steel door at the front</b>	<b>7821.400<sup>2)</sup></b>	<b>7821.410</b>	<b>7821.440<sup>2)</sup></b>	<b>7821.500</b>	<b>7821.510</b>	<b>7821.540<sup>2)</sup></b>	<b>7821.600</b>	<b>7821.610</b>

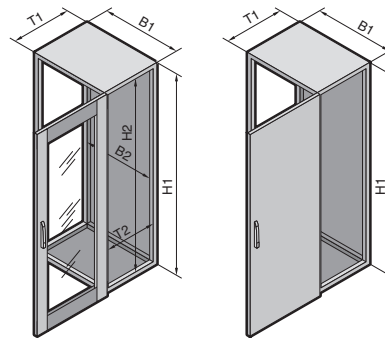
<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

<sup>3)</sup> Glazed aluminium door, delivery times available on request.

# Networking

## Network enclosures, based on Rittal TS 8, types 1 and 2



### Type 1

Designer glazed aluminium door at the front (180°), with 3 mm single-pane safety glass, comfort handle for semi-cylinder and security lock 3524 E; sheet steel door at rear (130°) with handle and security lock 3524 E.

### Type 2

Sheet steel door at front (180°), with comfort handle for semi-cylinder and security lock 3524 E; sheet steel door at rear (130°) with handle and security lock 3524 E.

### Material:

Sheet steel

### Surface finish:

Enclosure frame: Dipcoat-primed  
Doors and roof: Dipcoat-primed, powder-coated in RAL 7035  
Gland plates and punched sections with mounting flanges: Zinc-plated, passivated

### Supply includes:

Enclosure frame with doors, roof plate, multi-piece gland plate, 2 punched sections with mounting flanges in the enclosure depth.

### Approvals,

see page 92.

### Detailed drawing,

available on the Internet.

<b>U</b>	38	38	38	38	42	42	42	42	42
<b>Width (B1) mm<sup>1)</sup></b>	600	800	800	800	600	600	600	600	800
<b>Height (H1) mm<sup>1)</sup></b>	1800	1800	1800	1800	2000	2000	2000	2000	2000
<b>Depth (T1) mm<sup>1)</sup></b>	900	600	800	1000	600	800	900	1000	600
Clearance width (B2) mm	512	712	712	712	512	512	512	512	512
Clearance height (H2) mm	1712	1712	1712	1712	1912	1912	1912	1912	1912
Clearance depth (T2) mm	812	512	712	912	512	712	812	912	512
<b>Model No. DK, type 1 with designer glazed door at the front</b>	<b>7920.620<sup>3)</sup></b>	<b>7920.640<sup>3)</sup></b>	<b>7920.650<sup>3)</sup></b>	<b>7920.670<sup>3)</sup></b>	<b>7920.700<sup>3)</sup></b>	<b>7920.710<sup>2)3)</sup></b>	<b>7920.720<sup>3)</sup></b>	<b>7920.730<sup>3)</sup></b>	<b>7920.740<sup>3)</sup></b>
<b>Model No. DK, type 2 with sheet steel door at the front</b>	<b>7821.620<sup>2)</sup></b>	<b>7821.640<sup>2)</sup></b>	<b>7821.650</b>	<b>7821.670<sup>2)</sup></b>	<b>7821.700</b>	<b>7821.710<sup>2)</sup></b>	<b>7821.720</b>	<b>7821.730</b>	<b>7821.740</b>

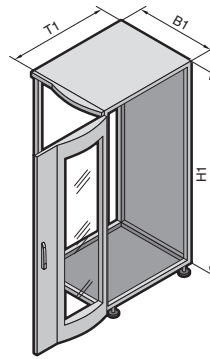
<b>U</b>	42	42	42	47	47	47	47	47	47
<b>Width (B1) mm<sup>1)</sup></b>	800	800	800	600	600	800	800	800	800
<b>Height (H1) mm<sup>1)</sup></b>	2000	2000	2000	2200	2200	2200	2200	2200	2200
<b>Depth (T1) mm<sup>1)</sup></b>	800	900	1000	600	800	600	800	900	1000
Clearance width (B2) mm	712	712	712	512	512	512	712	712	712
Clearance height (H2) mm	1912	1912	1912	2112	2112	2112	2112	2112	2112
Clearance depth (T2) mm	712	812	912	512	712	512	712	812	912
<b>Model No. DK, type 1 with designer glazed door at the front</b>	<b>7920.750<sup>3)</sup></b>	<b>7920.760<sup>3)</sup></b>	<b>7920.770<sup>3)</sup></b>	<b>7920.800<sup>3)</sup></b>	<b>7920.810<sup>3)</sup></b>	<b>7920.840<sup>3)</sup></b>	<b>7920.850<sup>3)</sup></b>	<b>7920.860<sup>3)</sup></b>	<b>7920.870<sup>3)</sup></b>
<b>Model No. DK, type 2 with sheet steel door at the front</b>	<b>7821.750</b>	<b>7821.760</b>	<b>7821.770</b>	<b>7821.800</b>	<b>7821.810</b>	<b>7821.840<sup>2)</sup></b>	<b>7821.850</b>	<b>7821.860<sup>2)</sup></b>	<b>7821.870</b>

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

<sup>3)</sup> Glazed aluminium door, delivery times available on request.

## Network enclosures, based on Rittal flexRack(i)



**Material:**

Vertical frame sections:  
Extruded aluminium section  
Base, roof frame, panels:  
Sheet steel

**Surface finish:**

Enclosure panels:  
Spray-finished in RAL 7035  
Frame sections and doors:  
RAL 9006  
Lock panels: RAL 7035  
Viewing window:  
Tinted, parsol grey  
Gland plates:  
Zinc-plated, passivated

**Supply includes:**

Designer glazed front door (130°), TS sheet steel rear door (130°), solid roof plate, multi-piece gland plate, levelling feet, comfort handle for semi-cylinder at the front, swivel handle at the rear, with security lock 3524 E.

**Property rights:**

German patent no. 103 11 376  
German registered design no. 403 04 312  
British registered design no. 301 54 31

**Detailed drawing,**  
available on the Internet.

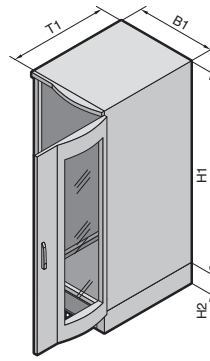
<b>U</b>	11	11	24	24	38	42	42	47
<b>Width (B1) mm<sup>1)</sup></b>	600	600	600	600	600	600	600	600
<b>Height (H1) mm<sup>1)</sup></b>	600	600	1200	1200	1800	2000	2000	2200
<b>Depth (T1) mm<sup>1)</sup></b>	605	1005	605	1005	605	605	1005	1005
<b>Depth absolute, including handles and roof curvature (T1) mm + 74.5 mm</b>	679.5	1079.5	679.5	1079.5	679.5	679.5	1079.5	1079.5
<b>Model No. FR(i)</b>	<b>7855.610<sup>2)</sup></b>	<b>7855.620<sup>2)</sup></b>	<b>7855.630<sup>2)</sup></b>	<b>7855.640<sup>2)</sup></b>	<b>7855.650<sup>2)</sup></b>	<b>7855.660<sup>2)</sup></b>	<b>7855.670<sup>2)</sup></b>	<b>7855.680<sup>2)</sup></b>

<b>U</b>	24	38	42	42	47	47
<b>Width (B1) mm<sup>1)</sup></b>	800	800	800	800	800	800
<b>Height (H1) mm<sup>1)</sup></b>	1200	1800	2000	2000	2200	2200
<b>Depth (T1) mm<sup>1)</sup></b>	805	805	805	1005	805	1005
<b>Depth absolute, including handles and roof curvature (T1) mm + 74.5 mm</b>	879.5	879.5	879.5	1079.5	879.5	1079.5
<b>Model No. FR(i)</b>	<b>7855.690<sup>2)</sup></b>	<b>7855.700<sup>2)</sup></b>	<b>7855.710</b>	<b>7855.720</b>	<b>7855.730<sup>2)</sup></b>	<b>7855.740<sup>2)</sup></b>

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet. <sup>2)</sup> Delivery times available on request.

# Networking

## Network enclosures, based on Rittal flexRack(i), pre-configured



### Material:

Vertical frame sections:  
Extruded aluminium section  
Base, roof frame, base/plinth,  
panels: Sheet steel

### Surface finish:

Enclosure panels:  
Spray-finished in RAL 7035  
Frame sections and doors:  
RAL 9006  
Lock panels: RAL 7035  
Viewing window:  
Tinted, parasol grey  
Gland plates, 482.6 mm (19")  
mounting angles:  
Zinc-plated, passivated

### Supply includes:

Designer glazed door at front  
(130°), TS sheet steel door at  
rear (130°).  
Roof plate, side panels,  
gland plate, vented base/plinth  
(Model No. FR 7855.540, .550,  
.560, .570 only),  
interior installation depending on  
design. Earthing of all enclosure  
panels, comfort handle for  
semi-cylinders at the front,  
swivel handle at the rear, with  
security lock 3524 E.

### Property rights:

German patent no. 103 11 376  
German registered design  
no. 403 04 312  
British registered design  
no. 301 54 31

### Detailed drawing,



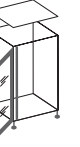


available on the Internet.

<b>U</b>	11	11	24	42	42
<b>Width (B1) mm<sup>1)</sup></b>	600	600	600	800	800
<b>Height (H1 + H2) mm<sup>1)</sup></b>	600	600	1200	2000 + 100	2000 + 100
<b>Depth (T1) mm<sup>1)</sup></b>	805	1005	1005	805	1005
<b>Depth absolute, including handles and roof curvature (T1) mm + 74.5 mm</b>	879.5	1079.5	1079.5	879.5	1079.5
<b>Model No. FR(i) as single enclosure including 2 side panels</b>	<b>7855.480</b>	<b>7855.500</b>	<b>7855.510</b>	<b>7855.550</b>	<b>7855.570</b>
<b>Model No. FR(i) as bayed enclosure without side panels, including baying kit</b>	–	–	–	<b>7855.540</b>	<b>7855.560<sup>2)</sup></b>

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

## Network enclosures, based on Rittal flexRack(i), pre-configured

						
<b>U</b>	11	11	24	42	42	Page
<b>Width</b> (B1) mm <sup>1)</sup>	600	600	600	800	800	
<b>Height</b> (H1 + H2) mm <sup>1)</sup>	600	600	1200	2000 + 100	2000 + 100	
<b>Depth</b> (T1) mm <sup>1)</sup>	805	1005	1005	805	1005	
<b>Depth absolute, including handles and roof curvature</b> (T1) mm + 74.5 mm	879.5	1079.5	1079.5	879.5	1079.5	
<b>Model No. FR(i) as single enclosure including 2 side panels</b>	<b>7855.480</b>	<b>7855.500</b>	<b>7855.510</b>	<b>7855.550</b>	<b>7855.570</b>	
<b>Model No. FR (i) as bayed enclosure without side panels, including baying kit</b>	-	-	-	<b>7855.540</b>	<b>7855.560<sup>2)</sup></b>	
<b>Doors</b>						
Designer glazed front door/TS sheet steel rear door	■	■	■	■	■	
<b>Side panel</b>						
Side panel, plug-type including security lock 3524 E	■	■	■	■ (7855.550 only)	■ (7855.570 only)	920
Internal latch for side panel, plug-in	■	■	■	■	■	919
Baying	from page 926	from page 926	from page 926	from page 926	from page 926	
<b>Roof</b>						
Designer roof plate, solid	■	■	■	-	-	
Designer roof plate for cable entry, two-piece	-	-	-	■	■	
Various roof plate options, based on TS 8	from page 972	from page 972	from page 972	from page 972	from page 972	
<b>Base/plinth</b>						
Base/plinth components solid, front and rear	8601.605	8601.605	8601.605	8601.805	8601.805	893
Base/plinth components vented, front and rear	7825.601	7825.601	7825.601	■	■	893
Base/plinth trims, side	8601.085	8601.015	8601.015	■	■	893
Gland plate, front, fitted as an infill panel, rear section open	-	-	-	■	■	
Gland plate, one-piece, vented	■	■	■	-	-	914
Gland plate variants, based on TS 8	from page 914	from page 914	from page 914	from page 914	from page 914	
<b>Interior installation</b>						
482.6 mm (19") mounting angles, L-shaped at front	■	■	■	-	-	1091
Additional 482.6 mm (19") mounting angles, L-shaped	7856.800	7856.800	7856.803	7856.809	7856.809	1092
482.6 mm (19") mounting frames, front and rear	-	-	-	■	■	1094
Additional 482.6 mm (19") mounting frame	7856.710	7856.710	7856.713	7856.719	7856.719	1094
System punched section, interior installation of rail systems	from page 993	from page 993	from page 993	from page 993	from page 993	
Cable clamp rails	see page 1062	see page 1062	see page 1062	see page 1062	see page 1062	
Earthing/potential equalisation	from page 1034	from page 1034	from page 1034	from page 1034	from page 1034	
Socket strips/power management	from page 1038	from page 1038	from page 1038	from page 1038	from page 1038	
Component shelves	from page 1013	from page 1013	from page 1013	from page 1013	from page 1013	
482.6 mm (19") installation	from page 1089	from page 1089	from page 1089	from page 1089	from page 1089	
4 hammerhead rails including system adaptor, supplied loose, for cable clamping in the enclosure depth	-	-	-	■	■	
10 cable shunting rings 105 x 70 mm, supplied loose	-	-	-	■	■	1069
50 cage nuts and multi-tooth screws	-	-	-	■	■	1105
Cable management	from page 1059	from page 1059	from page 1059	from page 1059	from page 1059	
CMC-TC system monitoring	from page 806	from page 806	from page 806	from page 806	from page 806	

■ Included with the supply.

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

<sup>2)</sup> Delivery times available on request.

# Networking

## System comparison of wall-mounted enclosures

The configuration of decentralised network units is extremely important for small and medium-sized companies. Rittal has high-quality solutions to meet virtually every requirement of a growing network.

### FlatBox wall-mounted and floor-standing enclosure

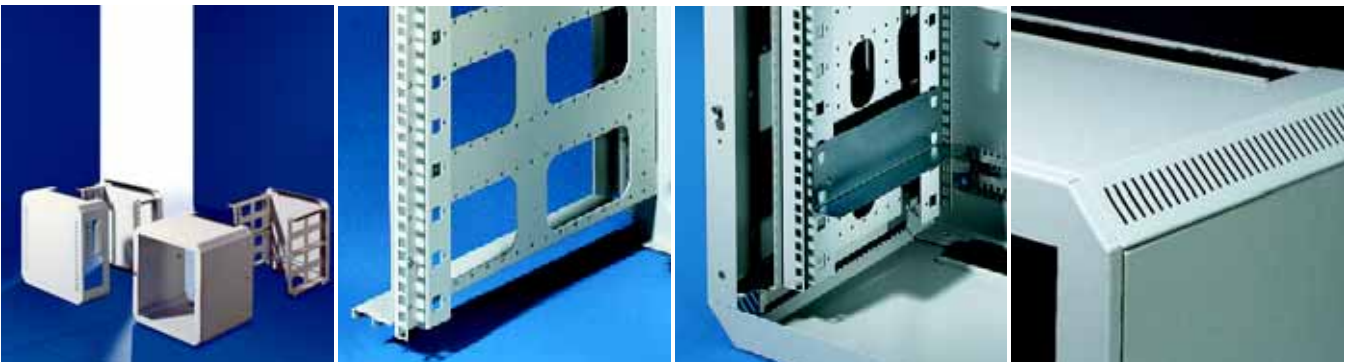


The volume-optimised flat-pack offers advantages with regard to transportation and storage.

The snap connection system facilitates toolless enclosure assembly. In this way, a very stable enclosure is created with a high static load capacity of 5 kg/U or a maximum of 75 kg, static.

After assembling the base support, configuration of the open enclosure can follow.

### Wall-mounted enclosures, based on Rittal QuickBox



**Cut-outs in the mounting bracket** for access to the rear of the patch panels or active components.

**Slide rails to support heavy assemblies.**

**Vent slots** for passive ventilation.

### Wall-mounted enclosure, based on Rittal EL, 3-part/2-part



Optimum accessibility, thanks to 3-part or 2-part vertically hinged construction.

Equipped with Mini comfort handle (3 – 15 U), comfort handle (18 and 21 U) and replaceable  **cable gland plates**.

**2-part enclosure** with swing frame. Facility for installing subracks and electronic components.

## System comparison of wall-mounted enclosures

Whether fibre-optic or copper distributors, 1/2 19" or 19" enclosures, high protection category or passively vented wall-mounted enclosures, the IT wall-mounted distributor range covers every conceivable requirement and is available off the shelf.

### RNC enclosure/RNC universal enclosure



Prepared for the installation of 1/2 19" components. 10" components may also be installed by using an adaptor. 19" (482.6 mm) variant for vertical population.

Suitable for use both as a stand-alone model and for wall mounting. Maximum free space for assembly purposes.

The universal enclosure, vertical for 19" installation, horizontal for 1/2 19" or 10" installation.

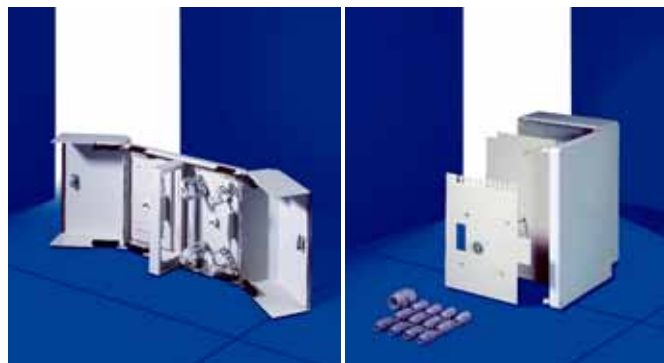
### Wall-mounted and distribution enclosures



**Wall-mounted enclosure based on AE** with pull-out frame or depth-adjustable 482.6 mm (19") level.

**Small fibre-optic distributor** As a corridor and intermediate distributor of fibre-optic cables.

**Small fibre-optic distributor, based on AE** The ideal enclosure for break-out applications.

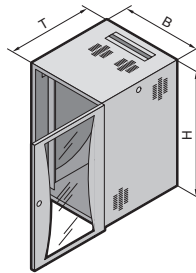


**Fibre-optic marshalling enclosure** Two access areas:  
1. For splicing cassette fixture  
2. For the patching chamber.

**Small fibre-optic distributor, polycarbonate**, for extreme conditions with a high protection category of IP 66 to EN 60 529/09.2000.

# Networking

## FlatBox



**Small package – big performance.**  
**Time-saving, flexible, clever**

- For flexible use as a wall-mounted or floor-standing enclosure
- The width and depth dimension of max. 700 mm provides plenty of space for use as a patch distributor
- Toolless quick assembly

**Material:**  
Sheet steel

**Surface finish:**  
Powder-coated in RAL 7035

**Supply includes:**

Flat-packed enclosure,  
1 wall section, 2 basic supports,  
2 roof/base plates, with cut-outs for cable entry, with brush strips,  
2 482.6 mm (19") mounting angles (for 6 U and 9 U),  
1 482.6 mm (19") frame (from 12 U),

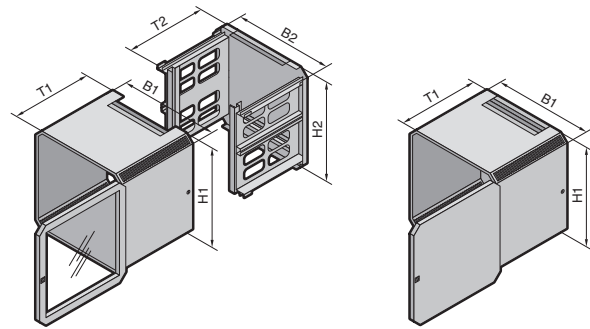
4 levelling feet (from 12 U),  
2 side panels, lockable,  
1 glazed door, lockable,  
door hinge point selectable.  
Components for toolless, fast assembly.  
Earthing kit for system-compatible earthing of the enclosure panels.

With 482.6 mm (19") mounting angles at the front and glazed door		P. of				Page
U		6	9	6	9	
Width (B) mm		600	600	600	600	
Height (H) mm		358	492	358	492	
Depth (T) mm		400	400	600	600	
Model No. DK	1	<b>7507.000</b>	<b>7507.010</b>	<b>7507.100</b>	<b>7507.110</b>	
<b>Accessories</b>						
482.6 mm (19") mounting angles as 2nd attachment level, 6 U	2	7507.706	–	7507.706	–	1092
482.6 mm (19") mounting angles as 2nd attachment level, 9 U	2	–	7507.709	–	7507.709	1092
Levelling feet	4	7507.740	7507.740	7507.740	7507.740	907
Cover plates for fan panels	6	7507.760	7507.760	7507.760	7507.760	704
Earth rail	1	7113.000	7113.000	7113.000	7113.000	1036
C rail for cable clamping	1	7016.140	7016.140	7016.140	7016.140	1068
T-head rail for cable clamping	1	7016.150	7016.150	7016.150	7016.150	1068
Fan, 230 V AC, 50/60 Hz, 117/135 m³/h, air throughput, unimpeded airflow	1	7980.100	7980.100	7980.100	7980.100	703
Fan, 48 V DC, 184 m³/h, air throughput, unimpeded airflow	1	7980.148	7980.148	7980.148	7980.148	703
Thermostat	1	3110.000	3110.000	3110.000	3110.000	715

With 482.6 mm (19") mounting frame at the front and glazed door		P. of						Page
U		12	15	12	15	18	21	
Width (B) mm		600	600	600	700	700	700	
Height (H) mm		625	758	625	758	892	1025	
Depth (T) mm		400	400	600	700	700	700	
Model No. DK	1	<b>7507.020</b>	<b>7507.030</b>	<b>7507.120</b>	<b>7507.200<sup>1)</sup></b>	<b>7507.210<sup>1)</sup></b>	<b>7507.220<sup>1)</sup></b>	
<b>Accessories</b>								
482.6 mm (19") mounting angles as 2nd attachment level, 12 U	2	7507.712	–	7507.712	–	–	–	1092
482.6 mm (19") mounting angles as 2nd attachment level, 15 U	2	–	7507.715	–	7507.715	–	–	1092
482.6 mm (19") mounting angles as 2nd attachment level, 18 U	2	–	–	–	–	7507.718	–	1092
482.6 mm (19") mounting angles as 2nd attachment level, 21 U	2	–	–	–	–	–	7507.721	1092
Cover plates for fan panels	6	7507.760	7507.760	7507.760	7507.760	7507.760	7507.760	704
Earth rail	1	7113.000	7113.000	7113.000	7113.000	7113.000	7113.000	1036
C rail for cable clamping	1	7016.140	7016.140	7016.140	7016.140	7016.140	7016.140	1068
T-head rail for cable clamping	1	7016.150	7016.150	7016.150	7016.150	7016.150	7016.150	1068
Fan, 230 V AC, 50/60 Hz, 117/135 m³/h, air throughput, unimpeded airflow	1	7980.100	7980.100	7980.100	7980.100	7980.100	7980.100	703
Fan, 48 V DC, 184 m³/h, air throughput, unimpeded airflow	1	7980.148	7980.148	7980.148	7980.148	7980.148	7980.148	703
Thermostat	1	3110.000	3110.000	3110.000	3110.000	3110.000	3110.000	715

<sup>1)</sup> Pre-configured variant available on request.

## Wall-mounted enclosures, based on Rittal QuickBox, 6 – 12 U



Perfect access during installation and servicing, thanks to a removable cover.

**Material:**

Wall mounting plate with mounting brackets:  
2.0 mm sheet steel  
Enclosure cover:  
1.0 mm sheet steel  
Door: Sheet steel door or glazed door with sheet steel frame and single-pane safety glass, 3 mm

**Surface finish:**

Enclosure: Powder-coated, RAL 7035

**Supply includes:**

Wall section:  
Pre-configured mounting brackets,  
brush strip for cable entry at the bottom/top,  
cable clamp rail

Enclosure cover:  
Consisting of base and cover tray with vent slots, brush strip for cable entry at the top/bottom,  
2 side security locks, sheet steel door/glazed door with security lock, 482.6 mm (19") mounting angles, infinitely depth-variable.

**Property rights:**

German patent no. 198 11 711  
German utility model no. 298 23 843  
European patent no. 1 064 709 with validity for BE, ES, FR, GB, IT, NL, SE  
Taiwanese patent no. NI 123 288  
Russian patent no. 2190912  
Australian patent no. 733078  
South Korean patent no. 10-0375062  
US patent no. 6,435,364

**Detailed drawing,**

available on the Internet.

U	Packs of	6	6	6	9	9	12	12	12	Page
Enclosure cover	Width (B1) mm	600	600	600	600	600	600	600	600	
	Height (H1) mm	362	362	362	495	495	628	628	628	
	Depth (T1) mm	300	400	600	400	600	400	500	600	
Wall section	Width (B2) mm	595	595	595	595	595	595	595	595	
	Height (H2) mm	355	355	355	488	488	621	621	621	
	Max. installation depth (T2) mm	247	347	547	347	547	347	447	547	
<b>Model No. with glazed door</b>	1	<b>7502.013</b>	<b>7502.014</b>	<b>7502.016</b>	<b>7502.024</b>	<b>7502.026</b>	<b>7502.034</b>	<b>7502.035</b>	<b>7502.036</b>	
<b>Model No. with sheet steel door</b>	1	–	<b>7502.114</b>	–	<b>7502.124</b>	<b>7502.126</b>	–	–	<b>7502.136</b>	

Accessories											
Mounting angles, 482.6 mm (19")		2	7502.201	7502.201	7502.201	7502.202	7502.202	7502.203	7502.203	7502.203	1092
Solid gland plate		2	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	1052
Wall mounting bracket, 10 mm		4	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	975
Wall mounting bracket, 40 mm		4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Combination rails for enclosure width		6	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	1063
Combination rails for enclosure depth	300/400 mm	6	7502.302	7502.302	7502.302	7502.302	7502.302	7502.302	7502.302	7502.302	1063
	500/600 mm		7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	1063
Slide rails for enclosure depth	300 mm	10	1962.200	1962.200	1962.200	1962.200	1962.200	1962.200	1962.200	1962.200	1085
	400 mm	2	7492.300	7492.300	7492.300	7492.300	7492.300	7492.300	7492.300	7492.300	1098
	500/600 mm		7492.400	7492.400	7492.400	7492.400	7492.400	7492.400	7492.400	7492.400	1098
Earthing set		1	7502.240	7502.240	7502.260	7502.240	7502.260	7502.240	7502.260	7502.260	1036
Quick-release fastener		2	7502.220	7502.220	7502.220	7502.220	7502.220	7502.220	7502.220	7502.220	959

<sup>1)</sup> Delivery times available on request.



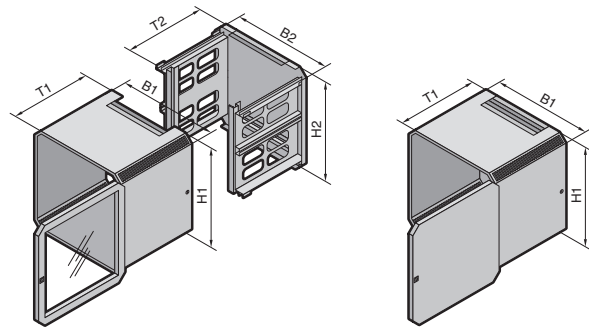
**Cable clamps**  
for clamping to C rails and combination rails, see page 1064.



**Splicing box**  
for fibre-optic termination or fibre-optic distributor, see page 1111.

# Networking

## Wall-mounted enclosures, based on Rittal QuickBox, 15 – 21 U



Perfect access during installation and servicing, thanks to a removable cover.

**Material:**

Wall mounting plate with mounting brackets:  
2.0 mm sheet steel  
Enclosure cover:  
1.0 mm sheet steel  
Door: Sheet steel door or glazed door with sheet steel frame and single-pane safety glass, 3 mm

**Surface finish:**

Enclosure: Powder-coated, RAL 7035

**Supply includes:**

Wall section:  
Pre-configured mounting brackets,  
brush strip for cable entry at the bottom/top,  
cable clamp rail

Enclosure cover:  
Consisting of base and cover tray with vent slots, brush strip for cable entry at the top/bottom,  
2 side security locks, sheet steel door/glazed door with security lock, 482.6 mm (19") mounting angles, infinitely depth-variable.

**Property rights:**

German patent no. 198 11 711  
German utility model no. 298 23 843  
European patent no. 1 064 709 with validity for BE, ES, FR, GB, IT, NL, SE  
Taiwanese patent no. NI 123 288  
Russian patent no. 2190912  
Australian patent no. 733078  
South Korean patent no. 10-0375062  
US patent no. 6,435,364

**Detailed drawing,**

available on the Internet.

Networking

B  
5.2

U	Packs of	15	15	15	18	18	21	21	Page
Enclosure cover	Width (B1) mm	600	600	600	600	600	600	600	
	Height (H1) mm	762	762	762	895	895	1028	1028	
	Depth (T1) mm	400	500	600	400	600	400	600	
Wall section	Width (B2) mm	595	595	595	595	595	595	595	
	Height (H2) mm	755	755	755	888	888	1021	1021	
	Max. installation depth (T2) mm	347	447	547	347	547	347	547	
<b>Model No. with glazed door</b>	1	<b>7502.044</b>	<b>7502.045</b>	<b>7502.046</b>	<b>7502.054</b>	<b>7502.056</b>	<b>7502.064</b>	<b>7502.066</b>	
<b>Model No. with sheet steel door</b>	1	<b>7502.144</b>	–	<b>7502.146</b>	–	–	–	<b>7502.166</b>	

Accessories									
Mounting angles, 482.6 mm (19")	2	7502.204	7502.204	7502.204	7502.205	7502.205	7502.206	7502.206	1092
Solid gland plate	2	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	1052
Wall mounting bracket, 10 mm	4	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	975
Wall mounting bracket, 40 mm	4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Combination rails for enclosure width	6	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	1063
Combination rails for enclosure depth	6	300/400 mm	7502.302	7502.302	7502.302	7502.302	7502.302	7502.302	1063
		500/600 mm	7502.304	7502.304	7502.304	7502.304	7502.304	7502.304	1063
Slide rails for enclosure depth	2	7492.300	7492.300	7492.300	7492.300	7492.300	7492.300	7492.300	1098
	2	7492.400	7492.400	7492.400	7492.400	7492.400	7492.400	7492.400	1098
Earthing set	1	7502.240	7502.260	7502.260	7502.240	7502.260	7502.240	7502.260	1036
Quick-release fastener	2	7502.220	7502.220	7502.220	7502.220	7502.220	7502.220	7502.220	959

<sup>1)</sup> Delivery times available on request.

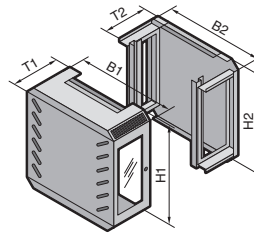


**Cable management panel** for all QuickBoxes from a height of 15 U, see page 1073.



**Earthing kit** for standardised earthing of the QuickBox. With fast-on connections, see page 1036.

## Wall-mounted enclosure, based on Rittal QuickBox with vertical 482.6 mm (19") level



### Optimum use of the interior space

via side installation of the 482.6 mm (19") components. Status monitoring via side viewing window.

### Material:

Wall mounting plate with mounting brackets: 2.0 mm sheet steel  
Enclosure cover: 1.0 mm sheet steel with toughened safety glass, 3 mm at the side

### Surface finish:

Enclosure: Powder-coated, RAL 7035

### Supply includes:

Wall section: With pre-configured 482.6 mm (19") mounting brackets for side accommodation of mounting components and brush strip for cable entry from the bottom and top.

Enclosure cover: With side vent slots to support passive climate control. The enclosure is secured via two security locks positioned at the sides.

### Detailed drawing,

available on the Internet.

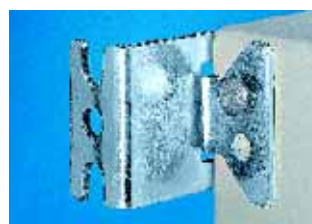
U vertical		Packs of	3	6	Page
Enclosure cover	Width (B1) mm		600	600	
	Height (H1) mm		631	631	
	Depth (T1) mm		210	360	
Wall section	Width (B2) mm		595	595	
	Height (H2) mm		621	621	
	Depth (T2) mm		198	348	
<b>Model No. DK</b>		1	<b>7502.630<sup>1)</sup></b>	<b>7502.660<sup>1)</sup></b>	
<b>Accessories</b>					
Gland plates, solid		2	7502.310 <sup>1)</sup>	7502.310 <sup>1)</sup>	1052
Wall mounting bracket, 10 mm		4	2508.010	2508.010	975
Wall mounting bracket, 40 mm		4	2503.010	2503.010	975
Combination rails for vertical mounting on the wall section QB		6	7502.304	7502.304	1063
Combination rails for horizontal mounting		6	7502.304	7502.304	1063
Mounting and cable management panel for cable routing and the attachment of small equipment		1	7502.270	7502.270	1073
Mounting angles, 482.6 mm (19") for front mounting, 12 U		2	7502.203	7502.203	1092

<sup>1)</sup> Delivery times available on request.



### Blanking panel

for toolless quick assembly, see page 1110.

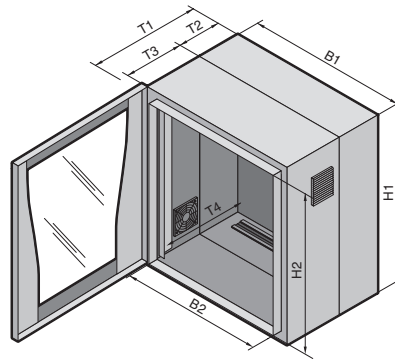


### Wall mounting bracket

at a distance of 10 mm or 40 mm, see page 975.

# Networking

## Wall-mounted enclosures, based on Rittal EL, 3-part, pre-configured, depth 573/673



### Material:

Wall and hinged part:  
Sheet steel, 1.5 mm  
Viewing window:  
Toughened safety glass 3 mm

### Colour:

Wall and hinged part:  
Powder-coated in RAL 7035  
Glazed door: RAL 7035/7015  
(slate grey)

### Protection category:

IP 43 to EN 60 529/09.2000  
when using solid gland plates.

### Supply includes:

Wall section:  
With vertical punched rails and  
C rail mounted horizontally for  
cable clamping, top cable gland  
plate solid, bottom cable gland  
plate with brush strips, earthing  
rail with star earthing, wall  
mounting bracket 10 mm.

### Hinged part:

With 25 mm pitch pattern of  
holes in the front and rear frame,  
two 482.6 mm (19") mounting  
angles mounted on C rails,  
infinitely depth-variable, one  
outlet filter each on the left and  
right side.

### Designer glazed door:

With 3 mm toughened safety  
glass pane,  
9 + 15 U with mini comfort  
handle for lock inserts,  
21 U with comfort handle and  
2-point locking,  
including security lock 3524 E.

### Available on request:

- Fully modified wall-mounted distributors
- Glazed door with aluminium frame
- Sheet steel door, solid
- Perforated door

**Approvals,**  
see page 94.

**Detailed drawing,**  
available on the Internet.

U	Packs of	9	15	21	9	15	21	Page
<b>Width (B1) mm</b>		600	600	600	600	600	600	
<b>Height (H1) mm</b>		478	746	1012	478	746	1012	
<b>Depth (T1) mm</b>		573	573	573	673	673	673	
Clearance width (B2) mm		502	502	502	502	502	502	
Clearance height (H2) mm		417	684	951	417	684	951	
Depth of wall section (T2) mm		135	135	135	135	135	135	
Depth of hinged part (T3) mm		416	416	416	516	516	516	
Maximum installation depth (T4) mm		520	520	520	620	620	620	
<b>Model No. DK</b>	1	<b>7709.735</b>	<b>7715.735</b>	<b>7721.735</b>	<b>7709.535</b>	<b>7715.535</b>	<b>7721.535</b>	
Load capacity, hinged part (kg, static)		45	75	75	45	75	75	

Accessories								
Solid gland plate	1	2235.135	2235.135	2235.135	2235.135	2235.135	2235.135	1052
Gland plate with brush insert	1	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1052
Gland plate for metric cable glands	1	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1052
Fan expansion kit, 230 V	1	7980.100	7980.100	7980.100	7980.100	7980.100	7980.100	703
Spare filter mats	5	3322.700	3322.700	3322.700	3322.700	3322.700	3322.700	725
Wall mounting bracket, 40 mm	4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Lock inserts		see page 956						
Component shelf 2 U, static installation or fully extendible, 300 mm deep	1	7148.035	7148.035	7148.035	7148.035	7148.035	7148.035	1019
Component shelf 2 U, static installation, 250 mm deep	1	7119.250	7119.250	7119.250	7119.250	7119.250	7119.250	1021



### Fans

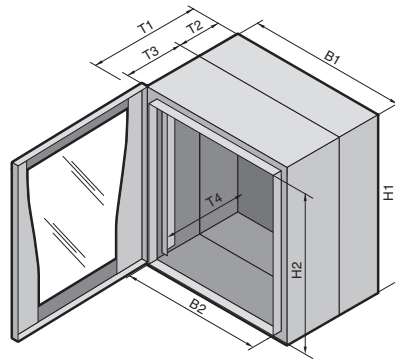
230 V AC or 48 V DC,  
see page 703.



### Socket strips

for mounting in the wall section  
or on the 482.6 mm (19") profile,  
see page 1038.

## Wall-mounted enclosure, based on Rittal EL, 3-part, with punched rails, depth 473



### Material:

Wall and hinged part:  
Sheet steel, 1.5 mm  
Viewing window:  
Toughened safety glass 3 mm

### Colour:

Wall and hinged part:  
Powder-coated in RAL 7035  
Glazed door: RAL 7035/7015  
(slate grey)

### Protection category:

IP 55 to EN 60 529/09.2000

### Supply includes:

Wall section:  
With vertical punched rails and  
C rail mounted horizontally for  
cable clamping, solid cable  
gland plate top and bottom, wall  
mounting bracket 10 mm.

Hinged part:  
With 25 mm pitch pattern of  
holes in the front and rear frame,  
two 482.6 mm (19") mounting  
angles mounted on C rails,  
infinitely depth-variable.

Designer glazed door:  
6 – 15 U with mini comfort  
handle for lock inserts,  
18 – 21 U with comfort handle  
and 2-point locking,  
including security lock 3524 E.

### Available on request:

- Fully modified wall-mounted distributors
- Special sizes (D = 373 mm, 573 mm)
- Glazed door with aluminium frame
- Sheet steel door, solid

**Approvals,**  
see page 94.

**Detailed drawing,**  
available on the Internet.

U	Packs of	6	9	12	15	18	21	Page
<b>Width (B1) mm</b>		600	600	600	600	600	600	
<b>Height (H1) mm</b>		345	478	612	746	878	1012	
<b>Depth (T1) mm</b>		473	473	473	473	473	473	
Clearance width (B2) mm		502	502	502	502	502	502	
Clearance height (H2) mm		284	417	551	684	817	951	
Depth of wall section (T2) mm		135	135	135	135	135	135	
Depth of hinged part (T3) mm		316	316	316	316	316	316	
Maximum installation depth (T4) mm		420	420	420	420	420	420	
<b>Model No. DK</b>	1	<b>7706.135</b>	<b>7709.135</b>	<b>7712.135</b>	<b>7715.135</b>	<b>7718.135<sup>1)</sup></b>	<b>7721.135</b>	
Load capacity, hinged part (kg, static)		30	45	60	75	75	75	

Accessories								
Gland plate with brush insert	1	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1052
Gland plate for metric cable glands	1	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1052
Base/plinth	1	7505.300	7505.300	7505.300	7505.300	7505.300	7505.300	904
Wall mounting bracket, 40 mm	4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Lock inserts		see page 956						
Earth rail, horizontal	1	7113.000	7113.000	7113.000	7113.000	7113.000	7113.000	1036
Component shelf 2 U, static installation and fully extendible	1	7148.035	7148.035	7148.035	7148.035	7148.035	7148.035	1019
Component shelf 2 U, static installation, 250 mm deep	1	7119.250	7119.250	7119.250	7119.250	7119.250	7119.250	1021
Component shelf 1 U, static installation, 140 mm deep	1	7119.140	7119.140	7119.140	7119.140	7119.140	7119.140	1021

<sup>1)</sup> Delivery times available on request.



### Slide rails

to support heavy components on the 482.6 mm (19") profile, see page 1097.

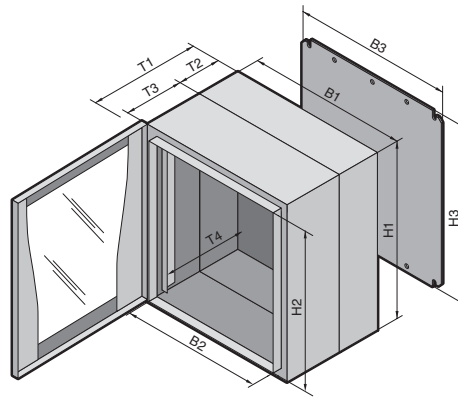
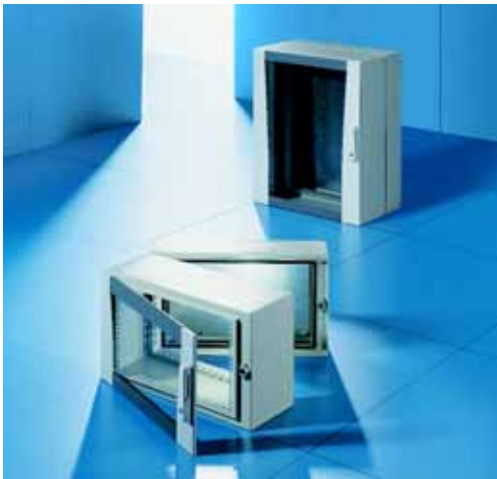


### Semi-cylinder

for individual locks in the comfort or mini comfort handle, see page 957. Handles, see page 947.

# Networking

## Wall-mounted enclosure, based on Rittal EL, 3-part, with mounting plate, depth 373



### Material:

Wall and hinged part:  
1.5 mm sheet steel  
Mounting plate:  
2.5 mm sheet steel, zinc-plated,  
passivated  
Viewing window:  
Toughened safety glass 3 mm

### Colour:

Wall and hinged part:  
Powder-coated, RAL 7035  
Glazed door: RAL 7035/7015  
(slate grey).

### Protection category:

IP 55 to EN 60 529/09.2000

### Supply includes:

Wall section:  
With 2 cable gland plates,  
1 mounting plate supplied loose,  
assembly parts.

Hinged part:  
With 2 mounting angles,  
482.6 mm (19"), fitted at the  
front, assembly parts.

Designer glazed door:  
3 – 15 U with mini comfort  
handle for lock inserts,  
18 – 21 U with comfort handle  
and 2-point locking,  
including security lock 3524 E.

### Available on request:

- Special sizes and colours
- Glazed door with aluminium frame
- Sheet steel door, solid

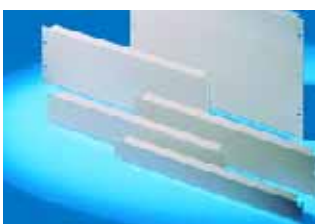
**Approvals,**  
see page 94.

**Detailed drawing,**  
available on the Internet.

U	Packs of	3	6	9	12	15	18	21	Page
<b>Width (B1) mm</b>		600	600	600	600	600	600	600	
<b>Height (H1) mm</b>		212	345	478	612	746	878	1012	
<b>Depth (T1) mm</b>		373	373	373	373	373	373	373	
Clearance width (B2) mm		502	502	502	502	502	502	502	
Clearance height (H2) mm		151	284	417	551	684	817	951	
Depth of wall section (T2) mm		135	135	135	135	135	135	135	
Depth of hinged part (T3) mm		216	216	216	216	216	216	216	
Maximum installation depth (T4) mm		320	320	320	320	320	320	320	
Width of mounting plate (B3) mm		485	485	485	485	485	485	485	
Height of mounting plate (H3) mm		165	299	432	565	699	832	965	
<b>Model No. EL</b>	1	<b>2243.605</b>	<b>2246.605</b>	<b>2249.605</b>	<b>2252.605</b>	<b>2255.605</b>	<b>2258.605<sup>1)</sup></b>	<b>2261.605</b>	
Load capacity, hinged part (kg, static)		15	30	45	60	75	75	75	

Accessories										
Wall mounting bracket	10 mm	4	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	975
Wall mounting bracket	40 mm	4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Gland plate with brush insert		1	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1052
Gland plate for metric cable glands		1	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1052
Cable glands			see page 1054							
Lock inserts			see page 956							
Slide rails		10	2240.000	2240.000	2240.000	2240.000	2240.000	2240.000	2240.000	1099
C rails		4	2238.000	2238.000	2238.000	2238.000	2238.000	2238.000	2238.000	1002
Blanking plates		3	see page 1100							

<sup>1)</sup> Delivery times available on request.

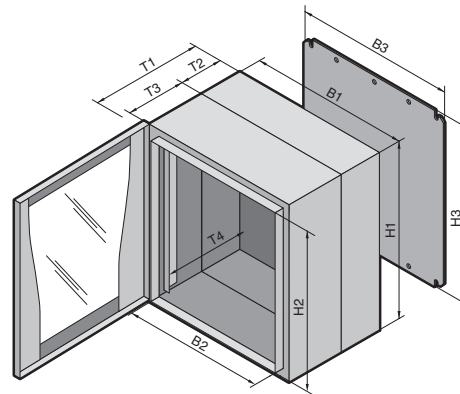
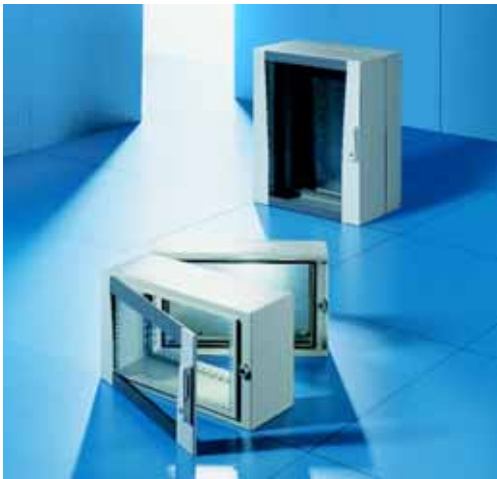


**Blanking panels**  
for individual machining,  
see page 1110.



**Gland plates**  
for PG segments for cable  
routing with a high protection  
category,  
see page 1053.

## Wall-mounted enclosure, based on Rittal EL, 3-part, with mounting plate, depth 473



### Material:

Wall and hinged part:  
1.5 mm sheet steel  
Mounting plate:  
2.5 mm sheet steel, zinc-plated,  
passivated  
Viewing window:  
Toughened safety glass 3 mm

### Colour:

Wall and hinged part:  
Powder-coated in RAL 7035  
Glazed door: RAL 7035/7015  
(slate grey)

### Protection category:

IP 55 to EN 60 529/09.2000

### Supply includes:

Wall section:  
With 2 cable gland plates,  
1 mounting plate supplied loose,  
assembly parts.

Hinged part:  
With 2 mounting angles,  
482.6 mm (19"), fitted,  
assembly parts.

Designer glazed door:  
3 – 15 U with mini comfort  
handle for lock inserts,  
18 – 21 U with comfort handle  
and 2-point locking,  
including security lock 3524 E.

### Available on request:

- Special sizes and colours
- Glazed door with aluminium frame
- Sheet steel door, solid

**Approvals,**  
see page 94.

**Detailed drawing,**  
available on the Internet.

U	Packs of	3	6	9	12	15	18	21	Page
<b>Width (B1) mm</b>		600	600	600	600	600	600	600	
<b>Height (H1) mm</b>		212	345	478	612	746	878	1012	
<b>Depth (T1) mm</b>		473	473	473	473	473	473	473	
Clearance width (B2) mm		502	502	502	502	502	502	502	
Clearance height (H2) mm		151	284	417	551	684	817	951	
Depth of wall section (T2) mm		135	135	135	135	135	135	135	
Depth of hinged part (T3) mm		316	316	316	316	316	316	316	
Maximum installation depth (T4) mm		420	420	420	420	420	420	420	
Width of mounting plate (B3) mm		485	485	485	485	485	485	485	
Height of mounting plate (H3) mm		165	299	432	565	699	832	965	
<b>Model No. EL</b>	1	<b>2253.605</b>	<b>2256.605</b>	<b>2259.605</b>	<b>2262.605</b>	<b>2265.605</b>	<b>2268.605<sup>1)</sup></b>	<b>2271.605</b>	
Load capacity, hinged part (kg, static)		15	30	45	60	75	75	75	

Accessories										
Wall mounting bracket	10 mm	4	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	2508.010	975
Wall mounting bracket	40 mm	4	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	2503.010	975
Lock inserts			see page 956							
Gland plate with brush insert		1	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1052
Gland plate for metric cable glands		1	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1052
Base/plinth		1	7505.300	7505.300	7505.300	7505.300	7505.300	7505.300	7505.300	
Cable glands			see page 1054							
Slide rails		10	2250.000	2250.000	2250.000	2250.000	2250.000	2250.000	2250.000	1097
C rails		4	2239.000	2239.000	2239.000	2239.000	2239.000	2239.000	2239.000	1002
Blanking plates		3	see page 1100							

<sup>1)</sup> Delivery times available on request.



### Base/plinth

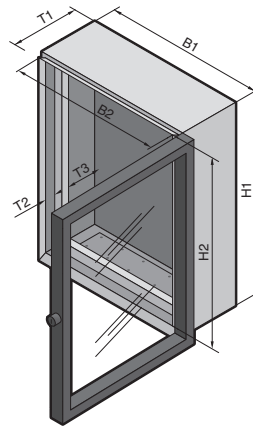
can be fitted with castors,  
see page 904.



