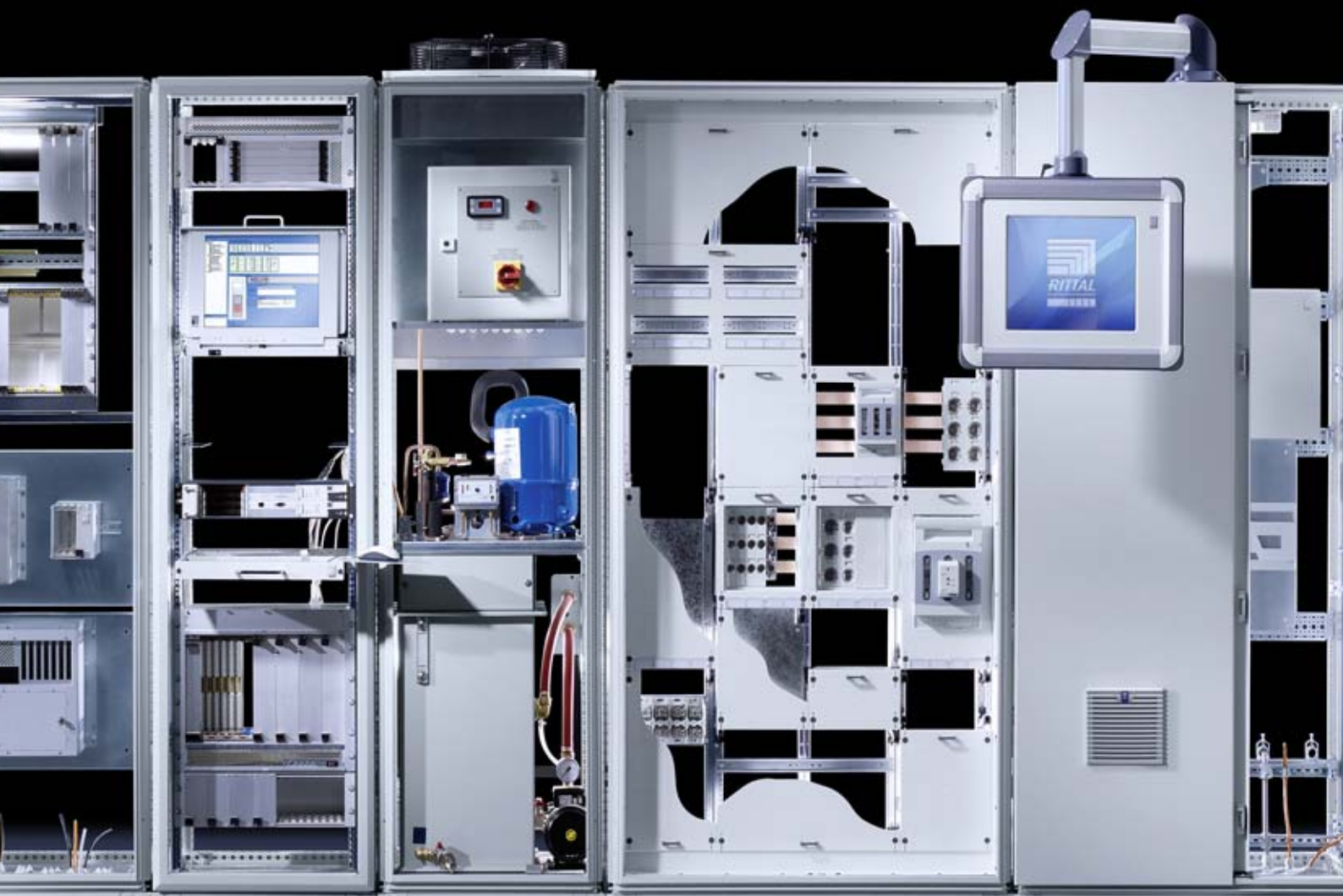
Rittal – The System.

Faster – better – worldwide.

Innovations 2011



ENCLOSURES | POWER DISTRIBUTION | CLIMATE CONTROL | IT INFRASTRUCTURE | SOFTWARE & SERVICES

RITTAL

FRIEDHELM LOH GROUP

We’re inventing the future.

We’ve been doing so for fifty years, and we will still be doing it tomorrow.

- 63 international subsidiaries. We are close to you – wherever you are.
- 1,500 patents worldwide – Rittal innovations to boost your competitiveness.
- 10,000 employees – expertise that you can feel.
- 7,700,000 of our TS 8 enclosures have been produced – the winning model for your application.
- And a countless number of enthusiastic customers all over the world.

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Rittal Innovations 2011

Discover our exciting new highlights from the Hanover Trade Fair 2011 for pioneering system solutions.

Flex-Block – Toolless assembly, fully symmetrical components, fast and cost-saving assembly: The new base/plinth concept from Rittal