The 1 U **component shelf**  
can be secured  
in the centre section,  
see page 1021.

# Networking

## Wall-mounted enclosure, based on Rittal EL, 2-part, with swing frame, depth 369



**Material:**

Enclosure: 1.5 mm sheet steel  
 Swing frame: Sheet steel  
 Front door: Extruded aluminium section, 3 mm acrylic glazing

**Supply includes:**

Enclosure, front door, fitted swing frame, including assembly parts.

**Available on request:**

- Special sizes and colours

**Approvals,** see page 95.

**Detailed drawing,** available on the Internet.

**Surface finish:**

Enclosure and swing frame: Primed and powder-coated, RAL 7035  
 Front door: Dark brown anodised

**Protection category:**

IP 55 to EN 60 529/09.2000

Networking

B  
5.2

U	Packs of	6	11	14	Page
<b>Width</b> (B1) mm		600	600	600	
<b>Height</b> (H1) mm		380	600	760	
<b>Depth</b> (T1) mm		369	369	369	
Clearance width (B2) mm		537	537	537	
Clearance height (H2) mm		317	537	697	
Distance from glazed door to swing frame (T2) mm		67 – 97	67 – 97	67 – 97	
Maximum installation depth (T3) mm		270	270	270	
<b>Model No. EL</b>	1	<b>1919.500</b>	<b>1920.500</b>	<b>1926.500</b>	
<b>Accessories</b>					
Wall mounting bracket, 10 mm	4	2508.010	2508.010	2508.010	975
Wall mounting bracket, 40 mm	4	2503.010	2503.010	2503.010	975
Gland plates with hole	5	2563.000	2563.000	2563.000	1048
Blanking plates	3	see page 1100			
Standard swing frame with double-bit lock insert may be exchanged for 27 mm lock inserts, type A, see page 956.					



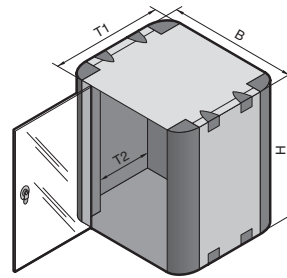
**Wall mounting bracket**

for mounting the enclosure either 10 mm or 40 mm away from the wall, see page 975.



**Combination rails**

for securing cables to the T-heads or the C section, see page 1063.



**Rittal-Net.com is the passive platform for the fast, future-proof assembly of communications networks in the small office sector.**

Three designer enclosures, for population with connection cables, patch cables and distributor panels, are tailored to the specific criteria of the SOHO market. Work groups may be set up quickly and easily.

**Material:**

1.5 mm sheet steel  
Smoked grey acrylic glazing  
Corner sections, aluminium  
Corner feet made from thermo-plastic foam

**Colour:**

Enclosure panels: RAL 7035  
Corner sections: RAL 7030

**Detailed drawing,**

available on the Internet.

U	Packs of	4	8	6	Page
<b>Width (B) mm</b>		342	342	342	
<b>Height (H) mm</b>		215	390	490	
<b>Depth (T1) mm</b>		280	280	400	
Max. installation depth (T2) mm		250	250	335	
<b>Model No. DK empty enclosure, individual</b>	1	<b>7870.100</b>	<b>7870.200</b>	<b>7870.300</b>	
Design		42 HP (1½ 19")	42 HP (1½ 19")	84 HP (19")	
Installation position		horizontal	horizontal	vertical	

**Accessory kits**

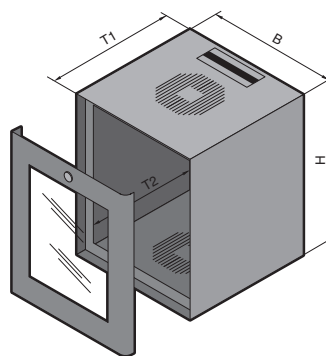
**Data distributor, including patch cable**

VF Cat 6, 8 ports, STP, LSA, including 8 patch cables with RJ 45 connector on both sides, extruded insulation, cable design in yellow, cable length 0.25 m	1	7870.822 <sup>1)</sup>	7870.822 <sup>1)</sup>	–	1106
VF Cat 6, 24 ports, STP, LSA, including 12 patch cables with RJ 45 connector on both sides, extruded insulation, cable design in yellow, cable length 0.6 m	1	–	–	7870.830	1106

<sup>1)</sup> Delivery times available on request.

# Networking

## RNC universal enclosure



A compact contemporary design in black, with integral glazed door (tinted safety glass). Central locking with just one lock, the side panels cannot be removed whilst the front door is latched.

Suitable for use both as a stand-alone model and for wall mounting. The plug-in side panels ensure rapid access and plenty of scope when mounting. Optional 1/2 19", 10" or 19" components RNC can be bayed, both horizontally and vertically, using the connector kit (supplied loose).

Passive ventilation via openings in the rear frame, roof and the gland plate. Fan expansion kit, optional (DK 7980.100). Cable entry optionally via the rear panel, roof or base. All frame parts and panels are prepared for earthing.

**Material:**  
Sheet steel, single-pane safety glass

**Colour:**  
Black, similar to RAL 9011

**Supply includes:**  
Enclosure with glazed door, baying kit, brush strip for cable entry, 482.6 mm (19") mounting level at front.

**Property rights:**  
German patents no. 10 210 481 no. 10 210 482

**Detailed drawing,**  
available on the Internet.

	Packs of		Page
<b>U 269.2 mm (1/2 19")</b>		10	
<b>U 482.6 mm (19")</b>		5	
<b>Width (B) mm</b>		350	
<b>Height (H) mm</b>		500	
<b>Depth (T1) mm</b>		350	
Max. installation depth (T2) mm		270	
<b>Model No. DK</b>	1	<b>7870.350</b>	
<b>Accessories</b>			
Socket strip 3-way, without switch	1	7240.110	1038
Socket strip 7-way, without switch, for 482.6 mm (19") level	1	7240.210	1038
Socket strip 7-way, with switch, for 482.6 mm (19") level	1	7240.220	1038
269.2 mm (1/2 19") component shelf, 1 U	1	7502.600	1021
269.2 mm (1/2 19") cable management panel, 1 U	1	7502.610	767
269.2 mm (1/2 19") blanking panel, 1 U	2	7870.720	767
269.2 mm (1/2 19") cable entry panel, 1 U	2	7870.730	767
482.6 mm (19") blanking panel, 1 U	2	7151.035	1110
482.6 mm (19") blanking panel, 2 U	2	7152.035	1110
482.6 mm (19") blanking panel, 3 U	2	7153.035	1110
Combination rail, length 200 mm	6	7502.302	1063
Adaptor for 10" system, 1 U	1	7870.760	767
Adaptor for 10" system, 4 U	1	7870.765	767
Phillips-head screw M5, with plastic washer	100	2099.500	1105
Phillips-head screw M6, with plastic washer	100	2089.000	1105
Captive nuts M5, with contact	50	2094.500	1105
Captive nuts M6, with contact	50	2094.200	1105

## Accessories for RNC enclosures



### Cable management panel 1U:

**42 HP (1/2 19") for RNC**  
For horizontal cable routing.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

U	Model No. DK
1	7502.610

**Supply includes:**  
Tray and 5 shunting rings.



### Entry panel 1 U

**42 HP (1/2 19") for RNC**  
For entry of patch cables. Cut-out approximately 227 x 30 mm.

**Material:**  
Sheet steel

Packs of	Model No. DK
2	7870.730

**Colour:**  
RAL 7035



### Blanking panel 1 U

**42 HP (1/2 19") for RNC and RiCase**  
As a blanking cover.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

Packs of	Model No. DK
2	7870.720



### Adaptor

**for RNC**  
For installing 10" components in 269.2 mm (1/2 19") enclosures.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

U	Model No. DK
1	7870.760
4	7870.765



### Base/plinth

**for RNC**  
To accommodate a maximum of two 3-way socket strips DK 7240.110 and also as storage space for cables.  
Height: 60 mm.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

**Supply includes:**  
4 levelling feet and 2/4 cable shunting rings.

HP	Width mm	Depth mm	Model No. DK
42	342	280	7870.710 <sup>1)</sup>
84	342	400	7870.715 <sup>1)</sup>

<sup>1)</sup> Delivery times available on request.

**+** **Accessories:**

Socket strip,  
see page 1038.



### Angle bracket

**for RNC**  
With space for optimum cable routing behind the RNC.

**Material:**  
Sheet steel

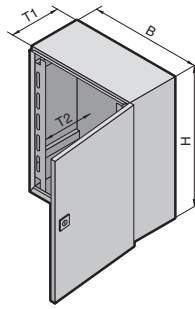
**Colour:**  
RAL 7035

HP	Width mm	Depth mm	Packs of	Model No. DK
42	342	280	2	7870.701
84	342	400	2	7870.706

**Supply includes:**  
Assembly parts

# Networking

## Wall-mounted enclosure, based on Rittal AE



Wall-mounted distributor with infinitely depth-variable 482.6 mm (19") mounting level at the front. The ideal solution for small networks or corridor distributors.  
Max. achievable protection category of up to IP 55 (to EN 60 529/09.2000) by replacing the cable entry brush with a gland plate.

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure: Powder-coated, RAL 7035

**Supply includes:**  
1 wall-mounted distributor enclosure with sheet steel door, cam lock and double-bit insert. Brush strip for cable entry at the bottom,  
2 mounting angles, 482.6 mm (19"), depth-adjustable,  
1 C rail for cable routing,  
1 metal bracket for optional accommodation of an earth rail or 482.6 mm (19") socket strip.

**Available on request:**

- Fully modified wall-mounted distributors
- Special designs

**Approvals,**  
see page 95.

**Detailed drawing,**  
available on the Internet.

U	Packs of	8	13	16	Page
<b>Width (B) mm</b>		600	600	600	
<b>Height (H) mm</b>		380	600	760	
<b>Depth (T1) mm</b>		350	350	350	
Max. installation depth (T2) mm		310	310	310	
<b>Model No. DK</b>	1	<b>7641.000</b>	<b>7643.000</b>	<b>7645.000</b>	
<b>Accessories</b>					
Gland plates in various designs	Size	5	5	5	1048 – 1053
	Qty.	1	1	1	
Wall mounting bracket, 10 mm	4	2508.010	2508.010	2508.010	975
Wall mounting bracket, 40 mm	4	2503.010	2503.010	2503.010	975
Glazed door, 34 mm profile depth	1	2730.000	2731.000	2732.000	944
Glazed door, 60 mm profile depth	1	2760.000	2761.000	2762.000	944
Component shelf 2 U, static installation, 250 mm	1	7119.250	7119.250	7119.250	1021
Earth rail	1	7113.000	7113.000	7113.000	1036
<b>Lock systems</b>					
Plastic handle, version B, see page 954.					
Standard double-bit lock insert may be exchanged for 27 mm lock inserts, version A, see page 956.					

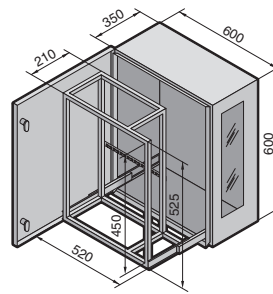


**Earth rail**  
for attaching to the rear bracket, see page 1036.



**High protection category**  
by exchanging the brush strip for metal gland plates, see page 1049.

## Wall-mounted enclosure, based on Rittal AE, with pull-out frame



Wall-mounted distributor with 482.6 mm (19") pull-out frame. Side and front installation with 482.6 mm (19") components in a vertical mounting position. Horizontal installation also optionally supported at the front. Status monitoring via side viewing window. Pull-out frame may be removed for population via snap fastenings. Passive cooling via pre-configured outlet filter, may be upgraded to active. Optional accommodation of earth rail DK 7113.000 in a vertical position on the pull-out frame.

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure: Powder-coated, RAL 7035  
Pull-out frame zinc-plated, passivated

**Supply includes:**  
1 wall-mounted distributor enclosure with sheet steel door, cam locks and double-bit insert. Pull-out frame attached to telescopic slides. Outlet filter in enclosure base and on left-hand side. Viewing window on right-hand side. Combination rail for cable clamping behind the cable entry. Additional cable clamp rail for mounting on the pull-out frame.

**Protection category:**  
IP 43 to EN 60 529/09.2000

**Available on request:**

- Fully modified wall-mounted distributors
- Special designs

**Detailed drawing,** available on the Internet.

<b>Width</b> mm	Packs of	600	Page
<b>Height</b> mm		600	
<b>Depth</b> mm		350	
<b>Model No. DK</b>	1	<b>7644.000</b>	
Side 482.6 mm (19") level, vertical		4 U	
Front 482.6 mm (19") level, vertical and horizontal		10 U	

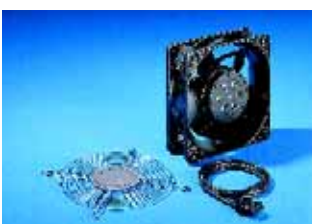
<b>Accessories</b>			
	Size		
Gland plates in various designs	Qty.	5	1048 – 1053
Wall mounting bracket, 10 mm	4	2508.010	975
Wall mounting bracket, 40 mm	4	2503.010	975
Shelf	1	7644.400 <sup>1)</sup>	1022
Component shelf, 1 U	1	7119.140	1021
Earth rail, horizontal	1	7113.000	1036
Fan expansion kit 230 V AC (only for use at the bottom)	1 set	7980.100	703
Fan expansion kit 48 V DC (only for use at the bottom)	1 set	7980.148	703

**Lock systems**

Plastic handle, version B, see page 954.

Standard double-bit lock insert may be exchanged for 27 mm lock inserts, version A, see page 956.

<sup>1)</sup> Delivery times available on request.



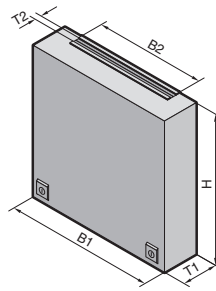
**Active ventilation** with the fan expansion kit in 230 V AC or 48 V DC versions, see page 703.



**Shelf** support surface for small equipment, see page 1022.

# Networking

## Small fibre-optic distributors



### Material:

Sheet steel, 1.5 mm

### Surface finish:

Enclosure: Powder-coated, RAL 7035

### Supply includes:

1 enclosure, two-part, to accommodate a maximum of 48 or 96 optical fibres, 1 wall section: With mounting holes for wall mounting,

### 11 or 16 shunting rings:

For patching cables/fibre stock, 1 or 2 splicing cassette holders: To accommodate a maximum of 8 or 16 splicing cassettes, 2 comb strips:

For cable clamping, and brush inserts to provide protection against dust,

1 cover: With suspension device and two cam locks.

### Note:

When the small fibre-optic distributor is used without a patch panel, 1 or 2 splicing cassette holders may be retrofitted (maximum splicing cassette accommodation 16/32).

### Available on request:

- Special designs

### Property rights:

German patent no. 44 10 795

### Detailed drawing,

available on the Internet.

Width (B1) mm	Packs of	500	500	Page
Height (H) mm		500	900	
Depth (T1) mm		120	120	
Width of cable entry (B2) mm		395	395	
Depth of cable entry (T2) mm		29	29	
<b>Model No. DK</b>	1	<b>7452.035</b>	<b>7453.035</b>	
Number of fibres (when using patch panels)		1 – 48	1 – 96	
<b>Accessories</b>				
Patch panels with 12/24 locations for fibre-optic couplings		Maximum population 2 patch panels	Maximum population 4 patch panels	
F-SMA 6.5 mm, 24 locations	2	<b>7456.035<sup>1)</sup></b>	<b>7456.035<sup>1)</sup></b>	–
F-SMA 7.5 mm, 24 locations	2	<b>7457.035<sup>1)</sup></b>	<b>7457.035<sup>1)</sup></b>	–
ST, 24 locations	2	<b>7458.035</b>	<b>7458.035</b>	–
DIN 47 256, 24 locations	2	<b>7459.035<sup>1)</sup></b>	<b>7459.035<sup>1)</sup></b>	–
SC, E-2000, E-2000 duplex, 24/12 locations	2	<b>7460.035<sup>1)</sup></b>	<b>7460.035<sup>1)</sup></b>	–
SC duplex, 12 locations	2	<b>7460.135<sup>1)</sup></b>	<b>7460.135<sup>1)</sup></b>	–
Splicing cassette holder for retrofitting	1	<b>7450.035</b>	<b>7450.035</b>	1111
<b>Lock systems</b>				
T handle without lock insert	1	2572.000	2572.000	955
T handle with lock insert no. 3524 E	1	2575.000	2575.000	955
Plastic handle with lock no. Nr. 3524 E	1	2576.000	2576.000	954
Plastic handle	1	2533.000	2533.000	954

Standard double-bit lock insert may be exchanged for 27 mm lock inserts, version A, see page 956.

<sup>1)</sup> Delivery times available on request.



### Splicing cassette holder

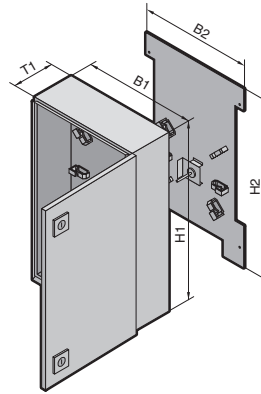
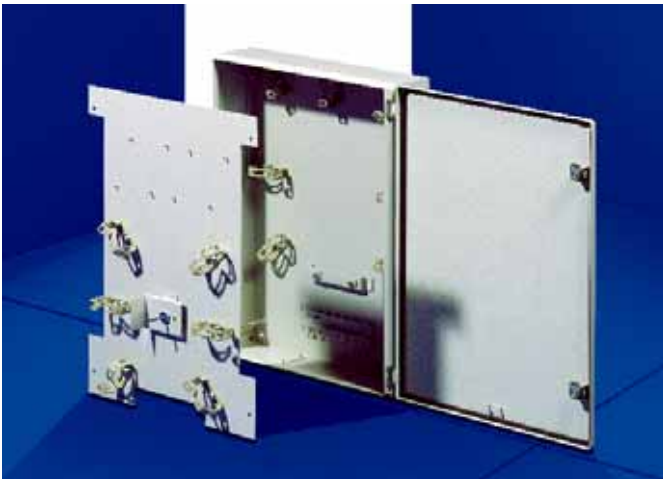
incl. cassette cover, see page 1111.



### Blanking cover

for unused cut-outs in patch panels, see page 1112.

## Small fibre-optic distributors, based on Rittal AE



### Layout of the small fibre-optic distributor:

**Basic enclosure:**  
With cable shunting rings to accommodate the fibre stock and a strain relief system for incoming and outgoing cables.

**Mounting plate:**  
With accommodation for 4 splicing cassettes and 4 patch panels.

**Patch panels:**  
There are 4 patch panels available with varying cut-outs.

Other special versions available on request.

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure: Powder-coated, RAL 7035

**Protection category:**  
IP 55 (to EN 60 529/09.2000) when using suitable cable gland plates.

### Supply includes:

- 1 enclosure of sheet steel with 2 gland plates of sheet steel, sides,
- 1 gland plate, bottom,
- 7 cable shunting rings 70 x 44 mm,
- 2 strain relief clips,
- 1 cable clamp rail, double,
- 1 door of sheet steel, with double-bit locks, with 2 hinges on the right,
- 1 mounting plate of sheet steel with 6 shunting rings 70 x 44 mm,
- 4 recesses for patch panels,
- 1 splicing cassette holder.

### Detailed drawing,

available on the Internet.

Width (B1) mm	Packs of	400	Page
Height (H1) mm		500	
Depth (T1) mm		155	
Mounting plate width (B2) mm		355	
Mounting plate height (H2) mm		455	
<b>Model No. DK</b>	1	<b>7454.000</b>	
Number of fibres (when using patch panels)		1 – 48	

Accessories			
Patch panel, maximum population with 4 patch panels	Locations		
Patch panel for ST couplings	12	2	<b>7462.000</b>
Patch panel for SC, E-2000, E-2000 duplex couplings	12/6	2	<b>7463.100</b>
Patch panel for SC duplex couplings	6	2	<b>7463.200</b>
Cable gland with 2 half-shells, cable diameter from 8 – 36 mm, for mounting at the bottom, reduced protection category		1	2400.000 1057
Plastic cable gland plates, PG size 13.5, for side mounting		5	1581.000 1048
Plastic cable gland plates, PG size 13.5/16/21, for side mounting		5	1582.000 1048
Wall mounting bracket, 40 mm		4	2503.010 975
Wall mounting bracket, 10 mm		4	2508.010 975
Lock systems			
Plastic handle		1	2533.000 954
Plastic handle with lock cylinder insert		1	2576.000 954
Lock cylinder insert no. 3524 E		1	2571.000 957



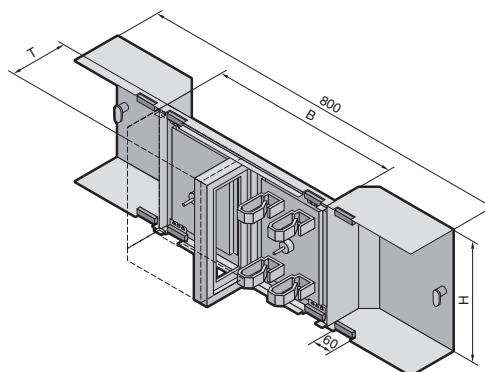
**Connector gland**  
for pre-assembled cables, see page 1057.



**Plastic handle**  
with a lock cylinder, see page 954.

# Networking

## Fibre-optic marshalling enclosure



Patch panels are easily fastened within the aperture. A door is provided to cover and lock the splicing cassette accommodation. A second door covers and locks the secondary chamber/ splicing cassette accommodation. Both doors are provided with different locks.

**Material:**  
Sheet steel, 1.0 mm

**Colour:**  
RAL 7035

**Surface finish:**  
Enclosure: Powder-coated,  
RAL 7035

**Supply includes:**

1 enclosure to accommodate a maximum of 24 optical fibres, wall section with mounting holes for wall mounting,  
2 doors with different locks, for separate access,  
4 shunting rings, 70 x 44 mm,  
2 splicing cassette holders each for 2 splicing cassettes,  
4 rubber seals for cable entry,  
4 comb strips for cable clamping.

**Note:**

If the marshalling enclosure is used without patch panels, 4 splicing cassettes, 2 per side, may be integrated.

**Property rights:**

German patent no. 195 47 135  
European patent no. 0 867 058 with validity for NL  
European patent no. 0 867 059 with validity for DE, FR, GB, IT

**Available on request:**

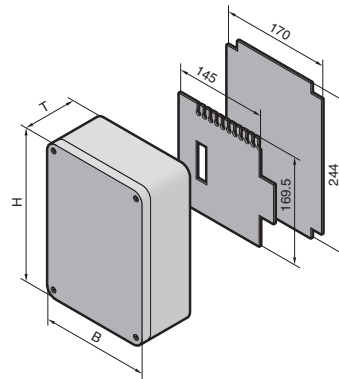
- Other variants

**Detailed drawing,** available on the Internet.

<b>Width (B) mm</b>	Packs of	400
<b>Height (H) mm</b>		250
<b>Depth (T) mm</b>		120
<b>Model No. DK</b>	1	<b>7247.000</b>
Number of fibres (when using patch panels)		1 – 24
<b>Accessories</b>		
Patch panel for 24 ST couplings	1	<b>7247.010</b>
Patch panel for 24 SC, E-2000 couplings <sup>1)</sup>	1	<b>7247.020</b>
Patch panel for 12 SC duplex couplings	1	<b>7247.030</b>

<sup>1)</sup> 12 E-2000 duplex couplings may be accommodated.

## Small fibre-optic distributor, polycarbonate



### Configuration Small fibre-optic distributor:

**Mounting plate:**  
With accommodation for one or two splicing cassettes, the width of the cassettes may vary from 92 to 120 mm.

**Dividing plate:**  
Covers the splicing cassettes and separates them from the patch cables. Aperture for patch panels and a cable clamp are also integrated.

**Patch panels:**  
F-SMA, E-2000-ST couplings, E-2000 duplex and SC and SC duplex couplings are available. Other special variants available on request.

**Cable entry:**  
For cable entry, there are pre-punchings for PG cable glands integrated into the small fibre-optic distributor.  
The cable glands (12 x PG 7 and 1 x PG 16) are included with the supply. Pre-assembled connectors will also fit through the knockout apertures (for diameters, see below). Depending on diameter, the cable can either be held in the knockouts by a 2-part cable entry gland or cable entry sleeves. The two-part cable entry and the grommets are not included with the supply, due to the different cable diameters.  
Diameter of the prepunched knockouts:  
12 x 12.5 mm  
2 x 22.5 mm

**Material:**  
Enclosure and cover: Fibreglass-reinforced polycarbonate  
Cover screws: Polyamide  
**Colour:**  
RAL 7035  
**Protection category:**  
IP 66 to EN 60 529/09.2000.

**Supply includes:**  
1 enclosure and lid of fibre-glass-reinforced polycarbonate to accommodate splicing cassettes and patch panels, 1 enclosure lid with 2 hinges, knockouts for PG glands are integrated into the enclosure, 12 x cable glands PG 7, 1 x cable gland PG 16, 1 mounting plate with variable accommodation of 2 splicing cassettes and integral anti-twist guard, 1 dividing plate to cover the splicing cassette, accommodation for 2 patch panels and comb strip for cable clamping, 2 lid screws of polyamide with option of preparing for a lead seal, polyamide insulating bungs for wall mounting screws. All-round foamed-in PU seal.  
**Detailed drawing,**  
available on the Internet.

<b>Width (B) mm</b>	Packs of	180
<b>Height (H) mm</b>		254
<b>Depth (T) mm</b>		90
<b>Model No. DK</b>	1	<b>7451.000</b>
Number of fibres (when using patch panels)		1 – 24

<b>Accessories</b>				
	Locations per patch panel	Locations per enclosure		
Patch panel for 7.5 mm F-SMA couplings	12	24	2	<b>7461.000</b>
Patch panel for ST couplings	12	24	2	<b>7462.000</b>
Patch panel for SC, E-2000, E-2000 duplex couplings	12/6	24/12	2	<b>7463.100</b>
Patch panel for SC duplex couplings	6	12	2	<b>7463.200</b>
Wall mounting brackets			40	<b>9583.000</b>



**Wall mounting brackets**  
Attach securely to the enclosure simply by clipping in.

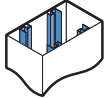

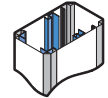
# Server racks

## System comparison of racks

Rittal server rack solutions are as versatile as your requirements! **Three system platforms with various strengths in terms of security, interior installation, climate control and design** provide the basis for server racks with carefully selected configurations to meet your requirements precisely.

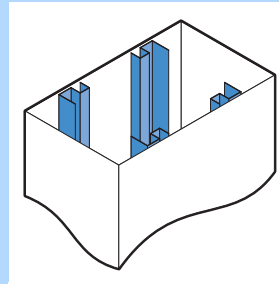
Server racks

B  
5.3

Rittal system comparison	TE 7000	TS 8	FR(i)
One platform for all requirements in the IT market			
<b>Load capacity</b>			
up to 700 kg, static	■■■	■■■	■■■
up to 1000 kg, static		■■■	■■■
<b>Baying</b>			
Side to side	■■■	■■■	■■■
In all levels		■■■	
Dismantling	■■■	■	■
<b>Climate control</b>			
Fans	■■■	■■■	■■■
Cooling unit		■■■	
Air/water heat exchanger		■■■	
CPU liquid cooling		■■■	■■■
<b>Cabling</b>			
Cable space	■■■	■■	■■
Cable management	■■	■■■	■■
<b>Lock system</b>			
2-point	■■■	■■■	■■■
4-point		■■■	
<b>Security</b>			
Access control	■■■	■■■	■■■
Thermal management	■■■	■■■	■■■
<b>Interior installation</b>			
Depth-variable	■■■	■■■	■■
Partial installation		■■■	
2-level principle		■■■	■
<b>Aesthetics</b>			
	■■	■■	■■■
<b>Standards</b>			
IEC 60 297-1-2	■■■	■■■	■■■

**Note:**  
The more ■ the greater the compatibility.

### Rittal TE 7000



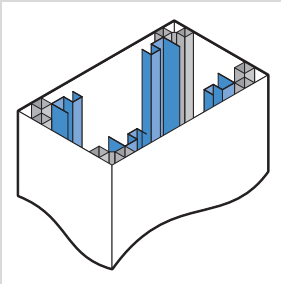
#### TE 7000 – The Top Efficiency server rack

With two depth-variable 482.6 mm (19") frames (without enclosure frame), the practical rack for the server room.

- Optimum accessibility.
- Fully vented front and rear door, > 67 % free ventilation area.
- 2-point locking, optionally with Ergoform-S handle system.

Server racks based on Rittal TE 7000, see page 776.

### Rittal TS 8



#### TS 8 – The server rack with no limitations

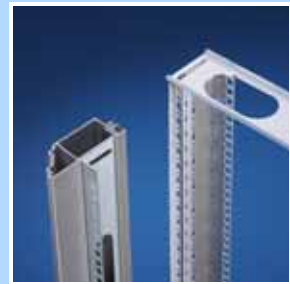
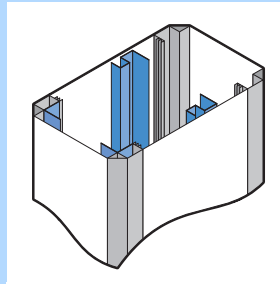
Rittal TS 8 server racks offer the ideal conditions to combine all the relevant technologies into complete IT infrastructure solution.

Each rack makes an important contribution to the physical security of your IT infrastructure and forms the interface to pioneering climate control concepts.

- Ventilation via perforated front and rear ventilated door with open area of > 78 %.
- Lock system with comfort handle and 4-point locking.
- The ingenious symmetry concept of the frame offers baying on all sides.
- Frame section with unlimited mounting diversity.
- High load capacity up to 1000 kg.

Server racks based on Rittal TS 8, see page 777.

### Rittal flexRack(i)



#### flexRack(i) – Smart design, exceptional technology

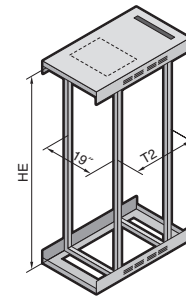
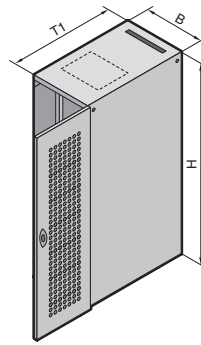
The server rack with a highly individual touch. The curved designer door unites functionality with aesthetics, while the aluminium system channel in the frame sections accommodates redundant socket strips, cabling or even rising mains from liquid cooling systems with no loss of space.

- Aluminium vertical sections with multi-functional system channel.
- Screw-fastened enclosure system, may be dismantled.
- Vented front and rear door with open surface area of 67 % in the perforated plate.
- 2-point locking.
- Stabilisers for optimum operational safety.

Server racks based on Rittal flexRack(i), see page 780.

# Server racks

Based on Rittal TE 7000, 1000 mm deep



**Benefits:**

- No frame structure, optimum accessibility

**Static load capacity:**

700 kg

**Material:**

Sheet steel

**Surface finish:**

Mounting frame:  
Dipcoat-primed  
Enclosure panels:  
Powder-coated, RAL 7035/9005.

**Supply includes:**

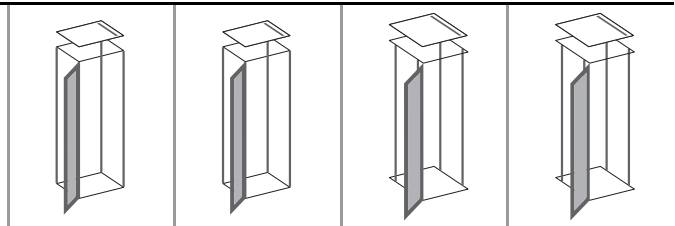
Self-supporting 482.6 mm (19") frame structure, vented sheet steel door front and rear, two-point locking rod, recessed handle (front) and security lock 3524 E, roof plate

with brush strip for cable entry and concealed cut-out for fan integration, levelling feet.

**Detailed drawing,** available on the Internet.

Server racks

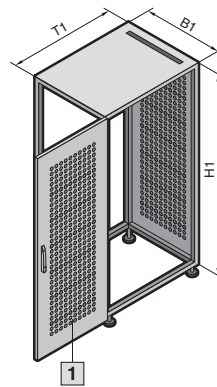
5.3



		42	42	42	42
<b>U (HE)</b>		42	42	42	42
<b>Width (B) mm<sup>1)</sup></b>		600	600	800	800
<b>Height (H) mm<sup>1)</sup></b>		2000	2000	2000	2000
<b>Depth (T1) mm<sup>1)</sup></b>		1000	1000	1000	1000
Distance between 482.6 mm (19") levels in its delivered state (T2) mm		745	745	745	745
<b>Model No. TE</b>	RAL 7035	<b>7000.882</b>	–	<b>7000.892</b>	–
<b>as bayed enclosure without side panels, including baying kit</b>	RAL 9005	–	<b>7000.885</b>	–	<b>7000.895</b>
<b>Doors</b>					
Sheet steel door front and rear, fully vented; open surface area > 67 % perforated		■	■	■	■
<b>Roof</b>					
Roof plate including brush strip for cable entry and with an optional fan		■	■	■	■
<b>Base</b>					
Base frame with maximum cut-out for cable entry or passive ventilation. Can be fitted with optional blanking panels.		■	■	■	■
<b>Interior installation</b>					
482.6 mm (19") mounting frames front and rear		■	■	■	■
<b>Accessories</b>					
Side panels, pluggable, including security lock 3524 E		<b>7000.653</b>	<b>7000.663</b>	<b>7000.653</b>	<b>7000.663</b>
Ergoform-S handle for semi-cylinder, to exchange for the existing lock		2435.000	2452.000 <sup>2)</sup>	2435.000	2452.000 <sup>2)</sup>
Fan unit, with 2 fans and thermostat, prewired ready for connection		7000.670	7000.671 <sup>3)</sup>	7000.670	7000.671 <sup>3)</sup>
Transport castors, 4 castors including assembly parts		7000.672	7000.672	7000.672	7000.672
C rail, for cable clamping in the enclosure width via cable clamps, on the 482.6 mm (19") mounting frame at the rear		7828.060	7828.060	7828.060	7828.060
Cable clamp rail, depth-variable 500 – 895 mm, for cable attachment in the enclosure depth via cable ties		7858.162	7858.162	7858.162	7858.162
Cable clamp rail, for cable attachment in the enclosure width via cable ties, on the 482.6 mm (19") mounting frame at the rear		7828.062	7828.062	7828.062	7828.062
Earthing kit for TE		7000.675	7000.675	7000.675	7000.675
TE socket strip, 8-way for earthing-pin plugs		7000.630	7000.630	7000.630	7000.630

■ Included with the supply. <sup>1)</sup> All sizes are nominal dimensions. For absolute dimensions, refer to detailed drawings on the Internet. <sup>2)</sup> Matt nickel-plated.

## Based on Rittal TS 8, pre-configured



### Design features

- Robust frame structure
- Front and rear door fully vented; vented surface area > 78 % perforated
- 4-point locking, 2-point locking with multiple door versions and H = 1200 mm
- Door hinge may be swapped to opposite side
- Cable entry via the roof and base
- Bayable at all levels
- Static load capacity of up to 1000 kg

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure frame:  
Dipcoat-primed

Enclosure panels:  
Dipcoat-primed, powder-coated in RAL 7035 or RAL 9005  
Mounting angles and punched sections with mounting flanges:  
Zinc-plated, passivated

**Supply includes:**  
Enclosure frame TS 8 with sheet steel doors front and rear, vented, with 130° hinges, L-shaped, depth-variable fitted mounting angles and/or 482.6 mm (19") mounting frame,

levelling feet, comfort handle with security lock 3524 E and 4-point lock.

**Detailed drawing,** available on the Internet.

**1** Optimised air flow

<b>Number of front and rear doors</b>		1	1	1	1	1	1	1	1
<b>U</b>		24	24	42	42	42	47	47	47
<b>Width (B1) mm<sup>2</sup></b>		600	600	600	600	600	600	600	600
<b>Height (H1) mm<sup>2</sup></b>		1200	1200	2000	2000	2000	2200	2200	2200
<b>Depth (T1) mm<sup>2</sup></b>		900	1000	900	1000	1200	900	1000	1200
<b>Model No. DK as bayed enclosure without side panels, without baying kit</b>	RAL 7035	<b>7831.431</b>	<b>7831.433<sup>3)</sup></b>	<b>7831.436</b>	<b>7831.438</b>	<b>7831.481</b>	<b>7831.440</b>	<b>7831.442</b>	<b>7831.483</b>
	RAL 9005	<b>7831.432<sup>3)</sup></b>	<b>7831.434<sup>3)</sup></b>	<b>7831.437</b>	<b>7831.439</b>	<b>7831.482</b>	<b>7831.441</b>	<b>7831.443</b>	<b>7831.484<sup>3)</sup></b>
<b>Model No. DK with side panels, plug-type</b>	RAL 7035	-	-	-	-	<b>7831.491</b>	-	-	<b>7831.493</b>
	RAL 9005	-	-	-	-	<b>7831.492</b>	-	-	<b>7831.494<sup>3)</sup></b>
<b>Doors</b>									
Sheet steel doors, vented, front and rear <sup>1)</sup>		■	■	■	■	■	■	■	■
<b>Roof</b>									
Roof plate for cable entry, two-piece		■	■	■	■	■	■	■	■
<b>Base</b>									
Levelling feet		■	■	■	■	■	■	■	■
Open base, without base frame		■	■	■	■	■	■	■	■
<b>Interior installation</b>									
482.6 mm (19") levels, front and rear		■	■	■	■	■	■	■	■
L-shaped mounting angles		■	■	■	■	■	■	■	■
Mounting angles attached to depth stays		■	■	■	■	■	■	■	■
482.6 mm (19") mounting frames, front and rear		-	-	-	-	-	-	-	-
Panel earthing, fitted		■	■	■	■	■	■	■	■
Individual compartments, shielded/separate cable routing per compartment		-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
<b>Accessories</b>									
Plug-in side panels with T lock, IP 20	RAL 7035	7824.129	7824.120	7824.209	7824.200	■ (7831.491 only)	7824.229	7824.220	■ (7831.493 only)
	RAL 9005	7816.129	7816.120	7816.209	7816.200	■ (7831.492 only)	7816.229	7816.220	■ (7831.494 only)
Security lock 3524 E for side panels		7824.500	7824.500	7824.500	7824.500	7824.500	7824.500	7824.500	7824.500
Base assembly bracket		8800.210	8800.210	8800.210	8800.210	8800.210	8800.210	8800.210	8800.210
Depth-variable slide rail, 1 U		7063.883	7063.883	7063.883	7063.883	7063.883	7063.883	7063.883	7063.883
Stabiliser, pull-out		7825.200	7825.250	7825.200	7825.250	7825.260	7825.200	7825.250	7825.260

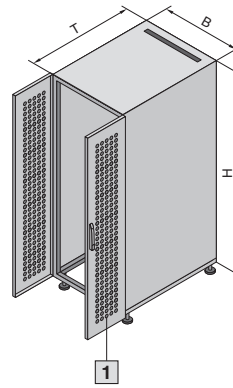
■ Included with the supply. <sup>1)</sup> Vented surface area > 78 % perforated.

<sup>2)</sup> All sizes are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet. <sup>3)</sup> Delivery times available on request.

**Accessories** Page 890 **Liquid cooling** Page 726 **Baying system** Page 926

# Server racks

## Based on Rittal TS 8, pre-configured



### Design features:

- Robust frame structure
- Front and rear door fully vented; 180°; vented surface area > 78 % perforated
- 4-point locking
- Door hinge may be swapped to opposite side
- Cable entry via the roof and base
- Bayable at all levels
- Static load capacity of up to 1000 kg

### Material:

Sheet steel

### Surface finish:

Enclosure frame:  
Dipcoat-primed  
Enclosure panels:  
Dipcoat-primed,  
powder-coated in RAL 7035  
or RAL 9005  
Mounting frame:  
Zinc-plated, passivated

### Supply includes:

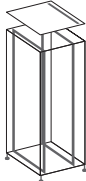
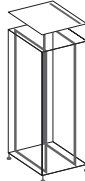
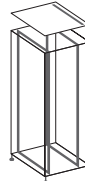
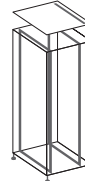
Enclosure frame TS 8 with sheet steel doors, vertically divided, vented front and rear, depth-variable 482.6 mm (19") mounting frame front and rear, levelling feet, comfort handle with security lock 3524 E and 4-point lock.

Fitted with standard lock 3524 E. Enclosure panel earthing already prefitted. Two-piece roof plate, with sliding plate and rubber cable clamp strip for cable entry. Without or with side panels in colours RAL 7035 and RAL 9005.

### Detailed drawing,

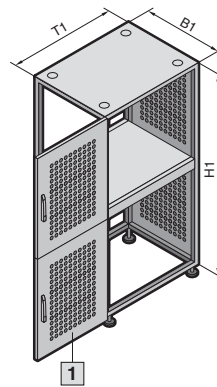
available on the Internet.

- 1** Optimised air flow. Open surface area > 78 % perforated.

				
<b>Number of front and rear doors</b>	2 (vertically divided)	2 (vertically divided)	2 (vertically divided)	2 (vertically divided)
<b>U</b>	42	42	42	42
<b>Width (B) mm</b>	800	800	800	800
<b>Height (H) mm</b>	2000	2000	2000	2000
<b>Depth (T) mm</b>	1200	1200	1200	1200
<b>Model No. DK</b>	<b>7831.489</b>	<b>7831.499</b>	<b>7831.580<sup>2)</sup></b>	<b>7831.590<sup>2)</sup></b>
<b>RAL colour</b>	7035	7035	9005	9005
<b>Doors</b>				
Sheet steel doors, vented, front and rear <sup>1)</sup>	■	■	■	■
Plug-in side panels with T lock	-	■	-	■
<b>Roof</b>				
Roof plate, two-piece with rubber cable clamp strip for cable entry	■	■	■	■
<b>Base</b>				
Open base, without base frame	■	■	■	■
Levelling feet	■	■	■	■
<b>Interior installation</b>				
482.6 mm (19") level, front and rear	■	■	■	■
482.6 mm (19") mounting frames, front and rear	■	■	■	■
Load capacity 1000 kg, static	■	■	■	■
Panel earthing, fitted	■	■	■	■
<b>Accessories</b>				
Security lock 3524 E for side panels	7824.500	7824.500	8601.802	7824.500
Base/plinth components, front and rear, solid	8601.805	8601.805	8601.802	8601.802
Base/plinth trims	8601.025	8601.025	8601.026	8601.026
Base assembly bracket	8800.210	8800.210	8800.210	8800.210
Stabiliser, pull-out	7825.260	7825.260	7825.260	7825.260

■ Included with the supply. <sup>1)</sup> Vented surface area > 78 % perforated. <sup>2)</sup> Delivery times available on request.

## Based on Rittal TS 8, pre-configured



### Design features

- Robust frame structure
- Front and rear door fully vented; vented surface area > 78 % perforated
- 4-point locking, 2-point locking with multiple door versions
- Door hinge may be swapped to opposite side
- Cable entry via the roof and base
- Bayable at all levels
- Static load capacity of up to 1000 kg

**Detailed drawing,** available on the Internet.

**1** Optimised air flow

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure frame:  
Dipcoat-primed  
Enclosure panels:  
Dipcoat-primed, powder-coated

in RAL 7035 or RAL 9005  
Mounting angles and punched sections with mounting flanges:  
Zinc-plated, passivated

**Supply includes:**  
Enclosure frame TS 8 with sheet steel doors front and rear,

vented, with 130° hinges, L-shaped, depth-variable fitted mounting angles and/or 482.6 mm (19") mounting frame, levelling feet, comfort handle with security lock 3524 E and 4-point lock.

<b>Number of front and rear doors</b>		1	1	1	2	4
<b>U</b>		42	42	47	2 x 21	4 x 10
<b>Width (B1) mm<sup>2)</sup></b>		800	800	800	600	600
<b>Height (H1) mm<sup>2)</sup></b>		2000	2000	2200	2200	2200
<b>Depth (T1) mm<sup>2)</sup></b>		1000	1200	1200	900	900
<b>Model No. DK as bayed enclosure without side panels, without baying kit</b>	RAL 7035	<b>7831.446</b>	<b>7831.485</b>	<b>7831.487<sup>3)</sup></b>	<b>7831.450</b>	<b>7831.460</b>
	RAL 9005	–	<b>7831.486<sup>3)</sup></b>	<b>7831.488<sup>3)</sup></b>	<b>7831.451<sup>3)</sup></b>	<b>7831.461<sup>3)</sup></b>
<b>Model No. DK with side panels, plug-type</b>	RAL 7035	–	<b>7831.495<sup>3)</sup></b>	<b>7831.497<sup>3)</sup></b>	–	–
	RAL 9005	–	<b>7831.496<sup>3)</sup></b>	<b>7831.498<sup>3)</sup></b>	–	–
<b>Doors</b>						
Sheet steel doors, vented, front and rear <sup>1)</sup>		■	■	■	■	■
<b>Roof</b>						
Roof plate for cable entry, two-piece		■	■	■	–	–
Roof plate with cable entry openings in the corners		–	–	–	■	■
<b>Base</b>						
Levelling feet		■	■	■	–	–
Open base, without base frame		■	■	■	■	■
<b>Interior installation</b>						
482.6 mm (19") levels, front and rear		■	■	■	–	–
L-shaped mounting angles		–	–	–	–	–
Mounting angles attached to depth stays		–	–	–	■	■
482.6 mm (19") mounting frames, front and rear		■	■	■	–	–
Panel earthing, fitted		■	■	■	■	■
Individual compartments, shielded/separate cable routing per compartment		–/–	–/–	–/–	■/■	■/■
<b>Accessories</b>						
Plug-in side panels with T lock, IP 20	RAL 7035	7824.200	■ (7831.495 only)	■ (7831.497 only)	7824.229	7824.229
	RAL 9005	–	■ (7831.496 only)	■ (7831.498 only)	7816.229	7816.229
Security lock 3524 E for side panels		7824.500	7824.500	7824.500	7824.500	7824.500
Base assembly bracket		8800.210	8100.235	8100.235	8800.210	8800.210
Depth-variable slide rail, 1 U		7063.883	7063.883	7063.883	7063.883	7063.883
Stabiliser, pull-out		7825.250	7825.260	7825.260	7825.200	7825.200

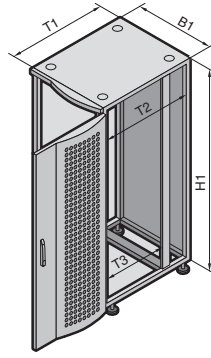
■ Included with the supply. <sup>1)</sup> Vented surface area > 78 % perforated.

<sup>2)</sup> All sizes are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet. <sup>3)</sup> Delivery times available on request.

**Accessories** Page 890 **Liquid cooling** Page 726

# Server racks

Based on Rittal flexRack(i), 1000 and 1200 mm deep, pre-configured



### Design features

- Enclosure system may be dismantled because the vertical sections are screw-fastened to the roof and base frame.
- Aluminium vertical section with multi-functional system channel
- Vented front and rear door with vented surface area > 67 % perforated
- 2-point locking
- Cable entry via the roof and base

- Pull-out stabiliser
- Suitable for baying
- Static load capacity of up to 1000 kg

### Material:

Vertical frame sections:  
Extruded aluminium section,  
roof frame, panels:  
Sheet steel

### Surface finish:

Enclosure panels/door trim panel:  
Spray-finished in RAL 7035

Frame sections, perforated plate of front/rear door: RAL 9006  
482.6 mm (19") mounting angles, mounting frame:  
Zinc-plated, passivated

### Supply includes:

System frame section FR(i)<sup>1)</sup> with designer door, vented, TS sheet steel door at rear, vented, levelling feet, stabiliser, earthing of all enclosure panels, comfort handles for semi-cylinder and/or knob handle with security lock 3524 E.

### Property rights:

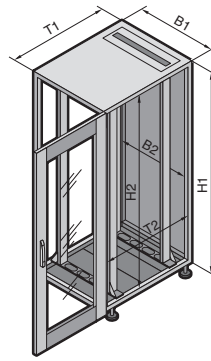
German patent no. 103 11 376  
German registered design no. 403 04 312  
British registered design no. 301 54 31

**Detailed drawing,** available on the Internet.

<b>U</b>	24	42	24	42
<b>Width (B1) mm<sup>3)</sup></b>	600	600	600	600
<b>Height (H1) mm<sup>3)</sup></b>	1200	2000	1200	2000
<b>Depth (T1) mm<sup>3)</sup></b>	1005	1005	1205	1205
<b>Depth absolute, including handles and curvature (T1) mm + 75 mm<sup>3)</sup></b>	1080	1080	1280	1280
Maximum distance between levels (T2) mm <sup>3)</sup>	829	829	1029	1029
Distance between the 482.6 mm (19") levels (T3) mm <sup>3)</sup>	750	750	850	850
<b>Model No. FR(i) as bayed enclosure without side panels, without baying kit</b>	<b>7855.310</b>	<b>7855.330</b>	<b>7855.312</b>	<b>7855.332</b>
<b>Doors</b>				
Designer door, front, vented <sup>2)</sup>	■	■	■	■
TS sheet steel door, rear, vented <sup>2)</sup>	■	■	■	■
<b>Roof</b>				
Solid roof plate	■	–	■	–
Roof plate with cable entry openings in the corners	–	■	–	■
<b>Base</b>				
Levelling feet	■	■	■	■
Stabiliser, pull-out	■	■	■	■
Open base, without base frame	■	■	■	■
<b>Interior installation</b>				
482.6 mm (19") mounting angles, front	■	■	■	■
482.6 mm (19") mounting frame, rear	■	■	■	■
Earthing of all enclosure panels on the enclosure frame	■	■	■	■
Central earthing point fitted at the rear of the base frame	■	■	■	■
<b>Accessories</b>				
2 designer side panels IP 20, including security lock 3524 E	7856.672	7856.687	7856.673	7856.688
Transport kit, 4 castors including assembly parts	7825.900	7825.900	7825.900	7825.900

■ Included with the supply. <sup>1)</sup> The system frame FR(i) is generally suitable for the installation of TS 8 accessories.  
<sup>2)</sup> Vented surface area > 67 % perforated. <sup>3)</sup> All sizes are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

## Based on Rittal TS 8, High Performance Cooling systems HPC



### High Performance Cooling systems HPC:

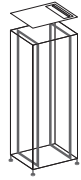
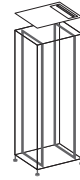
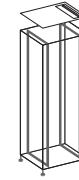
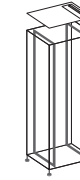
Designer glazed door at the front (180°), with 3 mm single-pane safety glass, sheet steel door at the rear (130°), comfort handle for semi-cylinder and security lock 3524 E on both sides. 482.6 mm (19") mounting frame front and rear, distance between levels pre-configured at 740 mm, free space to front door

approx. 100 mm, max. static load capacity of the interior installation 1000 kg per rack. Roof plate, two-piece, for cable entry via sliding plate. Multi-divided base/gland plate. Maximum attainable protection category IP 54, in conjunction with solid roof (bayed solution) and additional screw-fastened side panels with stand-alone siting.