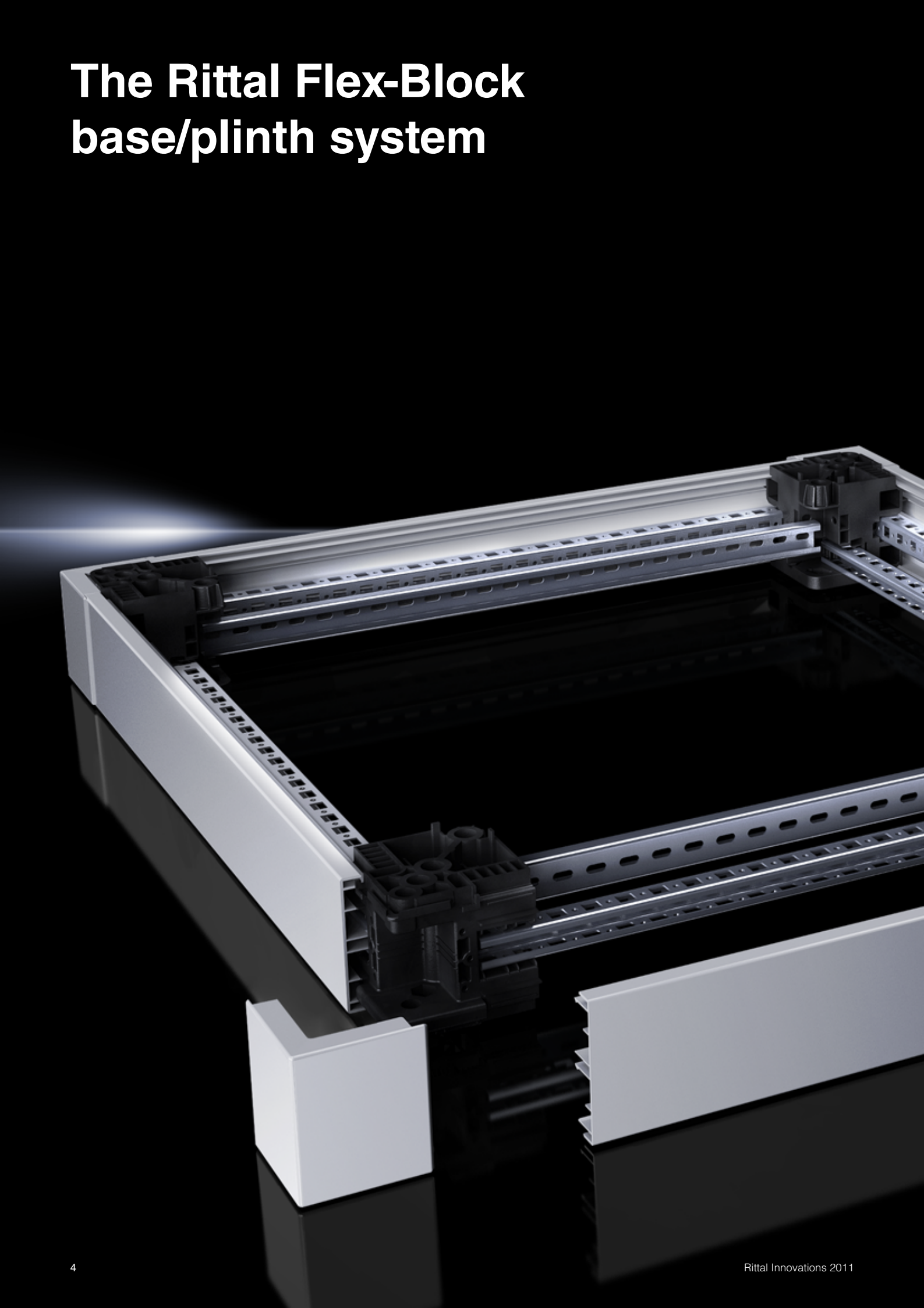
Efficiency initiative "Blue e" – Our range of energy-saving cooling units – Now up to 4 kW

Reliable power supply – Enclosure-independent, modular UPS systems with enhanced outputs up to 120 kW

Efficient climate control – Powerful IT cooling, redesigned with our Liquid Cooling Package LCP range

Condition Monitoring – Setting new standards in cost-effectiveness and application with our CMC III monitoring system for industry

The Rittal Flex-Block base/plinth system



Flex-Block base/plinth system

Four corner elements, side trim panels, corner trim panels and direct configuration with four additional punched rails.

For all dimensions

- Fully symmetrical in the enclosure width and depth
- Easily bayed by clipping together

Simple assembly

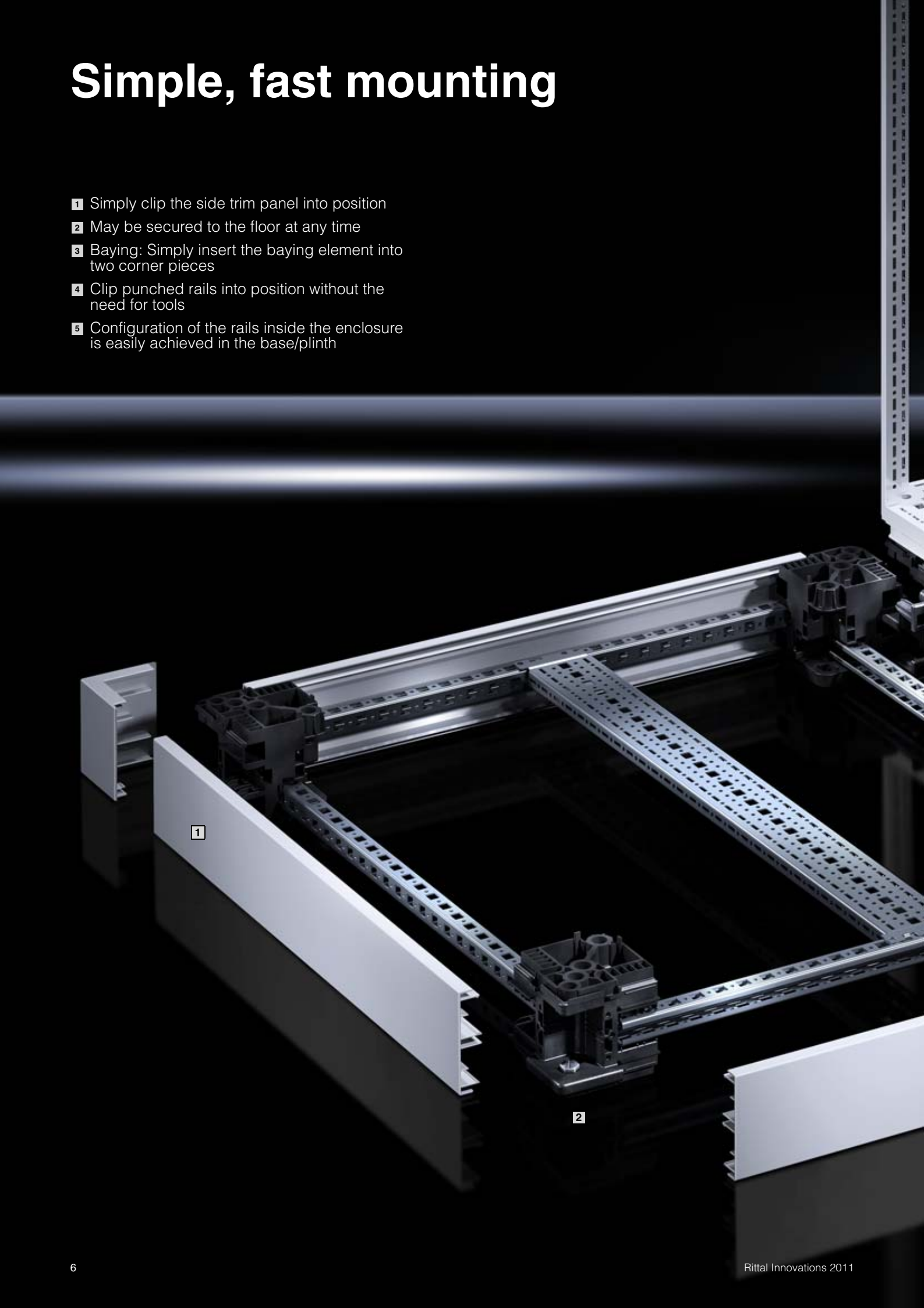
- Faster assembly by simply clipping together
- Toolless assembly of all base/plinth components