**Material:**  
Sheet steel

**Surface finish:**  
Dipcoat-primed, panels additionally powder-coated, RAL 7035. Gland plates and 482.6 mm (19") mounting frame zinc-plated, passivated.

**Supply includes:**  
Enclosure frame with doors and rear panel, roof plate, gland plate, 482.6 mm (19") interior installation, earthing of all panels, levelling feet, fitted.

				
<b>U</b>	42	42	42	42
<b>Width (B1) mm<sup>1)</sup></b>	600	800	600	800
<b>Height (H1) mm<sup>1)</sup></b>	2000	2000	2000	2000
<b>Depth (T1) mm<sup>1)</sup></b>	1000	1000	1200	1200
Clearance width (B2) mm	512	712	512	712
Clearance height (H2) mm	1912	1912	1912	1912
Clearance depth (T2) mm	912	912	1112	1112
<b>Model No. DK as bayed enclosure without side panels, without baying kit</b>	<b>7931.810</b>	<b>7931.800</b>	<b>7931.812</b>	<b>7931.802</b>
<b>Model No. DK with side panels, screw-fastened</b>	-	-	<b>7931.813</b>	<b>7931.803</b>
<b>Doors</b>				
Designer glazed front door, sheet steel rear door	■	■	■	■
<b>Roof</b>				
Roof plate for cable entry, two-piece	■	■	■	■
<b>Base</b>				
Levelling feet	■	■	■	■
Base frame with multi-piece gland plate	■	■	■	■
<b>Interior installation</b>				
482.6 mm (19") levels, front and rear	■	■	■	■
L-shaped mounting angles	-	-	-	-
Mounting angles attached to depth stays	-	-	-	-
482.6 mm (19") mounting frames, front and rear	■	■	■	■
Panel earthing, fitted	■	■	■	■
<b>Accessories</b>				
Side panel, screw-fastened, IP 55	8100.235	8100.235	■ (7931.813 only)	■ (7931.803 only)
Depth-variable slide rail, 1 U	7063.883	7063.883	7063.883	7063.883
482.6 mm (19") heavy duty base, 700 mm deep, 100 kg load capacity <sup>1)</sup>	7063.897	7063.897	7063.897	7063.897
Installation kit for heavy-duty component shelf, depth-variable	7063.890	7063.890	7063.890	7063.890

■ Included with the supply. <sup>1)</sup> All sizes are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.

**Accessories** Page 890 **Baying system** Page 926

# Server racks

## Smart Package, based on Rittal TS 8, pre-configured, A1 – A3



### Smart Package A1

#### The solution for climate-controlled rooms

The perforated sheet steel doors at the front and rear provide for reliable ventilation of the racks, with > 78% of the door surface area available for air throughput.

A brush strip in the plinth and the sliding panel in the base frame enable simple cable entry even with pre-assembled plug connectors.

#### Power supply

The integrated PSM busbar with 6 x IEC 320 PSM modules is a VDE-approved power distribution system.

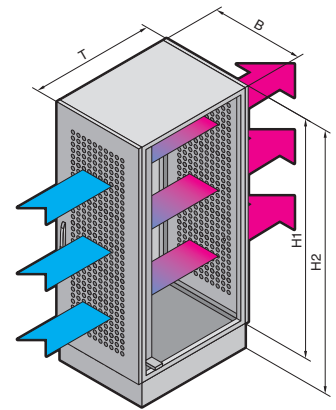
As IEC 60320 modules are used, it is not possible to transpose the phase and neutral conductors. The two infeeds to the PSM busbar permit both the mains voltage and a UPS voltage to be made available in the rack. The colour-coding of the C13 modules serves for differentiation (UPS = red).

#### Technical specifications:

- Cooling output for a 10 K temperature difference: max. 1.5 kW
- Nominal UPS output: 2 kVA
- UPS input voltage: 160 – 276 V AC
- Autonomy time at 100 % load: 7 min.
- Infeed: 400 V AC, 3 x 16 A, CEEkon
- Protocols: HTTP, SNMP, Telnet, SMTP

#### Benefits at a glance:

- Built-in 2 kVA UPS VFI-SS-111
- VDE-approved power distribution
- Mains and UPS voltage available on the PSM busbar



Width (B) 800 mm  
Height (H1) 2000 mm  
Overall height (H2) 2100 mm  
Depth (T) 1000 mm



### Smart Package A2

#### The solution for the office sector

Quiet-running roof-mounted fans with speed control functionality achieve active rack cooling at exceptionally low noise levels. Heat losses of up to 2.0 kW can be dissipated.

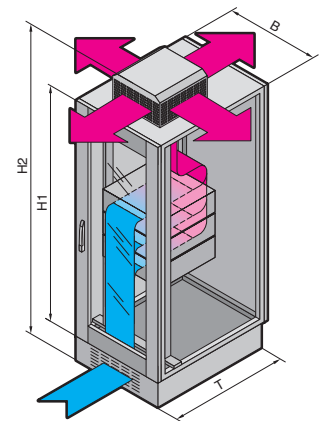
A glazed front door and a sheet steel rear door, together with a vented plinth, ensure that the prescribed air routing is maintained. A brush strip in the plinth and the sliding panel in the base frame enable simple cable entry even with pre-assembled plug connectors.

#### Technical specifications

- Cooling output for a 10 K temperature difference: 2.0 kW
- Nominal UPS output: 3 kVA
- UPS input voltage: 160 – 276 V AC
- Autonomy time at 100 % load: 5 min.
- Infeed: 400 V AC, 3 x 16 A, CEEkon
- Monitoring: Temperature, smoke, access
- Protocols: HTTP, SNMP, SSH, Telnet, PPP, SMTP

#### Benefits at a glance:

- Optimised air routing for servers and PCs
- Quiet roof-mounted fan, supplied ready-wired: Noise level 40 dB (A)
- 3 kVA UPS VFI-SS-111
- Mains and UPS voltage available on the PSM busbar
- Temperature monitoring, smoke alarm and access control



Width (B) 800 mm  
Height (H1) 2000 mm  
Overall height (H2) 2340 mm  
Depth (T) 1000 mm



### Smart Package A3

#### The server rack to IP 54

With the cooling unit at the rear, a glazed front door, a sheet steel rear door and screw-fastened side panels, this rack is a closed system.

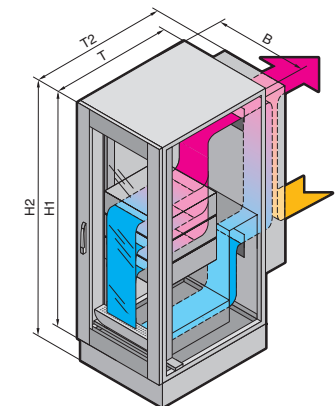
This design permits IT infrastructures to be installed at locations subject to high levels of contamination or high ambient temperatures. This Smart Package server rack is able to dissipate heat losses of up to 3 kW at an ambient temperature of 35°C.

#### Technical specifications

- Cooling output at 35°C ambient temperature: 3 kW
- Nominal UPS output: 3 kVA
- UPS input voltage: 160 – 276 V AC
- Autonomy time at 100 % load: 5 min.
- Infeed: 400 V AC, 3 x 32 A, CEEkon
- Monitoring: Temperature, smoke, access
- Protocols: HTTP, SNMP, SSH, Telnet, PPP, SMTP

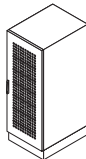
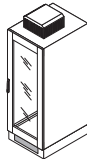
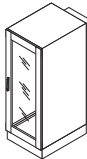
#### Benefits at a glance:

- Optimised air routing for servers and PCs
- IP 54
- 3 kVA UPS VFI-SS-111
- Mains and UPS voltage available on the PSM busbar
- Temperature monitoring, smoke alarm and access control



Width (B) 800 mm  
Height (H1) 2000 mm  
Overall height (H2) 2100 mm  
Depth (T) 1000 mm  
Overall depth (T2) 1350 mm

## Smart Package, based on Rittal TS 8, pre-configured, A1 – A3

	A1	A2	A3	Page
				
<b>Model No. DK</b>	<b>7337.100<sup>1)</sup></b>	<b>7337.200<sup>1)</sup></b>	<b>7337.300<sup>1)</sup></b>	
<b>Available U</b>	38	37	34	
<b>Width (B) mm<sup>2)</sup></b>	800	800	800	
<b>Height (H2) mm<sup>2)</sup></b>	2100	2340	2100	
<b>Depth (T or T2) mm<sup>2)</sup></b>	1000	1000	1350	
<b>Supply includes</b>				
<b>Doors</b>				
Sheet steel door, vented, with comfort handle, front	■	–	–	936
Glazed door with comfort handle, front	–	■	■	934
Sheet steel door, vented, with swivel handle, rear	■	–	–	936
Sheet steel door with swivel handle, rear	–	■	■	936
<b>Side panels</b>				
Side panel, plug-in, IP 20	■	■	–	919
Lock for side panel, plug-in (3524 E)	■	■	–	919
Side panel, screw-fastened, IP 54	–	–	■	917
<b>Roof</b>				
Roof plate, solid	■	–	■	
Roof plate, vented	–	■	–	973
<b>Base</b>				
Base/plinth, solid with brush strip for cable entry at the rear	■	–	■	893
Base/plinth, vented with brush strip for cable entry at the rear	–	■	–	893
Gland plate, multi-piece	■	–	■	913
Gland plate, one-piece, vented, for TS	–	■	–	914
Filter mat for gland plate, one-piece	–	■	–	914
<b>Interior installation</b>				
482.6 mm (19") level, front and rear	■	■	■	1091
Drawer, 2 U	■	■	■	1102
<b>Power</b>				
PSM busbar, installation height 2000 mm, incl. mounting kit for a max. of 7 standard modules	■	■	■	789
Plug-in module PSM 6 x C13 (IEC 320 appliances, black)	2	2	2	790
Plug-in module PSM 6 x C13 (IEC 320 appliances, red)	2	2	2	790
<b>Cooling</b>				
Roof-mounted fan (low-noise, speed-controlled), supplied ready wired	–	■	–	702
Cooling unit with adjusted airflow	–	–	■	638
<b>UPS</b>				
Double conversion UPS, classification: VFI-SS-111	■	■	■	797
2 kVA including battery and SNMP card	■	–	–	796
3 kVA including battery and SNMP card	–	■	■	796
<b>Security/monitoring</b>				
CMC-TC PU II including power pack and mounting kit (1 U)	–	■	■	809
Programming cable	–	■	■	819
CMC-TC I/O unit	–	■	■	811
Temperature sensor	–	■	■	823
Smoke alarm	–	■	■	824
Access sensor	–	■	■	828
Digital sensor input module (cooling unit monitoring)	–	–	■	825
Cable kit/mounting kit	–	■	■	–
<b>Standard accessories, supplied loose</b>				
Connection cable (3-phase)	16 A	16 A	32 A	818
IEC 320 appliances extension 0.5 m and 1 m, each	5	5	5	818
Cable lock C13	20	20	20	790
Nylon loop cable tie	20	20	20	1066
RCCMD licence (server shutdown software)	1	1	1	796

■ Included with the supply.

<sup>1)</sup> Delivery times available on request.

<sup>2)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.

# Server racks

## Smart Package, based on Rittal TS 8, pre-configured, A4 – A7



### Material:

Sheet steel

### Colour:

RAL 7035

### Surface finish:

Enclosure frame: Dipcoat-primed, enclosure panels dipcoat-primed and powder-coated in RAL 7035 (light grey), 482.6 mm (19") mounting frame: Zinc-plated, passivated

### 482.6 mm (19") mounting frame

Thanks to the two 482.6 mm (19") mounting frames, the rack has a high load capacity of 1000 kg, static, in the 482.6 mm (19") level. The distance between levels of the two 482.6 mm (19") frames are infinitely adjustable to the required dimensions of the installation kits supplied by the server manufacturers, enabling the installation of virtually any type of server.

### Doors/walls

The fully vented front and rear doors with an open surface area of > 78 % in the perforated plate part ensure that the prescribed air routing of the servers is not restricted. Hot air is able to escape easily at the rear. Thanks to the 4-point locking of the doors (door hinge may be swapped for 130° hinges) and the screw-fastened side panels, the installed equipment is protected from unauthorised access.

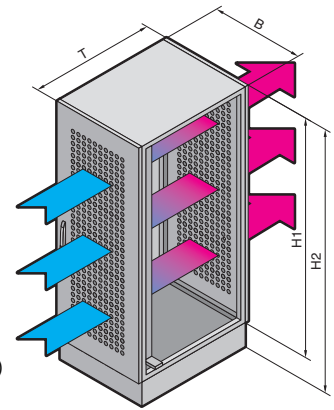
With the TS comfort handle system for semi-cylinders, the lock supplied may be exchanged at any time for a customer-specific model.

### Plug & play power distribution

The plug & play power distribution concept PSM (Power System Module) is pre-integrated and fitted with selected modules in the factory. It may be extended at any time with up to 4 modules with various connector configurations. The required connection cables to supply the busbar with power are also included with the supply.

### Cable management

Cable entry is via the base/plinth or the divided roof plate. In order to be able to begin server integration immediately, additional accessories for assembly, cable routing and attachment are supplied loose.



Width (B) 800 mm  
Height (H1) 2000 mm  
Overall height (H2) 2100 mm  
Depth (T) 1000/1200 mm

## Smart Package A4 – A7

### The server rack with the power distribution concept Power System Module PSM

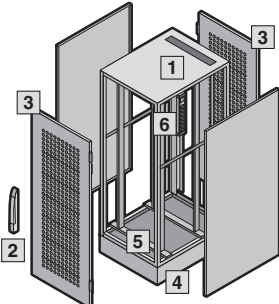
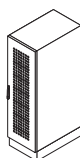
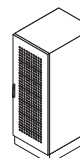
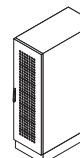
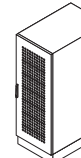
The Smart Package racks based on the successful TS 8 enclosure system provide the ideal basis for your IT infrastructure.

These server racks are equipped with the power distribution concept PSM (Power System Module). Additional accessories for assembly and cable routing are supplied loose.

### Design features:

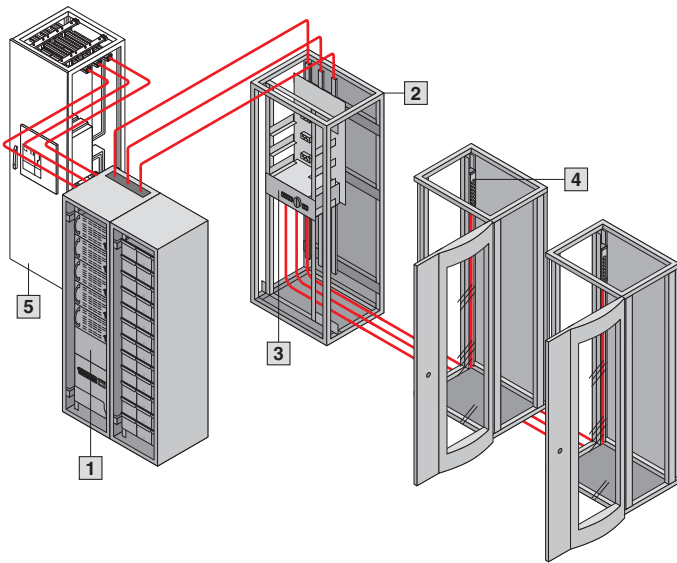
- Robust frame structure
- Front and rear door fully vented; open surface area > 78 % in the perforated plate part
- 4-point locking of the doors
- Door hinge may be swapped to opposite side
- Side panels screw-fastened from the inside
- Cable routing via the roof and base
- Bayable at all levels
- Static load capacity of up to 1000 kg
- PSM busbar 2 m, for up to 7 PSM modules.

## Smart Package, based on Rittal TS 8, pre-configured, A4 – A7

Smart Package – Pre-configured server racks with power distribution concept PSM (Power System Module)	A4	A5	A6	A7	Page
					
U	42	42	42	42	
Width mm	600	800	600	800	
Height mm	2000 + 100	2000 + 100	2000 + 100	2000 + 100	
Depth mm	1000	1000	1200	1200	
Model No. DK (German version, with earthing-pin plug-in module)	<b>7337.440</b>	<b>7337.450</b>	<b>7337.460</b>	<b>7337.470</b>	
Model No. DK (international version, without earthing-pin plug-in module)	<b>7337.445</b>	<b>7337.455</b>	<b>7337.465</b>	<b>7337.475</b>	
<b>Supply includes</b>					
<b>Doors</b>					
3 Sheet steel doors, vented, front and rear <sup>1)</sup>	■	■	■	■	936
2 Comfort handle for semi-cylinder front and rear, including security lock 3524 E	■	■	■	■	948
<b>Side panel</b>					
Side panels, screw-fastened	■	■	■	■	917
<b>Roof</b>					
1 Roof plate with rubber cable clamp strip for cable entry, two-piece	■	■	■	■	972
<b>Base</b>					
4 Base/plinth, solid, with levelling feet	■	■	■	■	892
Base frame to accommodate optional gland plates	■	■	■	■	910
<b>Interior installation</b> Model No. DK					
5 482.6 mm (19") mounting frames front and rear	■	■	■	■	1094
Central earthing connection point	7829.200	■	■	■	1035
Earthing of all enclosure panels	7529.150	■	■	■	1034
6 PSM busbar (Power System Module)	7856.020	■	■	■	789
Mounting kit for PSM busbar	7856.011	■	■	■	789
6 2 x plug-in modules EN 60 320 C13 (IEC 320 connector)	7856.080	■	■	■	790
6 1 x plug-in module, earthing-pin type (German version only)	7856.100	■	■	■	790
<b>Supplied loose</b>					
PSM connection cable (3-phase)	7856.025	7856.025	7856.025	7856.025	793
PSM connection cable (1-phase)	7856.026	7856.026	7856.026	7856.026	793
10 x cable shunting rings 125 x 65 mm/nylon loops 200 mm	7072.230	7111.000	7072.230	7111.000	1066/1069
10 x 1 U blanking panel, toolless attachment	7151.110	7151.110	7151.110	7151.110	1110
2 x 1 U cable management panel	7257.035	7257.035	7257.035	7257.035	1076
20 x cable lock for EN 60 320 C13/C14 connectors	7856.013	7856.013	7856.013	7856.013	790
50 x 482.6 mm (19") slot-in cable gland	2094.400	2094.400	2094.400	2094.400	1105
<b>Accessories (available to order separately)</b>					
Monitor/keyboard unit, 1 U with 15" TFT display, touchpad (German)	9055.100	9055.100	9055.100	9055.100	840
SSC compact, Economy 8-port KVM switch	7552.010	7552.010	7552.010	7552.010	841
Mains connection cable for SSC compact	7200.210	7200.210	7200.210	7200.210	818
CPU cable 2 m (with interlocking PS/2 connectors) for SSC compact	7552.120	7552.120	7552.120	7552.120	845
CPU cable 4 m for SSC compact	7552.140	7552.140	7552.140	7552.140	845
Component shelf 700 mm, 482.6 mm (19") population, heavy duty, 100 kg, static	7063.897	7063.897	7063.897	7063.897	1019
Installation kit, depth-variable, for component shelf, 100 kg, static	7063.890	7063.890	7063.890	7063.890	1023
Telescopic slide, 100 kg, static	7066.700	7066.700	7066.700	7066.700	1025
Slide rail, depth-variable, 590 – 930 mm, 50 kg, static	7063.883	7063.883	7063.883	7063.883	1098
1/2 U component shelf, pull-out, 600 – 900 mm, static installation	7063.720	7063.720	7063.720	7063.720	1020
PSM plug-in module, 6 x EN 60 320 C13 IEC 320 equipment	7856.080	7856.080	7856.080	7856.080	790
PSM plug-in module, EN 60 320 C19 x 4	7856.230	7856.230	7856.230	7856.230	790
PSM plug-in module, 4 x earthing-pin	7856.100	7856.100	7856.100	7856.100	790
PSM light module (portable light)	7856.210	7856.210	7856.210	7856.210	791

■ Pre-configured. <sup>1)</sup> Open space in the perforated plate part > 78 %.

## Rittal IT power concept



- 1** Modular Power Concept PMC 200
- 2** Power Distribution Rack PDR
- 3** Power Distribution Module PDM
- 4** Power System Module PSM
- 5** Power distribution, further information see page 332.



### **1** Power Modular Concept PMC 200 – The guaranteed safe option

The efficient Power Modular Concept PMC is the scalable UPS concept from Rittal for a protected power supply. Its modularity, coupled with the unique Decentralised Parallel Architecture (DPA), ensure a high degree of availability for critical applications and requirement-based investments. The adaptive Rittal UPS concept accommodates versatile data centre requirements and is easily expanded with additional, safe-swappable UPS modules. High initial investments for first-time installation are avoided, thanks to the modular design concept, since UPS capacities may be upgraded at any time as and when required. The adaptive concept allows you to invest as your requirements grow.

This modular rack-mounted concept keeps the purchasing and operating costs of redundant solutions low. As your performance requirements grow, the UPS grows with you, thanks to its flexible scalability – even in the most confined spaces, and with the system operational. Your benefits: Less capital tie-up, inexpensive expansion, and minimal space requirements. The high efficiency of the UPS of 95 % load, and in the partial load range from just 25 % load, ensures that operating costs in the data centre are kept to a minimum.

#### **Convincing benefits:**

- “N+1” technology in a single rack
- True rack-mounted modularity
- Service-friendly, thanks to the modular layout, plus short MTTR
- High level of efficiency
- 8 – 40 kW modules
- 200 kW per rack
- Classification VFI-SS-111

### **2** Power Distribution Rack PDR – Central power management for IT racks

- Accommodation of up to 8 PDM systems
- Sub-distribution up to 250 A per phase
- PDM may be retrofitted whilst operational
- A maximum of 32 racks may be fitted to the sub-distributor
- Fully shock-hazard protected
- VDE-certified
- Cable connection in the PSM rail for maximum planning flexibility

### **3** Power Distribution Module PDM

#### **Power management between IT racks**

Plug & play installation of a power supply in the IT rack with complete shock-hazard protection means significantly reduced assembly costs plus a high level of investment confidence.

#### **Convincing benefits:**

- Cabled expansion
- Shock-hazard protected plug & play system
- Keyable connection
- Modules may also be replaced by trained staff
- Modules may be retrofitted with the system operational
- VDE-certified
- 19” modules for sub-distribution of 40 kW into server and network enclosures
- 4 individually fused, 3-phase outlets
- Connected load 400 V/3~, max. 63 A

### **4** Power System Module PSM – Intelligent power distribution inside the rack

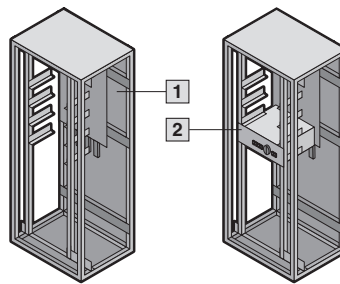
#### **Power System Module PSM – Power solutions that connect**

- Contact hazard-proof busbar
- Redundant configuration thanks to two separate circuits
- Load capacity up to 2 x 16 A with single-phase infeed, and up to 192 A with 3-phase infeed
- Modules may be retrofitted with the system operational
- Active modules feature individual slot switching with SNMP/HTTP and user management
- Max. 42 slots in one 2 m system
- Optimised cable management

#### **Convincing benefits:**

- Flexible and redundant layout
- Installation without loss of U
- Modules may be retrofitted with the system operational
- Remote monitoring via web browser and SNMP

Power Distribution Rack PDR



1 Power Distribution Rack PDR  
2 Power Distribution Module PDM

- Power Distribution Rack to accommodate a maximum of 8 PDMs
- Height 1.20 m for 4 PDMs and 2 m height for 8 PDMs
- PDM may be retrofitted whilst operational
- A maximum of 32 racks may be fitted to the sub-distributor
- Fully shock-hazard protected
- Main switch in various options<sup>1)</sup>:
  - Isolator switch
  - On-load isolator
  - Power circuit-breakers
  - RC circuit-breaker

- Low-voltage distribution up to 250 A
- <sup>1)</sup> Depending on the standards of the local power supply company

**Note:**  
Observe the standards of the local power supply companies.

**Material:**  
Sheet steel

**Surface finish:**  
Enclosure frame: Dipcoat-primed  
Doors, roof and base/plinth: Dipcoat-primed, powder-coated in RAL 7035

Gland plates, punched sections with mounting flanges and mounting angles:  
Zinc-plated, passivated

**Supply includes:**  
Enclosure frame with door (without tubular door frame), rear panel, side panels and roof plate, levelling feet including base/plinth adaptor, earthing of all enclosure panels, busbars shock-hazard protected, main switch integrated.

Extended delivery times.



**Also required:**

Power Distribution Module PDM, see page 787.

**Detailed drawing,** available on the Internet.



Power Distribution Rack PDR 1	Packs of		
Possible number of PDM modules 2		4	8
Dimensions mm <sup>1)</sup>	W	800	800
	H	1200	2000
	D	500	500
<b>Model No. DK</b>	1	<b>7857.310</b>	<b>7857.300</b>

Accessories				
Base/plinth components, front and rear	Height 100 mm	1 set	8601.800	8601.800
	Height 200 mm	1 set	8602.800	8602.800
Base/plinth trim, side	Height 100 mm	1 set	8601.050	8601.050
	Height 200 mm	1 set	8602.050	8602.050

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing on the Internet.



**2 Power Distribution Module PDM**

- 482.6 mm (19") Power Distribution Module mechanically locked in the PDR
- Scalable
- Including master switch, optional RC circuit-breaker
- 4 fused 3-phase outlets to the rack
- 3 x 230 V/16 A per outlet
- Connected load 400 V/3 AC, max. 63 A

**Supply includes:**  
482.6 mm (19") module, 3 U

Design	Model No. DK
PDM 482.6 mm (19"), 4 outlets per 10 kW	<b>7857.320</b>
PDM 19", 4 outlets, project-specific	<b>7857.350</b>
Connection cable 32 A CEEkon connector, for operation without PDR	<b>7857.321</b>



**Also required:**

Plug & play connection cable to the server racks:

Length	Packs of	Model No. DK
3 m	1	7857.130
5 m	1	7857.150
8 m	1	7857.180
9 m	1	7857.190

## Power Distribution Module PDM/system network analysis



### PDM socket strip

#### Socket strip for the direct connection of single-phase equipment to a Power Distribution Module PDM

482.6 mm (19") power distributor with three-phase infeed. The standard plug & play connection cables may be used. Each group of three colour-coded connectors is supplied by one phase.

#### Benefits:

- Simple connection of single-phase equipment when using PDM
- Compatible with standard plug & play connection cables
- Prepared for the connection of **LCP, CMC-TC, SSC** etc.

Design	Model No. DK
6 x C13/3 x earthing-pin	7857.325

#### Technical specifications:

##### Input:

Mains voltage: 400 V/50 Hz, three-phase  
Rated current: 16 A per phase  
Connection: X-Com connector

##### Output:

Mains voltage: 230 V/50 Hz, three-phase  
Rated current: 10 A per phase



### System network analysis

The quality of the energy supply is an important component of a functioning IT system. There are UPS protection systems available which can help. The quality of the energy supply from different power supply companies in conjunction with different IT applications may vary extremely widely.

Rittal offers the network analysis system. It may be integrated into the Power Distribution Rack (PDR), where it will analyse the power infeed.

The system performs network quality measurements to EN 50 160. It has a large illuminated display for the direct retrieval of measurement results. Furthermore, all information is available in the network via the integrated Web server. Evaluation software is also included with the supply, and is capable of reading the measurements via the network and analysing them to DIN EN 50 160 and EN 61 000-2-4.

The electronic measuring device, which is equipped with 4 current and voltage inputs, records and digitises the effective values (RMS) of currents and voltages in a 15 – 75 Hz network. Based on the scanned values, the built-in micro-processor calculates the electric variables. For measurement in the three-phase system, the relevant voltage may be defined as a conductor-zero or conductor-conductor voltage. This voltage is used by the Rittal network analysis system to measure harmonics and to log transients and events, and for the flickermeter.

System network analysis	Available on request.
-------------------------	-----------------------

#### Measurement functions:

- Automatic adjustment to a network frequency of 15 ... 75 Hz
- Measurement intervals of 10 (50 Hz) or 12 (60 Hz) period (200 ms)
- Continuous scanning and calculation of the following measurements: Voltage L-N, neutral-point displacement voltage and asymmetry L1...L3, voltage L-L, frequency, current, aggregate current L1...L3 and L1...L3+N, active power, reactive power, apparent power, power factor, distortion reactive power, fundamental power, cosphi, phase shift, work of main and auxiliary system, reactive power demand (capacitive and inductive) 1...50 harmonic of current and voltage, distortion factor (THD) of current and voltage, short- and long-term flickermeter readings, level of ripple-control signals.

#### Technical specifications:

Dimensions W x H x D: 144 x 144 x 90 mm

Auxiliary voltage:

95...265 V AC; 100...370 V DC; 25 VA

Voltage measurement:

L-N 0...500 V AC; 0.2 VA; 15 – 75 Hz

L-L 0...870 V AC; 0.2 VA; 15 – 75 Hz

Current measurement:

5 A (1 A), (larger values via converter)

Operating temperature range: -10 to +55°C

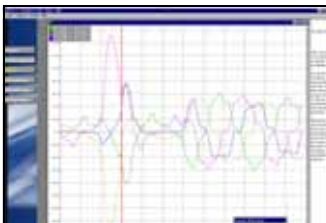
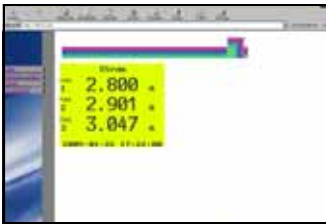
I/O:

Digital inputs: 8

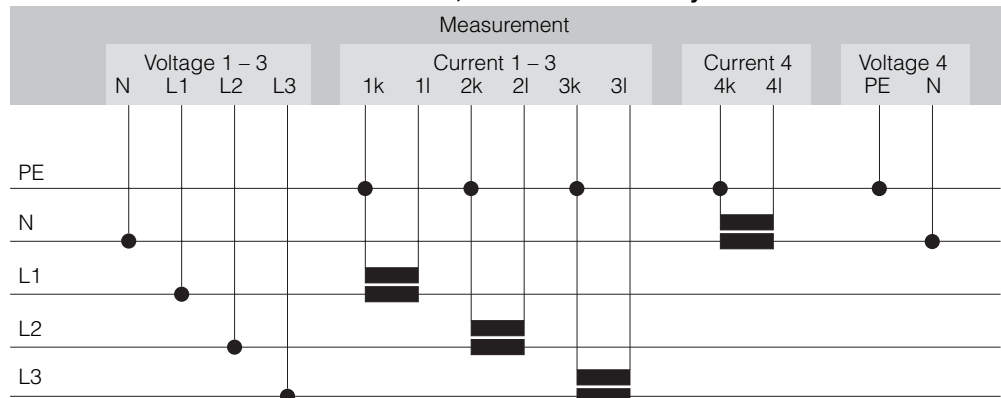
Digital outputs: 5

#### Protection category:

IP 20



### Measurement in the four-conductor network, with main and auxiliary measurement



Power System Module PSM



**Power System Module PSM**

**Busbar, current carrying capacity up to 96 A per rack**

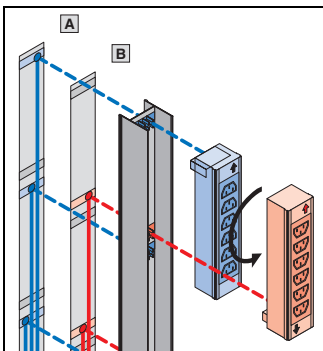
The ever-expanding power requirements of modern IT infrastructures demand refined solutions for power distribution inside the racks. This leads to an associated requirement for additional sockets. The new "intelligent power distribution system" from Rittal significantly reduces cabling and assembly work.

The modular system facilitates basic configuration of the racks, thanks to a vertical support rail with 3-phase infeed. The various insert modules to supply the active components may be snap-fitted into the support rail. This can even be done whilst the system is operational, because the support section is shock-hazard protected.

The various modules, earthing pins, IEC 320 etc. may be inserted into the support rail in any combination. This is easily achieved, even by non-electricians, thanks to the shock hazard protected plug & play system.

**Technical specifications/benefits:**

- 3-phase construction with a maximum current of 3 x 16 A.
- A redundant three-phase infeed with 3 x 16 A may also be added.
- The redundant circuit is completely separate from the 3 phases of the support rail.
- Each plug-in module picks off a phase on the support rail, either from infeed **A** or from the redundant infeed **B**, depending on the direction of connection.



- Modules may be retrofitted whilst the system is operational.
- Plug-in modules may be equipped with integral overcurrent protection, so that only the affected module is deactivated in the event of an excessively high current. The other modules remain operational.
- Overvoltage protection may be integrated into the supply line.
- Support rail may be integrated into the vertical frame section of the flexRack(i) without additional equipment.

The vertical support rail allows the slots to be used flexibly across the entire enclosure height, and configured in a redundant manner via separate power infeed to the individual modules.

**Supply includes:**

Busbar with connection socket, assembly parts and operating instructions. Without cable.



**Also required:**

Connection cable, see page 793.  
Plug-in modules, see page 790.

**Note:**

Observe the country-specific connection data.



Reg No. A592



**Busbar**

For enclosure height mm	Number of modules	Model No. DK	
		EU type	US type
1200	4	<b>7856.010</b>	<b>7856.050<sup>1)</sup></b>
2000	7	<b>7856.020</b>	<b>7856.060<sup>1)</sup></b>

**Also required:**

**Mounting kit**

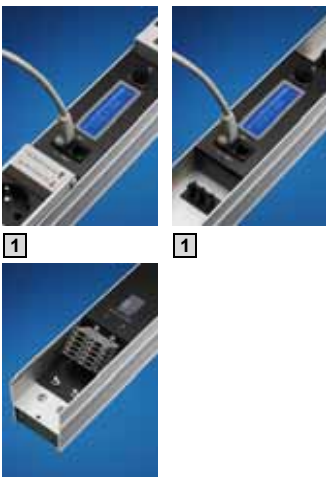
		Without cable routing	With cable routing
For TS	For static installation	<b>7856.011</b>	<b>7856.022</b>
	Adjustable, for open 19" level	<b>7856.012</b>	<b>7856.023</b>
For TE	For static installation	<b>7000.684</b>	–

<sup>1)</sup> Delivery times available on request.

Power

B

5.4



**PSM rail with measurement**

**Busbar with integral output measurement**

Display and monitoring of the complete three-phase connection current and the power per rail. The display is local.

In conjunction with CMC, the rail may be remotely administered and configured using standard protocols (SNMP, HTTP).

**The following active functions are provided:**

- Local display, legibility is independent from the installation position.
- Measurement and monitoring of the current per phase. Min./max. limits may be set. Measurement range 0 – 16 A.
- Measuring and monitoring of the voltage per phase. Min./max. limits may be set. Measurement range 0 – 250 V.
- Alarm notification via a flashing display.
- Remote administration of the PSM rail, editing and monitoring of remote limits, SNMP trap message in case of alarm.

- 1 Simple connection via RJ connector.

For enclosure height mm	Maximum no. of modules	Model No. DK
2000	6	<b>7856.016</b>

**Supply includes:**

Busbar with connection socket, assembly parts and operating instructions. Without cable.

**Note:**

Observe the country-specific connection data.



**Accessories:**

Recommended CMC-TC accessories, see page 817.



**Also required:**

Connection cable, see page 793.  
Plug-in modules, see page 790.  
Mounting kit, see page 789.

In stand-alone mode without CMC-TC, a separate power pack DK 7201.210 with connection cables is required.

## Power System Module PSM



### PSM rail for 120/208 V

with coded circuits 120/208 V, 50/60 Hz, for applications in North America.

The circuits are preset.

Circuit 1 may be used for 208 V/3~ and only with the coded C19 PSM modules in the table. Circuit 2 may be used for 120 V/1~ and only with the coded C13 modules in the table.

Design	Length mm	Model No. DK
PSM rail with coded circuits	2000	<b>7856.051</b>
PSM module C13 coded		<b>7856.052</b>
PSM module C19 coded		<b>7856.053</b>



### PSM busbar

Single- and three-phase design with 32 A phase current.

#### Technical specifications:

- Single- and three-phase design with a max. current of 32 A per phase, 1 x 32 A or 3 x 32 A, 400/230 V, 50/60 Hz
- Accommodates up to 6 passive PSM modules
- Integral circuit-breaker 16 A, Class C
- Modules may be retrofitted whilst the system is operational

#### Supply includes:

Busbar with CEEkon-conforming connector, assembly parts and operating instructions.

Enclosure height mm	Number of modules	Model No. DK	
		Single-phase	Three-phase
2000	6	<b>7856.321</b>	<b>7856.323</b>



#### Also required:

Mounting kit, see page 789.  
Plug-in module PSM, see page 790



#### Accessories:

Cable lock PSM, see page 790.



### Plug-in modules PSM

for busbar version EU and US.  
Length 250 mm.

#### Plug-in modules

Plug-in module	Number of sockets	Without overcurrent protection	With overcurrent protection
EN 60 320 C13	6	<b>7856.080</b>	<b>7856.070</b>
EN 60 320 C13	4	–	<b>7856.220<sup>2)</sup></b>
D/NL/A earthing-pin	4	<b>7856.100</b>	<b>7856.090</b>
F/B	4	<b>7856.120<sup>1)</sup></b>	<b>7856.110<sup>1)</sup></b>
USA	5	<b>7856.140<sup>1)</sup></b>	<b>7856.130</b>
UK	3	<b>7856.160<sup>1)</sup></b>	<b>7856.150<sup>1)</sup></b>
CH	5/4	<b>7856.190<sup>1)</sup></b>	<b>7856.180<sup>1)</sup></b>
EN 60 320 C19	4	<b>7856.230</b>	–
EN 60 320 C13 red	6	<b>7856.082</b>	–
Earthing-pin socket red	4	<b>7856.240</b>	–

<sup>1)</sup> Extended delivery times.  
Other modules available on request.  
<sup>2)</sup> With individual overcurrent fusing.

Applicable to DK 7856.230:



### Cable lock PSM

for all modules with EN 60 320 C13 connector configurations

The bars, developed especially for the PSM system, can hold two connection cables. In this way, all connection cables of the terminal equipment are protected against accidental disconnection of the power supply. Two bars are needed for two cables.

Design	Length m	Packs of	Model No. DK
Bar		20	<b>7856.013</b>
Connection cable C13/C14 Connector/jack	0.5 <sup>1)</sup>	2	<b>7856.014</b>

<sup>1)</sup> Other lengths available on request.

#### Note:

Optimum locking function only occurs with connection cable DK 7856.014.

Power System Module PSM



**Light module PSM**

**for use as a portable lamp**

The PSM light module is compatible with all PSM busbars. Equipped with a powerful NiMH battery, the module may be removed and used as a portable lamp. Thanks to the integral magnet, the module is easily attached to any metallic surface inside the rack.

The light module is equipped with an electricity-saving LED lamp to allow a long illumination time of up to 4 h.

To recharge, the module is inserted into a free slot in the PSM bar.

Design	Model No. DK
Light module PSM	7856.210

**Note:**

Please observe the connection voltage (230 V) of the busbar.



**Active PSM, 4-way**

The module has 4 x IEC320 C13 sockets and an integral overload tripping device.

The following active functions are additionally achieved:

- 2-digit local LED 7-segment current display on the module. Legibility is independent from the installation position.
- Measuring and monitoring of the current per module. Min./max. limits may be set. Measurement range 0 – 16 A.
- Alarm indication via a flashing 7-segment display.
- Monitoring of the overload fuse.
- Modules may be combined via the bus system, thereby enabling sequential activation.
- In conjunction with the CMC-TC, the modules may be activated and deactivated via HTTP and SNMP. The 4 jacks are always activated and deactivated together.

The 4 free channels of the Processing Unit II (PU II) DK 7320.100 can be switched with up to 4 active PSM systems in each case.

The active PSM does not require any separate power pack in conjunction with PU II.

Design	Packs of	Model No. DK
4-way	1	7856.200

- Remote administration of the power supply, editing and monitoring of remote limits, SNMP trap message in case of alarm.
- 4 IEC320 C13 sockets per module.

**Material:**

Aluminium section with plastic cover

**Supply includes:**

- 1 module (max. 10 A per module),
- 10 A integral overload tripping device,
- 1 bus cable,
- 1 infeed cable 24 V DC,
- 1 adaptor for power pack 24 V DC.



**Also required:**

A separate power pack (100 – 240 V AC/24 V DC) is required for stand-alone operation without CMC-TC (DK 7201.210) and the relevant connection cables.



**Active PSM 6-way, individually switchable**

For further details, see page 791.

**Material:**

Aluminium section with plastic cover

**Supply includes:**

- 1 module (max. 16 A per module),
- 1 infeed cable 24 V DC or 1 bus cable.

Design	Model No. DK
2 x C13 and 4 x C19	7856.204
2 x C13 and 4 x earthing-pin	7856.203



**Also required:**

A separate power pack (100 – 240 V AC/24 V DC) is required for stand-alone operation without CMC-TC (DK 7201.210) and the relevant connection cables.

## Power System Module PSM



### Active PSM 8-way, individually switchable

The module has 8 current outlets with IEC320 C13 slots. Each of the 8 slots is individually switchable (via the CMC-TC system). Furthermore, a current indicator, circuit display and thermal overload protection are integrated into the module. The module is twice the length of a standard PSM module, so that a maximum of 2 modules may be inserted into a 1200 mm long PSM rail, and a maximum of 3 modules into a 2000 mm long PSM rail.

#### Operate the module without CMC-TC:

For operation of the module, power pack DK 7201.210 and a connection cable are needed. Up to 2/3 modules may be operated in one PSM rail (1200/2000 mm) with one power pack.

Available functions: Current display, circuit display and automatic selective activation

#### Operate the module with CMC-TC:

No additional power pack is needed; the module is supplied with power via the CMC-TC system. Up to 4 x 4 modules may be connected to one Processing Unit II (DK 7320.100).

Available functions: Current display, circuit display, automatic selective activation, via CMC-TC in the network: Individual switching of the 8 current outlets, current limit monitoring, delayed switching of the individual current outlets, status display of the module.

Recommended accessory list CMC-TC:

- DK 7320.100 CMC-TC Processing Unit II
- DK 7320.425 CMC-TC power pack 24 V, input 100 – 230 V AC
- DK 7320.440 CMC-TC 1 U mounting unit
- DK 7320.472 CMC-TC connection cable sensor unit 2 m
- DK 7200.210 CMC-TC connection cable D 230 V AC (depending on country version)
- DK 7200.221 CMC-TC programming cable

Design	Model No. DK
8-way	7856.201

#### Description of functions:

- 2-digit local LED 7-segment current display on the module. Legibility is independent from the installation position.
- Measuring and monitoring of the current per module. Min./max. limits may be set. Measurement range 0 – 16 A.
- Alarm messages are indicated via a flashing 7-segment display.
- Monitoring of the thermo-fuse.
- Modules may be combined via the bus system, to enable selective activation.
- In conjunction with the CMC-TC, the 8 individual current outlets of the modules may be activated and deactivated individually via HTTP and SNMP.
- Remote administration of the power supply, editing and monitoring of remote limits, SNMP trap messages in case of alarm.
- 8 IEC320 C13 sockets per module.
- User administration.

#### Material:

Aluminium section with plastic cover

#### Supply includes:

- 1 module (max. 10 A per module),
- 1 infeed cable 24 V DC or 1 bus cable,
- 1 adaptor for power pack 24 V DC.



#### Also required:

A separate power pack (100 – 240 V AC/24 V DC) is required for stand-alone operation without CMC-TC (DK 7201.210) and the relevant connection cables.



### Measurement module PSM

For power measurement of existing PSM or for new installations.

Suitable for for PSM busbar:  
DK 7856.010, DK 7856.020, DK 7856.050,  
DK 7856.060.

#### Note:

Detailed information, see PSM rail with measurement, page 789.

Packs of	Model No. DK
1	7856.019



### Overvoltage protection PSM

Is connected upstream of the busbar.

- Fine fuse
- Connection:  
Socket Wago X-Com  
Plug Wago X-Com

Overvoltage protection	Packs of	Model No. DK
With adaptor connector	1	7856.170



### Connection cable for PSM rail

Connection cable, 3-phase			
	Length	Packs of	Model No. DK
CEEkon 5-pole/16 A	3 m	1	<b>7856.025</b>
US type NEMA		1	<b>7856.055<sup>1)</sup></b>
Connection cable, single-phase			
CEEkon 3-pole/16 A	3 m	1	<b>7856.026</b>
Connection cable, UPS, single-phase			
C14/X-Com	3 m	1	<b>7856.027</b>
Connection cable C19/C20			
16 A	2 m	1	<b>7200.217</b>
Connection cable C13/C14			
16 A	0.5 m <sup>2)</sup>	2	<b>7856.014</b>

<sup>1)</sup> Delivery times on request. <sup>2)</sup> Other length available on request.



### Rittal Power Control Unit (PCU)

#### Socket strip, IP-compatible

The 1 U PCU socket strip has 8 current outlets with IEC320 C13 slots. Each of the 8 slots is individually switchable (via the CMC-TC system). Furthermore, a current indicator, circuit display and thermal overload protection are integrated into the module. The socket strip may be installed on the enclosure frame or in the 482.6 mm (19") section (1 U) of a rack.

#### Operate the socket strip without CMC-TC:

For operation of the socket strip, power pack 7201.210 and a connection cable (see page 818) are needed. Up to 4 socket strips may be operated with one power pack.

Available functions: Current display, circuit display, automatic selective activation

#### Operate the socket strip with CMC-TC:

No additional power pack is needed; the PCU is supplied with power via the CMC-TC system. Up to 4 x 4 PCUs may be connected to one Processing Unit II.

Available functions: Current display, automatic selective activation, via CMC-TC in the network: Individual switching of the 8 current outlets, current limit monitoring, delayed switching of the individual current outlets, status display of the module.

#### Recommended accessory list CMC-TC:

- 7320.100 CMC-TC Processing Unit II
- 7320.425 CMC-TC power pack 24 V, input 100 - 230 V AC
- 7320.440 CMC-TC 1 U mounting unit
- 7320.472 CMC-TC connection cable, sensor unit 2 m
- 7200.210 CMC-TC connection cable D 230 V AC (depending on country version)
- 7200.221 CMC-TC programming cable

Design	Model No. DK
8-way	<b>7200.001</b>

#### Description of functions:

- 2-digit local LED 7-segment current display on the PCU. Legibility rotates according to the installation position.
- Measuring and monitoring of the current per PCU. Min./max. limits may be set. Measurement range 0 – 16 A.
- Alarm indication via a flashing 7-segment display.
- Monitoring of the thermo-fuse.
- PCUs may be combined via the bus system, thereby enabling selective activation.
- In conjunction with the CMC-TC, the 8 individual current outlets of the PCUs may be activated and deactivated individually via HTTP and SNMP.
- Remote administration of the power supply, editing and monitoring of remote limits, SNMP trap messages in case of alarm.
- 8 IEC320 C13 slots per PCU.
- User administration.

#### Material:

Aluminium section with plastic cover

#### Supply includes:

- 1 socket strip PCU 1 U (max. 10 A per socket strip),
- 1 bus cable,
- 1 infeed cable 24 V DC,
- 1 adaptor for power pack 24 V DC,
- 1 connector for power supply,
- 1 connection cable 3 m.



#### Also required:

A separate power pack (100 – 240 V AC/24 V DC) is required for stand-alone operation without CMC-TC (DK 7201.210) and the relevant connection cables.

## Power System Module PSM Plus



### Power System Module PSM Plus

#### Current carrying capacity up to 192 A per rack

Additional variant of the successful Rittal PSM concept, comprising a busbar with redundant configuration and three-phase infeed. The external dimensions remain the same, as do the familiar attachment options.

By integrating two **further** three-phase circuits the PSM now has **four** independent three-phase infeeds. Each of the feeds can be supplied with up to 3 x 16 A. In total, this produces a maximum of 192 A.

This PSM is used particularly in applications with highly-integrated blade server applications.

Thanks to the design with four independent infeeds, it is possible to configure a redundant, high-availability power supply system for IT racks. With all the benefits of the familiar PSM: Shock-hazard-protected; may be retrofitted whilst the system is operational.

#### The benefits at a glance:

- 2 m busbar with four independent infeeds (**A, B, C, D** each 400 V/3~, 50/60 Hz, 3 x 16 A).
- With four integral connection cables, 5 x 2.5 mm and Wieland GST connectors.
- Directly suitable for connecting to Rittal PDM.
- Easily integrated into existing applications with standard extension cables.
- 6 slots per 2 m rail.
- Attachment with no loss of U in the rack.

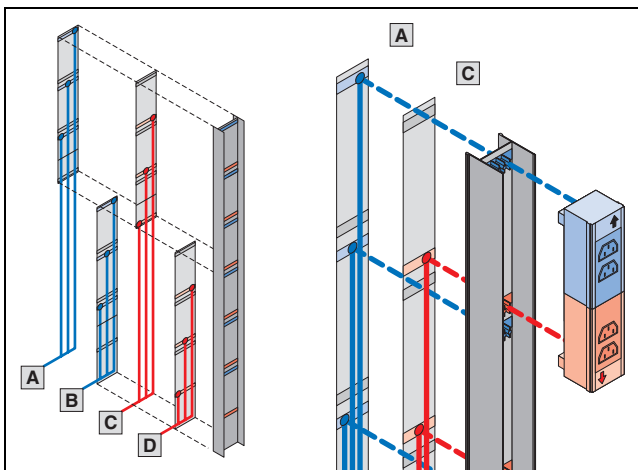
#### Note:

There are modules with two infeeds for use of the new PSM Plus rail. This means that redundancy can now be achieved at module level. PSM modules DK 7856.070 to DK 7856.240 may also be used. The second infeed option of the rail is not used.

#### The following modules are available:

- 6-way C13, two infeeds with max. 16 A per 3 x C13
- 4-way C19, two infeeds with max. 16 A per 2 x C19
- 2-way earthing pin, two infeeds with max. 16 A per earthing-pin socket

Busbar	For enclosure height mm	Number of modules	Model No. DK	
	2000		6	<b>7856.015</b>
Mounting kit			Without cable routing	With cable routing
	For TS	For static installation	<b>7856.011</b>	<b>7856.022</b>
		Adjustable, for freely accessible 482.6 mm (19") level	<b>7856.012</b>	<b>7856.023</b>
	For TE	For static installation	<b>7000.684</b>	-
Plug-in modules (each half of the modules is supplied with one infeed)		Number of sockets	Without miniature fuse	
	EN 60 320 C13	6 (3 x per infeed)	<b>7856.081</b>	
		4 (2 x per infeed)	-	
	EN 60 320 C19	4 (2 x per infeed)	<b>7856.231</b>	
2 (1 x per infeed)		-		
Earthing-pin socket	2 (1 x per infeed)	<b>7856.101</b>		
Connection cable	Type	Length 5 m		
	Three-phase mains connection cable, EN 60 309	Three-phase connector EN 60 309 on Wieland GST socket	<b>7856.018</b>	
	Extension cable	Wieland GST socket on Wieland GST 18 connector	<b>7856.017</b>	



UPS, single-phase, output range 1 – 12 kVA N+1 redundant



The UPS is distinguished by the use of double-conversion technology.

Double-conversion technology provides the basis for an optimum supply voltage to all connected loads. This means that the Rittal PMC 12 UPS is ideally suited to all applications in the IT environment, as well as for all other requirements such as medical technology, automation technology, plant control etc. A scalable autonomy of up to 2 h at 100 % load ensures a broad spectrum of applications.

**Rittal Power Modular Concept PMC 12**

- Double conversion technology VFI-SS 111
- For use as a rack or floor-standing enclosure with 90° rotating LCD display
- 2 U high
- Serial/USB interface and Emergency Power Off (EPO) contact
- Batteries "hot swap" compatible, may be exchanged from the front
- Integral batteries with 1 – 3 kVA
- External batteries with 4.5 kVA and 6 kVA
- Parallel switching 4.5 kVA and 6 kVA UPS up to 12 kVA N+1 redundant
- Optional SNMP card

**DK 7857.430, DK 7857.431, DK 7857.432**

**Supply includes:**  
Single-phase UPS systems in double-conversion technology (VFI-SS 111) with internal "hot swap" compatible batteries, USB and serial interface.

**DK 7857.433, DK 7857.434**

**Supply includes:**  
Single-phase UPS systems in double-conversion technology (VFI-SS 111), USB and serial interface.

**Available on request:**  
Replacement battery packs and AS 400 interface adaptor.



**Also required:**

Country-specific connection cables and slide rails are required to operate the UPS systems.

**For DK 7857.433, DK 7857.434**

Parallel Hot Swap Chassis (DK 7857.443 or DK 7857.444). External 3 U battery pack (DK 7857.442).

UPS for 482.6 mm (19") racks or as floor-standing enclosures		UPS with integral battery			UPS control unit		
Model No. DK		7857.430	7857.431	7857.432	7857.433	7857.434	
Power	VA	1000	2000	3000	4500	6000	
	Watts	700	1400	2100	3150	4200	
	Max. heat loss (W)	105	210	252	315	420	
Input	Rated voltage	230 V (160 – 288 V)					
	Frequency	50/60 Hz ±5 %					
	Power factor	> 0.99 with linear load					
Output	Voltage	230 V ≤ ±1 % (200/208/220/230/240 V adjustable)					
	Frequency, synchronised	± 1 Hz					
	Frequency, asynchronous	±0.1 %	±0.1 %	±0.1 %	±0.2 %	±0.2 %	
	Crest factor	3 : 1					
	Non-linear distortion	≤ 7 %	≤ 7 %	≤ 7 %	≤ 6 %	≤ 6 %	
	Wave shape	≤ 3 %					
	Operating ratio, AC mode	85 %	85 %	88 %	90 %	90 %	
	Operating ratio, battery mode	83 %	83 %	85 %	87 %	87 %	
Battery	Power factor	0.7					
	Autonomy at 100 % load	5 years EUROBAT	5 years EUROBAT	5 years EUROBAT	5 years EUROBAT	5 years EUROBAT	
Overload	105 %	continuous					
	120 %	30 sec	30 sec	30 sec	160 sec	160 sec	
	150 %	10 sec	10 sec	10 sec	160 sec	160 sec	
Communication	Interface	1 x USB, 1 x RS-232					
	SNMP	Optional SNMP card DK 7857.420					
	Operating systems supported	Windows, Unix, Linux, OS/2, Novell, Apple; RCCMD shutdown licence DK 7857.421					
	Emergency Power Off (EPO)	■					
Mechanics	Width mm	440					
	Height mm	88					
	Depth mm	405	650	650	660	660	
	Weight kg	15.7	29.4	29.7	24	24	
	Input connection 230 V	10 A C14			10 A C20	Compact connector	Compact connector
	Output connection 230 V	6 x 10 A, C13, 2 units switched			4 x 10 A, C13, 2 units switched, 1 x 16 A, C19	Compact connector	Compact connector
Operating environment	Humidity	0 – 90 %, non-condensing					
	Noise level	50 db (A)					
	Safety	IEC/EN 62 040-1, EN 60 950-1					
Standards and certifications	Power	IEC/EN 62 040-3					
	EMC	EN 50 091-2/EN 62 040-2 class A, EN 61 000-4-2/-3/-4/-6-8/-11, EN 61 000-3-2/-3					
	Labelling	CE, FCC, cUL					

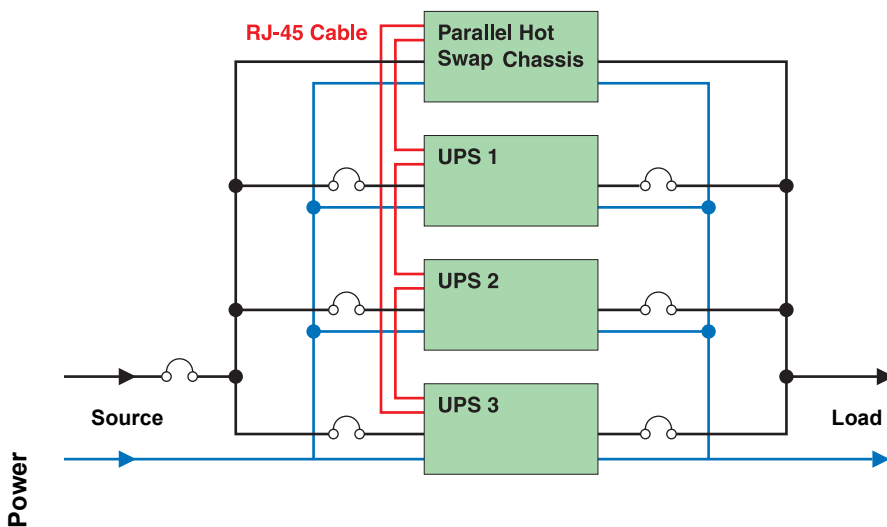
# Power

## UPS, single-phase, output range 1 – 12 kVA N+1 redundant

Accessories for Model No. DK	7857.430	7857.431	7857.432	7857.433	7857.434
External bypass <sup>1) 6)</sup>	7857.439	7857.440	7857.441	–	–
Battery pack <sup>2)</sup>	7857.435	7857.436	7857.437	7857.442	7857.442
Parallel Hot Swap Chassis for 2 UPS systems <sup>3)</sup>	–	–	–	7857.443	7857.443
Parallel Hot Swap Chassis for 3 UPS systems <sup>3)</sup>	–	–	–	7857.444	7857.444
PDM for PMC 12 <sup>4)</sup>	–	–	–	–	7857.445
SNMP card	7857.420	7857.420	7857.420	7857.420	7857.420
RCCMD shutdown licence	7857.421	7857.421	7857.421	7857.421	7857.421
Connection cable for 4.5 and 6 KVA <sup>5)</sup>	–	–	–	7857.446	7857.446
Connection cable, UPS, single-phase	7856.027	7856.027	–	–	–
Connection cable, UPS, single-phase, C20	–	–	7856.030	–	–
Slide rail, depth-variable	7063.883	7063.883	7063.883	7063.883	7063.883

<sup>5)</sup> Not required when using the Hot Swap Chassis. <sup>6)</sup> Extended delivery times.

### Block diagram parallel redundant UPS DK 7857.433/.434



#### 1) External bypass:

The external bypass allows the UPS to be swapped with the system operational.

#### 2) Autonomy (min) at 100 % load:

UPS type	In supplied state	Battery packs		
		1	2	3
1 kVA	7 min	1:09 h	2:13 h	–
2 kVA	7 min	34 min	1:09 h	–
3 kVA	5 min	30 min	1:02 h	–
4.5 kVA	–	12 min	31 min	54 min
6 kVA	–	8 min	20 min	36 min

#### 3) Parallel Hot Swap Chassis:

The parallel hot swap chassis for the 4.5 kVA and 6 kVA module allows up to 3 UPS systems to be connected together. This can be used to boost output and to achieve N+1 redundancy. An **external bypass** is additionally integrated into the Parallel Hot Swap Chassis.

#### 4) PDM for PMC 12:

Single-phase power distribution for use with the Parallel Hot Swap Chassis DK 7857.444. The PDM offers the opportunity of connecting two single-phase 32 A CEE connectors and four EN 60 320 C19 16 A connectors. All outputs have pre-fuses.

UPS, Rittal Modular Power Concept – PMC 200

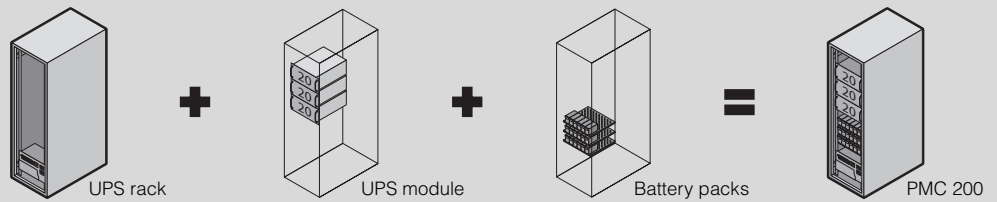
**Maximum availability, modularity and a compact design!**

Rittal PMC 200 ensures optimum availability for critical applications by combining modularity (flexible, unlimited scalability and redundancy) with decentralised parallel architecture or DPA (redundant protection without “single point of failure”). The UPS modules are transformerless, genuine online, double-conversion UPSs with static bypass and classification code VFI-SS-111.

This modular concept keeps the purchasing and operating costs of redundant solutions low. As your performance requirements grow, the UPS grows with you, thanks to its flexible scalability – even in the most confined spaces, and with the system operational. Your benefits: Less capital tie-up, inexpensive expansion, and minimal space requirements.



**The new UPS generation: Rittal PMC 200**



**Your individual UPS based on standard modules**  
Rack plus UPS modules plus battery packs produce a customised UPS to suit your current requirements.

Output density up to 200 kW (160 kW redundant) in one rack.

**Might you need more in future?**  
No problem: The system supports modular expansion of performance and autonomy whilst operational!



**The best UPS concept for you is an “individual concept”**

The uninterrupted power supply to your data centre and all your IT is more than just a question of kilowatts, autonomy and UPS redundancy.

For this reason, we consider your individual UPS requirements in great depth in order to offer you optimum protection at an attractive price.

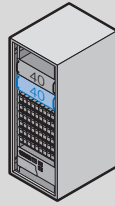
Thanks to the cost benefits afforded by mass production of the UPS modules, individual configuration produces a highly beneficial symbiosis for you.

## UPS, Rittal Modular Power Concept – PMC 200

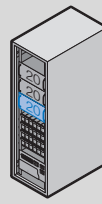


### N + 1 = Perfect redundancy in a rack with PMC 200

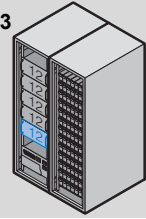
Example 1



Example 2



Example 3



#### Three examples of a 40 kW UPS with redundancy:

All modules operate in parallel mode. In all cases, one module may fail without impairing the connected load.

#### Example 1

- 1 + 1 (40 kW + 40 kW)  
Advantage: Just two UPS modules, minimal space requirements. Disadvantage: 100 % of the required output must be provided as redundancy.

#### Example 2

- 2 + 1 (2 x 20 kW + 20 kW)  
Advantage: Compact and energy-efficient.

#### Example 3

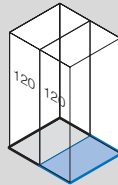
- 4 + 1 (4 x 12 kW + 12 kW), an additional battery rack is needed for batteries. Advantage: Only 12 kW needs to be buffered for redundancy. Disadvantage: Greater space requirements.

► We will be happy to work with you to project-plan the exact solution best-suited to your individual requirements.

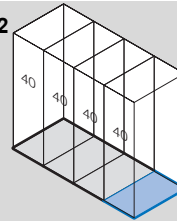


### Extremely small installation space with PMC 200

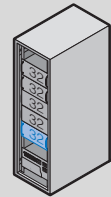
Example 1



Example 2



Example 3  
PMC 200



#### Maximum performance density in one free-standing enclosure!

In examples 1 and 2 we compare the space requirements of two non-modular systems for 120 kW output plus redundancy with the modular UPS system

Rittal PMC 200 (example 3), which is configured according to the 4 + 1 concept with five 32 kW modules.

The minimised construction size of the Rittal PMC 200 concept allows three modules plus battery packs or five modules each with up to 40 kW in one Rittal 482.6 mm (19") TS 8 UPS enclosure.

► Benefits thanks to minimised construction size and modular design.



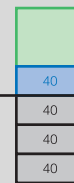
### Maximum energy efficiency with PMC 200

Example 1



120 + 120 = 240 kW

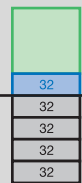
Example 2



120 + 40 = 160 kW

Example 3

Energy saving



128 + 32 = 160 kW

#### Minimal energy requirement means low costs and minimal pollution:

With the PMC 200 concept, you not only protect the critical load, but also safeguard the operating ratio of the UPS. Let us advise you to find the most suitable concept.

#### Example 1

This 120 kVA + 120 kW solution requires the most output for redundancy.

#### Example 2

This variant with three 40 kVA modules only requires 1/3 of the output compared with example 1 for redundancy purposes.

#### Example 3

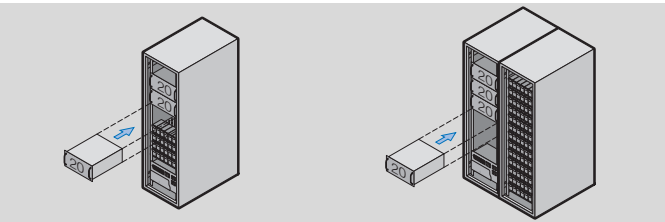
With five 32 kW modules only 1/4 is required for the buffer output of redundancy, compared with a single redundant 120 kW UPS. However, there is no space left in the rack for battery packs, i.e. an additional battery enclosure is needed.

► PMC 200 is an excellent solution with regard to energy and space requirements and also with a view to future expansion.

UPS, Rittal Modular Power Concept – PMC 200



Flexible scalability with PMC 200



**Simple expansion while operational**

Output may be expanded from 2 to 3, 4 or 5 UPS modules via "hot swap" with the system oper-

ational, without having to switch to bypass mode.

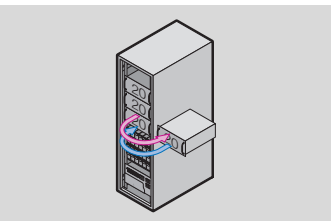
For four modules or more, an additional battery rack will be needed.

The autonomy may also be flexibly modified to suit your requirements.

The Rittal PMC 200 modular system combines flexible adaptation to customer-specific requirements with investment reliability and a high level of availability.



Super-fast service with PMC 200



**Extremely short MTTR (Mean Time To Repair)**

If servicing is required, a 12 kW or 20 kW module may be

replaced with a 20 kW module, and a 32 kW or 40 kW module with a 40 kW module. This simplifies the logistics and ensures fast, flexible, cost-effective servicing.



**PowerDecider**

To obtain maximum benefits from the scalability of the modular Rittal PMC 200 UPS system and to avoid incorrect sizing and thus unnecessary additional costs, Rittal offers a professional power determination service.

**PowerDecider**

Service includes:

- Measurement of the power supply (voltage, current, frequency, apparent power, effective power and reactive power, asymmetries and harmonics, etc.)
- Logging of voltage drops and rises, transients, interruptions and fast voltage changes

	Model No. DK
PowerDecider	on request
PowerDecider Plus	on request

- Determination of your exact kVA and kW requirements
- Execution within ten days after receiving the order
- Data acquisition period: 2 hours
- Report with results/evaluations: Within 5 working days

**PowerDecider Plus**

Service includes:

- As PowerDecider and additionally
- Execution within 5 days after receiving the order
- Data acquisition period: At least 3 days
- Report with results/evaluations: Within 3 working days



**Sub-distributor 482.6 mm (19") UPS, modular**

The distributor may be fitted directly in the UPS PMC 200 rack. This allows a compact complete system to be realised with a 0.6 m<sup>2</sup> footprint that contains a rack-mounted modular **UPS PMC 200, batteries and distributor.**

**Application area:**

UPS systems Rittal Power Modular Concept PMC 200 up to 20 kW N+1.

**Technical specifications:**

- 482.6 mm (19"), 6 U
- 12 outlets, three-phase 400 V/50 Hz with 10 A
- On-load isolator for disconnecting
- Circuit-breaker 10 A per phase

Design	Model No. DK
19", 6 U	<b>7857.372</b>

**Supply includes:**

482.6 mm (19") modules, 6 U, instructions.

**Note:**

Observe the country-specific connection data.



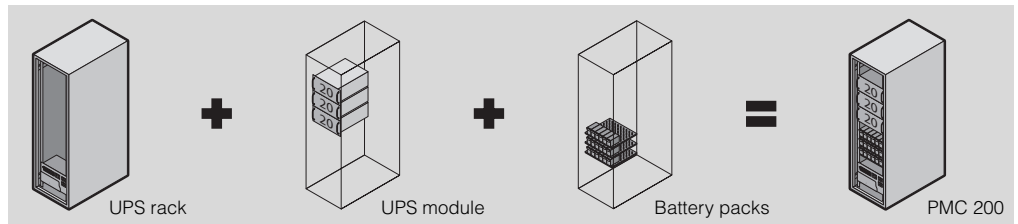
**Also required:**

Plug & play connection cable to the server racks:

Length	Packs of	Model No. DK
3 m	1	<b>7857.130</b>
5 m	1	<b>7857.150</b>
8 m	1	<b>7857.180</b>
9 m	1	<b>7857.190</b>

# Power

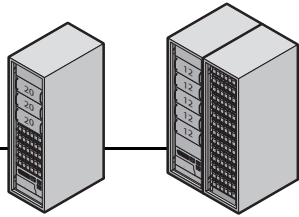
## UPS, Rittal Modular Power Concept – PMC 200



Minimum floor space is required by a rack with three modules (2 + 1 redundancy) and batteries with autonomy integrated into a single rack.

The Rittal PMC 200 allows the integration of up to 5 modules (4 + 1 redundancy) in one rack. For this configuration, an additional battery rack is always

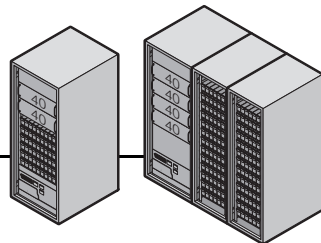
required. The autonomy may be flexibly adapted to suit your requirements.



**UPS racks:** W 600 x H 2000 x D 1000 mm  
**Battery racks:** W 600 x H 2000 x D 1000 mm

### Examples of 12 and 20 kW module configurations and autonomies

	12 kW		20 kW		32 kW		40 kW		60 kW	
Redundancy	without	with	without	with	without	with	without	with	without	with
UPS rack/battery rack	1/-	-	1/-	1/-	1/-	1/-	1/1	1/1	1/1	1/1
Number of UPS modules	1	-	2	2	3	3	4	4	5	5
<b>PMC 12 module type, power in kW</b>	<b>12</b>	-	<b>24</b>	<b>12</b>	<b>36</b>	<b>24</b>	<b>48</b>	<b>36</b>	<b>60</b>	<b>48</b>
Battery autonomy <sup>1)</sup>	60	-	14	14	14	14	24	24	24	24
<b>PMC 20 module type, power in kW</b>	<b>20</b>	-	<b>40</b>	<b>20</b>	<b>60</b>	<b>40</b>	<b>80</b>	<b>60</b>	<b>100</b>	<b>80</b>
Battery autonomy <sup>1)</sup>	33	-	7	7	7	7	12	12	12	12



**UPS racks:** W 800 x H 2000 x D 1000 mm  
**Battery racks:** W 600 x H 2000 x D 1000 mm

### Examples of 32 and 40 kW module configurations and autonomies

	32 kW		40 kW		64 kW		96 kW		120 kW	
Redundancy	without	with	without	with	without	with	without	with	without	with
UPS rack/battery rack	1/-	-	1/-	1/-	1/-	1/-	1/2	1/2	1/2	1/2
Number of UPS modules	1	-	2	2	3	3	4	4	5	5
<b>PMC 32 module type, power in kW</b>	<b>32</b>	-	<b>64</b>	<b>32</b>	<b>96</b>	<b>64</b>	<b>128</b>	<b>96</b>	<b>160</b>	<b>128</b>
Battery autonomy <sup>1)</sup>	18	-	9	9	9	9	12	12	12	12
<b>PMC 40 module type, power in kW</b>	<b>40</b>	-	-	-	-	-	<b>160</b>	<b>120</b>	<b>200</b>	<b>160</b>
Battery autonomy <sup>1)</sup>	15	-	-	-	-	-	9	9	9	9

<sup>1)</sup> Minutes/modules with cos φ 1.0/Autonomy may be extended to order. Delivery times available on request.

**Note:**  
This table contains only sample configurations. We would be happy to work with you to project plan your individual solution.

## Technical specifications

1. Rectifier data								
Module range		up to 100 kW				up to 200 kW		
Module types		10	15	20	25	30	40	50
Output per module	kVA	10	15	20	25	30	40	45
Output per module	kW	8	12	16	20	24	32	40
Nominal input voltage	V	3 x 380/220 V+N, 3 x 400/230 V+N, 3 x 415/240 V+N						
Input voltage tolerance	V	3 x 306/177 V to 3 x 464/264 V for < 100 % load 3 x 280/161 V to 3 x 464/264 V for < 80 % load 3 x 160/138 V to 3 x 464/264 V for < 60 % load						
Input frequency	Hz	35 – 70						
Power factor input		PF = 0.99 @ 100 % load						
Starting current	A	Limited by soft start/max. I <sub>N</sub>						
Distortion factor, THDI		Sine-wave THDI = < 3 % @ 100 % load						
Input with charged battery and rated voltage	kW	8.4	12.6	17.4	21	26	34	42
Input with battery charging and rated output	kW	9.3	13.8	19.2	22.9	28.2	38	45.8

2. Battery data								
Module range		up to 100 kW				up to 200 kW		
Module types		10	15	20	25	30	40	50
No. of 12 V batteries	No.	30 – 50			40 – 50	40 – 50	30 – 50	40 – 50
Maximum charging current	A	6 A standard				10 A standard		
Battery charging curve		Ripple free; IU (DIN 41 773)						
Temperature-controlled battery charging		Standard (temp. sensor optional)						
Battery test		Automatic and periodic (adjustable)						
Battery type		Maintenance-free lead and NiCd						

3. Output data								
Module range		up to 100 kW				up to 200 kW		
Module types		10	15	20	25	30	40	50
Output per module	kVA	10	15	20	25	30	40	45
Output per module	kW	8	12	16	20	24	32	40
Output current I <sub>N</sub> at cosphi 1.0 (400 V)	A	11.6	17.4	23.2	29	35	46.5	58
Output voltage	V	3 x 380/220 V or 3 x 400/230 V or 3 x 415/240 V						
Output voltage stability		Static: < ± 1 % Dynamic (step load 0 % – 100 % or 100 % – 0 %): < ± 4 %						
Output voltage distortion		With linear load: < ± 2 % With non-linear load (EN 62 040-3; 2001): < ± 4 %						
Output frequency		50 Hz or 60 Hz						
Output frequency tolerance		Synchronous to input, network-led: < ± 2 % or: < ± 4 % Asynchronous quartz oscillator: ± 0.1 %						
Bypass mode		Nominal input voltage at 3 x 400 V or 190 V – 264 V ph-N: ± 15 %						
Admissible load unbalance (all 3 phases are controlled independently)	%	100						
Phase angle tolerance (with 100 % unbalanced load)	Deg.	± 0						
Overload capacity in inverter mode		125 % load: 10 min 150 % load: 60 sec						
Short-circuit capacity	A	Inverter: 2 x I <sub>N</sub> during 250 ms Bypass: 10 x I <sub>N</sub> during 10 ms						
Crest factor		3 : 1						
Efficiency AC – AC at 100 %/75 %/50 %/25 % load (cosphi 1.0)	%	96/95/95/95						
Eco-mode efficiency at 100 % load	%	98						

4. Standards	
Safety	EN 62 040-1-1: 2003, EN 60 950-1: 2006
EMC	2006, EN 61 000-3-2: 2000, EN 61 000-3-3: 2006, EN 61 000-6-2: 2006, EN 61 000-6-4: 2002
Classification code VFI SS 111	EN 62 040-3: 2002
Product conformity	CE
Protection rating	IP 20

## Technical specifications

5. General technical specifications								
Module range		up to 100 kW				up to 200 kW		
Module types		10	15	20	25	30	40	50
Noise level at 100 %/50 % load	dB (A)	55/49	57/49	57/49	57/49	59/51	63/53	63/53
Ambient temperature UPS	°C	0 – 40						
Ambient temperature for batteries (recommended)	°C	20 – 25						
Storage temperature	°C	–25 to +70						
Battery storage time at ambient temperature		Max. 6 months						
Max. height (above sea level)		1000 m (3300 ft) without de-rating (max. 3000 m (10000 ft))						
Relative humidity		Max. 95 % (non-condensing)						
Accessibility		Total accessibility from the front for servicing and maintenance (side, no access required from the roof or rear)						
Siting		Min. 20 cm spacing from the wall (required for cooling)						
Input and output wiring.		From the front, below						
Efficiency AC – AC at 100 %/75 %/50 %/25 % load (cosphi 1.0)	%	96/95/95/95						
Eco-mode efficiency at 100 %	%	98						

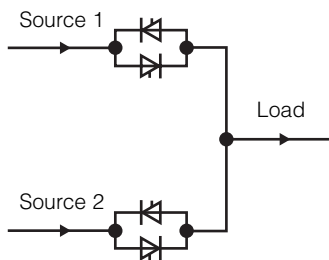


### Static Transfer Switch (STS)

The use of a static transfer switch allows “single-corded devices” (devices that have only one power pack) to be operated with a redundant power supply. STS has two infeeds that are switched automatically. The switching time is < 5 ms. This ensures that sensitive devices can be operated without interference. The “Break before Make” transfer ensures that the load is not fed concurrently from two sources.

#### Operation:

The operating panel mounted on the housing front shows all central functions and messages of the Static Transfer Switch. All messages may also be evaluated with floating contacts. The STS may optionally be supplemented with a quick-change frame equipped with an external bypass. This function allows the load to be switched manually onto the mains for servicing purposes.



Design	Model No. DK
STS 16 A without serial interface	<b>7857.070</b>
STS 16 A with serial interface	<b>7857.080</b>
STS 16 A with serial interface and quick-change frame	<b>7857.090</b>
STS 20 A with serial interface and quick-change frame	<b>7857.100</b>

Delivery times available on request.

#### Connectivity:

The optional SNMP card makes it possible for the Static Transfer Switch STS to be integrated into a network management system. The web server integrated in the SNMP card provides password-protected access to the STS using a web browser.

#### Available on request:

STS with superior switching load, quick-change frame with external bypass.

#### Note:

Up-to-date information such as operating instructions, software update and product information may be found at [www.rimatrix5.com](http://www.rimatrix5.com)

#### Technical specifications:

Nominal current strength	16 A and 20 A
Voltage	1-phase 120/220/230/240 V
Tolerance of input voltage	Adjustable (±15 % as standard)
Frequency	50 or 60 Hz
Short-circuit resistance	up to 20/15 I <sub>N</sub> according to the nominal current strength
Admissible Crest factor	up to 4
Changeover	Phase/zero conductor
Transfer mode	Synchronous/asynchronous without overlapping the current sources
Switch-over time	< 5 ms



## Monitoring of UPS and Static Transfer Switch (STS)

This monitoring and management software can be used to manage all active components and power from RimatriX5. One interface for all single and 3-phase UPSs and for the Static Transfer Switch is typical of an integrated operating concept. If an emergency generating unit is being used, it too may be monitored with the SNMP adaptor.

### SNMP functionality

May easily be integrated into an existing SNMP monitoring system.

An additional MIB, in addition to the standard MIB RFC1628, handles the display of all parameters. An optional "snap-in" for HP Open View is additionally available.

### E-mail functionality

The integrated mail client can be used to send status e-mails to the administrator. The configured event/alarm management provides a tool that allows the filtering of messages.

### Web functionality

The integrated web interface shows all relevant information for the UPS or STS at a glance. Password protection prevents unauthorised access to the SNMP card. The integrated NTP client handles the synchronous operation of all plants.

The optional PPP interface allows you to access the SNMP card from outside the intranet or supports access to the SNMP card if the network infrastructure is not available.

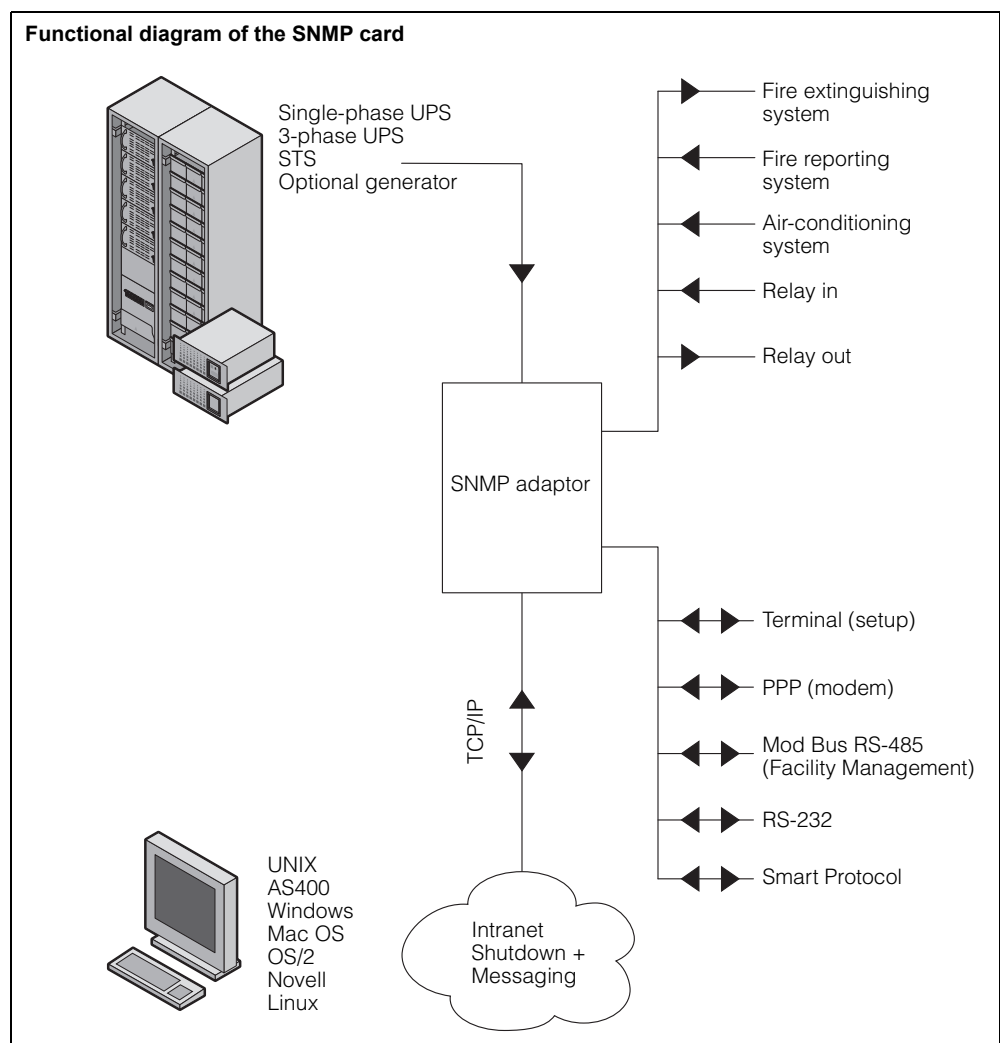
In addition to the web interface, the UPS MON program can also be used to monitor the UPS.

### UPS MON is available for the following operating systems:

Windows, Unix, Novell Netware, OS/2, MacOSX. The servers connected to the UPS may be shut down with the aid of a service controlled by the UPS. All standard operating systems are supported. An optional software solutions supports targeted shutdown of the servers to give greater autonomy to key services.

### Supported protocols of the Ethernet interface:

- HTTP/Java/UPS MON interface
- WAP
- Remote Program Start
- SNMP
- SMTP/SMS
- Mod Bus over IP
- Telnet/FTP
- Log file
- Snap-in for HP Open View



# Cooling

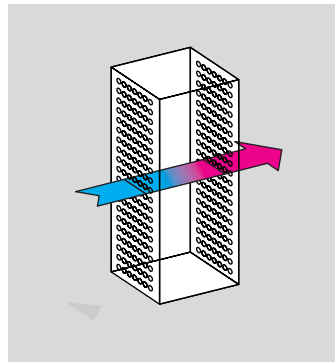
## Rack cooling



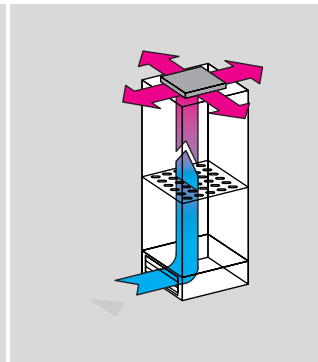
When climate control and ventilation are ideal, computing processes are able to run efficiently. This means uninterrupted data flows, which in turn translates into non-stop productivity. Further information can be found under "System climate control", see page 629.

### Passive cooling (use of the ambient air)

The air is cooled via the regular ambient air or via the building's air-conditioning system and it is then routed into the raised floor for rack cooling.



**Horizontal ventilation**  
A high air throughput, stylish design and outstanding security are provided by the doors (with 78 % free surface area per door) of the server racks, see page 777.



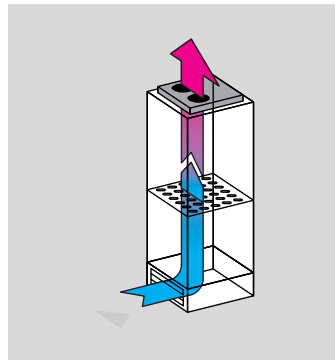
**Vertical ventilation**  
Ventilation plinth, roof ventilation and slotted component shelves ensure heat dissipation, see page 892, 701, 1013.



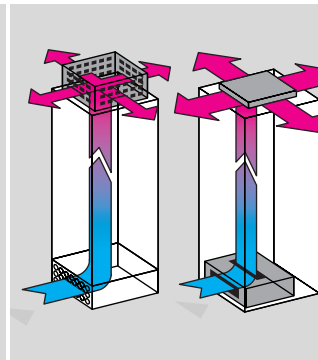
**Air baffle system**  
Cool air from the hollow base is routed over the base/plinth and distributed via the door in a targeted manner, see page 702.

### Active cooling (use of the ambient air)

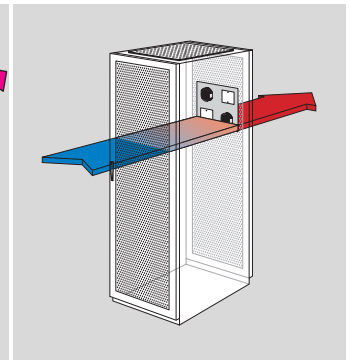
Fan systems for active cooling amplify the air exchange inside the rack and use ambient air for cooling.



**Fan roofs**  
Various designs and outputs, extendible with fan kits. Fast assembly tailored to racks, see page 703.



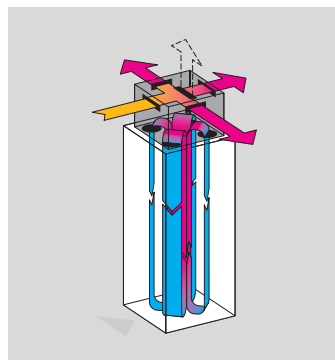
**Roof-mounted fan**  
Quiet performance (1500 m<sup>3</sup>/h) for office applications. Centrifugal fan/rack-mounted fan, see page 702.



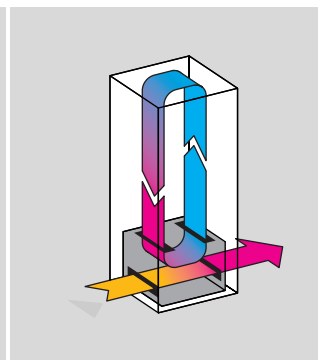
**Fan cross member**  
For the perforated door of TS 8 server racks. Air throughput of up to 1200 m<sup>3</sup>/h, see page 706.

### Active, rack-related cooling

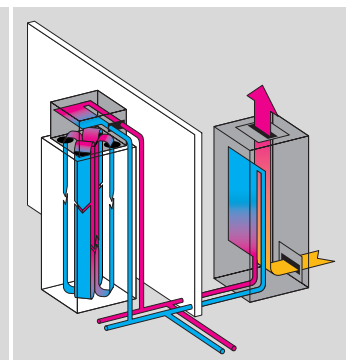
By contrast, rack-specific, active cooling is capable of reducing the interior temperature of the rack to below the ambient temperature. This cooling technique is very effective with an appropriate room volume and in industrial environments.



**Roof-mounted cooling unit (office application)**  
Useful cooling output 1100 W at an extremely low noise level, see page 638.



**Rack-mounted cooling units 482.6 mm (19")**  
Useful cooling output 1000 W, simple installation in the 482.6 mm (19") level, see page 698.

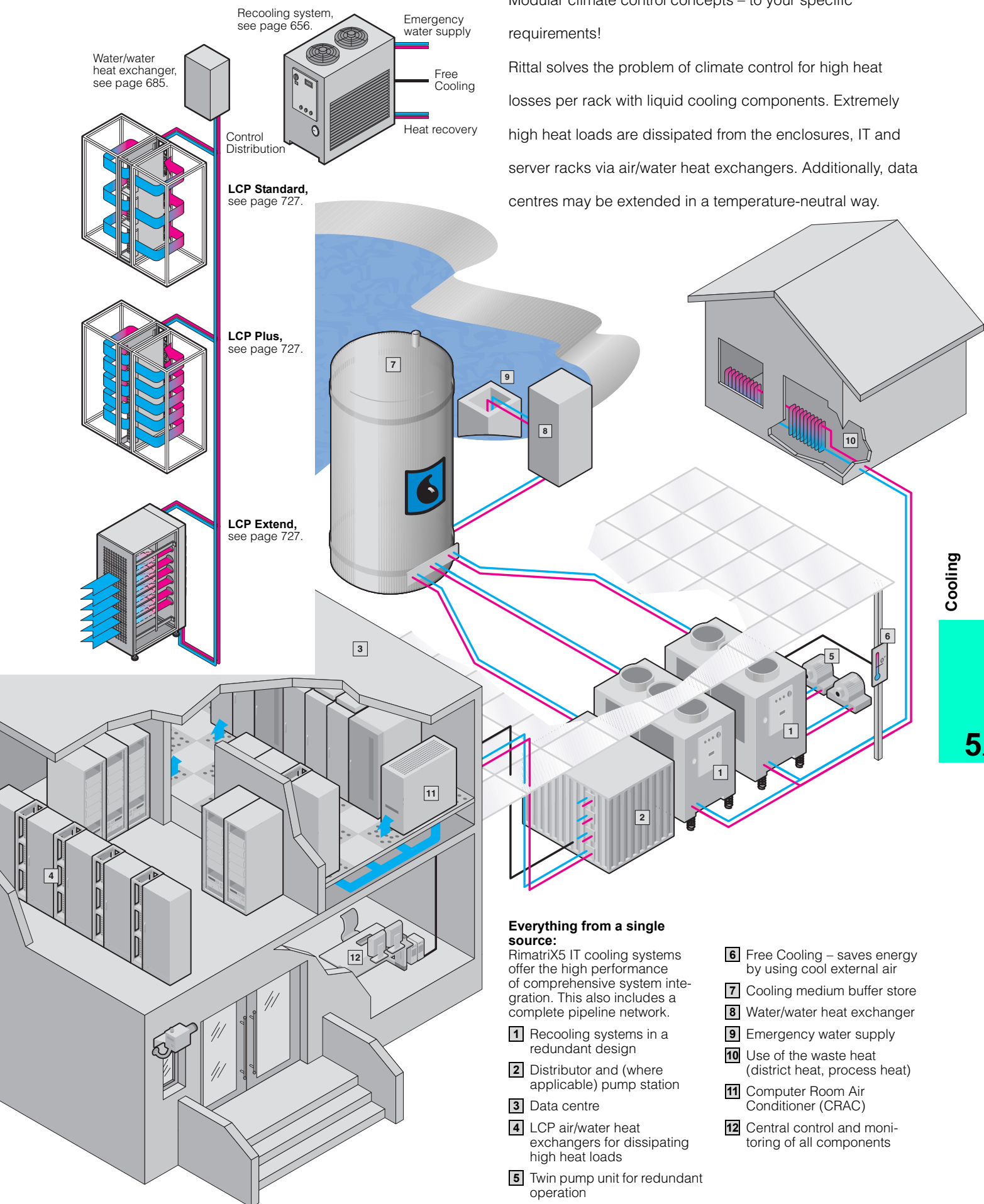


**Air/water heat exchangers**  
These prevent the installation room from heating up. A link to a recooling system as cold water supply is essential, see page 676.

## High-performance cooling

Modular climate control concepts – to your specific requirements!

Rittal solves the problem of climate control for high heat losses per rack with liquid cooling components. Extremely high heat loads are dissipated from the enclosures, IT and server racks via air/water heat exchangers. Additionally, data centres may be extended in a temperature-neutral way.



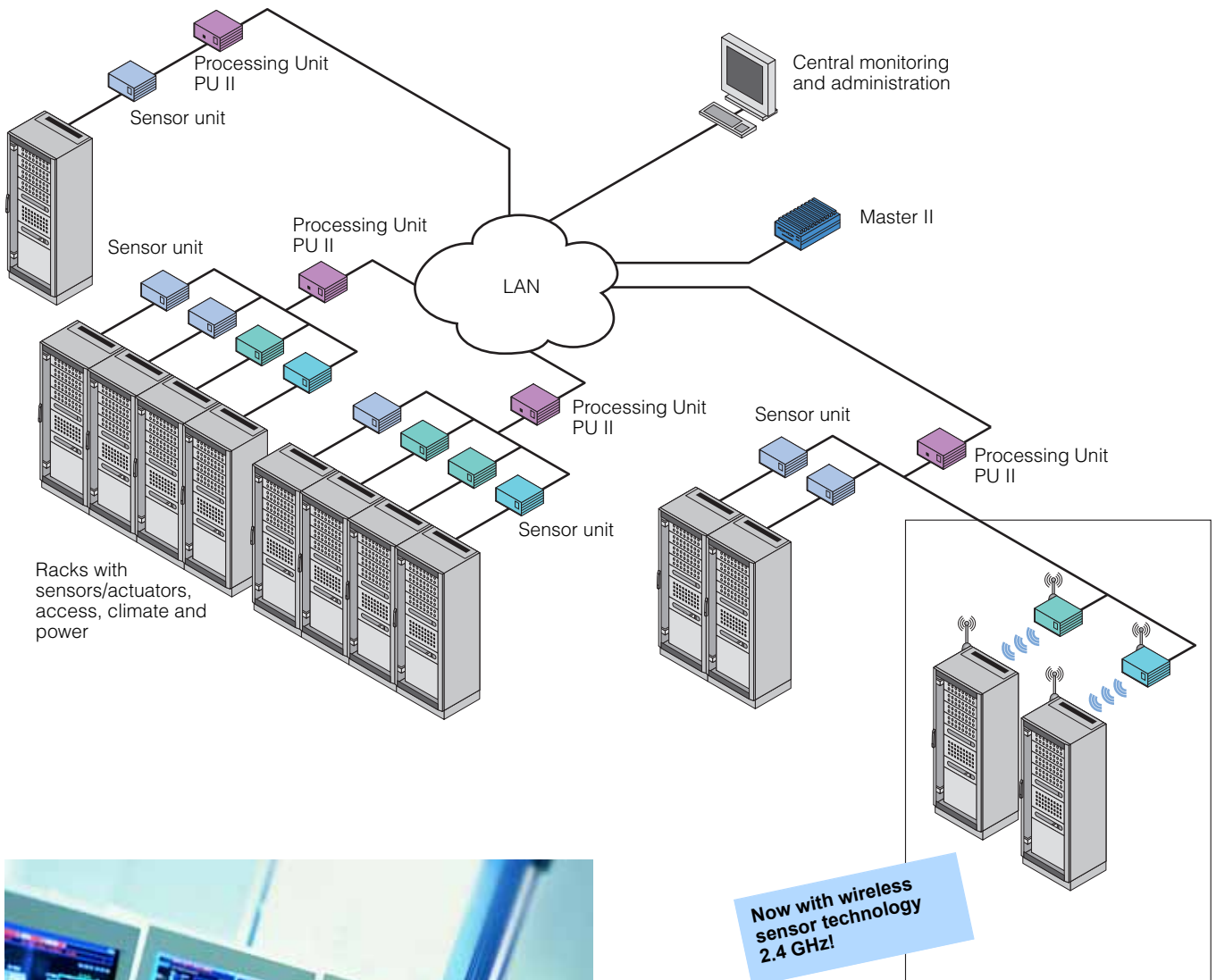
# Security

## Monitoring system CMC-TC

### Security – individual and flexible

The CMC-TC offers a new dimension in flexibility, efficiency, technology and cost-effectiveness. The modular master/slave system uses network technology as its communication system. In the past, bus systems were used for this purpose, but the CMC-TC system uses TCP/IP and SNMP for

communication between the Master and Processing Unit II. This gives users the option of working with high performance, i. e. the CMC-TC Master, or only with the Processing Unit II. The standardised interface on the Processing Unit II (PU II) allows even small individual applications to be achieved cost-effectively. The Master II may also be used.



Security

B

5.6

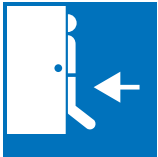


**The new wireless sensor technology** unites the popular CMC-TC system with radio sensors. This transports the modular concept into a new dimension of flexibility. Existing IT infrastructures can also be easily retrofitted with the wireless sensor network.

Detailed information, see page 834.

## Monitoring components

### Security: Access



Access

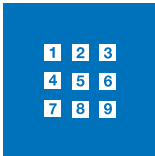


Vandalism

Protection against data misuse is one of the most vital security factors in any company. The CMC-TC system regulates access to the server racks and records access.



Magnetic card



Numerical code



Transponder



Smart card



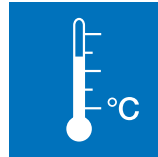
Biometric



Legic



### Rack



Temperature monitoring



Monitoring of humidity

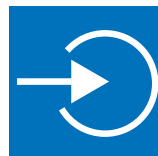
CMC-TC logs all safety-relevant parameters on the inside and the outside of the rack using various sensors.



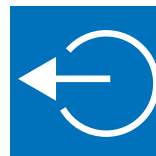
Individual, analog input



Smoke monitoring



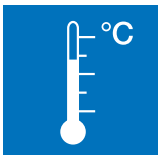
Individual, open, digital input



Individual relay output



### Cooling



Temperature control



Airflow monitoring

Any deviation from the setting is logged. The CMC-TC monitors the climate control components.