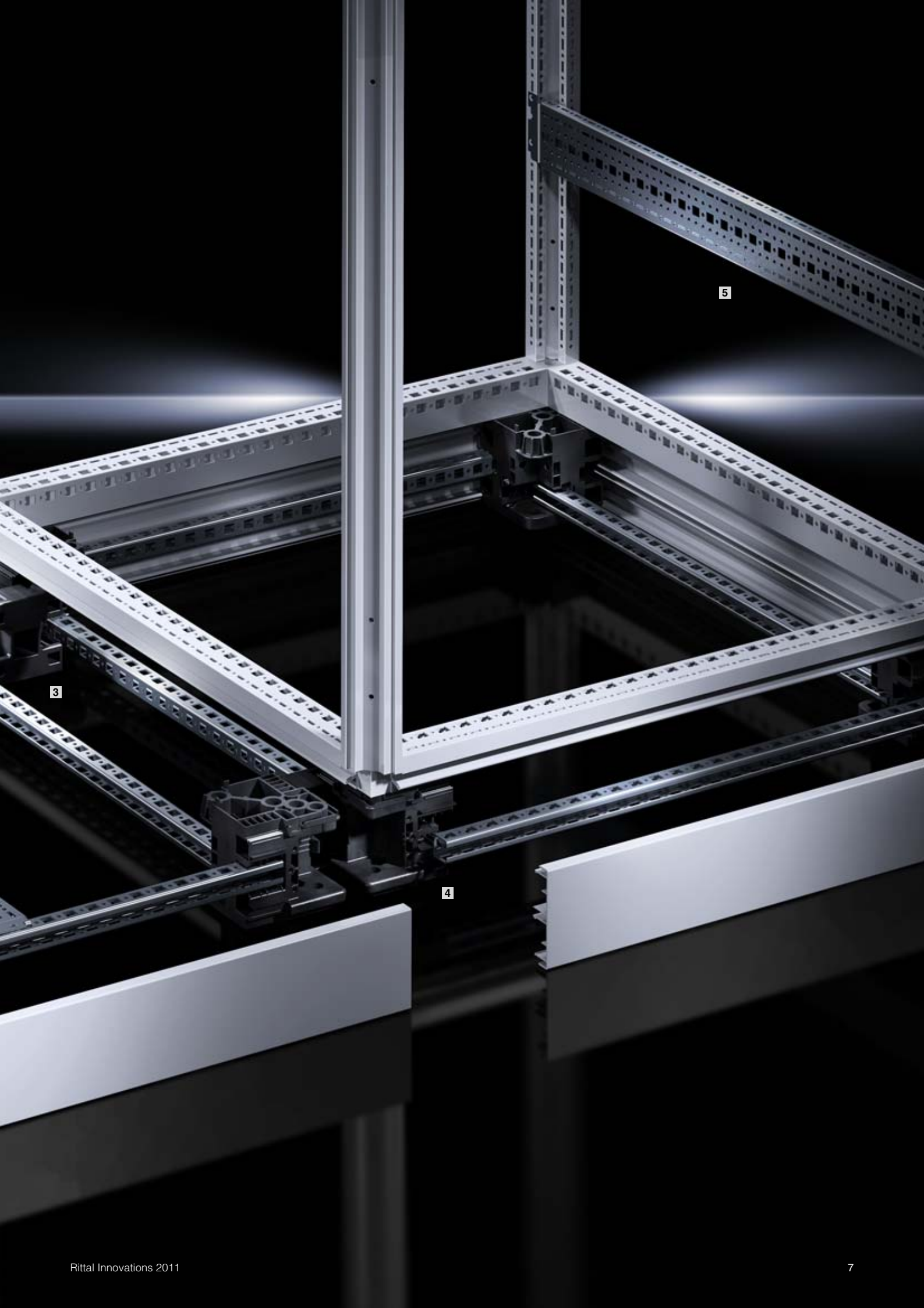
Fast configuration

- Configuration with punched rail – clip into place from outside or inside
- Punched rail with 25 mm pitch pattern of holes
- Integration of components directly in the base/plinth, e.g. cable clamp rails

Simple, fast mounting

1. Simply clip the side trim panel into position
2. May be secured to the floor at any time
3. Baying: Simply insert the baying element into two corner pieces
4. Clip punched rails into position without the need for tools
5. Configuration of the rails inside the enclosure is easily achieved in the base/plinth




5
3
4

Flex-Block

for TS and SE

– For fast, toolless assembly
– Individual cable management
– Fully symmetrical base/plinth

Solid, RAL 9005

For enclosure size mm		Packs of	Model No. SO
400	500	1	**8001.450**
400	600	1	**8001.460**
600	500	1	**8001.650**
600	600	1	**8001.660**
600	800	1	**8001.680**
800	400	1	**8001.840**
800	500	1	**8001.850**
800	800	1	**8001.880**
800	1000	1	**8001.800**
1000	400	1	**8001.040**
1000	500	1	**8001.050**
1000	600	1	**8001.060**
1200	400	1	**8001.240**
1200	500	1	**8001.250**
1200	600	1	**8001.260**
1200	800	1	**8001.280**
1600	400	1	**8001.940**
1800	500	1	**8001.950**

We reserve the right to make technical modifications.
Delivery times available on request.

Solid, RAL 7035

For enclosure size mm		Packs of	Model No. SO
600	600	1	**8001.665**
600	800	1	**8001.685**
600	1000	1	**8001.605**
600	1200	1	**8001.625**
800	800	1	**8001.885**
800	1000	1	**8001.805**
800	1200	1	**8001.825**

We reserve the right to make technical modifications.
Delivery times available on request.

Vented in enclosure width, RAL 7035

For enclosure size mm		Packs of	Model No. SO
Width mm	Depth mm		
600	600	1	**8001.661**
600	800	1	**8001.681**
600	1000	1	**8001.601**
600	1200	1	**8001.621**
800	600	1	**8001.861**
800	800	1	**8001.881**
800	1000	1	**8001.801**
800	1200	1	**8001.821**

We reserve the right to make technical modifications.
Delivery times available on request.

Baying clip

for baying the Flex-Block corner pieces
Simply insert the clip from behind into the recesses provided (no need for tools).

Material:
Fibreglass-reinforced polyamide

Packs of	**Model No. SO**
12	**8000.100**

We reserve the right to make technical modifications.
Delivery times available on request.

Adaptor sleeve

for levelling feet and twin castors
To hold levelling feet and twin castors on the Flex-Block.

Packs of	**Model No. SO**
12	**8000.500**

We reserve the right to make technical modifications.
Delivery times available on request.

Hygienic Design

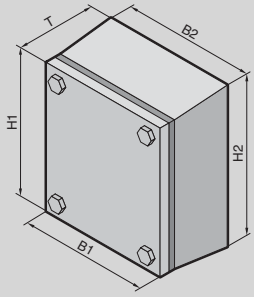
New size variant:

Material:
– Enclosure and cover: Stainless steel 1.4301 (AISI 304), 1.5 mm
– Mounting angle: Sheet steel, zinc-plated, passivated, 2.0 mm
– Quick-release fasteners: Stainless steel
– Seal: Silicone, compliant with FDA 21 CFR 177.2600

Surface finish:
– Enclosure and cover: Brushed, grain 400, R_A < 0.8 µm
– Seal: Blue, dyed (RAL 5010)

Protection category:
– IP 66 to EN 60 529
– IP 69K to DIN 40 050-9
Complies with NEMA 13
Complies with NEMA 4X
Complies with NEMA 3R

Supply includes:
– Enclosure of all-round solid construction
– Cover
– Mounting bracket (pre-assembled)
– Seal and quick-release locks (supplied loose)



Terminal boxes HD

NEW

Width	front (B1) mm	Packs of	150	150	200	300	400	400
	rear (B2) mm		172	177	227	327	427	427
Height	front (H1) mm		150	150	200	200	200	300
	rear (H2) mm		172	177	227	227	227	327
Depth	(T) mm		80	120	120	120	120	120
Model No. HD		1	**1670.600**	**1671.600**	**1672.600**	**1674.600**	**1675.600**	**1676.600**
Accessories								
Wall spacer bracket HD		1	4000.100	4000.100	4000.100	4000.100	4000.100	4000.100
Mounting plate		1	1560.700	1560.700	1562.700	1563.700	1564.700	1568.700
Support rail TS 35/7.5		10	2314.000	2314.000	2315.000	2316.000	2317.000	2317.000

Rittal India

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www.rittal-india.com

New size variants:

Material:
– Enclosure and cover: Stainless steel 1.4301 (AISI 304), 1.25 mm
– Seal: All-round foamed-in PU seal

Surface finish:
Enclosure and cover: Brushed, grain 180

Protection category:
IP 66 to EN 60 529, complies with NEMA 4X.

Supply includes:
– Enclosure with cover
– Quick-release fasteners

Approvals:
Terminal boxes KL
– UL
– CSA
– TÜV
– Germanischer Lloyd
– Russian Maritime Register of Shipping
– Lloyds Register of Shipping
– Bureau Veritas
– VDE

Terminal boxes KL

Width mm	Packs of	150	200	300	400
Height mm		150	200	200	300
Depth mm		120	120	120	120
Model No. KL	1	**1527.010**	**1528.010**	**1529.010**	**1530.010**
Weight (kg)		1.6	2.2	2.9	4.6
Number of quick-release fasteners		4	4	4	4
Accessories					
Mounting plate	1	1560.700	1562.700	1563.700	1568.700
Wall mounting bracket	4	1594.000	1594.000	1594.000	1594.000
Wall angle	4	2583.010	2583.010	2583.010	2583.010
Pole clamp	1	2584.000	2584.000	2584.000	2584.000
Support rails TS 35/7.5	10	2314.000	2315.000	2316.000	2317.000
Cover hinge, stainless steel 1.4404	2	1592.010	1592.010	1592.010	1592.010
Pressure relief stoppers	5	2459.500	2459.500	2459.500	2459.500

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CS Toptec

Photo shows a configuration example with equipment not included in the scope of supply.

Outdoor enclosure with 100 mm transport plinth and rain canopy with projections on all sides. Side panels, rear panel and door fully double-walled on the outside, the entire TS 8 frame is available for interior installation.

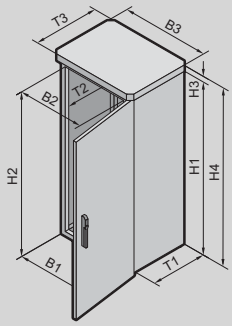
Material:
– Enclosure frame: Stainless steel 1.4301 (AISI 304)
– Enclosure panels and base/plinth trim: Aluminium, AlMg3

Surface finish:
– Powder-coated
– UV-resistant pure polyester

Colour:
RAL 7035

Protection category:
IP 55 to EN 60 529

Supply includes:
Double-walled outdoor enclosure, fully pre-configured:
– TS 8 frame with 25 mm system punchings in the roof and base frame plus vertical sections with two mounting levels
– Front door with door stay, swing lever handle and semi-cylinder, lock BJ20027
– Side panels left and right
– Rear panel
– Rain canopy
– Base/plinth with screw-fastened gland plates and screw-fastened trim panels front and rear
– All enclosure panels are double-walled and earthed (external wall onto internal wall)



Double-walled, platform TS 8

Width (B1) mm		Packs of	600	800	600	800
Height (H1) mm			1200	1200	1600	1600
Depth (T1) mm			600	600	600	600
Clearance width (B2) mm			512	712	512	712
Clearance height (H2) mm			1112	1112	1512	1512
Clearance depth (T2) mm			512	512	512	512
Rain canopy width (B3) mm			694	894	694	894
Rain canopy height (H3) mm			45	45	45	45
Rain canopy depth (T3) mm			694	694	694	694
Overall height (H4) mm			1345	1345	1745	1745
Model No. CS		1	**9774.105**	**9774.205**	**9774.305**	**9774.405**
Accessories						
Concrete base/plinth		1	9765.166	9765.186	9765.166	9765.186
Mounting angles, 482.6 mm (19″)		2	7827.120	7827.120	7827.160	7827.160
TS punched section with mounting flange as installation kit		4	8612.060	–	8612.060	–
Installation bracket TS		2	–	7827.480	–	7827.480
Mounting plate		1	9765.092	9765.095	–	9765.096
Gland plate	Size		4	4	4	4
	Qty.		2	2	2	2
Semi-cylinder		1	9785.040	9785.040	9785.040	9785.040
Cooling unit, 1000 W		1	–	9776.500	–	9776.500
Heat exchanger, 85 W/K		1	–	9776.102	–	9776.102

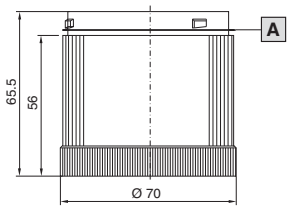
Optical components

for signal pillars, modular
With 360° signal transmission thanks to optimised prism system.
No. of potential stages =
5 components, with identical voltage.