Speed control



Leakage detection



Monitoring of icing



Monitoring of filter mat

### Power

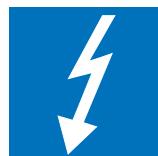


Power supply



Power control

The CMC-TC monitors voltages and currents, and controls the power supply for individual network components.



Overvoltage protection



Voltage measurement



Current measurement



# Security

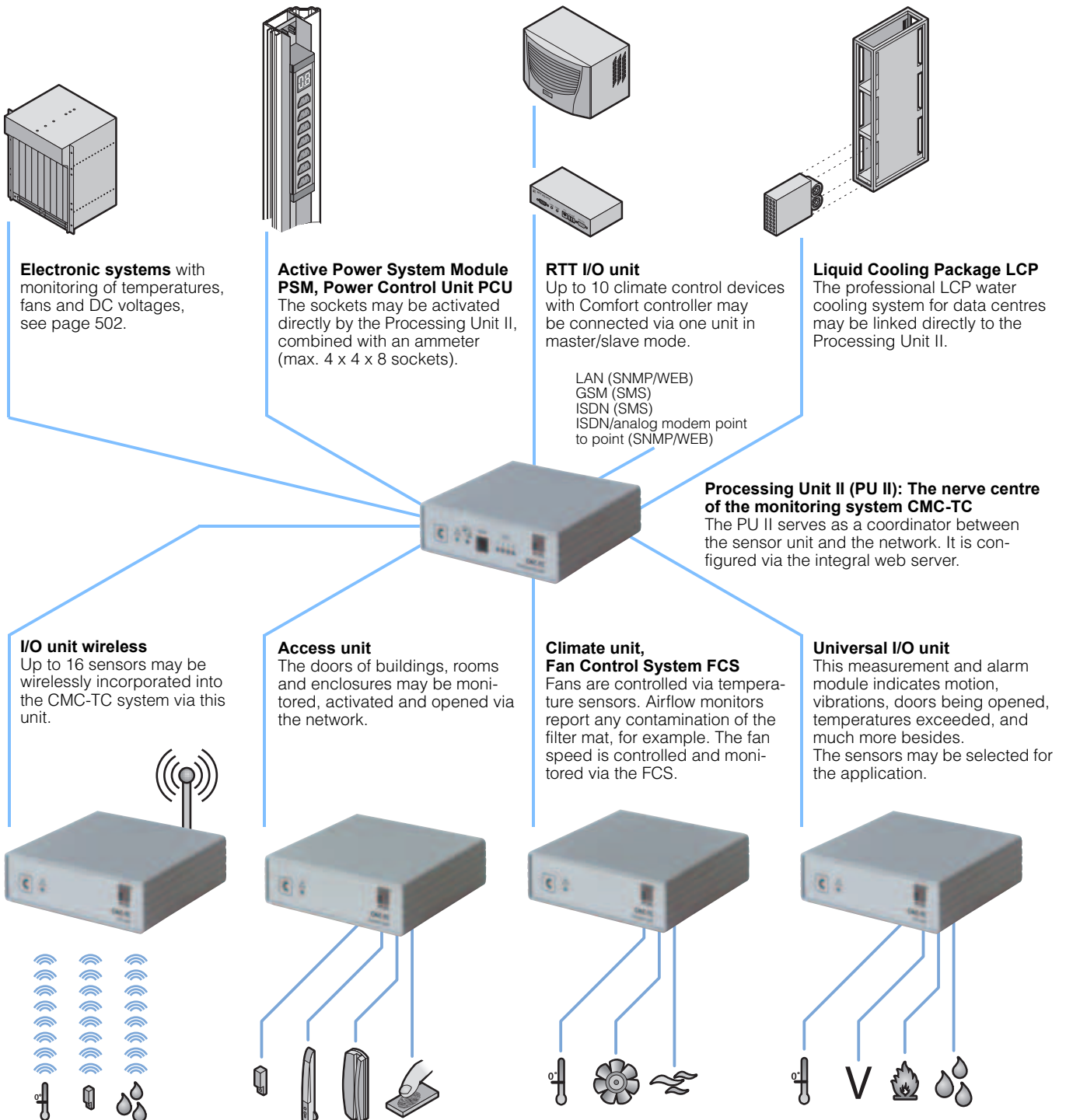
## Monitoring system CMC-TC

The CMC-TC monitoring system is the complete security management concept for preventive protection, to guard against follow-on costs. At the same time, it is also the central organisational unit for connecting to facility management.

Processing Unit II (PU II) forms the basis of any application and provides a direct interface to the user network. The sensor units are linked to the PU II with various sensors. The function of the CMC-TC monitoring system is determined by the selection of sensor units and sensors.

Security

B  
5.6



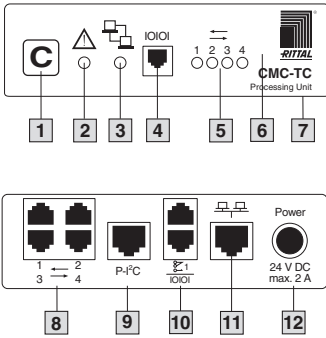


### Monitoring system CMC-TC Processing Unit II

The Processing Unit II forms the basis of the CMC-TC system. This unit is required for every monitoring application.

#### Benefits:

- Freely selectable monitoring functions
- Sensor/actuator ports extendible
- TCP/IP SNMP network connection
- Integral web server for configuration
- Automatic menu generation
- Simple installation based on the plug & play system
- Alarm continues to record even in the event of a network failure
- Built-in real-time clock with NTP
- May be used via power pack for 100 – 240 V AC or 48 V DC
- Choice of mounting on the enclosure frame or 482.6 mm (19") mounting angles
- Master II interface TCP/IP SNMP
- May be used for large data centres or small individual applications



- Control key**  
The C key is for sensor/actuator identification, set-up of the system and acknowledgment.
- Alarm LED**  
The LED signals alarms or configuration changes.
- Link/Traffic LED**  
The LED signals the status of the network interface 10BaseT/100BaseT.
- RS-232 interface RJ 10**  
For programming via the serial PC interface.
- LEDs channels of sensor units**  
The LEDs indicate the status of the attached sensor units.
- Acoustic alarm**  
There is an acoustic alarm signalling device integrated into the PU II.
- Mounting attachment**  
For attachment with individual bracket DK 7320.450 or 1 U mounting units DK 7320.440.

- Inputs for sensor unit RJ 45**  
Up to 4 sensor units may be connected to the PU II via the 4 inputs. The sensor units determine the function of the PU II. There is a choice of 12 sensor units:  
– I/O unit DK 7320.210  
– Access unit DK 7320.220  
– Climate unit DK 7320.230  
– FCS DK 7320.810/DK 7858.488  
– RTT I/O unit DK 3124.200  
– RLCP DK 3301.230/420  
– Active PSM DK 7856.200/.201  
– RPCU DK 7200.001  
– MPS Monitoring  
Connection cable DK 7320.470.
- Power-I<sup>2</sup>C bus RJ 45**  
Up to 2 voltage extension units DK 7200.520 may be connected via the power I<sup>2</sup>C bus. Up to three AC voltages may be monitored with every extension unit. Connection cable DK 7320.470.
- Alarm relay RJ 12/RS-232**  
The upper RJ 12 jack provides a change-over contact from the PU II alarm relay. Connection cable DK 7200.430.  
The lower RJ 12 jack provides a serial interface (display unit/GSM module/ISDN unit/Legic transponder handle/analogue modem).
- Ethernet 10BaseT RJ 10**  
Integral Ethernet interface to IEEE 802.3 via 10/100BaseT full-duplex 10/100 Mbit/s.
- Power supply**  
The rated voltage for the PU II is 24 V DC. There is a choice of power packs with varying primary voltages. AC power pack DK 7320.425.

#### Interface to the customer:

The PU II can be incorporated directly into the user network via 10/100BaseT. The PU II can also be linked to the master DK 7320.005 via this interface (TCP/IP, SNMP).

#### Interface to the sensors/actuators:

The PU II provides 4 open ports for sensor units. The sensor units determine the function of the PU II. There is a choice of 12 sensor units with different functions. In this way, the monitoring functions may be freely combined.

#### Fast, easy programming and installation:

The sensors/actuators are set up via an automatic electronic ID system. Installation is via a flexible plug & play system. This eliminates the need for time-consuming programming and wiring.

#### Power supply:

Power is supplied centrally via a power pack in the PU II. The connected sensor units and all connected sensors are supplied with power in this way. There is a choice of two input voltages (AC power pack DK 7320.425 and DC power pack DK 7320.435).

Model No. DK	7320.100
W x H x D mm	136 x 44 (1 U) x 129
Network interface	Ethernet to IEEE 802.3 via 10BaseT/100BaseT, 10/100 Mbit/s
Protocols	TCP/IP, SNMP V1.0, Telnet, Secure Shell SSH, FTP, HTTP, HTTPS with SSL, Network Time Protocol NTP, DHCP, PPP, SMTP, SFTP, SNMPv3
Rated voltage	24 V DC
Serial interfaces	RS-232
Ports for sensor units	4 jacks RJ 45, shielded
Bus system	Power I <sup>2</sup> C for extension unit voltage AC DK 7200.520
Alarm relay output	Change-over contact max. 24 V DC 1 A
Audio display	Piezo signal generator
Time function	Real-time clock
Temperature application range	+5°C to +45°C
Humidity application range	5 % to 95 % relative humidity, non-condensing
IP protection category	IP 40 to EN 60 529/09.2000



#### ! Also required:

Sample configuration, see page 806.  
Connection cable DK 7320.470, see page 819.

## Optional basic module



### Monitoring system CMC-TC Master II

**Benefits:**

- Centralised administration
- Network connection 10/100BaseT
- Central web server for configuration
- Local administration via console VGA/PS/2
- Logging function for alarm messages
- Link for USB web camera
- Free function selection for monitoring
- Ideal for large data centres
- Web access via SSL 3.0
- 128-bit encryption
- Remote administration via SSH
- Monitoring functions may be linked together
- E-mail function via SMTP
- Video monitoring may be linked to the CMC-TC monitoring functions



USB web camera available on request.

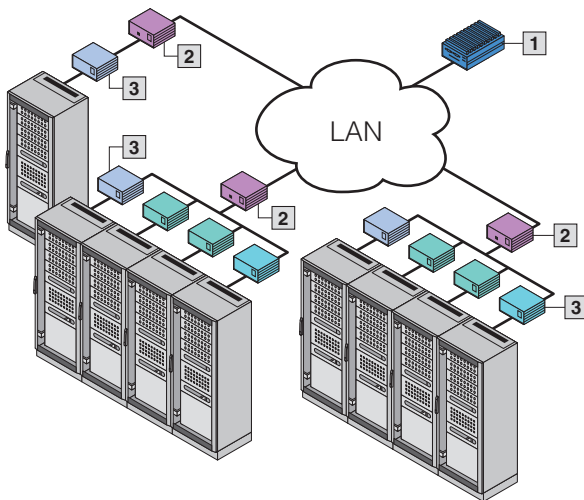
The CMC-TC Master II is an optional component in the CMC-TC system. The master allows the alarm data of up to 10 PU II systems to be linked and displayed. Special features of this system include its superior flexibility and performance. Up to 10 PU II systems may be distributed directly in the customer's intranet. Like the PU II, the Master II may be placed at any position within the network.

It is possible to directly access the web pages of the PU II or the web page of the Master II, where all data is combined and linked. The PU II transmits all monitoring-related data and messages to the master system via TCP/IP, SNMP. The master unit has a 10BaseT/100BaseT network interface for network integration.

All monitoring data is provided in a separate MIB via TCP/IP, SNMP. The system may be configured remotely via the integral web server. Basic settings can also be implemented serially via RS-232 or Telnet. A Telnet routing function to the individual Processing Units II is also pre-integrated. This provides the user with a clear central monitoring facility. For example, up to 160 temperature sensors may be accessed or up to 80 enclosure doors may be monitored and activated via one IP address. Combined applications are also possible, and may be compiled individually from PU II and sensor units. Functional upgrades for the CMC-TC Master II are available on request in the form of a software update. Images may be archived on the hard drive via an optional web camera. Up to two USB cameras may be connected. USB web camera available on request.

<b>Model No. DK</b>	<b>7320.005</b>
Network interface	Ethernet to IEEE 802.3 via 10BaseT/100BaseT, 10/100 Mbit/s
Protocols	TCP/IP, SNMP V1.0, TELNET, SSH, TFTP, HTTPS

Rated voltage	100 – 240 Volt AC, 50/60 Hz
Serial interfaces	2 D-SUB 9 jacks RS-232
USB	Standard 2.0 for Rittal USB webcams
Time function	Real-time clock
Temperature application range	+5°C to +35°C
Humidity application range	5 % to 80 % relative humidity, non-condensing

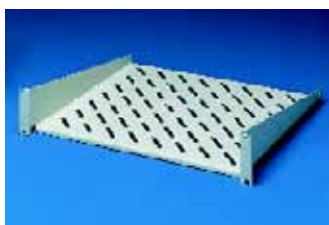


- 1 Master II
- 2 Processing Unit II (PU II)
- 3 Sensor unit



**Also required:**

A component shelf must also be ordered for each CMC-TC Master II, see page 810.



### Component shelf

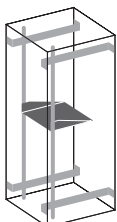
**for attachment of the CMC-TC Master II**  
The 2 U component shelf serves to accommodate the CMC-TC Master II in a 482.6 mm (19") rack.

**Depth:**  
400 mm

**Load capacity:**  
25 kg surface load, static

**Material:**  
Sheet steel

**Colour:**  
RAL 7035



Component shelf	<b>Model No. DK</b>
2 U	<b>7119.400</b>

**Note:**

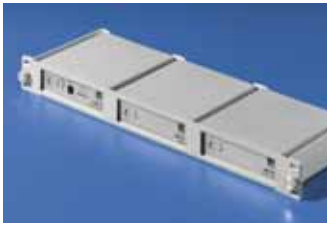
The Master II can also be mounted on top hat rails for better heat dissipation at the side of the rack (assembly parts not included with the supply).



1



2



3

### CMC-TC sensor units

#### Description

#### I/O unit:

The alarm and measurement module

#### Access unit:

For controlling door systems

#### Climate unit:

For fan control and monitoring

#### Fan Control System FCS:

For DC fan

#### Benefits:

- Choice of functions thanks to twelve sensor units
- Open to customer-specific sensors/actuators
- Automatic sensor detection
- Simple plug & play installation
- No additional power pack required
- Choice of mounting on the enclosure frame or 482.6 mm (19") mounting angles
- I/O unit: Freely selectable sensors/actuators
- Access unit: Personalised access detection
- Climate unit: Fan control with airflow monitoring

- 1 Interface for the sensor unit and processing unit connection. Used for data communication and power supply.  
Cable DK 7320.470
- 2 Just one press of the button, and the system automatically reconfigures itself.
- 3 Up to 3 systems may be integrated into the 1 U mounting unit DK 7320.440

#### Technical specifications:

The sensors/actuators are set up via an automatic electronic ID system. Because it is installed using a flexible plug & play system, there is no need for time-consuming programming and wiring. Power is supplied centrally via the connection cable to the PU II.

#### Technical specifications:

W x H x D: 136 mm x 44 mm (1 U) x 129 mm  
Temperature application range: +5°C to +45°C  
Humidity application range:  
5 % to 95 % relative humidity,  
non-condensing

#### Protection category:

IP 40 to EN 60 529/09.2000



#### Also required:

Connection cable DK 7320.470,  
see page 819.

### I/O unit

This allows alarm messages, status messages and measurements to be forwarded or remote actions to be executed via relay output modules. The I/O unit has 4 universal inputs/outputs. The sensors/actuators listed below can be operated here.

The interface to the user network is via the PU II (processing unit), which is always required to operate the system.

- 1 **Control key** for detection/set-up of the sensors/actuators
- 2 **Alarm LED** signals alarms or configuration changes
- 3 **Mounting fixture** for DK 7320.440 or DK 7320.450
- 4 **RJ 12, 4 inputs for sensors/actuators** (see table)
- 5 **RJ 45, connection** to PU II DK 7320.100 via connection cable DK 7320.470 (The unit is also supplied with power via this connection.)

#### Note:

For selection aid, see page 817.

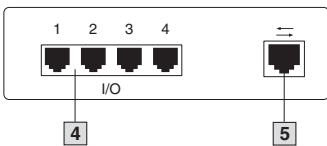
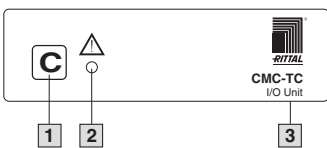
I/O unit	Model No. DK
4 universal inputs or outputs	<b>7320.210</b>



#### Also required:

Sensors/actuators	Max.	Model No. DK	Page
Temperature sensor	4	7320.500	823
Humidity sensor	4	7320.510	823
Analog sensor input module "4 - 20 mA"	4	7320.520	825
Access sensor <sup>1)</sup>	4 x 5	7320.530	828
Vandalism sensor	4	7320.540	828
Acoustic sensor	4	7320.640	824
Airflow monitor	4	7320.550	823
Smoke alarm	4	7320.560	824
Motion sensor	4	7320.570	828
Digital input module	4	7320.580	825
Digital relay output module	4	7320.590	825
Voltage monitor	4	7320.600	826
Voltage monitor with 10 A switch output	2 - 4	7320.610	826
Voltage monitor with 16 A switch output	2 - 4	7320.611	827
48 V voltage monitor	4	7320.620	827
Leak sensor	4	7320.630	823
Leak sensor, 15 m	4	7320.631	824
Connection cable		7320.470	819

<sup>1)</sup> Up to a maximum of 5 sensors may be connected in series.



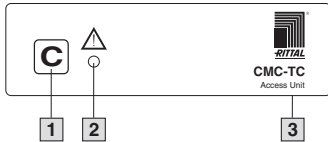
## Sensor units



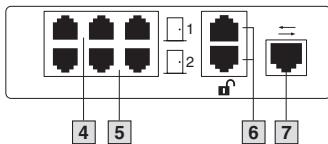
### Access unit

With this sensor unit, one or two doors may be released for access via the network, or personalised opening via a read system (e. g. smart-card reader) may be initiated. The system also monitors the status of the door, handle or latch. Authorised access codes can be set up via HTTP. The sensors/actuators/readers listed below can be operated here.

In order to operate the unit, at least one access sensor and at least one latch (e. g. handle) per door system must always be used.



- 1 Control key** for detection/set-up of the sensors/actuators
- 2 Alarm LED** signals alarms or configuration changes
- 3 Mounting fixture** for DK 7320.440 or DK 7320.450



- 4 Inputs for access sensor, handles**  
Latch system 1 (see table)
- 5 Inputs for access sensor, handles**  
Latch system 2 (see table)
- 6 I<sup>2</sup>C bus for reader units** Door system 1 and 2 (see table)
- 7 RJ 45 connection** to PU II DK 7320.100 via connection cable DK 7320.470 (The unit is also supplied with power via this connection.)

Access unit	Model No. DK
Control of 2 door systems	<b>7320.220</b>

#### ! Also required:

Sensors/actuators	Max.	Model No. DK	Page
Access sensor <sup>1)</sup>	2 x 5	7320.530	828
Digital input module for door release	2	7320.580	825
<b>Latch/reader</b>			
Ergoform-S handle FR/PS/TC/TE	2	7320.700	953
Electromagnetic Ergoform-S QR	2	on request	830
Comfort handle TS 8 with master key function	2	7320.721	829
TS 8 transponder handle with Legic unit	2	7320.781	832
Universal lock unit	2	7320.730	831
Digital relay output module for room door	2	7320.740	825
Universal handle	2	7320.950	830
Smartcard reader for door release	2	7320.750	833
Magnetic card reader for door release	2	7320.760	833
Coded lock for door release	2	7320.770	833
Connection cable		7320.470	819

<sup>1)</sup> Up to a maximum of 5 sensors may be connected in series.

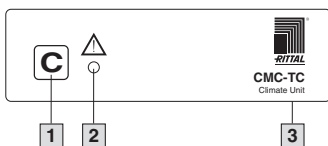
**Note:**  
For selection aid, see page 817.



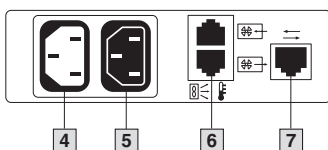
### Climate unit

A temperature control circuit is installed with this sensor unit. Temperature setpoints are set via the PU II, and these are compared with the actual temperature. Depending on the result, the fan system is activated. Additional functions of the fans can also be monitored with an airflow sensor. Monitoring is only active whilst the fan is operational. Other sensors may optionally be connected to the unit.

In order to operate the unit as a temperature fan control circuit, at least one temperature sensor must always be used.



- 1 Control key** for detection/set-up of the sensors/actuators
- 2 Alarm LED** signals alarms or configuration changes
- 3 Mounting fixture** for DK 7320.440 or DK 7320.450



- 4 Input for fan supply** 115/230 V AC, cable 7200.210 – .215
- 5 Output to fan** with cable DK 7200.215
- 6 RJ 12, 2 inputs for sensors** (see table)
- 7 RJ 45 connection** to PU II DK 7320.100 via connection cable DK 7320.470 (The unit is also supplied with power via this connection.)

Climate unit	Model No. DK
Control of a fan system	<b>7320.230</b>

#### ! Also required:

Sensors	Max.	Model No. DK	Page
Temperature sensor	2	7320.500	823
Access sensor <sup>1)</sup>	2 x 5	7320.530	828
Airflow monitor	2	7320.550	823
Smoke alarm	2	7320.560	824
Motion sensor	2	7320.570	828
Digital input module	2	7320.580	825
Voltage monitor	2	7320.600	826
48 V voltage monitor	2	7320.620	827
Connection cable		7320.470, 7200.210	819

<sup>1)</sup> Up to a maximum of 5 sensors may be connected in series.

**Note:**  
For selection aid, see page 817.

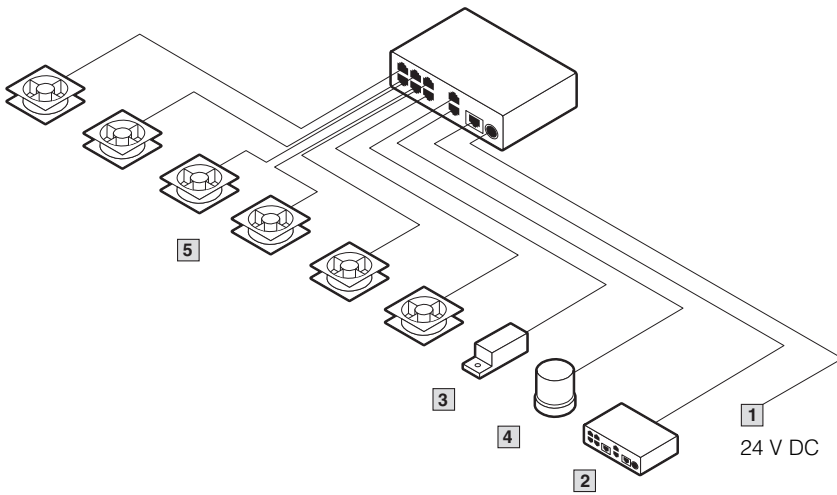




### Fan Control System FCS

#### Speed-controlled fan system

The Fan Control System regulates and controls the speed of up to 6 fans DK 7320.812, 24 V DC. This helps to save energy and reduce the noise level of the fans, as well as extending the service life. The failure of one or more fans is detected and notified in the form of a collective fault signal via LED display, beeper and integral alarm relay (floating change-over contact). Control is temperature-based using an external temperature sensor DK 7320.500. The temperature setpoint is set via a switch on the front. The system may also optionally be set and monitored via the network (Web/SNMP). It is connected directly to the CMC-TC – Processing Unit II – DK 7320.100.



FCS	To fit Processing Unit II	Model No. DK
Without fan	■	7320.810

#### Functions:

- Speed-regulated speed control
- Fan speed monitoring
- Optional connection via Web/SNMP
- Redundant fan control; the air throughput of all fans is automatically increased in the event of a system failure
- Plug & play installation via RJ 12 connector system
- 482.6 mm (19") mounting is possible via DK 7320.440

#### Note:

Supplied pre-configured on request:  
The FCS system may be fitted in all Rittal fan roofs.  
FCS fitted in fan roof,  
see page 704.

- 1 Supply with 24 V DC** via
  - Supply connection cable, direct DK 7320.813
  - CMC-24 V power pack 100 – 230 V AC (input) DK 7320.425
  - CMC-24 V power pack 48 V DC (input) DK 7320.435
- 2 RJ 45 jack** for connecting to Processing Unit II DK 7320.100 (optional) (Cat 5 cable)
- 3 CMC-TC temperature sensor** DK 7320.500
- 4 Alarm relay output**  
24/48 V DC, 1 A (floating change-over contact)
- 5 Fan with speed monitoring**  
DK 7320.812 (24V DC)

### Speed monitored/controlled fan system

#### Benefits:

- Excellent air throughput at a high operating ratio
- Monitoring of fan speed
- Plug & play compatibility system
- Easily installed in Rittal fan roofs
- Long service life
- Noise minimisation/speed control
- Alarm message via the CMC-TC in the network optionally possible
- Open power supply system 24/48 V DC/ 100 – 230 V AC
- EMC compatibility via DC fan systems

#### Equipment

Properties	Model No. FCS DK 7320.810
Fan speed monitoring	■
Pre-selectable speed	■
Non-temperature dependent speed	■
Speed increase in the event of a fan failure	■
Collective fault signal	■
Floating change-over contact	■
LAN connection via PU II	■
Configurable via LAN	■
Alarm output	Beeper, LED, relay, RJ 45 output for PU II

#### FCS sample order list:

##### Control system with fan control and monitoring of 6 fans

Description	Packs of	Model No. DK	Page
Fan Control System FCS	1	7320.810	813
CMC-TC power pack 24 V, input 100 – 230 V AC	1	7320.425	818
CMC-TC temperature sensor	1	7320.500	823
Fan 24 V DC (packs of 2) with speed monitoring	3	7320.812	814
RJ 12 extension for DC fan, 1 m (packs of 2)	3	7320.814	819
CMC connection cable D 230 V AC	1	7200.210	818



### Fan 24 V DC for FCS

#### with speed monitoring

Fan with integral speed monitoring with RJ 12 connector/connection cable 0.6 m for connecting to FCS DK 7320.810.

#### Technical specifications:

Rated voltage: 24 V DC  
 Rated current: 0.28 A (max.)  
 Rated output: 6.72 W (max.)  
 Air throughput (unimpeded airflow): 165 m<sup>3</sup>/h  
 Speed: 2650 rpm  
 Noise level: 41 dB (A)

Packs of	Model No. DK
2	7320.812



### RTT I/O unit

#### for TopTherm cooling units with Comfort controller

The interface card is an extension for TopTherm cooling units with Comfort controller. In this way it is possible, e. g. to monitor a master/slave combination of up to 10 cooling units. Control is via standardised interfaces: RS-232 (DB9) or RS-485, one PLC interface (DB9). The RTT I/O unit may also be connected to the Processing Unit II. This means that remote monitoring can be achieved via the network. The extension card is built into a 1 U plastic housing. A voltage supply of 24 V DC is needed. This may be supplied from the CMC-TC via a wide-range power pack DK 7320.425 (100 to 240 V AC, 50/60 Hz) or externally via a Kycon connector.

#### Supply includes:

Interface card integrated into a plastic box  
 W x H x D (mm): 136 x 44 (1 U) x 129.  
 Serial SUB-D cable 1.5 m.

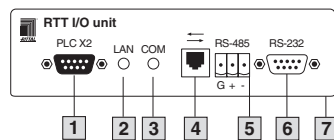
Packs of	Model No. SK
1	3124.200

#### Functions/settings:

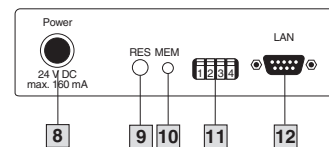
- Setpoint temperature for enclosure
- Alarm temperature value for enclosure
- Warning temperature value for enclosure
- Filter mat monitoring

#### Warnings/alarms:

- Internal temperature too high
- Icing
- High-pressure sensor
- Leakage
- Condenser/fan defect
- Evaporator coil/fan defect
- Compressor defect
- Sensor failure, condenser temperature
- Sensor failure, ambient temperature
- Sensor failure, icing sensor
- Sensor failure, condensate level
- Sensor failure, internal temperature
- Phase missing or incorrect
- EEPROM defect



- 1 PLC X2** Opto-coupler alarm  
Outputs for PLC
- 2 LAN LED** Internal communication
- 3 COM LED** Status of serial interfaces
- 4 RJ 45** for connecting to Processing Unit II  
DK 7320.100
- 5 RS-485** interface
- 6 RS-232** for set-up with a serial PC interface  
(e. g. Hyperterm)
- 7 Mounting fixture** for DK 7320.440 or  
DK 7320.450



- 8** The ISDN unit may optionally be supplied with 24 V DC, 160 mA via this input. For applications with the PU II, this is not necessary.
- 9 RES** Reset key
- 10 MEM** EEPROM fault
- 11 Changeover switch** Serial interface
- 12 LAN** Connection to the master cooling unit with comfort control

## Other products from the cooling/power range

with integral sensor unit for connecting to the CMC-TC system

Description	Topic	Model No. DK	Page
LCP Standard, D = 1000 mm	Cooling	3301.230	727
LCP Standard, D = 1200 mm	Cooling	3301.420	727
Power Control Unit PCU	Power	7200.001	793
Active PSM	Power	7856.200/.201/.203/.204	791, 792
Measurement module PSM	Power	7856.019	792



### Display Unit II

The new Display Unit II may be linked directly to the PU II (DK 7320.100). CMC alarms, status messages, temperatures, voltages, currents etc. may be displayed on the screen, depending on the monitoring application. Additionally, the TCP/IP network settings of the PU II may be made using the three keys.

The new LCD graphics module (122 x 32 pixels) is very easy to read, with good contrast and a modern design. The display is blue and white. It is illuminated via an LED. It is mounted in the 1 U component support DK 7320.440 or with the individual mounting unit DK 7320.450.

Power supply is via the processing unit PU II. Power supply and data communication to the PU II is via the supplied patch cable.

Packs of	Model No. DK
1	7320.491

#### Technical specifications:

- Plug & play installation via RJ 12 connector
- 122 x 32 pixel graphical display
- Colours blue and white
- LED lights up

#### Supply includes:

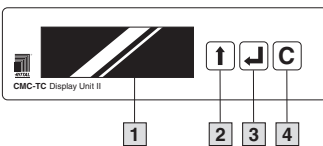
Display module, cable for connecting to the PU II.

#### Note:

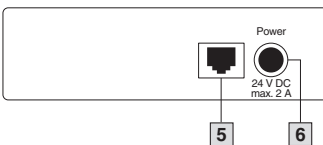
The serial interface RS-232 of the PU II may only be assigned to one accessory module.

#### ! Also required:

Component	Model No. DK
Processing Unit II	7320.100



- 1 **LCD display** lights up (122 x 32 pixels)
- 2 **"Change"** for selection
- 3 **"Enter"** to confirm
- 4 **"Clear"** to delete/acknowledge



- 5 **RJ 12 jack for connecting** to the serial interface of the PU II
- 6 The GSM unit may optionally be supplied with **24 V DC**, 150 mA via this input. For applications with the PU II, this is not necessary.



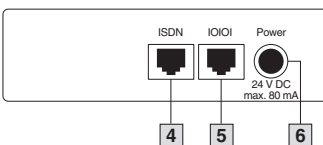
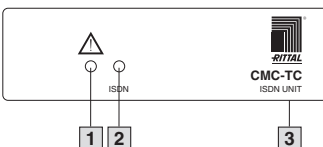
### ISDN unit

In order to configure a redundant transmission channel or if there is no network infrastructure available, the unit may be used for alarm forwarding. The alarm signal is designed in SMS format. The ISDN unit is linked to the Processing Unit II DK 7320.100 via a serial interface. The power supply is likewise achieved via the connection cable. An ISDN connection is required in order to operate the module (see the requirements for an ISDN connection). Up to four target call numbers may be set and allocated to the various events. This variant of alarm reporting may also be used in countries with "SMS in the fixed network". Furthermore, with "SMS in the fixed network", it is also possible to control switch outputs via an SMS. Power is supplied via the Processing Unit II. CMC data may also be retrieved via the Web, Telnet or SNMP with the PPP protocol. In such cases, the SMS function cannot be used.

Other functions, where offered by the provider:

- Voice mail

- 1 **Alarm LED**
- 2 **Status ISDN-LED**
- 3 **Mounting fixture** for DK 7320.440 or DK 7320.450



- 4 **RJ 45 ISDN jack**
- 5 **RJ 12 jack for connecting** to the serial interface of the PU II
- 6 The ISDN unit may optionally be supplied with **24 V DC**, 80 mA via this input. For applications with the PU II, this is not necessary.

Components	Model No. DK
ISDN unit	7320.830

#### Requirements for the ISDN connection:

- DSS1 (Euro-ISDN) must also be provided when connecting to the ISDN system
- Point-to-multi-point configuration

#### Note:

The serial interface RS-232 of the PU II may only be assigned to one accessory module.

#### ! Also required:

Components	Model No. DK
Processing Unit II	7320.100

## Accessory modules

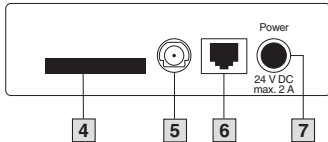
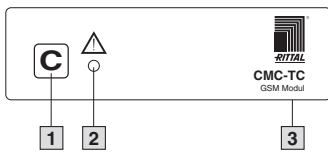


### GSM unit

In order to configure a redundant transmission channel or if there is no network infrastructure available, the unit may be used for alarm forwarding. The alarm signal is designed in SMS format. The GSM unit is linked to the Processing Unit II DK 7320.100 via a serial interface. The power supply is likewise achieved via the connection cable. The only other thing needed to operate the module is a SIM card. These may either be "data only" cards or conventional SIM cards. The GSM unit operates in the 900/1800 MHz frequency range – in other words, either D or E network cards may be used. Up to four target call numbers may be set and allocated to the various events.

Other functions, where offered by the provider:

- Voice mail



- 1 Alarm LED**
- 2 GSM LED**
- 3 Mounting fixture** for DK 7320.440 or DK 7320.450
- 4 SIM card rack mount**
- 5 Aerial connection**
- 6 RJ 12 jack for connecting** to the serial interface of the PU II
- 7** The GSM unit may optionally be supplied with **24 V DC**, 500 mA via this input. For applications with the PU II, this is not necessary.

GSM unit	<b>Model No. DK</b>
SMS function	<b>7320.820</b>

To activate CMC-TC switch outputs, an SMS message may be sent to the GSM unit via any standard mobile phone, so as to execute the actions via this route. The aerial included with the supply has a connection cable of 2.8 m. Voltage supply is achieved via the Processing Unit II. A standard commercially available SIM card for D or E networks must be provided by the customer.

**Note:**

The serial interface RS-232 of the PU II may only be assigned to one accessory module.



**Also required:**

Components	<b>Model No. DK</b>
Processing Unit II	7320.100



### Adaptor cable

#### for analog modems, PPP application

The Processing Unit II supports the PPP protocol, making it possible to operate the CMC-TC application outside of LAN networks. The PU II may be adapted to an analog modem with HAYES command set on the telephone network using the adaptor DK 7320.831. Alternatively, the ISDN unit DK 7320.830 may be used. The adaptor cable is not required for the ISDN unit.

- In this way, the tools
- CMC menu program
  - CMC Web server
  - SNMP

may be used in the WAN. Suitable computers must be available for monitoring. The CMC menus may be displayed via the dial-in PPP functions integrated into the software. SNMP alarm traps, for example, may be sent from the PU II via dial-out. The security concept is established using the call-back function.

Suitable analog modem available on request.

Packs of	<b>Model No. DK</b>
1	<b>7320.831</b>

**Technical specifications, adaptor:**

- D-Sub9 connection for analog modem
- RJ 12 connector for PU II

**Supply includes:**

Adaptor for analog modem, assembly parts.

**Note:**

The serial interface RS-232 of the PU II may only be assigned to one accessory module.



**Also required:**

Component	<b>Model No. DK</b>
Processing Unit II	7320.100

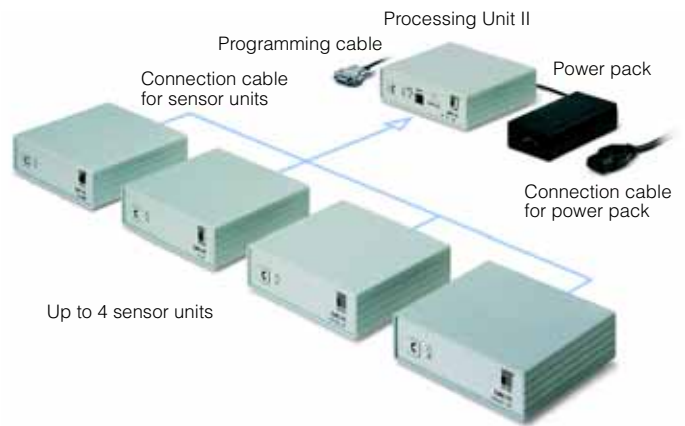
## Connection/mounting accessories

### Examples

#### The basic system

The Processing Unit II (PU) forms the basis of any CMC-TC application. Connectivity is offered by the network interface (10/100BaseT, TCP/IP, SNMP, Web) directly into the user network or to the CMC-TC master. The following products are required for each CMC-TC application:

- Processing Unit II (DK 7320.100)
- Power pack 100 – 240 V 50 – 60 Hz (DK 7320.425) or power pack 48 V DC (DK 7320.435)
- Connection cable for power pack, country-specific (DK 7200.210 – .215)
- Connection cable for sensor unit (DK 7320.470)
- At least one sensor unit (DK 7320.210/.220/.230 etc.)
- Programming cable (DK 7200.221)



### Example of a rack

#### Functions:

Temperature, humidity, smoke, access monitoring (doors/side panels)

#### Alarm routes:

Via the network and GSM/SMS

#### Power supply:

German network 230 V, 50 Hz.

Components	Qty.	Model No. DK
CMC-TC Processing Unit II	1	7320.100
CMC-TC I/O unit	1	7320.210
CMC-TC GSM unit	1	7320.820
CMC-TC power pack 24 V, input 100 – 230 V AC	1	7320.425
CMC-TC 1 U mounting unit	1	7320.440
CMC-TC connection cable, sensor unit, length 0.5 mm (packs of 4)	1	7320.470
CMC-TC temperature sensor	1	7320.500
CMC-TC humidity sensor	1	7320.510
CMC-TC smoke alarm	1	7320.560
CMC-TC access sensor (packs of 2)	4	7320.530
CMC-TC connection cable D 230 V AC	1	7200.210
CMC-TC programming cable	1	7200.221

### Example of a TS 8 rack

#### Functions:

Fan with speed control, monitoring and access control remote + coded lock

#### Power supply:

US network 110 V, 60 Hz, redundant with A/B supply monitored.

#### Alarm routes:

Via the network and Display Unit II

Components	Qty.	Model No. DK
CMC-TC Processing Unit II	1	7320.100
CMC-TC I/O unit	1	7320.210
CMC-TC access unit	1	7320.220
CMC-TC Fan Control System FCS	1	7320.810
CMC-TC Display Unit II	1	7320.491
CMC-TC power pack 24 V, input 100 – 230 V AC	2	7320.425
CMC-TC redundant power supply	1	7320.426
CMC-TC second supply connection cable 24 V	1	7320.813
CMC-TC 1 U mounting unit	2	7320.440
CMC-TC connection cable, sensor unit, length 0.5 mm (packs of 4)	3	7320.470
CMC-TC temperature sensor	1	7320.500
CMC-TC access sensor (packs of 2)	4	7320.530
CMC-TC Comfort handle TS 8 with master key function	2	7320.721
CMC-TC coded lock	1	7320.770
CMC-TC fan 24 V DC with speed monitoring (packs of 2)	6	7320.812
CMC-TC RJ 12 extension for DC fan, 1 m (packs of 2)	6	7320.814
CMC-TC connection cable US 115 V, 60 Hz	2	7200.214
CMC-TC programming cable	1	7200.221

#### Note:

Fan mountings must be ordered according to the specific enclosure size.

## Connection/mounting accessories



### Connection cable/extension

The cable is used to connect to:

- CMC-TC Master II
- 24 V power pack for PU II
- Active fan unit for TE
- Climate unit (connected fan)
- Voltage monitor
- Voltage expansion unit

#### Technical specifications:

PVC cable, 3 pole, with IEC connector (non-heating appliances) with contact protection CEE22.

#### Supply includes:

1 connection cable.

Country version	Voltage Volt	Model No. DK
D / F / B	230	<b>7200.210</b>
GB	230	<b>7200.211<sup>1)</sup></b>
CH	230	<b>7200.213<sup>1)</sup></b>
USA / CDN	230/115	<b>7200.214<sup>1)</sup></b>
IEC 320 extension	230/115	<b>7200.215</b>

<sup>1)</sup> Extended delivery times.



### Connection/extension cable C19/C20

The earthing pin/C19 connection cable DK 7200.216 is needed in order to supply power to the voltage monitor with 16 A C19/C20 switch output DK 7320.611.

The C19/C20 extension cable DK 7200.217 is needed for the voltage monitor with 16 A C19/C20 switch output DK 7320.611 in order to connect a device.

#### Technical specifications:

3-pole PVC cable with IEC cable coupling C19/C20/earthing-pin.

#### Supply includes:

1 connection cable/extension cable.

	Packs of	Model No. DK
Connection cable D/C19	1	<b>7200.216</b>
Extension cable C19/C20	1	<b>7200.217</b>



### Power pack for PU II, FCS

A 24 V DC power pack is required to supply the Processing Unit II with power. There are two variants available:

- The 100 – 240 V AC power pack requires an IEC connection cable to supply the voltage
- An alternative power pack is designed for the telecommunications sector (48 V battery voltages) and is connected at the input end via a terminal block.

Both power packs include an output cable, 1.65 m long.

#### Technical specifications DK 7320.425:

Rated voltage: 100 – 240 V AC, 50/60 Hz

Rated current: Max. 1.5 A

Secondary range: 24 V DC, 3 A

#### Technical specifications DK 7320.435:

Rated voltage: 20 – 72 V DC

Rated current: Max. 2.5 A

Secondary range: 24 V DC, 1.3 A

Primary input voltage	Output voltage	Model No. DK
100 – 240 V AC/50/60 Hz	24 V DC	<b>7320.425</b>
48 V DC	24 V DC	<b>7320.435</b>



#### Also required:

Connection cable for DK 7320.425 power pack, see page 818.



### Supply connection cable for PU II/FCS

If the customer is able to provide 24 V DC, the systems PU II/FCS may be supplied with power via the supply connection cable. No power packs are then required for the application. The cable is also used to extend the redundant power supply of the CMC-TC.

Packs of	Length	Model No. DK
1	2 m	<b>7320.813</b>



### Programming cable

The interface cable is used to configure the network parameters in the Processing Unit II and the Master Unit. The RJ 10 connector is connected to the front jack of the PU/master, whilst the 9-pole SUB-D connector is connected to a serial PC interface.

Packs of	Model No. DK
1	7200.221



### Connection cable RJ 45

This cable is for data exchange and power supply to a sensor unit via the Processing Unit II. There is an RJ 45 connector at each end of the shielded cable. Additionally, the cables are used for applications with the CMC-TC Master II, extension unit DK 7200.520 and SSC applications.

Length m	Packs of	Model No. DK
0.5	4	7320.470
2	4	7320.472
5	4	7320.475
10	1	7320.481
15	1	7320.485



### Connection cable RJ 10, RJ 12

The RJ 12 connection cable allows the alarm relay output of the Processing Unit II to be used for individual alarm lights/indicators. The RJ 10 connection cable facilitates connection to the CMC socket strip in conjunction with the digital input module. The cable is equipped with an RJ 10/12 connector at one end. The other end is open.

Connector	Length m	Packs of	Model No. DK
RJ 10	5	4	7200.420
RJ 12	5	4	7200.430



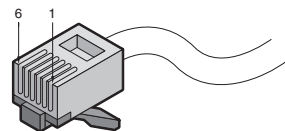
### Extension cable RJ 12

The cable is used to extend the sensor supply cables (RJ 12) and individual actuator cables. The cable is equipped with an RJ 10/12 connector at one end. There is an RJ 10/12 jack at the other end.

Connector/jack	Length m	Packs of	Model No. DK
RJ 12	5	4	7200.450
RJ 12	1	2	7320.814



Example: RJ 12





### Redundant power supply

The Y-adaptor supports a redundant design of the power supply to the CMC-TC system.

#### System supply inputs:

The Y-adaptor has two 24 V DC inputs. This allows the connection of two 30 V AC power packs DK 7320.425 or two 48 V DC power packs DK 7320.435. The input therefore has a dual design. If one input fails, the second supply input will supply the required power. The system operates without interruption.

#### Alarm display:

There are two LEDs on the front of the device which display the status of the two supply inputs. At the rear there are two RJ 12 jacks which may be connected to the I/O unit DK 7320.210 of the CMC-TC system and indicate the status of the supply inputs.

#### System supply output:

The system has one 24 V DC output which is accessed via terminals at the rear of the enclosure. The terminals may be connected to the power input of the PU II (DK 7320.100) and FCS (DK 7320.810) using the supply connection cable DK 7320.813. The terminals have a 3-way design, allowing the connection of up to 3 cables. A supply connection cable is included with the supply.

Packs of	Model No. DK
1	<b>7320.426</b>

#### Installation:

May be mounted in the 1 U component support DK 7320.440 or with the individual mounting unit DK 7320.450.

#### Technical specifications, adaptor:

- Rated voltage 24 V DC
- Max. output current 3 A

#### Supply includes:

Y-adaptor, 1 supply connection cable, two RJ 12 connection cables to the I/O unit.

#### Note:

If several items of equipment are connected, a maximum of 3 A may be taken in total.

### ! Also required:

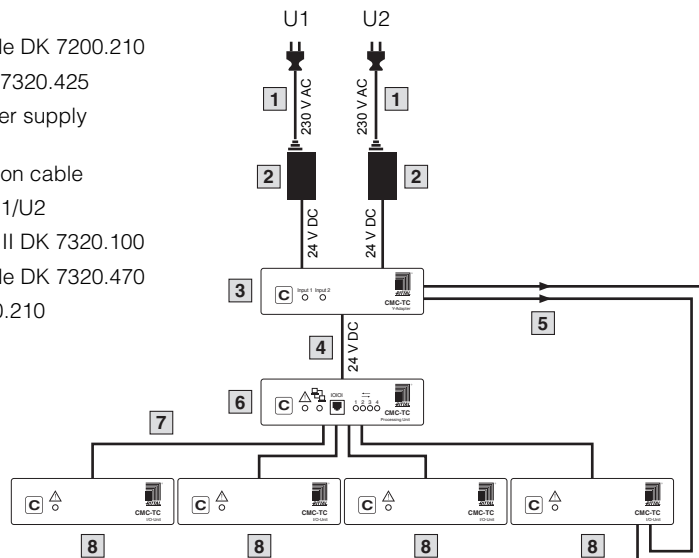
Description	No. of packs	Required	Optional	Model No. DK	Page
AC power pack 230 V or DC power pack 48 V	2	■	–	7320.425 <sup>1)</sup>	818
	2	■	–	7320.435	818
Connection cable D/F/B or	2	■	–	7200.210 <sup>1)</sup>	818
Connection cable GB or	2	■	–	7200.211 <sup>1)</sup>	818
Connection cable CH or	2	■	–	7200.213 <sup>1)</sup>	818
Connection cable USA/CDN or	2	■	–	7200.214 <sup>1)</sup>	818
Connection cable C13	2	■	–	7200.215 <sup>1)</sup>	818
Supply connection cable (additional)	1 – 2	–	■	7320.813	818
1 U mounting unit	1	–	■	7320.440	821
Mounting module CMC	1	–	■	7320.450	821
I/O unit	1	–	■	7320.210 <sup>2)</sup>	811

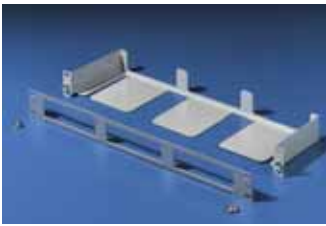
<sup>1)</sup> One connection cable is required for one power pack

<sup>2)</sup> A complete CMC-TC system is required to operate the I/O unit

#### Example:

- 1 Connection cable DK 7200.210
- 2 Power pack DK 7320.425
- 3 Redundant power supply DK 7320.426
- 4 Supply connection cable
- 5 Alarm outputs U1/U2
- 6 Processing Unit II DK 7320.100
- 7 Connection cable DK 7320.470
- 8 I/O unit DK 7320.210





### Mounting unit, 1 U

The mounting unit can accommodate up to 3 sensor units or Processing Units II and is used for accommodation in the 482.6 mm (19") attachment level. Cable clamp straps DK 7610.000 or DK 7611.000 can be used for cable clamping.

**Material:**  
Sheet steel, spray-finished

**Colour:**  
RAL 7035

Packs of	Model No. DK
1	7320.440

**+** **Accessories:**

Cable clamp strap, see page 1070.



### Single cover

#### for 1 U mounting unit

For CMC-TC applications the CMC-TC modules are attached to the 482.6 mm (19") system of the enclosures via the 1 U mounting unit DK 7320.440. Up to 3 modules may be attached in one unit. Depending on the application, 1 or 2 installation openings will be left free. With a ventilated application, there is the risk of an air short-circuit. The free spaces may be covered with the single cover. The single cover consists of a film which is attached with adhesive and which may be removed again if necessary.

**Supply includes:**  
2 single covers

Packs of	Model No. DK
2	7320.441



### Mounting module CMC

The mounting module accommodates individual sensor units or processing units, for mounting on the frame section.