Material:
– Enclosure: Polyamide
– Cap: Transparent polycarbonate

Protection category:
IP 54 if a cover or acoustic component is fitted at the top.

Also required:
Incandescent lamps for steady light component, see page 13.



A Pre-configured seal

1 Steady light component 12 – 240 V AC/DC[1)]

Model No. SG				
Red	Green	Yellow	Clear	Blue
2369.000	**2369.010**	**2369.020**	**2369.030**	**2369.040**

1) Incandescent lamps not included with the supply.

2 LED steady light component 24 V AC/DC, 25 mA

Model No. SG				
Red	Green	Yellow	Clear	Blue
2372.000	**2372.010**	**2372.020**	**2372.030**	**2372.040**

3 LED steady light component 230 V AC

Model No. SG				
Red	Green	Yellow	Clear	Blue
2370.150	**2370.160**	**2370.170**	**2370.180**	**2370.190**

4 LED blinking light component 24 V AC/DC

Model No. SG				
Red	Green	Yellow	Clear	Blue
2370.500	**2370.510**	**2370.520**	**2370.530**	**2370.540**

5 LED blinking light component 230 V AC

Model No. SG				
Red	Green	Yellow	Clear	Blue
2370.550	**2370.560**	**2370.570**	**2370.580**	**2370.590**

6 Flashing light component 24 V DC, 125 mA

Model No. SG				
Red	Green	Yellow	Clear	Blue
2371.000	**2371.010**	**2371.020**	**2371.030**	**2371.040**

7 Flashing light component 230 V AC, 15 mA

Model No. SG				
Red	Green	Yellow	Clear	Blue
2371.050	**2371.060**	**2371.070**	**2371.080**	**2371.090**

Incandescent lamps

for steady light components
With BA 15d base/plinth.

Incandescent lamp	Packs of	Model No. SG
24 V, 5 W	3	**2374.060**
230 V, 5 W	3	**2374.070**

The Rittal Comfort Panel/Optipanel

Benefits at a glance

- Aluminium enclosure, high thermal conductivity for optimum passive heat dissipation
- Low weight coupled with high stability
- Protection category IP 65
- Compatible with all Rittal stand and support arm systems

The choice is yours

Standard range

- Standard variants offer exceptional value for money
- Available as standard off the shelf
- Easy, fast and reliable selection
- For front panel installations, tailored to the most common operating solutions

Comfort Panel, see page 16.

Optipanel, see page 17.

Configurable special solutions

- Individual sizes, also for the direct installation of panels with no front plate
- Complete solution diversity for virtually all applications
- Maximum flexibility in design and function

The command panel configurator determines the most suitable enclosure for your application, based on user-specific parameters.

Further information may be found on the Internet.

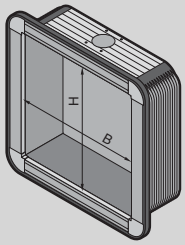
Comfort Panel

Material:
– Enclosure:
Extruded aluminium section
– Corner pieces:
Die-cast zinc
– Corner protectors:
Plastic

Colour:
– Enclosure: Natural-anodised
– Corner pieces: RAL 7035
– Corner protectors:
Similar to RAL 7024

Protection category:
IP 65 to EN 60 529

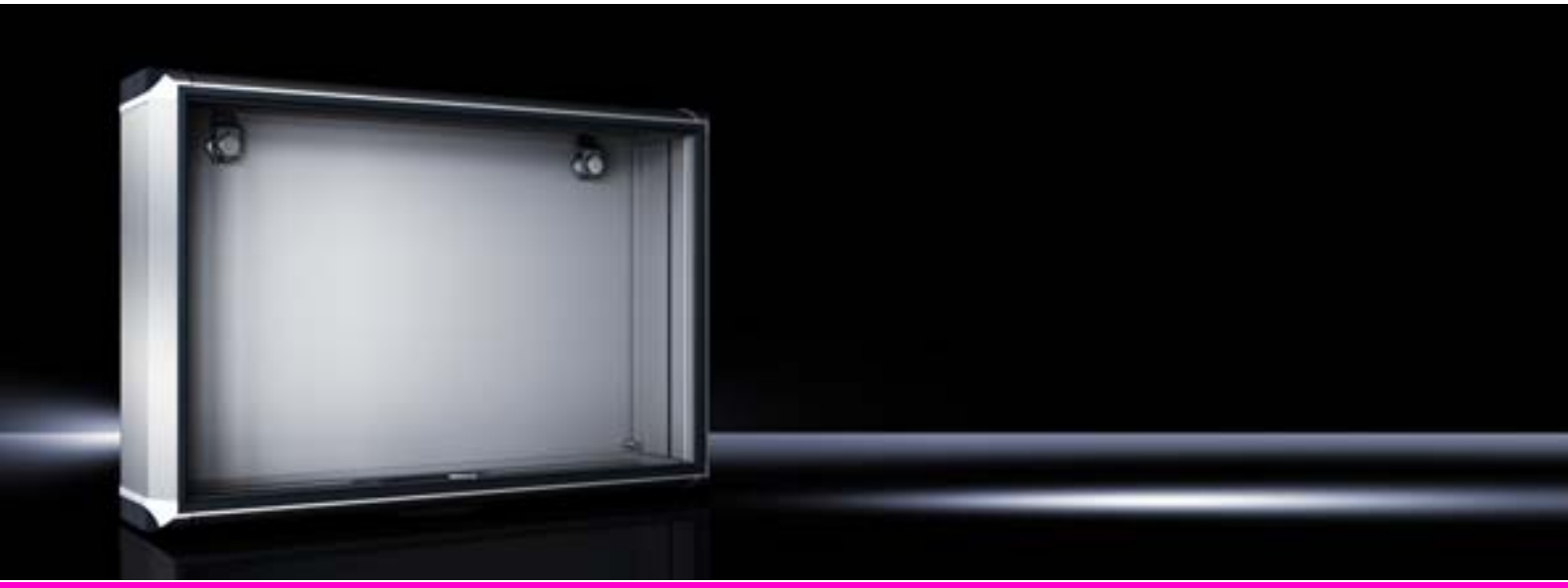
Supply includes:
Including seals and assembly parts for front panels.



For front panel width (B) mm	Packs of	520			520			520		
For front panel height (H) mm		400			500			600		
Installation depth mm		74	152	191	74	152	191	74	152	191
Model No. CP		**6372.541**	**6372.542**	**6372.543**	**6372.551**	**6372.552**	**6372.553**	**6372.561**	**6372.562**	**6372.563**
Weight kg		7.8	11.7	13.8	8.8	12.3	15.2	9.7	13.5	16.7
Design										
Support arm connection CP-L, ▭ 120 x 65 mm[1)]		■	–	–	■	–	–	■	–	–
Support arm connection CP-L, Ø 130 mm[1)]		–	■	■	–	■	■	–	■	■
Hinged rear panel with screw lock		■	–	–	■	–	–	■	–	–
Hinged rear panel with cam[2)]		–	■	–	–	■	–	–	■	–
Screw-fastened rear panel[3)]		–	–	■	–	–	■	–	–	■
Accessories										
Front panel		6028.014	6028.014	6028.014	6028.015	6028.015	6028.015	6028.016	6028.016	6028.016
Handle set, horizontal	1	6375.000	6375.000	6375.000	6375.000	6375.000	6375.000	6375.000	6375.000	6375.000
Handle set, vertical	2	6375.040	6375.040	6375.040	6375.050	6375.050	6375.050	6375.060	6375.060	6375.060
Mounting bracket for interior installation	4	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100
Spring nut M5	50	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000
Earthing plate	1	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500

[1)] Top or bottom, by rotating the enclosure.
[2)] With 3 mm double-bit lock insert, may be exchanged for 41 mm lock inserts, version C, plastic handles and T handles, version C.
[3)] Enclosure hinged at the front with side double-bit lock insert, may be exchanged for 41 mm lock inserts, version C, plastic handles and T handles, version C.

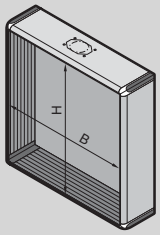
Optipanel



Material:
– Enclosure:
Extruded aluminium section
– Corner pieces:
Die-cast zinc
– Corner protectors:
Plastic

Colour:
– Enclosure: Natural-anodised
– Corner pieces: RAL 7035
– Corner protectors:
Similar to RAL 7024

Protection category:
IP 65 to EN 60 529



For front panel width (B) mm	Packs of	430	482.6	482.6	520		520		520	
For front panel height (H) mm		343	310.3	354.8	400		500		600	
Installation depth mm		100	100	100	100	150	100	150	100	150
Model No. CP		**6380.020[1)]**	**6380.000**	**6380.040[1)]**	**6380.400**	**6380.410**	**6380.500**	**6380.510**	**6380.600**	**6380.610**
Weight kg		5.3	6.2	6.6	5.8	7.3	6.6	8.3	7.3	9.2
Design										
Support arm connection CP-L, ▭ 120 x 65 mm[2)]		■	■	■	■	–	■	–	■	–
Support arm connection CP-L, Ø 130 mm[2)]		–	–	–	–	■	–	■	–	■
Hinged rear panel[3)]		■	■	■	■	■	■	■	■	■
Accessories										
Front panel		–	6028.010	–	6028.014	6028.014	6028.015	6028.015	6028.016	6028.016
Handle set, horizontal	1	–	6385.010	6385.010	6385.000	6385.000	6385.000	6385.000	6385.000	6385.000
Handle set, vertical	2	–	–	–	6385.040	6385.040	6385.050	6385.050	6385.060	6385.060
Mounting bracket for interior installation	4	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100	6205.100
Mounting bracket	4	4597.000	4597.000	4597.000	4597.000	4597.000	4597.000	4597.000	4597.000	4597.000
Earthing plate	1	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500	2570.500
Spring nut M5	50	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000	6108.000

[1)] To fit TFT monitors SM 6450.010, SM 6450.020, SM 6450.030, SM 6450.040
[2)] Top or bottom, by rotating the enclosure.
[3)] With 3 mm double-bit lock insert, may be exchanged for 41 mm lock inserts, version C, plastic handles and T handles, version C.

RiLine60 component adaptors

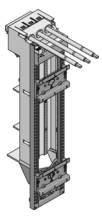
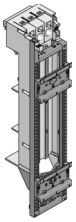
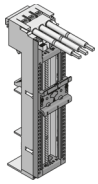
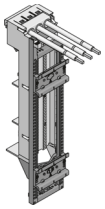
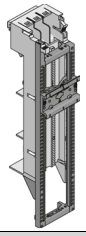
Photo shows a configuration example with equipment not included in the scope of supply.

Material:
– Polyamide (PA 6.6)
– Fire protection corresponding to UL 94-V0

Colour:
Chassis: RAL 7035

Design of support rails:
– TS xxD without anti-slip guard
– TS xxD-V without anti-slip guard, variable positioning on the support frame

OM adaptor 32 A/40 A, OM component support

Design							
Rated current up to		Packs of	32 A	32 A	40 A	40 A	–
Rated operating voltage			690 V~	690 V~	690 V~	690 V~	–
Connection cables[1]	Design		AWG 10	–	AWG 8	AWG 8	–
	Length mm		130	–	130	130	–
Connection of round conductors mm²			–	1.5 – 6	–	–	–
With	Support frame mm		45 x 237	45 x 237	55 x 170	55 x 237	45 x 237
	Support frame support		■	■	–	■	■
Support rails	Qty.		2	2	1	2	1
	Height mm		10	10	10	10	10
Design of support rails			TS 45D TS 45D-V[2]	TS 45D TS 45D-V[2]	TS 55D	TS 55D TS 55D-V[2]	TS 45D
Width mm			45	45	55	55	45
Height mm			272	272	208	272	272
Approvals			ⓊL	–	ⓊL	ⓊL	ⓊL
For rail system with centre-to-centre spacing mm			60	60	60	60	60
For bar thickness mm			5/10	5/10	5/10	5/10	5/10
Model No. SV		1	**9340.390**	**9340.560**	**9340.720**	**9340.730**	**9340.250**

[1] AWG = American Wire Gauges · AWG 8 = 8.37 mm² ≙ 10 mm² · AWG 10 = 5.26 mm² ≙ 6 mm²
[2] Support rail with special latch is secured from behind with the support frame loosened.