**Material:**  
Sheet steel, spray-finished

**Colour:**  
RAL 7035

Packs of	Model No. DK
1	7320.450



## Connection/mounting accessories



### Fixture unit, 1 U

#### for CMC-TC sensors

The fixture unit offers the option of accommodating up to 22 CMC-TC sensors. Depending on the design, there is a choice of 9 types (see table). This produces a patch front with 22 RJ 12 jacks. For sensors such as the digital input, the connection to external systems may be made at the rear of the fixture unit. Incoming cables may still be clamped at the rear with cable ties. With this application, a height of 1 U is maintained.

Alternatively, the fixture unit can also accommodate up to 6 voltage monitors DK 7320.600. In this case, the installation height of 1 U is exceeded due to the large sensor height.

This provides CMC-TC sensors such as the digital input with a fixture unit in the 482.6 mm (19") section of IT enclosures, ensuring professional accommodation of several sensors with neat cable clamping.

#### Supply includes:

1 U fixture unit, trim panel.

Packs of	Model No. DK
1	7320.445

#### Matching sensors/identification unit:

Description	Max. (qty.)	Model No. DK
Temperature sensor	22	7320.500
Analog input 4 – 20 mA	22	7320.520
Vandalism sensor	22	7320.540
Digital input	22	7320.580
Relay output	22	7320.590
48 V voltage sensor DC	22	7320.620
Identification unit, universal lock	22	7320.730
Room door output module	22	7320.740
Voltage monitor	6	7320.600



### Alarm signal lamp CMC

The alarm signal lamp serves as a collective fault signal for all alarms in the CMC-TC.

For example: Temperature exceeded, fan defect, smoke alarm etc. The CMC-TC provides a user-friendly menu allowing the operator to select which message will affect the CMC-TC alarm relay.

The alarm signal lamp is activated via the alarm relay.

The lamp may be attached to the network enclosure or any other desired position, e. g. in the corridor.

The RJ 12 connection cable is needed for connecting to the PU II.

Item	Model No. SZ
LED steady light component 24 V DC, red	2372.000
Connection component	2368.010

To fit Processing Unit II, see page 809.

#### Technical specifications:

Rated operating voltage: 24 V DC  
Rated current: 60 mA



#### Also required:

Connection cable RJ 12 (DK 7200.430), see page 819.



### Interference suppression capacitors

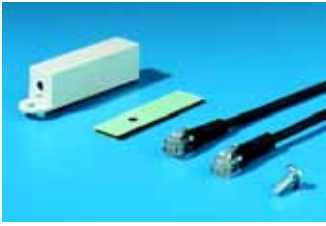
#### for fans

The capacitors are used for the interference suppression of fans with self-starting shaded pole motors. One capacitor should be connected directly parallel to the mains voltage for each fan unit. The capacitors are equipped with a terminal, which means that they are easily fitted to the fan cable.

Design	Packs of	Model No. DK
100 nF	20	7200.490

#### Technical specifications:

Dielectric strength: 275 V AC  
Capacity: 100 nF  
Type: X2



### Temperature sensor

The sensor assumes the function of a temperature monitor and contains an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to a sensor unit via the connection cable supplied loose. The sensor can also control a fan on the climate unit or fan control system (FCS).

Packs of	Model No. DK
1	7320.500

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
■		■	■

#### Technical specifications:

Type: NTC  
 Resistance: 10 kOhm at 25°C  
 Tolerance: ±2°C  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Temperature application range: +5°C to +45°C



### Humidity sensor

The sensor measures relative air humidity and converts it into a frequency signal. It contains an ID so that it is automatically detected and set up by the CMC-TC system. Power supply and data evaluation is performed by the I/O sensor unit via the connection cable supplied loose.

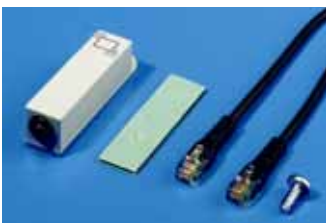
Packs of	Model No. DK
1	7320.510

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Sensor: With humidity/frequency converter (50 kHz at 76 % rel. hum.)  
 Sensor measurement range:  
 Relative humidity 10...90 % rel. humidity ±3 % (at 20°C)  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Temperature application range: +5°C to +45°C



### Leakage sensor

The leakage sensor is equipped with an optical sensor head. If this sensor head becomes wet, it reports a leakage alarm. The sensor head may be mounted facing the floor. If water collects there and comes into contact with the sensor head, the alarm is triggered. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit.

#### Protection category:

IP 40

Packs of	Model No. DK
1	7320.630

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Monitoring: Visual  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Temperature application range: +5°C to +45°C



### Airflow monitor

The airflow monitor determines whether the fan is achieving its full operating capacity. Storage damage, dirty filter mats or jammed fan blades are promptly detected and reported by the sensor. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. Its switch point is adjustable.

#### Technical specifications:

Connection: RJ 12 jack, 6-pole on the cable  
 Connection cable: Length 2 m  
 Temperature application range: +5°C to +45°C

Packs of	Model No. DK
1	7320.550

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Note:

The sensor can be operated with temperature-controlled fan via the climate unit sensor unit.

## Rack sensors



### Smoke alarm

The smoke alarm is based on an opto-electronic smoke particle evaluation within a measurement chamber. The alarm contains an ID so that it is automatically detected and set up by the CMC-TC system. The power supply and alarm relay to the sensor unit occurs via the supplied connection cable.

Packs of	Model No. DK
1	<b>7320.560</b>

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Technical specifications:

Alarm type: Combustion product alarm (smoke)  
 Sensor/transmitter: Silicon PIN photodiode/  
 GaAs infr. LED  
 Measurement frequency: Once every ten seconds  
 Power consumption: Max. 61 mA  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Dimensions (alarm with base/plinth):  
 D = 100 mm, H = 50 mm  
 Temperature application range: +5°C to +45°C



### CMC-TC acoustic anti-vandalism sensor

The CMC-TC acoustic sensor may be used in all situations where protection from vandalism is required. The sensor responds to loud mechanical noises such as those associated with a break-in. The sensitivity of the sensor is adjustable. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system.

	Model No. DK
Acoustic sensor	<b>7320.640</b>

Extended delivery times.

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Sensor: Microphone  
 Frequency range: 50 Hz – 10 kHz  
 Noise level: 60 – 100 dB (A)  
 Response time: 20 ms  
 Patch cable to I/O Unit: 2 m  
 Rated voltage: 24 V DC  
 Temperature range: +5°C to +45°C



### CMC-TC leak sensor, 15 m

The leak sensor is able to detect electrically conductive fluids such as freshwater, salt water, glycol solutions etc. over a distance of 15 m. The sensor may be fitted underneath water pipelines, LCP applications, climate control applications in bayed enclosure suites etc., preferably on the floor. Attachment on or close to the floor allows the system to detect even tiny quantities of fluid.

The sensor may be connected directly to the I/O unit using the patch cable supplied loose via plug & play. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system.

The 15 m long sensor cable is connected to an enclosure with the evaluation electronics via a 3.5 m long connection cable. The enclosure must be correctly installed according to the IP protection category, e. g. in a Rittal rack. The sensor cable is colour-coded to distinguish it from other cables in the monitoring area. The carrier material PEHD is chemically neutral with long-term stability. The PHLD sensor cable is very robust and protects the measurement wires inside from damage and accidental activation. The sensor cable is liquid-repelling and can therefore be quickly reused following a leak.

	Model No. DK
Leak sensor	<b>7320.631</b>

Extended delivery times.

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Monitoring: Conductive sensor cable  
 Length of sensor cable: 15 m  
 Connection cable to electronics: 3.5 m  
 Patch cable to I/O unit: 2 m  
 Rated voltage: 24 V DC  
 Protection category of electronics with enclosure:  
 IP 40 to EN 60 529/09.2000  
 Temperature range: +5°C to +45°C



### Analog sensor input module

The input module facilitates the connection of individual external analog sensors (4 – 20 mA) to the I/O sensor unit. As an adaptor, it performs the function of identification, so that an external sensor is automatically identified and set up by the CMC-TC system.

Sensors with 4 – 20 mA signal output and 24 V DC operating voltage (max. 50 mA) may be connected. The CMC-TC makes its internal power source available.

It is connected to a sensor unit via the connection cable supplied loose.

Packs of	Model No. DK
1	7320.520

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Analog input: 4 – 20 mA at 24 V DC  
 Maximum current output of the module: 50 mA  
 Sensors without GND may also be used.  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Sensor connection:  
 Pull-off clamping strip, 3-pole



### Digital sensor input module

The input module facilitates the connection of individual external digital sensors to a sensor unit. As an adaptor, it performs the function of identification, so that an external sensor is automatically identified and set up by the CMC-TC system.

External sensors or detectors must have a floating contact (normally closed or normally open). It is connected to a sensor unit via the connection cable supplied loose.

In conjunction with the access unit, any given door release system (e. g. transponder) with a floating relay contact may be connected via the input module.

The input can be used as either “Normally Open” or “Normally Closed”.

Packs of	Model No. DK
1	7320.580

To fit sensor unit:

I/O unit	Access unit	Climate unit
■	■	■

#### Technical specifications:

Floating external sensor contact:  
 Voltage min. 24 V DC load capacity  
 Current: Min. 10 mA load capacity  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Sensor connection:  
 Pull-off clamping strip, 3-pole



### Relay output module

The output module allows individual, external extra-low voltage actuators to be switched via a change-over contact. As an intermediate relay, it performs the function of identification and isolation, so that an actuator is automatically identified and set up by the CMC-TC system.

It is connected to the I/O sensor unit via the connection cable supplied loose. At the output end, the module contains a pull-off terminal strip for assignment with actuator cables. Power supply to the actuator must be provided externally.

The output relay may be switched remotely via SNMP or HTTP. Alternatively, alarm links can also be created with alarm inputs.

Packs of	Model No. DK
1	7320.590

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Condition of the actuator: cosphi = 1  
 Max. load of the switch contact:  
 1 A, 30 V DC and 0.5 A, 48 V AC  
 Max. switching voltage: 48 V AC; 48 V DC  
 Max. switched current: 1 A  
 Max. switching load: 30 W, 62.5 VA  
 Min. switched current: 1 mA at 5 V DC  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Sensor connection:  
 Pull-off clamping strip, 3-pole



### Extension unit CMC-TC

#### Three-phase voltage

The CMC-TC extension unit picks off three independently monitored mains voltages via network cables and forwards the measurements to the Processing Unit II. It is linked to the PU II via the RJ 45 connection cable on the P-I<sup>2</sup>C port (sep. accessory). Up to two extension units may be connected serially to one PU. A separate power pack is not required. Alarm limits may be preset for all voltages.

#### Technical specifications:

Voltage inputs:  
3 x 100 – 230 V AC, IEC connector  
Interface: P-I<sup>2</sup>C,  
max. cable length 2 m  
Temperature application range:  
+5°C to +45°C  
Tolerance: ±5 % at 20 – 30°C

#### Protection category:

IP 40

Max. number per PU II	Packs of	Model No. DK
2	1	7200.520

#### Note:

To fit Processing Unit II DK 7320.100, see page 809.  
For applications with SMS functions, voltage monitors must be used.



#### Also required:

3 x IEC connection cable DK 7200.210, see page 818.



#### Accessories:

RJ 45 connection cable, see page 819.



### Voltage monitor

The voltage monitor picks up a mains voltage to be monitored via the mains cable, and reports its status to a sensor unit: Voltage ON or voltage OFF. The monitor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit.

#### Technical specifications:

Monitored rated voltage:  
230 V AC 50/60 Hz  
Connections:  
IEC connector, RJ 12 jack, 6-pole  
Connection cable: Length 2 m,  
RJ 12 connector 6/6 on both sides  
Temperature application range:  
+5°C to +45°C

Packs of	Model No. DK
1	7320.600

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Protection category:

IP 40



#### Also required:

IEC connection cable DK 7200.210, see page 818.



### Voltage monitor

#### with 10 A IEC switch output

This sensor is used in conjunction with the CMC-TC to monitor voltage limits. The limits may be set via the WEB interface or SNMP. As an additional option, this voltage may also be switched on and off via the module, in order to reboot connected equipment via Ethernet.

It is connected via standard, commercially available IEC320 connectors as the input signal, and an IEC320 socket to connect the equipment.

#### Technical specifications:

- Plug & play compatibility system
- Initiation of the switching operation may be manually or event-based via SNMP or WEB
- The min./max. limits of voltage measurement are freely selectable
- Measurement range 100 – 250 V AC, 50/60 Hz
- Max. switching load 250 V AC and 10 A at cosphi = 1
- Tolerance: ±5 % at 20 – 30°C

Packs of	Model No. DK
1	7320.610

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Note:

The system has two functions. Each function occupies one input of the I/O unit.  
1st function: Voltage measurement  
2nd function: Relay switching (at zero current, with normally open contact)



#### Also required:

IEC connection cable DK 7200.210, German version,  
IEC extension cable DK 7200.215 for connecting the equipment, see page 818.



### Voltage monitor

#### with 16 A C19/C20 switched output

This sensor is used in conjunction with the CMC-TC to monitor voltage limits. The limits may be set via the WEB interface or SNMP. As an additional option, this voltage may also be switched on and off via the module, in order to reboot connected equipment via Ethernet. It is connected via a C19 connector as the input signal, and a C20 socket to connect the equipment (connection cable/extension cable DK 7200.216/.217).

#### Technical specifications:

- Plug & play installation
- Initiation of the switching operation may be manually or event-based via SNMP or WEB
- The min./max. limits of voltage measurement are freely selectable
- Voltage input 230 Volt  $\pm 10\%$ , 50/60 Hz
- Max. switching load 250 V AC and 16 A at  $\cos \phi = 0 - 1$
- Tolerance:  $\pm 5\%$  at 20 – 30°C

Packs of	Model No. DK
1	7320.611

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Note:

The system has two functions. Each function occupies one input of the I/O unit.  
 1st function: Voltage measurement  
 2nd function: Relay switching (at zero current, with normally closed contact)  
 To fit sensor unit > I/O unit.



#### Also required:

Components	Model No. DK	Page
Connection cable D/C19	7200.216	818
Extension cable C19/C20	7200.217	818



### Voltage monitor 48 V DC

The voltage monitor picks off a mains voltage to be monitored via the 3-pole jack, and reports its status to a sensor unit: Voltage ON or voltage OFF. The monitor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit.

#### Technical specifications:

Monitored rated voltage:  
 48 V DC (12 – 60 Volt DC/  
 12 – 25 Volt AC 50/60 Hz)  
 Connections:  
 3-pole connector, RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Temperature application range:  
 +5°C to +45°C

Packs of	Model No. DK
1	7320.620

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Protection category:

IP 40



### Socket strip CMC-TC

With integral

- Interference suppressor filter
- Overvoltage protection
- Alarm contact

In the event of interference caused by overvoltage, the connected active network components are protected. With the relay message contact, undervoltage and any malfunctions caused by overvoltage can be reported via the CMC-TC in the network (SNMP trap). A green light on the strip indicates that the device is operational. The second protective device is the interference suppressor filter which protects valuable equipment as a passive component.

#### Technical specifications:

Number of sockets: 9  
 Length of strip: 650 mm  
 Rated voltage: 230 V AC, 50/60 Hz  
 Rated current: 16 A  
 Relay alarm output: RJ 10 jack  
 Relay load capacity: 50 Volt DC 100 mA

Packs of	Model No. DK
1	7200.630

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Technical specifications, overvoltage protection:

Arrester application category: D  
 Surge current resistance per conductor: 2.5 kA  
 Maximum surge strength: 8 kA



#### Also required:

A digital input module DK 7320.580 and an RJ 10 connection cable DK 7200.420 is needed to link the CMC socket strip to the CMC-TC system.



### Access sensor

The access sensors monitor doors, side panels or windows in the network enclosure. The magnet is secured to the moving part (e. g. side panel), whilst the reed contact is fastened to the immobile part (enclosure frame).

The permanent magnet holds the reed contact in a closed position. When the door is opened or the side panel removed, the reed contact releases and opens the circuit. This triggers an alarm in the CMC-TC.

The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to a sensor unit via the connection cable supplied loose. Up to five access sensors may be connected in series to one monitoring line, if necessary in conjunction with extension cable RJ 12. The jumper plug forms the end.

Packs of	Model No. DK
2	7320.530

To fit sensor unit:

I/O unit	Access unit	Climate unit
■	■	■

#### Technical specifications:

2 magnets  
(mounted on the moving part, directly adjacent)  
2 sensors with reed contact  
(mounting on the enclosure frame)  
Connection 1: RJ 12 jack, 6-pole  
(connection to the sensor unit)  
Connection 2: RJ 12 socket, 6-pole  
(series connection with other access sensors,  
or finished with the jumper plug)  
2 jumper plugs RJ 12 at the end  
2 connection cables: Length 2 m,  
RJ 12 connector 6/6 on both sides



### Motion detector CMC-TC

The motion detector may be used in enclosures or in rooms. Any modifications to the enclosure, such as opening a door or side panel, are indicated. The motion detector can also detect persons in the room or in front of the data cabinet.

The alarm contains an ID so that it is automatically detected and set up by the CMC-TC system. The power supply and data exchange to the sensor unit occurs via the connection cable, supplied loose.

Packs of	Model No. DK
1	7320.570

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		■

#### Technical specifications:

Alarm type: Infrared (IR) detector  
Range: Max. 7 m  
Power consumption: Max. 30 mA/24 V DC  
Connection: RJ 12 jack, 6-pole  
Connection cable: Length 2 m,  
RJ 12 connector 6/6 on both sides  
Dimensions:  
W x H x D: 59 x 102 x 32 mm



### Vandalism sensor

The sensor contains a position-insensitive alarm contact and an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to the I/O sensor unit via the connection cable supplied loose.

The sensitivity of the sensor may be set using the PU II software.

Packs of	Model No. DK
1	7320.540

To fit sensor unit:

I/O unit	Access unit	Climate unit
■		

#### Technical specifications:

Mercury-free contact, position-insensitive  
Connection: RJ 12 jack, 6-pole  
Connection cable: Length 2 m,  
RJ 12 connector 6/6 on both sides



### Room door output module

The room door output module allows external door opener systems to be switched via a change-over contact. As an intermediate relay, it performs the function of identification and isolation, so that a door opener is automatically identified and set up by the CMC-TC system. It is connected to the access unit via the connection cable supplied loose. At the output end, the module contains a pull-off terminal strip for assignment with actuator cables. Power supply to the door opener must be provided externally.

Packs of	Model No. DK
1	7320.740

To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	

#### Technical specifications:

Condition of the actuator:  $\cos\phi = 1$   
 Max. load of the switch contact:  
 1 A, 30 V DC and 0.5 A, 48 V AC  
 Max. switching voltage: 48 V AC; 48 V DC  
 Max. switched current: 1 A  
 Max. switching load: 30 W, 62.5 VA  
 Min. switched current: 1 mA at 5 V DC  
 Connection: RJ 12 jack, 6-pole  
 Connection cable: Length 2 m,  
 RJ 12 connector 6/6 on both sides  
 Sensor connection:  
 Pull-off clamping strip, 3-pole

#### Note:

One access sensor DK 7320.530 is always needed for each output module.



### Comfort handle TS 8

#### with master key function

The handle assumes the function of a door lock and lever handle monitoring.

Master key means that the handle can always be opened with the master key, independently of the control system. A semi-cylinder (security lock 3524 E) is supplied loose, but a semi-cylinder 40 mm overall length to DIN 18 254 may also be used.

An access sensor (DK 7320.530) must be connected to the corresponding door for each handle.

If the lever handle is closed, the locking mechanism integrated into the handle latches automatically. The handle may be released via the CMC-TC system in the network or via optional add-on systems, such as smartcard readers etc.

The handle is locked in a de-energised manner (without electrical connection). The push-button may be depressed following electrical release and then opens the lever automatically.

Opening via the key is always superordinate, i. e. the enclosure may always be opened with the key in the case of electrical locking and in the event of a power failure (emergency opening).

Handle system	Model No. DK
Comfort handle TS 8 with master key function	7320.721

To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	

#### Technical specifications:

Rated voltage: 24 V DC  
 Rated current: Max. 100 mA  
 Connection cable: Length 3 m, RJ 12 connector  
 Connection cable:  
 Length 2 m, RJ 12/RJ 12 connector  
 Coupling for extension:  
 RJ 12/RJ 12 jack  
 Temperature application range:  
 +5°C to +40°C

#### Protection category:

IP 40



#### Also required:

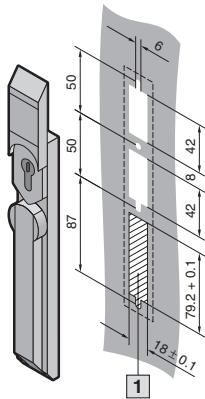
Access sensor DK 7320.530, see page 828.



### Ergoform-S handle

#### with electromagnetic locking

The lock unit consists of a Rittal handle system whose handle is electromagnetically locked. It contains an identifier so that it is automatically detected and set up by the CMC-TC system. The power supply and data exchange to the access unit occurs via the attached connection cable. An access sensor (DK 7320.530) is always required for door monitoring. With the door closed and the clip-down handle locked home, latching is activated by switching on the lock magnet. The CMC-TC enables the handle to be pulled out by deactivating the lock magnet, thereby allowing the door to be opened. This deactivation can be initiated via an access unit such as a smartcard reader, magnetic card reader, coded lock and/or network management systems. The handle system likewise contains handle monitoring. The CMC-TC reports an alarm if the handle is not swung in and locked home after closing the door. The push-button insert supplied can also be exchanged for **lock inserts**.



#### Note:

An additional hole is always required.

- 1 Additional hole for electronic lock (PS/FR/QR/VR/TC/TE)

Handle system	Model No. DK
Ergoform-S handle for FR, PS, TC, VR, TE	7320.700
Ergoform-S handle for QR	Available on request.

To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	

#### Note:

For PS and FR glazed doors, the locking bars listed below are required:

#### Locking bars

Design	Model No. DK
Lower door locking bar for 2000 mm high PS enclosures	7200.371
Lower door locking bar for 2000 mm high FR enclosures	7200.372

Other sizes available on request.  
Delivery times available on request.

#### Technical specifications:

Rated voltage: 24 V DC  
Rated current: Max. 100 mA  
Connection cable: Length 3 m, RJ 12 connector  
Connection cable: Length 2 m, RJ 12/RJ 12 connector  
Coupling for extension: RJ 12/RJ 12 jack  
Temperature application range: +5°C to +40°C

#### Protection category:

IP 40



#### Also required:

Access sensor DK 7320.530, see page 828.



### Universal handle

#### with electromagnetic locking for the CMC-TC monitoring system

The universal handle is equipped with a pitch pattern of mounting holes which will fit many existing door systems. This handle is ideal for retrofitting to projects with varying enclosure types and variants.

The handle may be connected to the CMC-TC system via plug & play. Additionally, an access sensor (DK 7320.530) should always be used to enable polling of the door status. The handle is equipped with a connection cable and an RJ 12 connector, which may be plugged into the access unit DK 7320.220 of the CMC-TC system. The handle is equipped with a push-button insert which may be depressed when the electromagnetic lock is released.

#### Technical specifications:

Rated voltage: 24 V DC  
Rated current: Max. 100 mA  
Connection cable: Length 5 m, RJ 12 connector

#### Note:

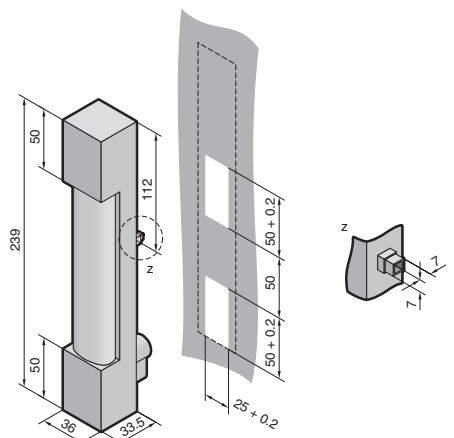
The handle is also available on request with integral Legic transponder. Detailed information, see page 832.

	Type	Model No. DK
Universal handle	CMC-TC	7320.950

Extended delivery times.

To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	





### Transponder handle TS 8

**with integral transponder release system from Simons & Voss.**

The electromagnetic transponder handle TS 8 may be retrofitted in the doors of TS 8/FR(i) enclosures. The handle is equipped with an integral radio transponder solution. The transponder receiver with battery is integrated into the handle housing. Apart from the transponder transmitter, no additional accessories, such as additional electronics, cables, power pack etc., are required. The handle is easily exchanged without the need for wiring.

If battery servicing is required, this is indicated acoustically.

The handle is supplied in the zero state, so that it may be opened with any transponder transmitter.

**Use with hand-held transmitter:**

The transponder transmitter is actuated from the handle, as a result of which the latter is unlatched for a specified time window and may be opened by pressing the push-button.

**Use with the CMC-TC transmitter:**

The transponder transmitter is linked to the CMC-TC system via the room door output DK 7320.740 and the access unit. The transmitter is placed in the enclosure frame, near the handle. In this way, the door may be released via the CMC-TC system. Additionally, an access sensor (DK 7320.530) should always be used to enable polling of the door status.

**Use of the programmable transponder:**

The programmable transponder allows the individual transponder transmitters to be allocated to individual handles. Matrix programming is supported.



	Type	Model No. DK
Electromagnetic handle	Transponder, stand-alone application	7320.960
Transponder transmitter	Hand-held transmitter	7320.961
Transponder transmitter	CMC-TC transmitter	7320.962
Programmable transponder	Programming	7320.963

Extended delivery times.

**Benefits:**

- No cables on the handle, because the electronics and battery are integrated into the handle.
- Several users may be set for one handle.
- Plug & play installation both mechanical and electrical.
- Individual control of the transponders and the set-up of each transponder is possible for up to 3 locking systems.
- With additional overlay to automatically block the old transponder in the event of reprogramming.
- Counterfeit-proof data communication is achieved via radio using crypto-codes.
- The "challenge response procedure" ensures protection against surveillance.
- The standard interface means that connections to other access and monitoring systems are not a problem.

The lock and organisation system is graded in the highest category with respect to unlocking protection to BSI 7500.

**Note:**

Systems with extra electronics and access control from Simons & Voss available on request.



### Universal lock unit

The security lock consists of a base unit and a lock counterpart. The base unit is attached to the enclosure frame. The lock counterpart is attached to the door.

A mechanical setting allows you to choose between two states: At zero current when open, or at zero current when closed.

In order to identify the operating mode used, one of the two identifier modules (supplied loose) should be used, so that it is automatically identified and set up by the CMC-TC system. Power supply and data exchange is via the access unit, using the identifier modules and connection cables supplied loose.

An access sensor (DK 7320.530) is always required for door monitoring.

**Technical specifications:**

Rated voltage: 24 V DC  
 Rated current: 140 mA  
 Temperature application range:  
 +10°C to +40°C

**Supply includes:**

- 1 base unit with connection cable 0.1 m, RJ 12 connector,
- 1 lock counterpart,
- 2 identifier modules with RJ 12 jack, 6-pole (connection to access unit),
- RJ 12 jack, 6-pole (connection to universal lock),
- 1 connection cable for identifier modules,
- 2 m, RJ 12/RJ 12 connector without mounting kit.

Packs of	Model No. DK
1 set	7320.730

To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	

**Note:**

Mounting kits depending on enclosure/door type available on request.



**Also required:**

Access sensor DK 7320.530, see page 828.



### Transponder comfort handle TS 8

#### with Legic Unit

With the CMC-TC system, Rittal offers an access system for racks. One form of access control is the release of the enclosure doors with Legic transponder technology. The popular Legic system is often used for access control in buildings. With the transponder handles, Rittal offers the option of opening the enclosure doors via Legic transponder cards. In this way, doors in buildings and Rittal enclosure doors may be opened via a transponder card.

The new TS 8 transponder handle has a similar design to the comfort handle TS 8 with master key function DK 7320.721. In the transponder handle, the master key function is replaced by the Legic system.

The handle may be connected as usual to the access unit DK 7320.220 of the CMC system and activated.

#### Additional transponder function in the handle:

Additionally, the handle contains a transponder receiver aerial, an LED and an acoustic signal generator. The functions are linked to the Legic unit B-Net 9106 – the control electronics for the transponder signals – via an integral connection cable.

#### Legic Unit B-Net 9106:

The Legic unit is integrated into a CMC-TC enclosure and may be mounted in the 1 U component support DK 7320.440 or with the individual mounting unit DK 7320.450.

In order to create a complete access system, the Legic unit must be connected to the serial interface of the PU II. Optionally this may also be connected to the P-I<sup>2</sup>C bus (input for reader units) of the corresponding access unit DK 7320.220.

#### Technical specifications:

Rated voltage: 24 V DC  
 Interface: RS-232/P-I<sup>2</sup>C  
 Transmission system: Legic transponder  
 Carrier frequency: 13.56 MHz  
 Protection category: IP 40  
 Temperature range: +5°C to +40°C

#### Supply includes:

- TS 8 handle with transponder antenna and acoustic/optic display
- Legic Unit B-Net 9106 with RS-232/P-I<sup>2</sup>C interface
- 3 transponder cards

#### Note:

When using the handle, an access sensor DK 7320.530 must always be used. The serial interface RS-232 of the PU II may only be assigned to one accessory module/Legic Unit. In example 2 only the last 4 transponder digits are processed.

For the RS-232 application, the connection cable (PU II/Legic Unit) DK 7320.814 is required.

Transponder comfort handle TS 8	Packs of	Model No. DK
Legic Unit B-Net 9106	1	7320.781

Extended delivery times.

#### Application:

Example 1: Connection via the RS-232 der PU II  
 4 enclosures (front and rear) with one Legic reader:

Description	Qty.	Model No. DK
CMC-TC Processing Unit II	1	7320.100
CMC-TC access unit	4	7320.220
CMC-TC power pack 24 V, input 100 – 230 V AC	1	7320.425
CMC-TC 1 U mounting unit	2	7320.440
Cable clamp strap	2	7611.000
CMC-TC connection cable, sensor unit, 0.5 m long (packs of 4)	4	7320.470
CMC-TC access sensor (packs of 2)	8	7320.530
CMC-TC electromagnetic TS 8 handle with master key function	7	7320.721
Transponder comfort handle TS 8 with Legic Unit	1	7320.781
CMC connection cable D 230 V AC	1	7200.210
Programming cable	1	7200.221
Connection PU II/Legic Unit	1	7320.814

Example 2: Connection via P-I<sup>2</sup>C of the access unit  
 4 enclosures (front and rear) with 8 Legic readers:

Description	Qty.	Model No. DK
CMC-TC Processing Unit II	1	7320.100
CMC-TC access unit	4	7320.220
CMC-TC power pack 24 V, input 100 – 230 V AC	1	7320.425
CMC-TC 1 U mounting unit	2	7320.440
Single mounting unit	8	7320.450
Cable clamp strap	2	7611.000
CMC-TC connection cable, sensor unit, 0.5 m long (packs of 4)	4	7320.470
CMC-TC access sensor (packs of 2)	8	7320.530
Transponder comfort handle TS 8 with Legic Unit	8	7320.781
CMC connection cable D 230 V AC	1	7200.210
Programming cable	1	7200.221



### Smartcard reader/ Magnetic card reader/ Coded lock

The door handle is released to authorised persons who have identified themselves with a smartcard/magnetic card/combination code. Smartcard readers/magnetic readers/coded locks are installed above the enclosure handle and can also function as a central unit for releasing several doors.

The entire access procedure can also be registered with the CMC-TC where there is network connection.

#### Technical specifications:

Rated voltage: 24 V DC

Rated current: Max. 20 mA

Smartcard type: I<sup>2</sup>C chip

Magnetic card type:

Magnetic strip cards with data on track 2.

The read system is designed for cards with both a high and a low level of magnetism.



Read system	Model No. DK
Smartcard reader	7320.750
Magnetic card reader	7320.760
Coded lock	7320.770

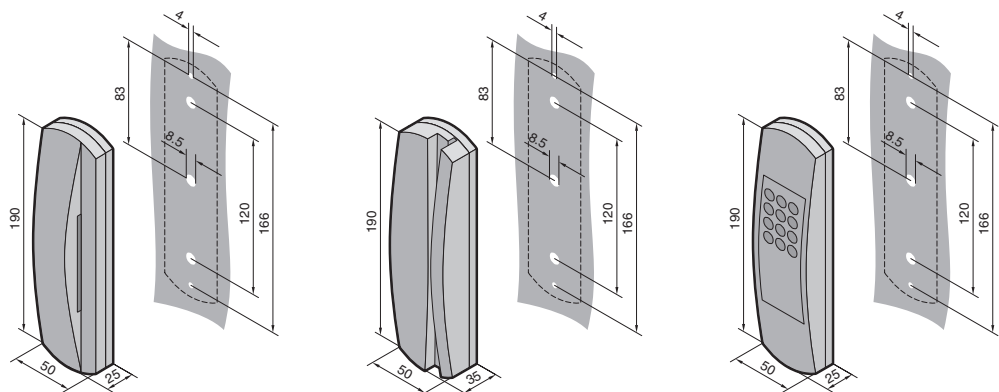
To fit sensor unit:

I/O unit	Access unit	Climate unit
	■	

#### Note:

Smartcard readers/magnetic card readers/coded locks may only be used in conjunction with the CMC-TC and an electric lock. 3 cards are supplied with the smartcard reader/magnetic card reader. Each card contains a four-digit code, which is different on all three cards. All cards are access-authorised. The code may be input directly on the coded lock.

Authorised codes may be set in the CMC-TC via Web. The input code is transmitted to the CMC-TC and, where applicable, to the network management system, via the I<sup>2</sup>C bus. A mounting adaptor for a TS aluminium glazed door is supplied loose with every reader.



### Mechanical lock systems

can be found under system accessories from page 947.

# Security

## CMC-TC wireless sensor network

Increasingly complex IT infrastructures demand innovative security systems. Rittal offers a wireless sensor network for wireless security. The sensors are encrypted and operate in the 2.4 GHz ISM band.

Thanks to the CMC-TC system concept, all security-relevant information may be incorporated into the network management system or is available on the Intranet/Internet.

### Benefits:

- Cabling to the sensor is eliminated
- Large range of applications thanks to high IP protection category and temperature range
- Secure, encrypted radio transmission
- ISM band suitable for universal use
- Networking capabilities (TCP-IP, SNMP, Web etc.) with the CMC-TC monitoring system
- Flexible, modular design
- Long battery operating period
- Simple installation based on the plug & play system
- Monitoring of the radio connection to the sensor
- Monitoring of the battery status



### Flexible

The use of radio sensors is appropriate whenever direct cabling between the sensor and I/O unit is too time-consuming or too difficult to implement, e. g. for outdoor cabling, or in inaccessible places in the server rack or within the IT infrastructure of data centres (indoors). This eliminates the need for cabling, and the system is easily retrofitted while operational. There is no need to lay any cable trunking or modify the IT infrastructure. The position of the measuring point may also be altered retrospectively by simply moving the sensor. If the sensors are used in racks, the position of the enclosure may be flexibly modified with due regard for the radio connection.

By connecting the Wireless I/O Unit to the existing CMC-TC monitoring system, the system may be extended in a modular and flexible manner. In order to optimise radio links, an external aerial may optionally be used on the Wireless I/O Unit. Similarly, the transmission and reception range may be flexibly extended using additional Wireless I/O Units as repeaters.

The transmitter and receiver of the wireless network need not have visual connection, which likewise serves to increase flexibility.

### Plug & play compatibility system

The wireless sensor network is easily set up using plug & play installation.

By means of a simple commissioning procedure comprised of a learning mode and learning key, the sensors are taught by the Wireless I/O Unit via plug & play. Rittal offers a wireless measurement system with digital display for identifying the optimum radio connection for the assembly site. This measurement system has the same design as the sensors and may be connected to the reference location of the sensor for test purposes.

### Modular

The wireless sensor network is comprised of a central Wireless I/O Unit, and the wireless sensors. One Wireless I/O Unit is capable of managing up to 16 wireless sensors via radio. Users can choose between 4 sensors with different monitoring functions, in any given combination.

The wireless sensor network is compatible with the CMC-TC monitoring system, which is based on Processing Unit II (PU II). Several sensor units (I/O Unit, Access Unit, Climate Unit, FCS, socket strips, etc.) are available for the PU II. Up to 4 sensor units may be connected to one PU II.

The Wireless I/O Unit is connected to the PU II via a Cat 5 cable and can also be mixed with the existing sensor units. Up to a maximum of 4 Wireless I/O Units may be connected to one PU II. In total, therefore, up to 64 wireless sensors (4 x 16) may be operated with one PU II. The CMC-TC system with the PU II is always required in order to operate the wireless sensor network. In this way, the monitoring information may be processed and displayed in the Ethernet via SNMP, Web, FTP etc. It is also possible to connect cabled sensors to wireless sensors and compile modular, application-specific monitoring functions.

### Secure

Radio transmission occurs within the ISM band, which is not subject to licensing by the end user.

The integral encryption of radio telegrams offers a suitable level of protection from unauthorised monitoring of the data transmission.

#### Note:

More detailed information can be found on the Internet at [www.rimatrix5.com](http://www.rimatrix5.com)

Rack extinguisher system



**Rack extinguisher system  
DET-AC Plus, 1 U**

**With integral early fire detection**

This compact rack extinguisher system DET-AC Plus (Detection Active Plus) is designed for use in the Rittal IT rack, fitted in the 482.6 mm (19") level. The system is equipped with a 2-stage smoke analysis extractor system. A bayed rack may optionally be included in the monitoring and extinguisher system. The system is also suitable for use in racks with bayed air/water heat exchangers (Liquid Cooling Package, LCP). The eco-friendly, non-toxic Novec<sup>1)</sup> 1230 is used as the extinguisher medium, which means that this extinguisher system is suitable for universal use. Sensitive hardware such as servers, storage and switches are not impaired by the extinguisher medium. Thanks to the extremely sensitive detection of smoke, even in racks with a high level of climate control (airflow speed), this ensures that there is plenty of time to forward an alarm message either acoustically, optically via the LC display on the enclosure front, or by connecting the integral floating contacts to the building management system or fire alarm centre and to the Rittal monitoring system CMC-TC. When opening an enclosure door, activation of the extinguisher system is blocked by the two access sensors (door monitoring). In order to ensure that proper functioning of the system is maintained even in the event of a power failure, an emergency back-up power supply with a stored energy time of 4 hours is integrated into the system. The system can also be supplied purely as an early fire detection system without the extinguisher.

<sup>1)</sup> Novec is a registered trademark of 3M.

**Early smoke detection:**

Thanks to the two highly sensitive optical sensors, minute particles of smoke may be detected even in the early stages of a fire (pyrolysis phase) via the active smoke extraction. If the 1st alarm detects smoke aerosols, a pre-alarm is triggered, and if the 2nd alarm likewise detects smoke, the extinguisher system is activated. This prevents major fires from developing.

**Rack requirements:**

As a general principle, the racks must meet protection category IP 55, i. e. with sealed doors and screw-fastened side panels. Use of an air/water heat exchanger (LCP) is supported.

**Optional smoke analysis, extension for bayed racks:**

The basic DET-AC Plus system is designed for a single rack, but neighbouring enclosures may also be incorporated via an additional pipe kit, provided the total interior enclosure volume to be extinguished does not exceed 3 m<sup>3</sup>. Several extinguisher systems may also be linked together in the bayed enclosure suites, so that all systems may be activated jointly.

**Automatic system deactivation (compulsory deactivation):**

In conjunction with the Rittal enclosure monitoring system CMC-TC plus suitable switchable Rittal socket strips (Power System Module PSM/Power Control Unit PCU with active current measurement, display and switching options), in the event of an alarm, compulsory deactivation of the components installed in the rack may be triggered. This ensures that the servers are protected from further destruction.

The alarms (pre-alarm, main alarm) may be transmitted via any given IP networks and processed in corresponding monitoring programs. The extinguisher system is supplied complete with mounting accessories.

**Technical specifications:**

Protection/rack volume: 3.0 m<sup>3</sup>  
 Extinguisher medium: Novec<sup>1)</sup> 1230  
 Weight of extinguisher medium: 3.2 kg  
 Power supply: 115 – 230 V AC/50 – 60 Hz  
 Emergency power supply (integral battery): Max. 4 h  
 Contact rating (pre-alarm, alarm, blocking): Max. 30 V DC/1 A  
 Sensors: 2x sensitive sensors, one each for pre-alarm/main alarm  
 Ambient temperature: 10 – 35°C  
 Display: LCD display with plain text information  
 Protection category: IP 30  
 Material of enclosure: Sheet steel, spray-finished  
 Material of extinguisher tank: Aluminium  
 Dimensions (W x H x D): 447 x 1 U x 780 mm

Description	Packs of	Model No. DK
DET-AC Plus extinguisher system with early fire detection	1	<b>7338.100</b>
DET-AC Plus early fire detection	1	<b>7338.200</b>
DET-AC pipe kit for bayed rack	1	<b>7338.310</b>

Delivery times available on request.

**! Also required:**

CMC-TC access sensor only (with extinguisher system)	2	7320.530
Mains connection cable (earthing-pin, German)	1	7200.210

**Note:**

The extinguisher system must be installed and maintained by qualified experts. Rittal is happy to offer such a service.

When buying several different IT racks together, a combined enclosure interior volume of 3 m<sup>3</sup> must not be exceeded!

**Enclosure interior volume of popular Rittal IT racks**

Width mm	Height mm	Depth mm	Enclosure interior volume per rack/m <sup>3</sup>
300	2000	1000	0.6
300	2000	1200	0.72
600	2000	1000	1.2
600	2000	1200	1.44
600	2200	1000	1.32
600	2200	1200	1.584
800	2000	1000	1.6
800	2000	1200	1.92
800	2200	1000	1.76
800	2200	1200	2.112

Extinguisher system for use in 800 mm deep racks available on request.



### Network management systems

By using SNMP network management systems (NMS) such as HP Open View or Novell Manage Wise, it is possible to incorporate and address the CMC-TC system via SNMP. The required MIB is included with the supply.

The MIB is easily incorporated by simply copying. The standard MIB-II (RFC 1213) is also supported. It is included with the supply of the NMS. The private MIB contains all the required system variables, and is easily linked to the functions of the software HP Open View, Novell Manage Wise etc.

#### Note:

The MIB is also available for downloading from the Internet at [www.rimatrix5.com](http://www.rimatrix5.com) and is included on CD with the supply of every CMC-TC system.



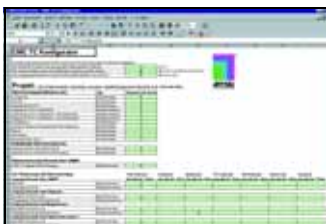
### Management system Spectrum Enterprise Manager

The graphical user interface for the Spectrum Enterprise Manager covers every conceivable requirement. The MIB variables have been conveniently arranged on the interface. This professional software package combines the highlights of the CMC-TC monitoring system with the CA product.

The management module for Rittal CMC-TC, developed by DICOS, facilitates the integration of all information sent out by the CMC-TC agent into the Spectrum management platform. It also supports configuration of the threshold values being monitored. The Spectro Server receives all the information from the CMC-TC and provides users with an opportunity to visualise, control and configure Rittal network enclosures directly via the central Spectrum console. Integration into the enterprise management system supports central processing of alarms, so that these may be forwarded, e. g. via a voice mail system, or used as the basis for the automatic generation of a trouble ticket.

#### Note:

Further information can be found on the Internet at: [www.dicos.de](http://www.dicos.de) or by sending an order by e-mail to [sales@dicos.de](mailto:sales@dicos.de)



### CMC-TC configurator

The CMC-TC configurator automatically compiles all the modules and accessories required for a CMC-TC project. The user simply enters the monitoring requirements and the ambient conditions. The result is a list containing all the item numbers required for the project. In this way a project can be compiled quickly and effectively. This software requires MS Excel, Version 97 or above.

#### Note:

The CMC-TC configurator may be downloaded free of charge from the Internet at [www.rimatrix5.com](http://www.rimatrix5.com).



### CMC-TC Manager

The new CMC-TC Manager allows all Rittal SNMP agents to be managed in a single software package.

- CMC I/II (DK 7200.100)
- CMC-TC Processing Unit II (DK 7320.100)

The graphical interface reproduces information from the system and offers the opportunity of configuring systems via SNMP.

Only the Java Runtime Environment JRE 1.4 (or higher version) must be installed on the relevant PC system. Java may be downloaded from the Internet at [www.sun.com](http://www.sun.com).

The various products (PCU, CMC II, CMC-TC) may be sorted on the basis of type or location. All important alarm messages enter the built-in trap receiver, and can be recorded with the logging function. Alarm messages may be forwarded directly using the e-mail function.

The search function is used to distinguish and automatically list the SNMP agents.



#### Benefits:

- Open to operating systems via Java (Windows/Linux).
- Graphical information and operator interface for:
  - CMC II
  - CMC-TC/Processing Unit (I/II).
- Full integration of the management information base (MIB) of Rittal systems.
- Trap receiver with logging function.
- E-mails are sent in the event of trap alarm messages.
- User-oriented system listing according to locations.

#### Note:

The software is available free of charge from the Internet at [www.rimatrix5.com](http://www.rimatrix5.com).



### Plug-in for HP Open View

Thanks to its integration into HP Open View NNM, StableNet™ CMC-TC is centrally and permanently available. The management functions of HP Open View have been extended to optimum effect: NNM monitors the traps occurring in CMC-TCs and forwards them to StableNet™ CMC-TC. The MIB of the CMC-TC system processing unit (DK 7320.100) has been incorporated.

#### Functions:

- Integral trap manager
- Various alarm functions, e. g. e-mail, SMS etc.
- Integral MIB browser
- Graphical display of the monitored values with diagrams and tables
- Individual representation and organisation of the monitoring tools
- Pre-configured graphical interface for the CMC-TC
- Microsoft® Outlook® "look and feel"
- Non-platform-dependent (JAVA).



**Other products** from the StableNet™ suite with the option of integrating the StableNet™ CMC-TC manager:

#### StableNet™ ARC

##### Advanced Router Configuration

- Management of all network components and CMC-TCs from within HP Open View NNM
- Efficient management of routers and switches

#### StableNet™ PME

##### Performance Management Engine

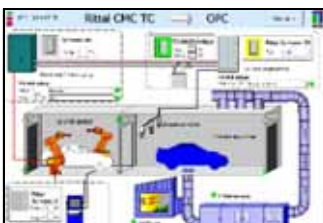
- Evaluation of the data obtained with StableNet™ CMC-TCs by means of comprehensive reporting functions
- Diverse opportunities for measuring network performance

#### Note:

Further information can be found on the Internet at:

[www.infosim.net](http://www.infosim.net)

or by sending an e-mail enquiry to [info@infosim.net](mailto:info@infosim.net)



### SNMP-OPC server

The OPC Server allows all variables in the CMC-TC MIB to be integrated into control desk interfaces. For all applications in industrial automation technology and building automation, with OLE for process control (OPC) "OLE: Object Linking and Embedding" provides the ideal interface between your control desk software and the CMC-TC system.

#### Note:

Software available on request.

[www.rimatrix5.com](http://www.rimatrix5.com)

Further information can be found on the Internet at:

[www.obermeier-software.de](http://www.obermeier-software.de)

or by sending an e-mail enquiry to: [info@obermeier-software.de](mailto:info@obermeier-software.de)



### Other software

see page 1152.

# Monitoring

## Features of KVM switches



### Space-saving server administration and perfect KVM technology

Rittal KVM switches have the right solution to suit every customer requirement, from stand-alone solutions for 8 to 32 servers, to complex multiuser systems for data centre applications with up to 2048 computers. The location of these computers is irrelevant. They may be accessed and administered directly, either at local level or via TCP/IP networks – worldwide!

### Monitor/keyboard unit



### SSC view



### SSC compact



### SSC premium



### Compact administration

The compact 1 U monitor/keyboard unit from Rittal ensures reliable, space-saving, on-site server administration. The 1 U console is easily combined with the Rittal KVM switch series SSC view, allowing access to 8 or 32 servers respectively.

- 15" or 17" TFT display
- Variants with trackball or touchpad
- VGA connection
- Compatible with all Rittal SSC KVM systems

### Full control in 1 U

The SSC view line, with the Rittal monitor/keyboard unit, forms a compact console/switching solution which only occupies 1 U in the rack. The Rittal solution may be combined as required between a choice of two different console types with 15" and 17" TFT display, offering country-specific keyboard layouts and two different KVM switches. It is easily upgraded at a later date, or exchanged for a more powerful system.

- Compact stand-alone console/switching solution
- The SSC view utilises the space behind the monitor/keyboard drawer and
- Is supplied via power via the integral power pack
- With the 8-way KVM switches, the servers are connected using standard VGA/PS/2 cables.

### The new compact class

The SSC compact offers top performance in a small space at an inexpensive price. The integral long-range power pack makes it ideally suited for stand-alone operation or as an upgrade to an existing installation. With the SSC Compact 8, standard VGA cables locked to the PS/2 sockets ensure reliable operation. With the SSC Compact 32 Cat, connection to the computer is made using Cat 5 cables and an SSC Converter.

- Space-saving ultra-compact server administration in stand-alone mode
- Option of cascading or retrofitting (SSC Compact 32 Cat)
- For connecting the computers, there are two variants available with VGA/PS/2 and Cat connection
- SSC Converter PS/2 signal converter to Cat, to reduce the cabling work/space requirements inside the rack.

### Modular and future-proof

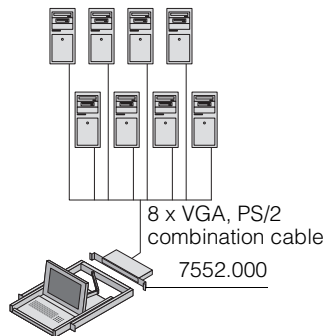
The modular SSC premium is the first choice for medium-sized to large installations or in cases where modern features such as multi-user and/or IP access (KVM-over-IP) are required. Almost all system requirements may be met with just a few system components. The modularity ensures that this KVM is future-proof, as the SSC premium system is easily expanded to keep pace with your server installation as it grows.