Allocation of switchgear

Model No. SV	For switchgear make/model
9340.390	Siemens 3RV20 11... S00 + S00 (tension spring), Schneider Electric GV2 ME + ATS, starter
9340.560	Eaton MSC – DE... M7 – M12, Siemens 3RV20 11...S00 + S00 (tension spring)
9340.720	Siemens 3RV20 11... S00 (screw terminal)
9340.730	Siemens 3RV20 11... S00 + S00 (screw terminal), starter
9340.250	ABB MS132 + AF09, AF12, AF16, reversing

Photo shows a configuration example with equipment not included in the scope of supply.

Material:
- Fibreglass-reinforced polyamide
- Fire protection corresponding to UL 94-V0
- Contact tracks: Silver-plated hard copper

Colour:
- Chassis: RAL 7035
- Cover: RAL 7001
- Handle: RAL 7016

Basis of test:
- IEC/DIN EN 60 947-3
- DIN EN 60 269-2 (fuse inserts)

NH slimline fuse-switch disconnectors, size 00 (3-pole)

Rated operating current		Packs of	160 A	160 A
Rated operating voltage			690 V~	690 V~
Cable outlet			top/bottom	top/bottom
Type of connection			screw M8	screw M8
Connection of round conductors mm²			up to 95	up to 95
Width mm			50	50
Height mm			740	740
For converter installation[1)]			–	■
For rail systems with centre-to-centre spacing mm			185	185
For bar thickness mm			10	10
Model No. SV		1	**9346.040**	**9346.050**
Accessories				
Busbar terminal For mounting SV 9346.040/.050 on 185 mm busbar system		3	**9346.470**	**9346.470**
Sliding nut M8 For mounting SV 9346.040/.050 on busbar system	Maxi-PLS 1600/2000	15	9640.910	9640.910
	Maxi-PLS 3200	3	9650.905	9650.905
Clamp-type terminal connection prism		1 set	3592.010	3592.010
Clamp-type terminal connection parts		1 set	3592.020	3592.020

[1)] Current converter on request.

The Rittal UPS family

Power Modular Concept

PMC 12 and PMC 12 compact

- A compact single-phase UPS with scalable autonomy up to 55 minutes at 100% load produces a broad application spectrum
- Modules with 1/2/3/4.5 and 6 kVA, single-phase
- Redundancy n+1
- Installation in 482.6 mm (19″), 2 U or floor-standing enclosure
- Batteries “hot-swap” compatible, may be exchanged from the front

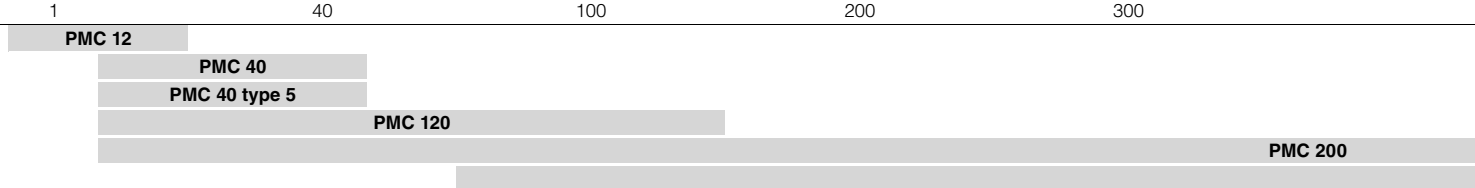
PMC 40

- Installation in racks with two 482.6 mm (19″) levels from a depth of 800 mm.
- Modules with 10 and 20 kW, 3-phase
- Redundancy n+1
- “Safe swap” capability with redundancy: Safe module exchange with the system operational, no need to switch to bypass mode

PMC 40 (type 5)

- TS 8 rack with max. 3 UPS modules and battery pack
- Compact size, only 800 mm enclosure depth
- 10/20 kW UPS output modules (3-phase)
- Up to 40 kW n+1 redundant (max. 60 kW)
- High operating ratio of 95%, even in part-load operation
- Expansion/maintenance/module exchange while operational (“safe swap”)
- Additional battery rack possible to increase autonomy

Double conversion technology VFI-SS-111, output range (scalable) kW



Power Modular Concept

PMC 120

- TS 8 rack with max. 6 UPS modules in one compact enclosure
- Compact size, only 800 mm enclosure depth
- 10/20 kW UPS output modules (3-phase)
- Up to 100 kW n+1 redundant UPS output (max. 120 kW)
- High operating ratio of 95%, even in part-load operation
- Expansion/maintenance/module exchange while operational (“safe swap”)
- Batteries in external battery racks support long autonomies

PMC 200

- Maximum availability, modularity and compact design ensure flexible, almost unlimited scalability and redundancy.
- The benefits to you: Less capital tie-up, inexpensive expansion, and minimal space requirements.
- Modules with 8/12/16/20/24/32/40 kW, 3-phase
- Redundancy n+1
- Installation: Integrated into the rack
- Scalability up to 20 modules. This facilitates a maximum output of up to 800 kW or 760 kW n+1.
- Modular expansion of output and autonomy with the system operational.

PMC 800

- Maximum availability and performance in a modular design.
- The separation of the modules into one power module and one control module is exemplary for this output class. This ensures a high level of service-friendliness and allows precise planning of maintenance work.
- Modules with 64 and 80 kW, 3-phase
- Redundancy n+1
- Installation: Integrated into the rack
- Scalability up to 12 modules. This facilitates a maximum output of up to 960 kW or 880 kW n+1.
- The “safe swap” technology allows UPS modules (in inverter mode) to be replaced or the UPS extended with the system operational.

Double conversion technology VFI-SS-111, output range (scalable) kW

400	500	600	700	800	1000
				PMC 800	

UPS – Power Modular Concept

Shutdown software may be found on the Internet.

UPS rack with integral power modules and batteries
- Thanks to the double conversion technology (VFI-SS-111) the output voltage is independent from the input voltage and frequency
- Efficient IGBT power transistor technology achieves a high operating ratio of 95% even in part-load operation
- "Safe swap" compatibility with a redundant design, i.e. the module may be exchanged while operational
- Every UPS module includes power electronics as well as the control unit including display
- Installation, commissioning and servicing to be carried out by authorised experts only

Supply includes:
– UPS system in the TS 8 rack
– Vented front and rear door
– Fitted with UPS power modules (depending on configuration) and batteries
– The batteries must only be installed at the point of assembly and are delivered separately

Note:
Only UPS modules with an identical output may be combined.