- Highly integrated KVM matrix based on Cat technology
- New switching technology which adapts flexibly to your future requirements via cascading.
- Multiuser operation is supported, both locally and via IP access (KVM-over-IP).
- Three different converter types support the operation of a wide range of server platforms.

## Connection examples – KVM switches

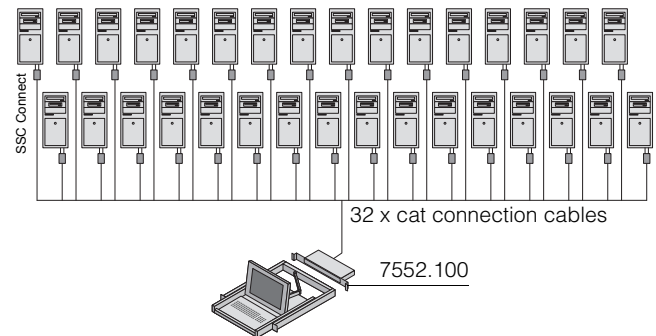
### Connection example SSC view 8

see page 841  
 (behind monitor/keyboard unit, 1 U)  
 Compact switching solution for up to 8 servers.



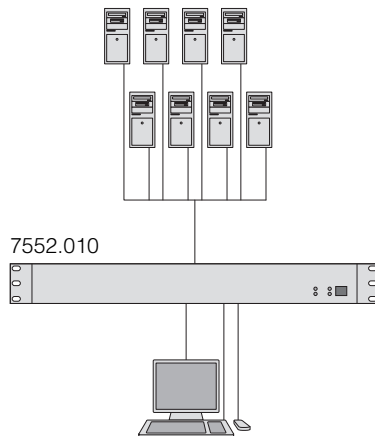
### Connection example SSC view 32 cat

see page 841  
 (behind monitor/keyboard unit, 1 U) administer 32 servers in 1 U.  
 The most powerful 1 U console/switch solution.



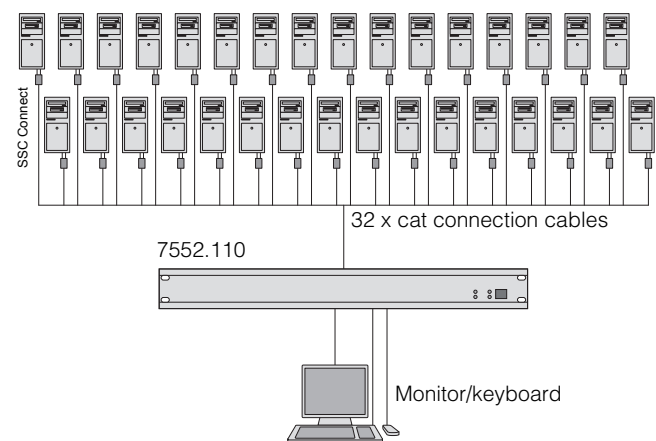
### Connection example SSC compact 8

see page 841  
 Economy KVM technology. Ideal for retrofitting into existing installations.



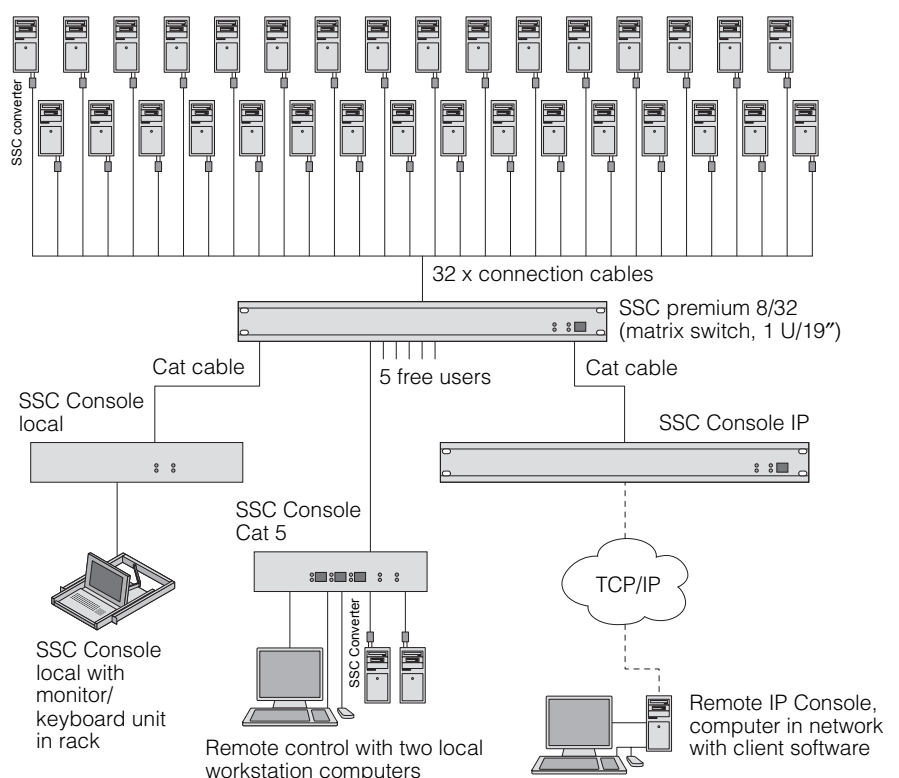
### Connection example SSC compact 32 cat

see page 841  
 1 user KVM solution for 32 servers.  
 Extendible up to a maximum of 125 connected servers.



### Connection example SSC premium 8/32

see page 842  
 Modular KVM solution for data centres.  
 Up to 8 users may access the connected servers in parallel and independently from one another. Remote access via "KVM-over-IP" is also supported. Furthermore, the Rittal sockets may also be switched via the OSD of the SSC premium. This facilitates a "hard-reboot" of the servers from anywhere in the world.





### Monitor/keyboard unit, 1 U with 15" and 17" TFT display

This compact 1 U console in a 2-colour design was developed for secure, space-saving server administration. In order to access other servers, this monitor/keyboard unit is easily combined with the Rittal KVM switches SSC view 8 and SSC view 32 Cat. This makes it possible to connect up to 32 servers to one unit in 1 U. The peculiarity of this compact solution is that a 482.6 mm (19") keyboard including number pad and keypad may be integrated, in spite of its small size. The minimal depth of the unit, at just 510 mm (680 mm with 17" TFT display, each without SSC extension), makes it suitable for installation in enclosures of depth from 800 mm. The installation kits supplied allow it to be adapted to an existing difference between levels of 680 – 850 mm for the 482.6 mm (19") levels.

When closed, the drawer can be locked for protection against unauthorised operation.

In order to prevent heat accumulation when folded, the backlight is deactivated automatically.

The unit has a German keyboard layout. Versions in English and French, as well as other country- and customer-specific versions available on request.

#### Supply includes:

Complete monitor/keyboard unit in colour version RAL 7035 (light grey) or RAL 9005 (black) with design components and handle in RAL 9006 (silver) including assembly parts and all the required connection cables (approx. 1.6 m) for:

- Power supply
- VGA video
- Keyboard connection (PS/2 and USB)
- Mouse connection (touchpad or trackball, PS/2, USB).

#### Note:

KVM switch, SSC view 8/view 32 Cat, see page 841.

		15"		17"	
		RAL 7035/ RAL 9006	RAL 9005/ RAL 9006	RAL 7035/ RAL 9006	RAL 9005/ RAL 9006
Touchpad	German	<b>9055.100</b>	<b>9055.200<sup>1)</sup></b>	<b>9055.300</b>	<b>9055.400<sup>1)</sup></b>
	English	<b>9055.102</b>	<b>9055.202<sup>1)</sup></b>	<b>9055.302</b>	<b>9055.402<sup>1)</sup></b>
	French	<b>9055.103<sup>1)</sup></b>	<b>9055.203<sup>1)</sup></b>	<b>9055.303<sup>1)</sup></b>	<b>9055.403<sup>1)</sup></b>
	International	<b>9055.151<sup>2)</sup></b>	<b>9055.251<sup>2)</sup></b>	<b>9055.351<sup>2)</sup></b>	<b>9055.451<sup>2)</sup></b>
Trackball	German	<b>9055.150</b>	<b>9055.250<sup>1)</sup></b>	<b>9055.350<sup>1)</sup></b>	<b>9055.450<sup>1)</sup></b>

#### Technical design<sup>3)</sup>

TFT screen with anti-reflection coated security glass	15" (381 mm)	17" (432 mm)
Maximum resolution	1024 x 768	1280 x 1024
Colours	16.2 million	
Brightness	approx. 280 cd/m <sup>2</sup>	
Contrast ratio	approx. 400 : 1	approx. 700 : 1
Mains voltage	100 – 240 V AC, 50 – 60 Hz	
Dimensions (W x H x D) approx.	448 mm x 1 U x 510 mm	448 mm x 1 U x 680 mm
Ambient temperature	+5°C to +45°C (operating)	
Certifications	CE	

#### Connections at rear

Mains voltage	IEC320 connection
Video input	Analog (D-SUB 15-pole, jack)
Keyboard	PS/2, jack, USB
Mouse	PS/2, jack, USB
Power out	(12 V DC) for SSC view 8/view 32 Cat

<sup>1)</sup> Extended delivery times.

<sup>2)</sup> International version:

Please state the required language on the order. Extended delivery times.

Versions: French/Spanish/Portuguese/Italian/Danish/Norwegian/Finnish/Swedish/Belgian/Russian/UK English/US English with EURO/Swiss/German. Other country-specific versions available on request

<sup>3)</sup> We reserve the right to make changes in line with technical progress.



1 SSC compact 8



2 SSC compact 32 Cat



3 SSC view 8



4 SSC view 32 Cat



5 SSC Connect PS/2



6 SSC Connect USB



7 CPU cable

With these ultra-compact KVM switches for 482.6 mm (19") mounting or for mounting behind a Rittal monitor/keyboard unit, space-saving server administration becomes possible in any IT rack. All SSCs have a password-protected OSD menu for server selection, but selection may also be made via hotkeys.

The SSC compact 32 Cat may be extended (cascaded) with up to three additional SSC compact 32 Cat if more than 32 servers need to be administered. In this way, up to 125 servers may be administered by one user in the final configuration. The Rittal SSC switching system grows flexibly with your requirements. With the SSC

compact/view 32 Cat, computers are connected using Cat cables and converters (SSC Connect). In this way, the signals for video, keyboard and mouse are transmitted via a shared cable. This cuts down considerably on cabling work, particularly in fully populated racks. Processor-controlled keyboard and mouse emulation for each channel ensures fault-free booting and reliable switching between the connected computers. The SSC views are mounted behind the monitor/keyboard unit and optionally extend the Rittal monitor/keyboard unit to include the function of an 8- or 32-port KVM switch, without requiring an additional U in the server rack for mounting.

Rittal SSC	Model No. DK	
1 2 SSC compact with integral power pack (for mounting on 482.6 mm (19") levels)	7552.010	7552.110
3 4 SSC view (for mounting behind the monitor/keyboard unit DK 9055.XXX)	7552.000	7552.100

Equipment	8 Port KVM	32 Port KVM
Number of computers in stand-alone mode	8	32
Number of users (with password protection)	1	1
Cascading <sup>3)</sup> as slave to SSC view/compact 32 Cat (with OSD transfer)	–	■
OSD menu with mouse operation (English)	■	■
OSD superimposed on computer screen (may be de-activated)	■	■
OSD display of channels used	■	■
Hotkeys for computer selection	■	■
Autoscan	■	■
Autoskip (skip over unused channels)	■	■
Type of cable to computer or to SSC Connect	VGA/HD15 and PS/2 <sup>4)</sup>	Cat 5, 6
Maximum cable length, SSC – computer (depending on cable quality)	4 m	15 m (30 m)
Port and system support	PS/2 <sup>2)</sup>	PS/2, USB, SUN-USB
Automatic cable alignment (manually readjustable)	–	■ <sup>1)</sup>
LED displays (rear)	None	Power
Maximum video resolution (depending on cable length)	1280 x 1024 @ 85 Hz	1920 x 1440 @ 75 Hz
Bandwidth	200 MHz	250 MHz

Connections	8 Port KVM	32 Port KVM
Computer	SUB-HD15 / PS/2	RJ 45
Console	SUB-HD15 / PS/2	SUB-HD15 / PS/2
Cascading port (connection for slave, SSC compact only)	–	RJ 45
Service (for Firmware update)	–	Jack 2.5 mm
12 V DC power supply (from monitor/keyboard unit)	SSC view	SSC view
Power supply 100 – 240 V, 50/60 Hz (internal power pack, IEC320)	SSC compact	SSC compact
Power consumption (approx.)	10 W	13 W
Operating temperature	+5 to +45°C	+5 to +45°C
Protection rating	IP 20	IP 20
Cases	Sheet steel, powder-coated	Sheet steel, powder-coated
Colour SSC compact	RAL 7035	RAL 7035
Colour SSC view	RAL 9006	RAL 9006
Dimensions (excluding protruding parts) approx. W x H x D mm	448 x 44 x 150	448 x 44 x 150
Certification	CE	CE

<sup>1)</sup> With a cable length of max. 15 metres, there is no need for any manual video readjustments. Above and beyond this, the maximum permissible cable length is approximately 30 metres (depending on the cable quality).

Here, manual readjustment may be required.

<sup>2)</sup> Adaptor for SUN/MAC server available on request.

<sup>3)</sup> Up to 3 SSC compact/view 32 Cat may be cascaded to one master (max. 125 servers on 1 user).

<sup>4)</sup> USB version available on request.

Accessories	8 Port KVM	32 Port KVM
Mains connection cable (for SSC compact only)	7200.210	7200.210
7 CPU cable 2 m (with interlocking PS/2 connectors)	7552.120	–
7 CPU cable 4 m (with interlocking PS/2 connectors)	7552.140	–
5 SSC Connect PS/2	–	7552.421
6 SSC Connect USB	–	7552.422
Cat 5 cable 0.5 m	–	7320.470
Cat 5 cable 2 m	–	7320.472
Cat 5 cable 5 m	–	7320.475
Cat 5 cable 10 m	–	7320.481
Cat 5 cable 15 m	–	7329.485

# Monitoring

## KVM switches



### SSC premium 2/16, 4/32, 8/32

#### Highly integrated KVM matrix based on Cat technology

With the SSC premium, Rittal offers a KVM switching technology which can adapt flexibly to your future requirements. By using Cat technology (i. e. transmission of signals for keyboard, video and mouse via a Cat cable), the required cabling work inside the rack may be reduced considerably; what is more, highly compact 1 U systems with up to 32 server ports are supported. The SSC premium are full-matrix switches which support simultaneous, unrestricted access to the chosen computer system for each of the connected users. Various console types are available for administration purposes, via which all computer systems may be conveniently activated via OSD or hotkeys.

By separating the hardware switch and operating console, the systems may be adapted to any required computer environment. On the computer side, conversion to standard PC interfaces is achieved via separate converters which optimise all signals (keyboard, video, mouse) for transmission via the Cat cable. Needless to say, all SSC premium have comprehensive configuration and management functions, and additional functions may be added in the future via flash upgradability. The full matrix may be flexibly extended via cascading with type-identical SSC premiums in up to 3 levels. The structure of the cascaded system right down to the individual computer level may be graphically depicted in a tree structure, thus facilitating an overview of the entire system. The new SSC Power Control (DK 7552.420) also facilitates control of the Rittal 8-way PSM modules (DK 7856.201) or 8-way Rittal PCU (DK 7200.001) with the SSC premium. In this way, any of the connected servers may be hard-rebooted if necessary – worldwide! To this end, up to 3 IEC320 sockets in the SSC premium are allocated to each individual server.

**Connection example** see page 839.

**Material:**

Sheet steel

**Colour:**

Spray-finished in RAL 7035

**Protection category:**

IP 30



**Also required:**

SSC Converter (depending on the number of computers) and at least one operator console, see page 844/846.

Mains connection cable (DK 7200.210), see page 818.

By cascading type-identical SSC premiums, the maximum number of administrable computers may be flexibly extended.

SSC premium	2/16	4/32	8/32
Level	Number of computers		
1	16	32	32
2	128	256	128
3	1024	2048	512

Various SSC premiums may also be cascaded among one another.



Rittal SSC premium	SSC premium 2/16	SSC premium 4/32	SSC premium 8/32
Model No. DK	7552.020	7552.030	7552.040
<b>Equipment</b>			
Number of computers in stand-alone mode	16	32	32
Number of computers with cascading as full matrix (max. 3 levels, type-identical SSC premium)	1024	2048	512
Number of users (local, remote, IP), mixed and simultaneous	2	4	8
Number of users that may be administered (with allocation of rights)	128	128	128
Integral user/computer administration	■	■	■
Support of central directory services and authentication systems	–	–	■
OSD menu with mouse operation (English)	■	■	■
Display of system structure in the OSD per computer (path)	■	■	■
OSD superimposed on computer screen (may be de-activated)	■	■	■
OSD display of channels used	■	■	■
Hotkeys for computer selection	■	■	■
Type of cable to SSC Converter and SSC Console	Cat 5, 6	Cat 5, 6	Cat 5, 6
Maximum cable length console – computer (depending on cable quality)	300 m	300 m	300 m
Port and system support (SSC Converter)	PS/2, USB, SUN-USB/VT100	PS/2, USB, SUN-USB/VT100	PS/2, USB, SUN-USB/VT100
Automatic video alignment (manually readjustable)	■	■	■
Automatic cable alignment (manually readjustable)	■	■	■
LED displays (front):			
Power/Power Redundant	■	■	■
System Ready (illuminates as soon as the system booting process has been completed without error)	■	■	■
Status Switch (illuminates when the SSC is operational)	■	■	■
LED displays (rear):			
Computer port busy/connected	yellow/green	yellow/green	yellow/green
Console port busy/connected	yellow/green	yellow/green	yellow/green
Network port full duplex/half duplex	–	–	yellow/flashing green/flashing
Network port connection status/activity	–	–	green/flashing
Maximum video resolution (depending on cable length)	1920 x 1440 @ 75 Hz	1920 x 1440 @ 75 Hz	1920 x 1440 @ 75 Hz
Bandwidth	250 MHz	250 MHz	250 MHz
Activation of switchable socket strip (on/off)	■	■	■
<b>Connections</b>			
Computers/consoles	RJ 45	RJ 45	RJ 45
Service (front) for Firmware update	Jack 2.5 mm	Jack 2.5 mm	Jack 2.5 mm
RS-232 (front)	RJ 11	RJ 11	RJ 11
Network	–	–	2 x RJ 45
Power supply via IEC320 connection (IEC320 C13)	■	■	■
Redundant power supply (with SSC power pack)	4-pole mini-DIN	4-pole mini-DIN	4-pole mini-DIN
Power supply (internal power pack)	90 – 264 V/ 47 – 63 Hz	90 – 264 V/ 47 – 63 Hz	90 – 264 V/ 47 – 63 Hz
External power supply, redundant	12 V/approx. 1 A	12 V/approx. 1 A	12 V/approx. 1 A
Power consumption (approx.)	12 W	13 W	16 W
Dimensions (excluding protruding parts) approx. W x H x D mm	435 x 44.4 x 286	435 x 44.4 x 286	435 x 44.4 x 286
Conformity	CE	CE	CE





### Console local

#### for SSC premium

For installation in

- 482.6 mm (19")
- at the rear of 15"/17" monitor unit (9055.XXX)

This local console forms the link between the keyboard, monitor, mouse (or the Rittal monitor/keyboard unit) and the SSC premium. Via the console, the computer systems connected to the switch may be conveniently selected and administered using the OSD. The signals are converted to Cat cables with a length of up to 10 m and forwarded to the KVM matrix. Power supply is optionally via the Rittal monitor/keyboard unit or, in the case of stand-alone 482.6 mm (19") installation, via the SSC Power Pack (DK 7552.220). Supplied complete with assembly parts.

#### Technical specifications:

Video resolution: Max. 1920 x 1440 @ 75 Hz (depending on the cable length)

Video bandwidth: 250 MHz

Voltage supply: 12 V DC (from monitor/keyboard unit) or via SSC Power Pack DK 7552.220

Dimensions:

W x H x D mm: 325 x 44 x 85 (stand-alone)

W x H x D mm: 465 x 44 x 140 (built into 482.6 mm/19")

Type	Packs of	Model No. DK
Console local	1	<b>7552.200</b>

#### Connections (jack):

PS/2 (keyboard and mouse)  
 USB-A (keyboard/mouse)  
 HD15 (VGA video RGB & Sync.)  
 RJ 45 (KVM matrix connection)  
 Mini-DIN 4 (12 V power supply).



#### Also required:

Only for 482.6 mm (19") installation without monitor/keyboard unit:  
 SSC Power Pack DK 7552.220, see page 846,  
 Cat 5 patch cable, see page 846.



### Console Cat 5

#### for SSC premium

This remote console forms the link between the keyboard, monitor, mouse and the SSC premium. Via the console, the computer systems connected to the switch may be conveniently selected and administered using the OSD. The signals are forwarded via Cat cable, depending on the cable quality up to 300 m, via the KVM matrix to the connected computers. Additionally, if required, 2 local PCs and the corresponding converters may be connected to the console via Cat cables. Switchover to these two computers is achieved via keys on the front. The console is designed as a compact desktop enclosure with integral wide-range power pack (482.6 mm (19") versions on request).

#### Technical specifications:

Video resolution: Max. 1920 x 1440 @ 75 Hz (depending on the cable length)

Video bandwidth: 250 MHz

Power supply (internal power pack):

100 – 280 V, 50 – 60 Hz/0.2 A

Dimensions: W x H x D mm: 270 x 44 x 220

Type	Packs of	Model No. DK
Console Cat 5	1	<b>7552.212</b>

#### Connections (jack):

PS/2 (keyboard and mouse)  
 USB-A (keyboard/mouse)  
 SUB-HD15 (VGA video RGB & Sync.)  
 2 x Cat (RJ 45) to connect 2 local PCs via SSC converters (VGA, PS/2 or USB)  
 RJ 45 (KVM matrix connection)  
 IEC320 C14 (power supply)  
 Mini-DIN 4 (redundant power supply).



#### Also required:

Cat 5 patch cable, see page 846,  
 SSC Converter for local PCs, see page 845.  
 Mains connection cable (e. g. DK 7200.210).



### SSC Connect

#### only for SSC view 32 Cat/compact 32 Cat

These converters connect the KVM switches to the computers. The signals for keyboard, mouse and video are transposed onto the Cat cables and transmitted to the SSC compact 32 Cat/view 32 Cat up to a length of 30 m. Two versions with PS/2 connection for keyboard/mouse and with USB connection (connector type A) are available. The video signal (VGA) is picked off from the graphics card via a Sub-HD15 connector. Power supply to the converters is ensured via the PS/2 or USB interface directly from the computer.

#### Technical specifications:

Video resolution: 1600 x 1200 @ 85 Hz

Power supply:

5 V DC/approx. 150 mA (from computer)

Certification: CE

Dimensions: approx. 65 x 45 x 20 mm

Design	Packs of	Model No. DK
SSC Connect PS/2	1	<b>7552.421</b>
SSC Connect USB	1	<b>7552.422</b>

#### Note:

The SSC Connect cannot be used with the SSC premium KVM system. The SSC Converters (DK 7552.20x) are available for this purpose, see page 845.



### Console IP

#### for SSC premium (KVM-over-IP)

With the IP remote console, computers connected to the KVM matrix may be accessed via any given TCP/IP network. The Console IP is a hardware solution requiring no software installation on the target computer. This ensures independence from the type and status of the operating system used, and facilitates remote monitoring of the computers at BIOS level even during the boot phase. Precise operation of the remote computer can only be achieved via the original mouse pointer. A browser-based Web interface is available for configuration of the SSC Console IP. With the system operational, the target computers may be accessed at any time via Web browsers and Java applets (irrespective of the operating system), or if Java is not supported, via optimised client software for common operating systems. This client has extended functions (e. g. a setup mode) and can be used throughout the company without restriction. Installation of the client software is not necessary, as it may also be launched e. g. from a USB stick. In addition to remote access via IP, the SSC Console IP also has an integral local console port (competing with IP access) for connecting the keyboard, mouse and monitor locally in the rack. With the Rittal KVM-over-IP solution, security is a top priority. For this reason, access to the console is additionally password-protected. KVM access to the Web interface may be encrypted via HTTPS (SSL 128 bit). This may optionally encrypt the control channel only, or additionally the video channel and/or the keyboard/mouse channel. In order to further increase failsafeness, the SSC console IP may also be extended with a redundant power pack via the SSC Power Pack (DK 7552.220).

Type	Packs of	Model No. DK
Console IP	1	<b>7552.214</b>

#### Note:

The supply includes the client software for current Windows operating systems (MS Windows 2000, XP Professional, 2003 Server) as well as Linux Distribution (RedHat, Suse) in German and English.

#### Technical specifications:

Video resolution: Max. 1280 x 1024 @ 75 Hz  
 Network: 10/100 MBit/s  
 Power pack: 100 – 240 V AC, 50/60 Hz  
 Dimensions:  
 W x H x D mm: Approx. 440 x 44 x 380

#### Connections (jack):

PS/2 (keyboard and mouse)  
 SUB-HD15 (VGA video, RGB and Sync.)  
 RJ 45 (KVM matrix connection)  
 RJ 45 (Ethernet)  
 Sub-D (RS-232)  
 IEC320 C14 (power supply)  
 Mini-DIN 4 (redundant power supply).



#### Also required:

Mains connection cable (DK 7200.210), see page 818.  
 Cat 5 patch cable, see page 846.



### SSC Converter

#### for SSC premium

The SSC Converters convert the signals for keyboard, video and mouse from the connected computer to the CAT cable.

There is a choice of three different variants for connecting PCs with PS/2 or USB ports, and a separate version for use with SUN computers with a USB port. One converter is required for each computer. Every SSC Converter has a unique identification number (Unique-ID). When the converter is connected to a server, it can be located at any time in the overall system (even in the event of rewiring), without needing to know the physical connection. This is the main difference from simple converter solutions.



SSC Converter	Packs of	Model No. DK
PS/2	1	<b>7552.201</b>
USB	1	<b>7552.202</b>
SUN-USB (German)	1	<b>7552.203</b>
SUN-USB (US English)	1	<b>7552.204</b>



### CPU cable

#### for SSC view 8/SSC compact 8

Combination connection cable between SSC view 8 and the individual servers, each with 2 HD 15 connectors for video, plus lockable PS/2 connectors at both ends for the keyboard and mouse, colour-coded.

Cable length	Model No. DK
2 m	<b>7552.120</b>
4 m	<b>7552.140</b>

## KVM switches



### SSC Converter VT100 (RS-232)

#### for SSC premium

With this SSC adaptor, active network components (such as an Ethernet switch) with a serial management port which support the VT100 terminal mode may be integrated into the SSC premium KVM system and administered remotely. The serial output signals (ASCII character set) are converted into a video signal which is transmitted via the KVM matrix. Conversely, incoming keyboard inputs are reconverted to serial.

#### Connections:

Sub-D 9-pole (RS-232),  
RJ 45 (KVM matrix connection),  
Mini-DIN 4 (power supply).

	Packs of	Model No. DK
SSC Converter VT100	1	7552.205

#### Supply includes:

Power Pack (100 – 240 V, 50/60 Hz/s secondary, 12 V/0.7 A,  
mains connection cable DK 7200.210).



#### Also required:

Cat 5 patch cable,  
see page 846.



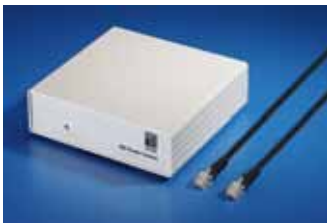
### Cat 5 patch cable

Flexible, pre-configured Cat 5 STP patch cable with shielded RJ 45 connectors for connecting the SSC Converter and SSC Console to the SSC premium switch. The cables are wired 1 : 1 to AT&T 258A/T568B and comply with ISO/IEC 11801, UL E151955.

#### Colour:

Grey

Length m	Packs of	Model No. DK
0.5	4	7320.470
2	4	7320.472
5	4	7320.475
10	1	7320.481
15	1	7320.485



### SSC Power Control

#### for SSC premium

With this adaptor, the Power Control Unit socket strips (DK 7200.001) and the active PSM module (DK 7856.201) may be switched individually or in pairs (for servers with redundant power supply). Control is via the OSD integrated into the SSC premium.

Up to 8 PSM and PCU modules may be switched (max. 64 EN 60 320 C13 slots). Up to 3 sockets may be allocated per server.

This facilitates a hard reboot of each individual server via the connected user consoles, also via the IP networks in conjunction with the SSC Console IP.

#### Note:

The connection cable between the SSC premium and the SSC Power Control with a length of 2.5 m is included with the supply.

	Packs of	Model No. DK
SSC Power Control	1	7552.420



#### Also required:

Mounting module (DK 7320.450),  
power pack (DK 7201.210),  
mains cable (DK 7200.210),  
at least 1 active PSM/PCU module,  
see page 791.  
Cat 5 patch cable,  
see page 846.



### SSC Power Pack

In order to increase failsafeness, we recommend configuring a redundant power supply to the SSC premium and the connected user consoles.

This compact long-range power pack (AC: 100 – 240 V, 50/60 Hz, DC: 12 V/5 A) with IEC320 socket (EN 60 320) and Mini-DIN 4 connector is ideal for this purpose. Should the first power supply of the internal power pack fail, the functionality of the KVM switch is maintained.

#### Supply includes:

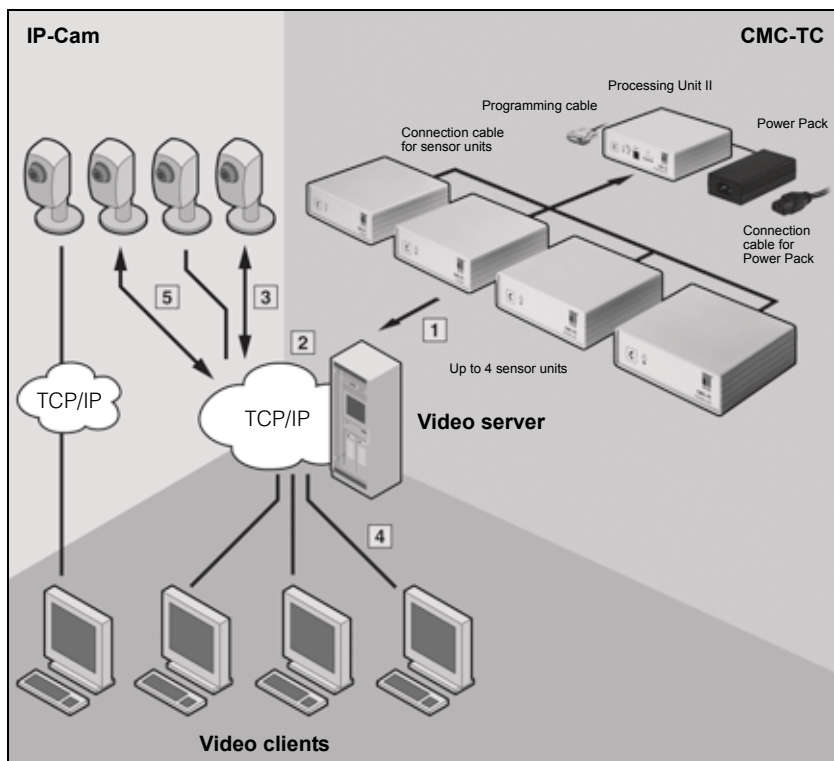
Assembly parts.

SSC	Packs of	Model No. DK
SSC Power Pack	1	7552.220



#### Also required:

Connection cable for Power Pack,  
see page 818.



- 1 Event messaging
- 2 CMC-TC alarm processing
- 3 Start recording
- 4 Client visualisation
- 5 Motion detection

### Rittal network video monitoring for your data centre and building management

The Rittal IP monitoring solution supports extensive visual and alarm-controlled monitoring. Compared with standard analogue video monitoring solutions, purely digital video systems offer a wider range of functions and additional benefits. Rittal IP cams may be integrated into any existing network. Separate structured cabling, as required in analog systems, is not necessary. This considerably reduces the costs associated with the required infrastructure, because modern Power over Ethernet technology (PoE to IEEE 802.3af) means that a separate power supply to the camera installation side is not required.

The Rittal video monitoring system is modular and is able to grow dynamically along with your requirements or data centre. One IP-Cam is sufficient for a basic system. This is easily configured and operated via the integral Web interface. No further hardware is required. If the data is to be permanently backed up onto external data carriers, the Rittal software RiWatchIT "Video Edition", which is exclusively available for Rittal IP-Cams, should be used. This converts a powerful PC with MS Windows or Linux operating system into a video server with video archive, which stores alarm-controlled images onto the hard disk or an external network drive.

A combination of video monitoring with the CMC-TC enclosure monitoring system ensures even more extensive monitoring. This ensures that no actions are concealed. All standard CMC-TC sensors such as access, smoke or temperature sensors are supported. In short, the Rittal video monitoring solution affords perfect all-round protection for a secure data centre.

A combination of video monitoring with the CMC-TC enclosure monitoring system ensures even more extensive monitoring. This ensures that no actions are concealed. All standard CMC-TC sensors such as access, smoke or temperature sensors are supported. In short, the Rittal video monitoring solution affords perfect all-round protection for a secure data centre.

### Video monitoring in combination with the CMC-TC monitoring system

The Rittal monitoring system CMC-TC comprises a broad range of modules and functions. It is possible, for example, to control access to the data centre or the equipment racks, with personalised access monitoring achieved by way of smart cards, magnetic cards or transponders. This access security can be enhanced significantly by incorporating video monitoring, as all activities or alarms in the data centre can be recorded automatically. Furthermore, the video monitoring function can be linked with all CMC-TC accessory sensors (including the assignment of different camera systems). If an alarm then occurs, e. g. impermissible temperatures in the racks or triggering of an extinguisher system connected to CMC-TC (such as DET-AC Plus), an automatic video recording is started. With this combination of active security technology and video monitoring, Rittal offers unique, all-round protection for your data centre.



### Benefits:

- Discovery function: The cameras installed in the network are automatically detected and set up.
- Overview/room plan with drag & drop positioning of the cameras. By double-clicking on the relevant camera symbol, the live image is displayed in a window.
- Linking of individual cameras to all CMC-TC sensors such as access, temperature, smoke, humidity etc.
- Optical alarm representation with highlighted live image.
- Multi-view display: Several live images (4/9) may be displayed on the screen.
- The software has an integral video player to play the recorded files.
- All video files are time stamped and stored in MJPEG format.

- Extensive security functions:
  - The video files are stored in an encrypted format via an individual system key. Reproduction is only possible using the video player integrated into the software.
  - "Four-eyes" principle: Upon request, access to the cameras and video recordings may be protected with passwords, so that at least two people must be present at all times.
- Export functions: These facilitate the unencrypted storage of video sequences or individual images in MJPEG/JPG format e. g. on CD-ROM.
- Multi-config in administrator mode: Global camera settings may be transmitted to all Rittal IP-Cams available in the network (clone function).
- Simultaneous access to the video server with several clients is supported.

# Monitoring

## Video technology



### Rittal IP-Cam type 1

Rittal IP-Cams are ideal for use in the data centre and for indoor room monitoring. These compact cameras may be fitted quickly and easily wherever there is an IP network connection close at hand.

The magnetic base facilitates toolless installation e. g. on an enclosure roof. A PoE (Power over Ethernet) power supply can be achieved with adaptor DK 7555.310.

Rittal IP-Cam	Type 1
<b>Model No. DK</b>	<b>7555.100</b>
<b>Functions</b>	
Video sensor (MegaPixel)	0.3
Focus	manual
<b>Video</b>	
Live camera display	■
Adjustable HTML pages (ActiveX required)	■
<b>Security functions</b>	
Alarm recording via motion detection or external authorisation	■
E-mail forwarding	■
<b>Technical specifications</b>	
Video sensor	CMOS
Light sensitivity	1 lux
Maximum resolution (progressive scan)	640 x 480 pixels
Video streams Motion JPEG and MPEG4 simultaneous, bandwidth controllable (various levels of compression)	■
<b>Image settings</b>	
Compression	■
Colour, contrast, brightness	■
White balance	■
Overlays (time, date, text)	■
Password protection (restricted access)	■
<b>Connections</b>	
Network (10BaseT/100BaseTX)	RJ 45
Power supply	Hollow connector
Long-range power pack (connector acc. to version)	100 – 240 V AC (50/60 Hz)
Supply includes	Camera, power pack, base
Assembly parts supplied loose	■
<b>Software</b>	
RIWatchIT Video Edition	For detailed information, refer to page 1155.

We reserve the right to make technical modifications.



### Power splitter

#### for Rittal IP-Cam type 1

Power supply to the Rittal IP-Cam type 1 via the network cable (Power over Ethernet, PoE) can be achieved using this adaptor. This eliminates the need for a separate power pack or electricity connection at the installation site. Power can be supplied to the camera (5 V DC approx. 3 W) via existing PoE-compatible network switches. The required operating voltage may optionally be supplied to the Cat 5 network cable via an external infeed (midspan).

	Model No. DK
Power splitter	<b>7555.310</b>

Extended delivery times.



### Power infeed

#### for Power over Ethernet (PoE) network components (external infeed)

If the network environment used is not designed for PoE components, power supply to a PoE-compatible network camera via the existing network cable can be achieved with this single-port midspan. This means that the external power pack supplied is not required.

#### Technical specifications:

PoE to IEEE 802.3af  
Output: 15.4 W/port

Delivery times available on request.  
(Multi-channel midspans available on request)



Rack, Power, Cooling, Security, Monitoring & Remote Management – the modules for your success.

Five infrastructure modules for an optimum IT performance. The complete, integral solution from Rittal with individual all-round support, complemented by a comprehensive range of services for maximum operational reliability and efficiency.



### Rack

As the world's leading manufacturer of server and network enclosures, Rittal offers a comprehensive product range with an optimum accessory portfolio.

This helps you to create the ideal requirements for individual configuration of your IT infrastructure. The consequence: Greater freedom, greater flexibility, greater reliability.



### Power

This module ensures a constant, uninterrupted power supply.

It includes power distribution inside the rack and data centre with the Rittal Power System Module PSM and power protection with the UPS Power Modular Concept PMC 200.



### Cooling

Climate control concepts from Rittal help to minimise investment costs and maximise investment reliability.

With scalable climate control concepts such as the Liquid Cooling Package or direct CPU cooling, data centres may be extended in a temperature-neutral way, without needing to modify the room.



### Security

Physical security is one of the principal elements of high availability of the entire IT infrastructure.

Temperature, smoke and vibration sensors coupled with modern access control and fire protection solutions provide reliable protection against external influences.



### Monitoring & Remote Management

Simple to operate and a perfect overview: Monitoring & remote management help to permanently reduce maintenance and operating costs with the system operational, and increase availability.

For example, comprehensive monitoring, measurement and control tasks via the CMC-TC (Computer Multi Control Top Concept) reduce the risk of failure to a minimum and facilitate preventive intervention.



### Services

We have no time for system failures: Maximum operational reliability, high availability and excellent cost-effectiveness are supported by innovative, pioneering technology, individual advice, a complete system architecture, and comprehensive service. In short, Rittal modular services. Take us at our word.

## Customised solutions with modular system technology

### Efficient IT infrastructure

Blade servers with their superior computing performance are very resource-hungry and therefore incur high heat losses. As a result, the requirements of IT infrastructure solutions are rising dramatically: For example, there is a demand for energy-efficient UPS and cooling systems which are distinguished by low power consumption coupled with minimal heat loss.

On top of this, we aim to keep the so-called total cost of ownership (TCO), i. e. the sum total of purchase and acquisition costs, at the lowest possible level, which ensuring absolute availability and security.

Impossible? Certainly not. The “pay-as-you-grow” concept from Rittal is pivotal to our solution. This means that the user selects the exact IT infrastructure solution which is most efficient for him. The benefits for the user include: No over-dimensioning, no unnecessary fixed costs, and, if necessary, easy extendibility even with the system operational.

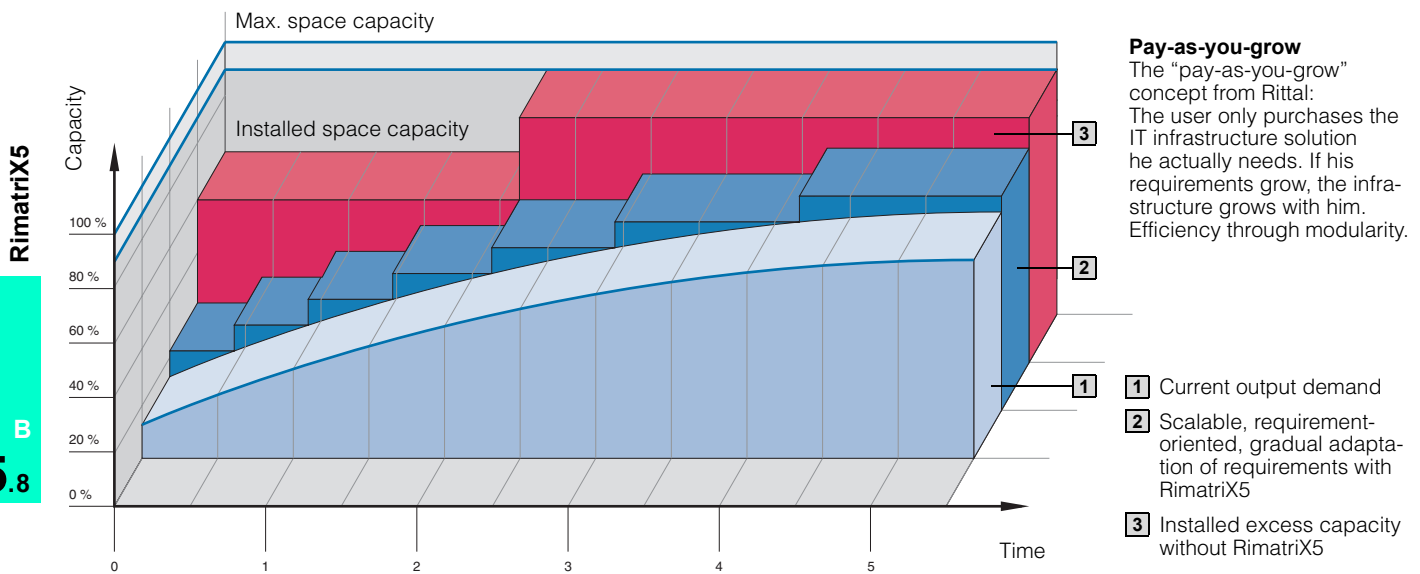
RimatriX5 from Rittal combines holistic IT infrastructure solutions with superb know-how. Thanks to our comprehensive range of services, individual connections are made between the module racks, power, cooling, security, monitoring & remote management.

Generally speaking, RimatriX5 modules are designed to be system-integrated – all areas are superbly coordinated with one another to ensure maximum energy efficiency, optimum space utilisation, plus cost-effective servicing and expansions.

As a manufacturer of holistic IT infrastructures, Rittal supplies its customers with everything from a single source. In this way, the required levels of security and availability are implemented to perfection in harmony with the principle of cost-effectiveness.

### Benefits of RimatriX5:

- Flexibly scalable (pay-as-you-grow)
- Extendible on a modular basis
- High energy efficiency
- Comprehensive security and monitoring solutions
- Holistic offer
- Global availability and global service



### All the costs at a glance with RimatriX5

Cost-effectiveness analyses must be comprehensive, and include everything from the initial acquisition, to operation, through to maintenance. With this in mind, Rittal offers decisive cost benefits on all criteria:

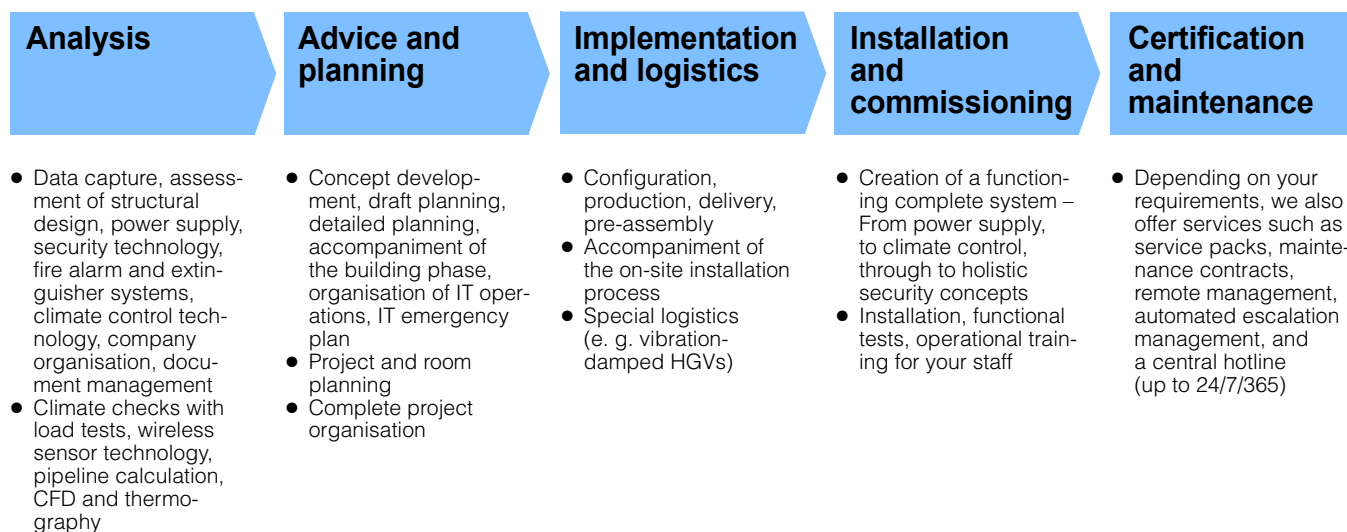
- **Lower investment costs** coupled with investment security thanks to maximum flexibility
- **Lower operating costs** through energy-efficient systems for cooling and power supply plus **cost-effective adaptation to your requirements**
- **Reduced downtime** and hence lower costs, thanks to a high level of availability plus **remote maintenance and administration**
- **Reduced planning costs** thanks to modular, scalable components
- **Minimal installation and expansion costs** through plug & play technology and technical modifications with the system operational

In RimatriX5, Rittal offers its customers an integrated, complete solution for outstanding IT performance with a comprehensive range of services for optimum availability.



# RIMATRIX5

DRIVING IT-PERFORMANCE



### Rittal service packs – Individual for optimum availability

	Basic	Comfort	Advanced	Full	Customised
<b>Reachability</b>					
Business hours	■	■			
24/7/365			■	■	
<b>Response times</b>					
Next working day	■				
Next day		■	■		
8 hours				■	
<b>Spare parts availability</b>					
Standard	■	■			
24 hours			■		
Individual concept				■	
<b>Maintenance</b>					
1/year	■				
2/year		■	■		
Individual (min. 2/year)				■	
<b>Warranty extension</b>					
No	■	■			
Yes			■	■	

# Telecom/distributor racks/mobile workstations

## Features



For years, the demands placed by modern telecommunications and data transfer on distributor racks, enclosures and accessories have been escalating, with no end in sight. There is a wide variety of standards that must be met. The use of even the smallest creative scope is always the greatest challenge for Rittal, and one which is solved to perfection.

Telecom/distributor racks/mobile workstations



### Telecom

**TC-Rack**  
The open frame for individual design with enclosure panels. Compliance with standard ETS 300 119-3 is guaranteed.



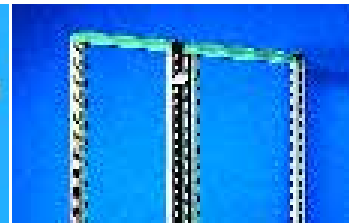
**Small FM distributors**  
Ideally suited for the configuration of transit, intermediate and main distributors. The protection category of IP 55 makes it suitable for use in tough industrial environments.

**Modular FM distribution enclosures**  
Rittal wall-mounted and bayed enclosures – Diversity from small distributors, to FM wall-mounted distributors, through to two-door bayed enclosures.



### Data Rack distributor

**Second mounting level**  
To accommodate 482.6 mm (19") network components or for the attachment of component shelves, slide rails and telescopic rails.



**Roof plate for cable routing**  
For optimised use of the Data Rack as a corridor distributor or cable management rack.

**Baying clamp**  
For assembling rows of distributor frames, or for cable routing between data racks.



### Mobile workstation RiLab II

Smooth-running **twin castors**, combined with colour-coordinated wall guard, 2 of them lockable.

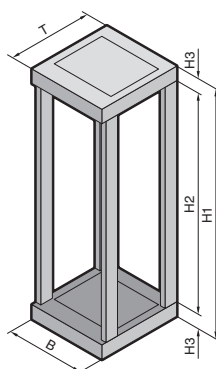


**Intelligent cable routing**, concealed inside the torsionally stiff vertical aluminium section. Horizontal cable ducting optional.



**Drawer compartment open at the top**, for mounting beneath the basic drawer, extension piece on castors with catch.

B  
5.9



### Material:

Roof/base frame:  
Sheet steel, 2 mm  
Frame:  
Aluminium, natural

### Surface finish:

Roof/base frame:  
Powder-coated in RAL 7035

### Supply includes:

Frame:  
4 supporting aluminium uprights, the two front uprights are prepared to accommodate doors whilst the two rear uprights are prepared to accommodate a rear panel and a ceiling fastening.  
  
Roof/base frame:  
to accommodate roof/base cover modules.  
Fitted as standard with cover plate (D = 300 mm) or sliding cover (D = 600 mm),  
4 levelling feet.

### Property rights:

German patent no. 43 33 027  
European patent no. 0 645 957 with validity for FR, GB, IT, NL  
US patent no. 5,513,759  
Jap. patent no. 233373/94

### Note:

Used in conjunction with metric (535 mm) mounting angles, the Telecommunication Rack meets the requirements of ETS standard 300119-3.

### Available on request:

- TC rack fully fitted with all mounting parts
- Divided front doors
- Special sizes

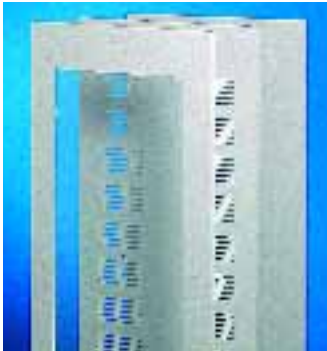
**Detailed drawing,** available on the Internet.

Width (B) mm <sup>3)</sup>	Packs of	600	600	Page
Height (H1) mm <sup>3)</sup>		2200	2200	
Depth (T) mm <sup>3)</sup>		300	600	
Height or mounting dimension (H2) mm		2050 (46 U/82 SU)	2050 (46 U/82 SU)	
Height roof/base frame (H3) mm		75	75	
<b>Model No. DK</b>	<b>1</b>	<b>7723.035</b>	<b>7726.035<sup>2)</sup></b>	
<b>Door</b>				
Sheet steel door, front, solid	1	7720.035 <sup>2)</sup>	7720.035 <sup>2)</sup>	854
Sheet steel door, front, with vent slots	1	7722.035 <sup>2)</sup>	7722.035 <sup>2)</sup>	854
Sheet steel door, front, with safety glass insert	1	7725.035 <sup>2)</sup>	7725.035 <sup>2)</sup>	854
<b>Rear/side panel</b>				
Rear panel	1	7729.235 <sup>2)</sup>	7729.235 <sup>2)</sup>	854
Side panels	2	7713.235	7716.235 <sup>2)</sup>	854
<b>Roof</b>				
Ceiling fastening	1 set	7719.000	7719.000	854
Roof insert for cable entry	1	- <sup>1)</sup>	7701.035 <sup>2)</sup>	854
Roof insert with vent slots	1	7702.035 <sup>2)</sup>	7702.035 <sup>2)</sup>	854
Active fan insert	1	7703.035 <sup>2)</sup>	7703.035 <sup>2)</sup>	854
<b>Base/plinth</b>				
Base insert for cable entry	1	- <sup>1)</sup>	7701.035 <sup>2)</sup>	854
Base insert with vent slots	1	7702.035 <sup>2)</sup>	7702.035 <sup>2)</sup>	854
Active fan insert	1	7703.035 <sup>2)</sup>	7703.035 <sup>2)</sup>	854
<b>Interior installation</b>				
Component shelves for 482.6 mm (19") mounting angles	1	7119.250	7119.400	1021
Component shelves for metric mounting angles (530 mm)	1	7119.255	7119.455	1021
Mounting angles, 482.6 mm (19"), 46 U	2	7758.000	7758.000	855
Metric mounting angles (535 mm), 82 SU	2	7760.000 <sup>2)</sup>	7760.000 <sup>2)</sup>	855
Support strips	6	7128.000 <sup>2)</sup>	7129.000 <sup>2)</sup>	855
Cable clamp rails for installation in the enclosure width	4	7101.000 <sup>2)</sup>	7101.000 <sup>2)</sup>	855
Cable clamp rails for installation in the enclosure depth	4	7090.000 <sup>2)</sup>	7107.000 <sup>2)</sup>	855
Earthing set	1 set	7277.000	7277.000	1036

<sup>1)</sup> Special designs available on request. <sup>2)</sup> Delivery times available on request.

<sup>3)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.

## Accessories for Rittal TC rack



### Door

For front mounting, with 180° hinges, locking rod, double-bit lock insert (may be exchanged for Ergoform-S lock system).

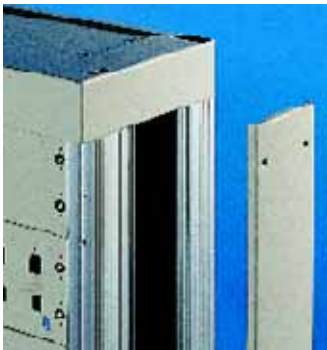
**Material:**  
Sheet steel

**Colour:**  
RAL 7035

	Model No. DK
Sheet steel door at front	
Solid	7720.035 <sup>1)</sup>
With vent slots	7722.035 <sup>1)</sup>
With safety glass insert	7725.035 <sup>1)</sup>

	Model No. SZ
Lock system	
Ergoform-S handle RAL 7035	2435.000
Lock no. 3524 E	2467.000

<sup>1)</sup> Delivery times available on request.  
Available as a rear door on request.



### Rear/side panel

To finish off a complete enclosure unit, including assembly material.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

For side panels DK 7713.235 and DK 7716.235:

**German patent no. 43 33 025**  
**US patent no. 5,584,406**

	For enclosure depth mm	Packs of	Model No. DK
Side panel	300	2	7713.235
Side panel	600	2	7716.235 <sup>1)</sup>

	For enclosure width mm	Model No. DK
Rear panel	600	7729.235 <sup>1)</sup>

<sup>1)</sup> Delivery times available on request.



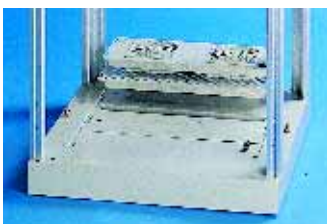
### Ceiling fastening

Infinitely height-adjustable for ceiling fastening of free-standing Rittal TC racks and for cable routing. Max. mounting height of vertical stays: 550 mm.

**Material:**  
Sheet steel, zinc-plated, passivated

Model No. DK	7719.000
--------------	----------

**Supply includes:**  
2 vertical stays,  
1 horizontal rail,  
2 cable shunting rings,  
assembly parts.



### Roof and base/plinth insert

The inserts may be fitted in the roof or base/plinth as required.

**Material:**  
Sheet steel

**Colour:**  
RAL 7035

	Model No. DK
Roof and base/plinth insert	
For cable entry <sup>1)</sup>	7701.035
With vent slots	7702.035
With active fan insert	7703.035

Delivery times available on request.

<sup>1)</sup> For Rittal TC rack DK 7726.035.  
Special design for DK 7723.035 available on request.

Accessories for Rittal TC rack



**Mounting angles**

on a U/SU pitch pattern and T channel mounting angles, 482.6 mm (19")/metric (535 mm).

The mounting angles are simply screwed to the rack upright; a combination of 482.6 mm (19") and metric (535 mm) mounting angles is also possible. Also available in a T channel version. The mounting angles are depth-adjustable.

**Supply includes:**

Mounting angles, assembly parts.

	Packs of	Model No. DK		
		U pitch pattern mounting angles	SU pitch pattern mounting angles	T channel mounting angles
46 U	2	<b>7758.000</b>	–	<b>7758.100</b>
82 SU	2	–	<b>7760.000<sup>1)</sup></b>	<b>7760.100</b>

<sup>1)</sup> Delivery times available on request.

**Material:**

Aluminium, natural



**Accessories:**

Captive nuts M5/M6, spring nuts, screws M5/M6, see page 1105.



**Depth stays**

For infinitely variable adjustment of metric (535 mm) or 482.6 mm (19") mounting angles across the entire enclosure depth, or for attachment of a second pair of 482.6 mm (19") mounting angles at the rear.

**Material:**

Sheet steel, zinc-plated, passivated

**Supply includes:**

Depth stays, including assembly parts.

Enclosure depth mm	Packs of	Model No. DK
300	6	<b>7128.000</b>
600	6	<b>7129.000</b>

Delivery times available on request.



**Cable clamp rails**

For installation in the enclosure width and depth. Fully height-adjustable for cable clamping with rear or side cable routing.

**Material:**

Sheet steel, zinc-plated, passivated

**Supply includes:**

Cable clamp rails, assembly parts.

Enclosure width mm	Packs of	Model No. DK
600	4	<b>7101.000</b>

Delivery times available on request.

Enclosure depth mm	Packs of	Model No. DK
300	4	<b>7090.000</b>
600	4	<b>7107.000</b>

Delivery times available on request.



**Clip-on nuts**

For variable interior installation of TC racks. Simply clip onto one of the two channels, for infinitely variable component mounting.

**German patent no. 195 24 648**

**European patent no. 0 836 679**

**Japanese patent no. 28 91 779**

**US patent no. 5,897,276**

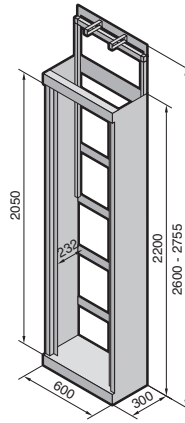
Packs of	Model No. FR
50	<b>2102.500</b>



**Accessories:**

M6 assembly screws, see page 1105.

## CS Indoor Rack



### Material:

Side panels, roof and base frame:  
Sheet steel, 2.0 mm  
Mounting angles:  
Extruded aluminium section

### Surface finish:

Powder-coated in textured  
RAL 7035  
Mounting angles:  
Natural aluminium,  
clear-chromated

### Supply includes:

Screw-fastened frame, consisting of  
2 side panels,  
roof and base frame,  
front plinth trim,  
2 mounting angles,  
ceiling attachment,  
4 levelling feet,  
4 rear panel struts,  
enclosure panels, earthed.

### Note:

The screw-fastened rack will accommodate metric or 482.6 mm (19") installed equipment (to IEC 60 907 or IEC 60 297 and DIN 41 494). In addition to the basic rack, which satisfies the requirements of ETSI standard 300119-3, customised solutions can be designed in next to no time and implemented cost-effectively.

The following variants of the Indoor rack are available, amongst others:

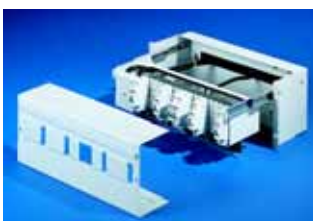
- Size variants
- Solid front door
- Vented front door
- Horizontally divided doors
- Folding doors
- Overlapping doors
- Roof modules
- Cut-outs in the enclosure panels
- Interior installation with system accessories

**Detailed drawing,**  
available on the Internet.

Width mm <sup>1)</sup>	Packs of	U	SU	600
Height mm <sup>1)</sup>				2200
Depth mm <sup>1)</sup>				300
Clearance width mm				500
Clearance height mm				2050
Clearance depth mm				232
<b>Model No. CS with mounting angles 482.6 mm (19")</b>	1	46	–	<b>9790.042<sup>2)</sup></b>
<b>Model No. CS with mounting angles, metric</b>	1	–	82	<b>9790.043<sup>2)</sup></b>
<b>Accessories</b>				
Rear panel for screw fastening, sheet steel 2.0 mm	1			<b>9790.003<sup>2)</sup></b>

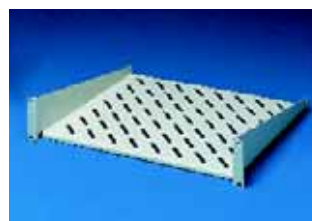
<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.

<sup>2)</sup> Delivery times available on request.



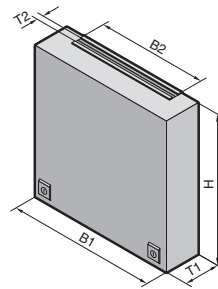
### Energy-Box

for DC and AC distribution.  
Model No. see page 1044.



### Component shelf

250 mm deep, for 482.6 mm (19") or metric mounting levels.  
Model No. see page 1021.



**Material:**  
Sheet steel, 1.5 mm

**Surface finish:**  
Powder-coated in RAL 7035

**Supply includes:**  
Two-part enclosure

Wall section:  
With mounting holes for wall mounting, 2 comb strips for cable clamping and brush insert for cable entry, shunting ring for system-compatible routing of telecommunications cables.

Cover:  
Retaining device and two cam locks with double-bit lock insert.

**Property rights:**  
German patent no. 44 10 795

**Detailed drawing,**  
available on the Internet.

Width (B1) mm <sup>1)</sup>	Packs of	300	500	500	900	Page
Height (H) mm <sup>1)</sup>		500	500	700	700	
Depth (T1) mm <sup>1)</sup>		120	120	120	120	
Width of cable entry (B2) mm		195	395	395	795	
Depth of cable entry (T2) mm		29	29	29	29	
<b>Model No. DK</b>	1	<b>7052.035<sup>2)</sup></b>	<b>7053.035<sup>2)</sup></b>	<b>7054.035<sup>2)</sup></b>	<b>7055.035<sup>2)</sup></b>	
Max. number of adjacent cable retainers or mounting troughs (LSA)		1	2	2	4	
Max. accommodation when using cable retainers (LSA)		100 paired wires	200 paired wires	400 paired wires	800 paired wires	
Shunting ring, plastic, 70 x 44 mm		2	3	3	5	
<b>Accessories</b>						
FM universal mounting brackets, L = 275 mm, LSA-Plus	1 set	7031.100	7031.100	7031.100	7031.100	861
<b>Lock systems</b>						
T handle without lock insert	1	2572.000	2572.000	2572.000	2572.000	955
T handle with lock insert no. 3524 E	1	2575.000	2575.000	2575.000	2575.000	955
Plastic handle with lock no. Nr. 3524 E	1	2576.000	2576.000	2576.000	2576.000	954
Plastic handle	1	2533.000	2533.000	2533.000	2533.000	954

Standard double-bit lock insert may be exchanged for 27 mm lock inserts, version A, see page 956.

<sup>1)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.

<sup>2)</sup> Delivery times available on request.

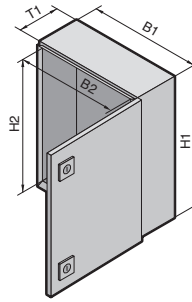


**FM universal mounting bracket**  
for the connection of LSA-Plus strips.  
Model No. see page 861.



**T handle**  
of die-cast zinc with security lock.  
Model No. see page 955.

## FM wall-mounted distributors, modular



### Material:

Sheet steel, 1.5 mm  
Door: 2.0 mm

### Colour:

RAL 7035

### Protection category:

IP 55 to EN 60 529/09.2000

### Supply includes:

Enclosure: Based on Rittal AE with gland plate at bottom, swappable door hinge, double-bit lock inserts (DK 7014.535 with 3-point locking rod and double-bit lock), earth rail, cable clamp rail, 2 punched rails to accommodate FM system strips, FM system rods and FM-cable shunting strips.  
Top horizontal punched rail to accommodate cable shunting rings.

### Available on request:

- FM wall-mounted distributor configured with Rittal standard accessories (FM system strips, FM system rods, FM cable shunting strips etc.) to order.
- Cable entry with brush strips top/bottom.

### Approvals,

see page 102.

### Detailed drawing,

available on the Internet.

Width (B1) mm <sup>3)</sup>	Packs of	600	760	800	800	Page
Height (H1) mm <sup>3)</sup>		600	760	1000	1200	
Depth (T1) mm <sup>3)</sup>		350	300	300	300	
Clearance width (B2) mm		560	720	760	760	
Clearance height (H2) mm		560	720	960	1160	
<b>Model No. DK</b>	<b>1</b>	<b>7011.535<sup>1)</sup></b>	<b>7012.535<sup>1)</sup></b>	<b>7013.535<sup>1)</sup></b>	<b>7014.535<sup>1)</sup></b>	
Maximum accommodation when using FM system strips or FM rods		340 paired wires	500 paired wires	990 paired wires	1170 paired wires	
Installation of FM system strips FM system rods		2 set	2 set	3 set	3 set	
<b>Accessories</b>						
Plastic handles with lock cylinder insert	1	2439.000	2439.000	2439.000	2439.000	954
Ergoform-S handle	1	–	–	–	2435.000	953
FM system strips <sup>2)</sup>	1 set	7032.500 <sup>1)</sup>	7033.500 <sup>1)</sup>	7034.500 <sup>1)</sup>	7035.500 <sup>1)</sup>	860
FM system rods	1 set	7533.000 <sup>1)</sup>	7534.000 <sup>1)</sup>	7535.000 <sup>1)</sup>	7536.000 <sup>1)</sup>	861
FM cable shunting strips	1 set	7233.000 <sup>1)</sup>	7234.000 <sup>1)</sup>	7235.000 <sup>1)</sup>	7236.000 <sup>1)</sup>	861
Gland plates in various versions	Size	5	5	5	5	1048 – 1053
	Qty.	1	1	1	1	
Wall mounting bracket, 10 mm	1	2508.000	2508.000	2508.000	2508.000	975
Wall mounting bracket, 40 mm	1	2503.000	2503.000	2503.000	2503.000	975

<sup>1)</sup> Delivery times available on request.

<sup>2)</sup> FM universal mounting bracket, VS standard, DIN strips, 71 dividing strip and distributor system series 5000 may be fitted.

<sup>3)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.



### Wall mounting bracket

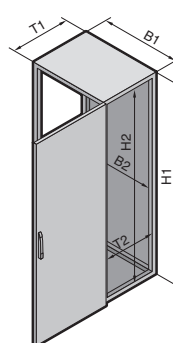
for 10 or 40 mm distance to wall.  
Model No. see page 975.



### Nylon loop

for simple attachment of cables.  
Model No. see page 1066.

## FM distributor racks, modular



### Material:

Sheet steel  
Enclosure frame, roof, rear panel and gland plates:  
1.5 mm  
Door: 2 mm

### Colour:

RAL 7035

### Protection category:

IP 55 to EN 60 529/09.2000

### Supply includes:

Enclosure frame with door or 2 doors, without side panels, comfort handle with security lock, three-piece gland plate, rear panel and roof plate, 3 punched rails to accommodate FM system strips, FM system rods, FM cable shunting strips, 1 top horizontal punched rail to accommodate cable shunting rings, cable clamp rail, earth rail.

### Available on request:

- FM distributor racks configured with Rittal standard accessories (FM system strips, FM system rods, FM cable shunting strips etc.) to order.
- FM distributor racks in special sizes.
- FM distributor racks with roof plate for cable entry.

### Detailed drawing,

available on the Internet.

Width (B1) mm <sup>3)</sup>	Packs of	600	800	1200	Page
Height (H1) mm <sup>3)</sup>		2000	2000	2000	
Depth (T1) mm <sup>3)</sup>		400	400	400	
Clearance width (B2) mm		512	712	1112	
Clearance height (H2) mm		1912	1912	1912	
Clearance depth (T2) mm		312	312	312	
<b>Model No. DK</b>	1	<b>7834.060<sup>1)</sup></b>	<b>7834.080<sup>1)</sup></b>	<b>7834.120<sup>1)</sup></b>	
Maximum accommodation when using FM system strips or FM rods		1300 paired wires	1950 paired wires	3250 paired wires	
Installation of FM system strips		2 set	3 set	5 set	
FM system rods					

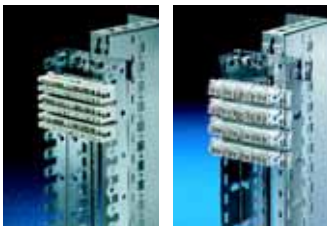
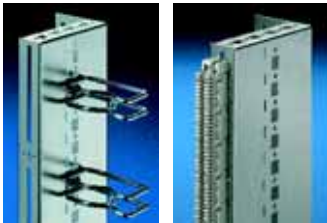
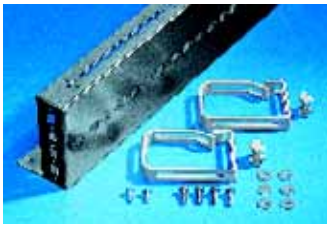
Accessories						
FM system strips <sup>2)</sup>		1 set	7038.500	7038.500	7038.500	860
FM system rods		1 set	7538.000	7538.000	7538.000	861
FM cable shunting strips		1 set	7238.000	7238.000	7238.000	861
Cable shunting ring external dimensions	125 x 85 mm	10	7111.900	7111.900	7111.900	1069
	125 x 65 mm	10	7111.000	7111.000	7111.000	1069
	85 x 43 mm	10	7112.000	7112.000	7112.000	1069
Side panels		2	8104.235	8104.235	8104.235	917
Quick-fit baying clamps		6	8800.500	8800.500	8800.500	928
Roof plate for cable entry		1	7826.645 <sup>1)</sup>	7826.845 <sup>1)</sup>	7826.245 <sup>1)</sup>	972
Height 100 mm, base/plinth components front/rear		1 set	8601.600	8601.800	8601.200	893
Height 100 mm, base/plinth components sides 400 mm		1 set	8601.040	8601.040	8601.040	893
Height 200 mm, base/plinth components front/rear		1 set	8602.600	8602.800	8602.200	893
Height 200 mm, base/plinth components sides 400 mm		1 set	8602.040	8602.040	8602.040	893

<sup>1)</sup> Delivery times available on request.

<sup>2)</sup> FM universal mounting bracket, VS standard, DIN strips, 71 dividing strip and distributor system series 5000 may be fitted.

<sup>3)</sup> All sizes given are nominal dimensions. For absolute dimensions, please refer to the detailed drawing.

## Accessories for FM distribution racks, modular



### FM system strips

For user-specific solutions or modular FM distributor assembly. The following connection systems may be mounted on the FM system strips:

- DIN connector strips to DIN 47 614, type B; soldering lugs to DIN 41 499, LSA-Plus connector strips 1/20 to DIN 47 608 with 170 mm mounting dimension, vertical (with 2 system strips, horizontal mounting is also supported).
- Cable retainers or mounting troughs for LSA connection technology.
- Dividing strip 71.
- Series 5000 distributor system (Corning).

The FM system strip features a 25 mm DIN pitch pattern (DIN 43 660) at the side. Shunting rings of plastic or metal may be fitted here for cable routing. Alternatively, FM cable shunting strips may also be used.

### Design:

Installation height: 120 mm  
Installation width: 75 mm

### Material:

Sheet steel, zinc-plated, passivated

### Supply includes:

1 FM system strip,  
2 shunting rings (105 x 70 mm),  
including assembly parts.



### Accessories:

FM universal mounting bracket DK 7031.100, see page 861.

Shunting rings (plastic) DK 7218.035, DK 7219.035, see page 1069.

Shunting rings (metal) DK 7111.000, DK 7111.900, DK 7112.000, see page 1069.

FM cable shunting strips, see page 861.

### Population opportunities for DIN, LSA and dividing strips

	Model No. DK					
	7032.500 <sup>1)</sup>	7033.500 <sup>1)</sup>	7034.500 <sup>1)</sup>	7035.500 <sup>1)</sup>	7038.500	7039.500
FM system strips						
Length mm	425	625	825	975	1625	1825
Connection system	Maximum population <sup>2)</sup> paired wires					
DIN connector strip	20	60	80	100	160	180
LSA connector strip	170	250	330	390	650	730
Dividing strip 71	100	200	200	300	500	600

<sup>2)</sup> Based on the following mounting dimensions:

- DIN connector strip 170 mm
- LSA connector strip 25 mm
- Dividing strip 71: 290 mm

### Population opportunities for distributor system series 5000 (Corning)

	Model No. DK					
	7032.500 <sup>1)</sup>	7033.500 <sup>1)</sup>	7034.500 <sup>1)</sup>	7035.500 <sup>1)</sup>	7038.500	7039.500
FM system strips						
Length mm	425	625	825	975	1625	1825
	No. of blocks per FM system strip					
Block 128 paired wires, L = 218 mm	1	1	1	2	3	3
Block 100 paired wires, L = 152 mm	1	2	3	2	5	6
Block 384 paired wires, L = 640 mm	-	-	-	-	1	1
Block 600 paired wires, L = 925 mm	-	-	-	-	1	1
Block 104 paired wires, L = 180 mm	2	3	4	5	8	9
Block 128 paired wires, L = 218 mm	1	2	3	4	7	8
Block 200 paired wires, L = 333 mm	1	1	2	2	4	5
Block 1000 paired wires, L = 1690 mm	-	-	-	-	-	1

### Population opportunities for FM universal mounting bracket

	Model No. DK						
	7032.500 <sup>1)</sup>	7033.500 <sup>1)</sup>	7034.500 <sup>1)</sup>	7035.500 <sup>1)</sup>	7038.500	7039.500	
FM system strips							
Length mm	425	625	825	975	1625	1825	
Max. packs of mounting brackets	1	2	2	3	5	6	
Vertical bracket distance in mm	-	50	50	50	50	35	
Connection system	Pitch pattern distance mm	No. of strips per system strip					
LSA-Plus	22,5	12	24	24	36	60	72
VS-Standard	25	11	22	22	33	55	66
Other connection systems	22,5	12	24	24	36	60	72
	17,5	15	30	30	45	75	90
	16	17	34	34	51	85	102

<sup>1)</sup> Delivery times available on request.

Accessories for FM distribution racks, modular



### FM system rods

For user-specific solutions or modular FM distributor assembly. LSA-Plus profile modules 2/10 may be mounted on the FM system rods. The rod diameter is 12 mm and the rod spacing 95 mm. The FM system rods may be supplemented with FM cable shunting strips, to permit the accommodation of patching cables.

**Design:**

Installation height: 120 mm  
Installation width: 110 mm

**Material:**

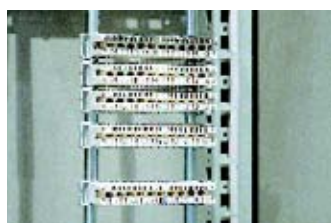
Round steel, clear-chromated

**Supply includes:**

2 rods,  
2 rod holders, plus (with 650 paired wires and more) an additional rod spacer, including assembly parts.  
For items 7538.000 and 7539.000 plus 2 shunting rings (105 x 70 mm).

LSA-Plus <sup>1)</sup> section modules 2/10	Length mm	Packs of	Model No. DK
170 paired wires	425	1 set	<b>7533.000</b>
250 paired wires	625	1 set	<b>7534.000</b>
330 paired wires	825	1 set	<b>7535.000</b>
390 paired wires	975	1 set	<b>7536.000</b>
650 paired wires	1625	1 set	<b>7538.000</b>
730 paired wires	1825	1 set	<b>7539.000</b>

<sup>1)</sup> Refers to LSA strip pitch pattern: 25 mm.



### FM cable shunting strips

For user-specific solutions or modular FM distributor assembly.

The FM cable shunting strips facilitate cable management between the connection systems. FM cable shunting strips are supplementary to FM system strips and FM system rods, and are designed for routing patch cables. They are mounted on the sides, next to the FM system strips or FM system rods.

**Design:**

Installation height: 132 mm  
Installation width: 70 mm  
Shunting ring: 105 x 70 mm

**Material:**

Sheet steel, zinc-plated, passivated

**Supply includes:**

1 punched rail,  
shunting rings,  
including assembly parts.

Shunting ring	Length mm	Packs of	Model No. DK
2	425	1 set	<b>7233.000<sup>1)</sup></b>
3	625	1 set	<b>7234.000<sup>1)</sup></b>
4	825	1 set	<b>7235.000<sup>1)</sup></b>
5	975	1 set	<b>7236.000<sup>1)</sup></b>
7	1625	1 set	<b>7238.000</b>
8	1825	1 set	<b>7239.000</b>

<sup>1)</sup> Delivery times available on request.



### FM universal mounting bracket

The universal mounting bracket for LSA-Plus strips (8 or 10 paired wires) and other connection systems are comprised of 2 brackets, which may be combined with different systems depending on their position in relation to one another. The brackets may be slid flexibly against each other so that strips with different lengths can be used. The mounting brackets can be mounted in FM distribution enclosures or on FM system strips.

**Material:**

Sheet steel, zinc-plated, passivated

**Supply includes:**

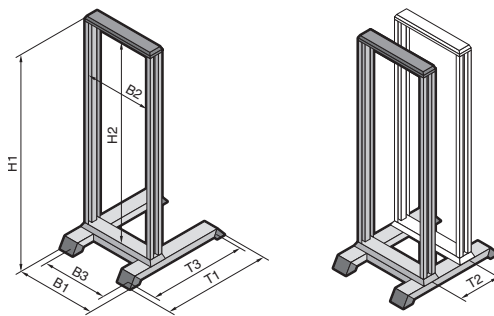
2 mounting brackets, support strips, including assembly parts.



Length mm	Connection system	LSA-Plus	Other connection systems	Packs of	Model No. DK
	Pitch pattern in mm	22.5	17.5		
275	No. of strips	12	15	1 set	<b>7031.100</b>

# Distributor racks

## Rittal Data Rack



### Supply includes:

1 torsionally stiff section frame welded from 2 mm sheet steel with 482.6 mm (19") punchings, spray-finished in RAL 7035, trim in RAL 5018,  
1 stable base/plinth of folded sheet steel and integral die-cast

zinc feet (RAL 5018) with the option of floor anchoring, including mounting accessories. Alternatively, levelling feet (DK 7493.000) or castors (DK 7495.000) may be fitted.

### Available on request:

- Metric (535 mm) version
- Side panels
- Special versions and special sizes

### Load capacity:

Max. 150 kg, static/level

### Property rights:

German registered design M 9201859  
German patent no. 4207282

**Detailed drawing,** available on the Internet.

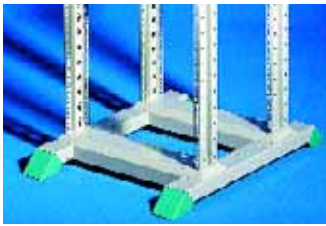
U	Packs of	31	36	40	45	Page
<b>Width (B1) mm</b>		550	550	550	550	
<b>Height (H1) mm</b>		1499.5	1721.8	1899.5	2121.8	
<b>Depth (T1) mm</b>		750	750	750	750	
Clearance width (B2) mm		450	450	450	450	
Clearance height (H2) mm		1381.5	1603.8	1781.5	2003.8	
Distance from the second mounting level (T2) mm <sup>1)</sup>		min. 150 – max. 350	min. 150 – max. 350	min. 150 – max. 350	min. 150 – max. 350	
Max. total depth with second 482.6 mm (19") level		T2 + 79.4	T2 + 79.4	T2 + 79.4	T2 + 79.4	
Mounting dimension for levelling feet and castors	B3	475	475	475	475	
	T3	680	680	680	680	
U x 44.45 mm =		1377.95	1600.2	1778	2000.25	
<b>Model No. DK</b>		<b>7391.000</b>	<b>7396.000</b>	<b>7400.000</b>	<b>7445.000</b>	
<b>Accessories</b>						
Second mounting level <sup>1)</sup>	1	7296.000	7297.000	7298.000	7299.000	863
Baying clamp	3	7494.000	7494.000	7494.000	7494.000	863
Levelling feet	4	7493.000	7493.000	7493.000	7493.000	906
Cable duct	1	7827.333	7827.338	7827.342	7827.347	1072
C rails, 482.6 mm (19")	6	7016.100	7016.100	7016.100	7016.100	1078
Cable clamp rail, 482.6 mm (19")	6	7016.110	7016.110	7016.110	7016.110	1078
Cable clamp strap D = 250 mm	6	7016.120	7016.120	7016.120	7016.120	1078
Twin castors	4	7495.000	7495.000	7495.000	7495.000	907
Support strips	2	7401.000	7401.000	7401.000	7401.000	863
Component shelf 2 U for one pair of mounting angles D= 250 mm	1	7119.250	7119.250	7119.250	7119.250	1021
Component shelf 2 U for one pair of mounting angles D= 400 mm	1	7119.400	7119.400	7119.400	7119.400	1021
Component shelf 2 U for one pair of mounting angles D= 300 mm <sup>3)</sup>	1	7148.035	7148.035	7148.035	7148.035	1019
Drawer 2 U for one pair of mounting angles	1	7281.035	7281.035	7281.035	7281.035	1144
Component shelf D = 300 mm <sup>2) 3)</sup>	1	7143.035	7143.035	7143.035	7143.035	1017
Component shelf D = 400 mm <sup>2) 3)</sup>	1	7144.035	7144.035	7144.035	7144.035	1017
Component shelf D = 500 mm <sup>2) 3)</sup>	1	7145.035	7145.035	7145.035	7145.035	1017
Slide rails D max. < 190 mm	10	1962.200	1962.200	1962.200	1962.200	1085
Slide rails D max. > 190 mm	10	1963.200	1963.200	1963.200	1963.200	1085
Slide rails for pairs of mounting angles <sup>1) 2) 4)</sup>	2	7402.000	7402.000	7402.000	7402.000	863

<sup>1)</sup> Second mounting level may be positioned on a 50 mm pitch pattern.

<sup>2)</sup> A second pair of mounting angles is required for assembly.

<sup>3)</sup> Stationary installation or full withdrawal, telescopic slides see page 1025.

<sup>4)</sup> Distance between levels (T2) 350 mm, can be combined with component shelf  $\cong$  D = 500 mm.



### Second mounting level

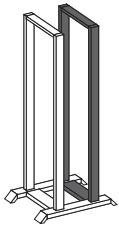
In order to accommodate 482.6 mm (19") network components or for the attachment of component shelves, slide rails and telescopic rails. The mounting level may be positioned on a 50 mm pitch pattern.

Minimum distance between levels 150 mm, maximum distance between levels 350 mm.

**Material:**  
Sheet steel, 2 mm

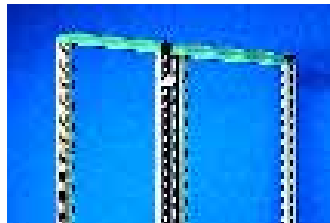
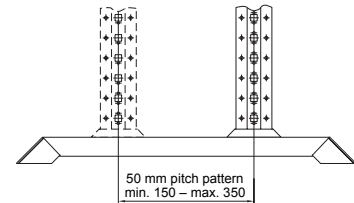
**Colour:**  
RAL 7035

**Supply includes:**  
1 torsionally stiff section frame including assembly parts. 482.6 mm (19") punched profile at the front, hole centre distance 465 (470 mm at the rear), tailored to the attachment of patch panels and cable routing rails.



U	Model No. DK
31	7296.000
36	7297.000
40	7298.000
45	7299.000

**Detailed drawing,**  
available on the Internet.



### Baying connector

For assembling rows of distributor frames, or for cable routing between data racks.

**Technical specifications:**  
Length: 53 mm

**Colour:**  
RAL 7035

Packs of	Model No. DK
3	7494.000



### Roof plate with cable route

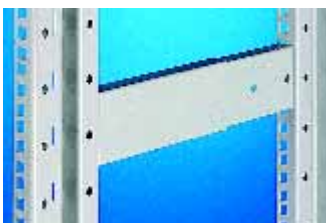
For optimised use of the Data Rack as a corridor distributor or cable management rack. By moving the guide plates, the individual cableways can be separately sized, thus enabling structured cable routing in data highways, even in the roof area. On all Data Racks, the roof plate can be attached with two mounting levels and a distance between the levels of 350 mm.

Packs of	Model No. DK
1	7411.000

**Material:**  
Sheet steel, spray-finished

**Colour:**  
RAL 7035

**Supply includes:**  
Roof plate including assembly parts.



### Depth stays

For securing and stabilising two pairs of 482.6 mm (19") mounting angles in the Data Rack. The length of the depth stay is adjustable, and can accommodate the following spacings of mounting angles: 250, 300 and 350 mm.

**Colour:**  
RAL 7035

Depth stays	Packs of	Model No. DK
	2	7401.000



### Continuous slide rail

**for two pairs of mounting angles, 482.6 mm (19")**  
The continuous slide rail is used to support heavy installed equipment in the Data Rack.

The mounting dimensions of the slide rails were selected to enable them to be combined with 500 mm deep, 482.6 mm (19") component shelves. The mounting distance of the 482.6 mm (19") mounting angles is 350 mm.

**Requirements:**  
Second pair of mounting angles

Packs of	Model No. DK
2	7402.000

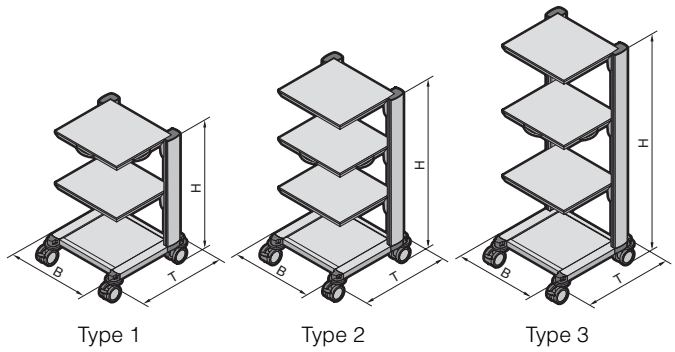
**Material:**  
Sheet steel, zinc-plated, passivated

**+** **Accessories:**

Component shelf, 500 mm deep, DK 7145.035, see page 1017.

# Mobile workstations

## Rittal RiLab II



The mobile workstation offers ideal opportunities for the secure positioning of sensitive equipment whilst remaining flexible in terms of location. An expedient range of installation accessories allows the RiLab II to adapt, chameleon-like, to a wide range of applications, both in the medical and network technology sectors, and in office and industrial environments. It can be used as a mobile laboratory or test stand, a flexible measurement station, computer support point, transport trolley or assembly workstation.

The versatile opportunities are almost unlimited. The hygiene-friendly surface finish is resistant to scratches and bumps, as well as being insensitive to disinfectant. Cable routing concealed as standard inside the vertical support columns helps to avoid messy cables. The routing system may be horizontally extended if required. Practically designed for 482.6 mm (19") systems, the mobile workstation can also be combined with Rittal RiCase enclosures.

**Load capacity:**  
Base frame 225 kg in total, stowage shelves max. 50 kg per shelf

**Material:**  
Sheet steel, support pillars extruded aluminium section, powder-coated in RAL 9002, wall guard, handles, trim panels RAL 5018

**Supply includes:**  
Base frame with cable duct inside the support pillars, twin castors, 2 lockable, 1 shelf with 3 operator handles, depending on the design, 1 or 2 stowage shelves without handle, fully assembled.

	Type 1	Type 2	Type 3	Page	
<b>Width (B) mm</b>	700	700	700		
<b>Height (H) mm</b>	796	1076	1426		
<b>Depth (T) mm</b>	660	660	660		
<b>Model No. DK</b>	<b>7602.100</b>	<b>7602.200</b>	<b>7602.300</b>		
<b>Accessories</b>					
Load capacity					
1 shelf, W x H x D: 630 x 35 x 480 mm	50 kg	7602.500 <sup>1)</sup>	7602.500 <sup>1)</sup>	7602.500 <sup>1)</sup>	865
1 shelf, with extension, W x H x D: 630 x 35 x 480 mm	20 kg	7602.510 <sup>1)</sup>	7602.510 <sup>1)</sup>	7602.510 <sup>1)</sup>	865
1 pull-out shelf, with integral mouse pad, W x H x D: 630 x 35 x 480 mm	20 kg	7602.512	7602.512	7602.512	865
1 monitor support for flat screens, centrally-positioned	20 kg	7602.550 <sup>1)</sup>	7602.550 <sup>1)</sup>	7602.550 <sup>1)</sup>	867
1 monitor support for flat screens, positioned on the r/h side	10 kg	7602.552 <sup>1)</sup>	7602.552 <sup>1)</sup>	7602.552 <sup>1)</sup>	867
1 monitor support for flat screens, positioned on the l/h side	10 kg	7602.554 <sup>1)</sup>	7602.554 <sup>1)</sup>	7602.554 <sup>1)</sup>	867
1 basic drawer, W x H x D: 630 x 140 x 480 mm	10 kg	7602.540 <sup>1)</sup>	7602.540 <sup>1)</sup>	7602.540 <sup>1)</sup>	865
1 externally-mounted drawer	10 kg	7602.542 <sup>1)</sup>	7602.542 <sup>1)</sup>	7602.542 <sup>1)</sup>	866
1 adaptor set for installing Rittal RiCase enclosures, tiltable		7602.590 <sup>1)</sup>	7602.590 <sup>1)</sup>	7602.590 <sup>1)</sup>	867
1 6-way socket strip, with switch, 16 A, 250 V		7600.600	7600.600	7600.600	867
1 cable duct		7602.530 <sup>1)</sup>	7602.530 <sup>1)</sup>	7602.530 <sup>1)</sup>	866
1 ring handle		7602.520 <sup>1)</sup>	7602.520 <sup>1)</sup>	7602.520 <sup>1)</sup>	866

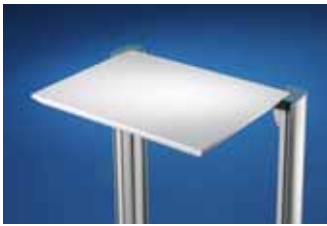
<sup>1)</sup> Extended delivery times.



**Smooth-running twin castors,** combined with colour-coordinated wall guard, 2 of them lockable.



**Intelligent cable routing,** concealed inside the torsionally stiff vertical aluminium section. Horizontal cable ducting optional.



### RiLab II shelf

Flat surface, fully usable up to the edge, with seamless, rounded edges, hygiene-friendly, smooth surface.

**Load capacity:**  
50 kg, static

**Material:**  
Sheet steel

**Surface finish:**  
Impact- and scratch-resistant, resistant to disinfectant, powder-coated in RAL 9002

**Supply includes:**  
Assembly parts.

W x H x D mm	Packs of	Model No. DK
630 x 35 x 480	1	<b>7602.500</b>

Extended delivery times.



### RiLab II shelf, with extension piece

Guide rails mounted on ball bearings with fixing in both end positions, the large maximum extension of 380 mm facilitates ergonomic working, with an operating handle in a contrasting colour.

**Load capacity:**  
20 kg, static

**Material:**  
Sheet steel

**Surface finish:**  
Impact- and scratch-resistant, resistant to disinfectant, powder-coated in RAL 9002, handle RAL 5018

**Supply includes:**  
Assembly parts.

W x H x D mm	Packs of	Model No. DK	
		Without mouse pad	With mouse pad <sup>1)</sup>
630 x 35 x 480	1	<b>7602.510</b>	<b>7602.512</b>

Extended delivery times.

<sup>1)</sup> Mouse pad extendible sideways from below.



### Basic drawer unit RiLab II

Top serves as a useful shelf, extension piece on castors with catch, robust removable drawer for easy cleaning, with operating handle in a contrasting colour.

**Load capacity:**  
Shelf 50 kg, static,  
drawer 10 kg, static

**Material:**  
Sheet steel

**Surface finish:**  
Impact- and scratch-resistant, resistant to disinfectant, powder-coated in RAL 9002, handle RAL 5018

**Supply includes:**  
Assembly parts.

W x H x D mm	Packs of	Model No. DK
630 x 140 x 480	1	<b>7602.540</b>

Extended delivery times.

# Mobile workstations

## Accessories for Rittal RiLab II



### Add-on drawer unit for RiLab II

Drawer unit open at the top, for mounting beneath the basic drawer, extension piece on castors with catch, robust removable drawer for easy cleaning, with operating handle in a contrasting colour.

**Load capacity:**  
Drawer max. 10 kg, static

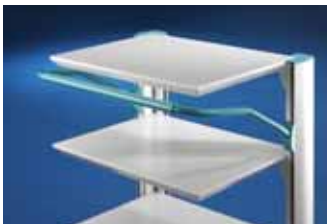
**Material:**  
Sheet steel

**Surface finish:**  
Impact- and scratch-resistant, resistant to disinfectant, powder-coated in RAL 9002, handle RAL 5018

**Supply includes:**  
Assembly parts.

W x H x D mm	Packs of	Model No. DK
630 x 125 x 480	1	<b>7602.542</b>

Extended delivery times.



### Tubular handle RiLab II

An ideal addition for managing heavy mobile workstations. For mounting on the chassis on the front T-slot of the vertical section, infinitely positionable in the height, operation from the front or from the side.

**Surface finish:**  
RAL 5018

**Supply includes:**  
Assembly parts.

For chassis W mm	Packs of	Model No. DK
700	1	<b>7602.520</b>

Extended delivery times.



### Cable duct for RiLab II

For concealed horizontal routing at the rear, a useful addition to vertical cable routing inside the support section, removable cover for unimpeded access, variable cable entry via sealing lips, construction height 60 mm.

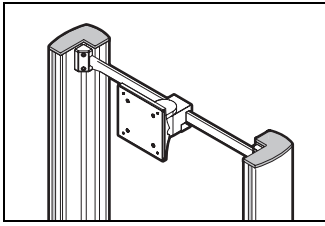
**Material:**  
Sheet steel

**Surface finish:**  
Impact- and scratch-resistant, resistant to disinfectant, powder-coated in RAL 9002

**Supply includes:**  
Assembly parts.

For chassis W mm	Packs of	Model No. DK
700	1	<b>7602.530</b>

Extended delivery times.



### Holder for flat screen RiLab II

Holder VESA 75/100 on support rail, for mounting on the chassis between the support pillars, rotatable and tiltable VESA fixture pushes on to the support rail.

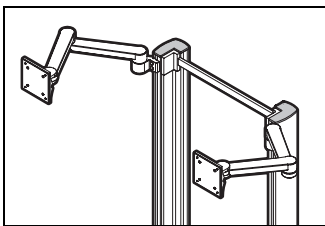
**Extension:**  
110 mm from support rail

**Load capacity:**  
20 kg, static

**Supply includes:**  
Support rail, holder, assembly parts.

For chassis W mm	Packs of	Model No. DK
700	1 set	<b>7602.550</b>

Extended delivery times.



### Holder for flat screen RiLab II

Support arm 2 x 305 mm with fixture VESA 75/100, for mounting at the side of a chassis support pillar, infinitely positionable in the height. Screen fixture may be rotated, vertically hinged and tilted.

**Extension:**  
Max. 575 mm

**Load capacity:**  
Max. 10 kg, static

**Supply includes:**  
Assembly parts.

For chassis side	Packs of	Model No. DK
Right	1	<b>7602.552</b>
Left	1	<b>7602.554</b>

Extended delivery times.



### 6-way socket strip, with switch

Mounting option at the back rear of the chassis or on the T-slot of the support pillar.

**Technical specifications:**  
6-way socket strip with switch, 3 m connection cable, manufactured to CEI 884-1, tested to VDE.

**Material:**  
Aluminium section with polycarbonate cover, self-extinguishing to UL 94-V0.

**Supply includes:**  
Assembly parts.

Packs of	Model No. DK
1	<b>7600.600</b>



### Adaptor kit

#### For Rittal RiCase enclosures, 600 mm wide

The adaptor kit facilitates the mounting of enclosures type RiCase W = 600 mm on the base frame of the RiLab II. This achieves optimum synergy between the flexibility of the mobile workstation, and the versatile mounting opportunities of the RiCase enclosure. The forward tilt angle is lockable in 5 increments within the range of  $\pm 15^\circ$ .

**Load capacity:**  
50 kg, static

**Material:**  
Sheet steel

**Surface finish:**  
RAL 9002

**Supply includes:**  
Assembly parts.

For chassis W mm	Packs of	Model No. DK
700	1 set	<b>7602.590</b>

Extended delivery times.

# Interactive Terminal Systems

## Plug & play compatibility system supplied as standard



Every Interactive Terminal System ITS (kiosk) is the combined result of Rittal's comprehensive spectrum of expertise, skilfully uniting outstanding benefits, top quality and cost efficiency. Whether from our standard range or custom-designed for you, regardless of order quantities. Rittal's specialist advisors give you the confidence to go online with kiosks that have been perfectly tailored to both your market and your functional requirements.



**ITS Arc-Line II**  
Modern communications and technology in a robust enclosure.



**ITS Opti-Line II**  
Stylish elegance in a combination of stainless steel and aluminium.



**ITS Opti-Desk**  
Stylish stand-up workstation for the office environment, with generous worktop.



**ITS Opti-Wall**  
This wall option was developed for internal administrative applications.



**ITS Alpha-Line**  
The terminal gives a dynamic, stylish impression thanks to its curved lines.



**ITS Out-Line Wall**  
The Out-Line Wall was developed for protected outdoor applications (semi-outdoor).



**ITS Out-Line Pro**  
This aluminium terminal was developed on the basis of Rittal's outdoor expertise.

# Interactive Terminal Systems

The platform for customer-specific solutions



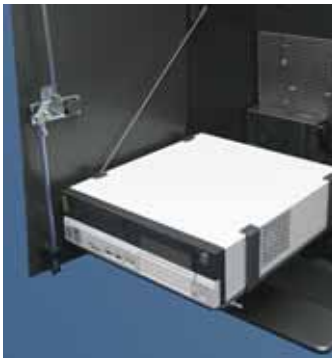
### ITS Multi-Line

Without a stainless steel designer tube, but with the "flair" of the Opti series. The stylishly integrated enclosure offers plenty of space for your individual configuration.



### ITS Opti-Line L

The model with the large technical enclosure within the successful Opti-Line range.



### Ingenious – the PC flap

Install, secure, and flip up – service-friendly, space-saving accommodation for the PC.



### Optimum access

Two doors, unrestricted access for configuration and servicing work at the rear of the Multi-Line.



### TFT touch screen or keyboard

Or even both, depending on the requirements of your specific application.



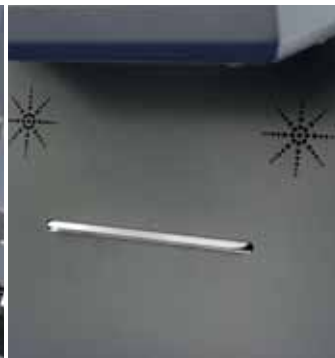
### Flexible configuration

Opti-Line L and Multi-Line: Freely configurable mounting plate as the nodal junction of your kiosk equipment.



### Modular diversity

The Multi-Line modular panel offers a diverse range of applications with various function modules.



### Stylishly integrated

Protected beneath the keyboard section: Speaker and printer tray.

### Any given combination:

- Display
- Touch screen
- Keyboard
- Speaker
- PC systems
- WLAN
- Printer
- Telephone/microphone
- Barcode scanner
- Card reader
- PinPad
- Webcam
- Coin checker
- Climate control
- etc.