Technical information/ battery configurations:
Available on the Internet.

PMC 40 (type 5), 3-phase, output range scalable 10 – 40 kW, redundant

Dimensions (UPS rack, without base/plinth) width x height x depth mm	Packs of	600 x 2000 x 800	600 x 2000 x 1000
Model No. UPS basic rack		**7040.065**	**7040.060**
Maximum no. of UPS modules		3	
Maximum no. of battery packs		4	
Maximum UPS output (with 10 kW/20 kW modules)		30/60 kW	
UPS output with n+1 redundancy (with 10 kW/20 kW modules)		20/40 kW	
RS232 (D-Sub 9) and USB interface (configuration and shutdown)		1/1	
Fault signal contacts (floating)		5	
Clamping strip input/output (3L+N+PE) max. conductor cross-section		35/50 mm^2	
Weight (approximate, incl. batteries and 3 UPS modules)		740 kg	
Protection category of UPS system		IP 20	
Operating temperature range (UPS with batteries, recommended)		20 – 25°C	
Accessibility only required to front (for servicing, maintenance)		900 mm	
Distance from wall at rear (due to fan cooling)		200 mm	
Model No. PMC 40 10 kW module (order quantity acc. to output)	1	**7040.110**	
Model No. PMC 40 20 kW module (order quantity acc. to output)	1	**7040.120**	
Model No. PMC 40 battery pack 1 x 4 x 10 batteries, when using 10 kW modules (12 V/7 Ah) prewired (service life 5 years under EUROBAT) Order volume n = 2.3 x	40	**7040.311**	
Model No. PMC 40 battery pack 1 x 5 x 10 batteries, when using 20 kW modules (12 V/7 Ah) prewired (service life 5 years under EUROBAT) Order volume n = 3.4 x	50	**7040.315**	
Model No. PMC 40 battery preparation n x 4 x 10 (for export or air freight) Drawers and battery cabling (n = 3.4 **without batteries**), cable set of 40	1 set	**7040.301**	
Model No. PMC 40 battery preparation n x 5 x 10 (for export or air freight) Drawers and battery cabling (n = 3.4 **without batteries**), cable set of 50	1 set	**7040.305**	
Accessories			
UPS monitoring/SNMP monitoring card	1	7857.420	
Base/plinth components, front and rear, RAL 7035, 100 mm high	1 set	8601.605	
Base/plinth components, sides, RAL 7035, 800 mm deep/100 mm high	1 set	8601.085	
Base/plinth components, sides, RAL 7035, 1000 mm deep/100 mm high	1 set	8601.015	

UPS – Power Modular Concept

Shutdown software may be found on the Internet.

Modular UPS system (up to 120 kW)
- UPS power modules operate according to the double conversion principle (classification to VFI-SS-111) and have a transformerless design thanks to the high intermediate circuit voltage
- Efficient IGBT power transistor technology achieves a high operating ratio of 95% even in part-load operation
- "Safe swap" compatibility with a redundant design, i.e. the module may be exchanged while operational
- Every UPS module includes power electronics as well as the control unit including display
- Installation, commissioning and servicing to be carried out by authorised experts only

Supply includes:
– UPS system in the TS 8 rack
– Vented front and rear door
– Fitted with UPS power modules (depending on configuration) and batteries

Note:
Only UPS modules with an identical output may be combined.

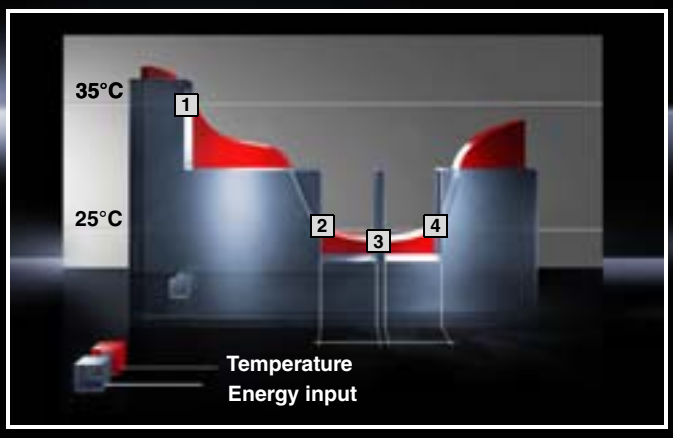
Battery configurations:
Available on the Internet.

PMC 120, 3-phase, output range scalable 10 – 120 kW

Dimensions (UPS rack, without base/plinth) width x height x depth mm	Packs of	600 x 2000 x 800	600 x 2000 x 1000
Model No. UPS basic rack		**7040.075**	**7040.070**
Maximum no. of UPS modules		6	
Maximum UPS output (with 10 kW/20 kW modules)		60/120 kW	
UPS output with n+1 redundancy (with 10 kW/20 kW modules)		50/100 kW	
No. of batteries (12 V/28 Ah) per module/battery bank (per 10 kW/20 kW)		40/50	
No. of battery banks per battery rack[1)], max.		3	
No. of batteries (12 V/28 Ah) per battery rack[1)], max.		150	
Operating ratio (from 50% load)		95%	
Operating ratio in eco-mode (100% load)		98%	
RS232 (D-Sub 9) and USB interface (configuration and shutdown)		1/1	
Fault signal contacts (floating)		5	
Input (3L+N+PE) conductor cross-section		70/95 mm²	
Output (3L+N+PE) conductor cross-section		70/95 mm²	
Battery connection (3 x M10, joint batteries) conductor cross-section		150 mm²	
Weight (approx., UPS rack with 6 UPS modules)		285 kg	
Protection category of UPS system		IP 20	
Operating temperature range (UPS with batteries, recommended)		20 – 25°C	
Accessibility only required to front (for servicing, maintenance)		900 mm	
Distance from wall at rear (due to fan cooling)		200 mm	
Model No. PMC 40 10 kW module (order quantity acc. to output)	1	**7040.110**	
Model No. PMC 40 20 kW module (order quantity acc. to output)	1	**7040.120**	
Also required			
Battery rack, width 800 mm (max. 150 batteries)	1	**7040.361[1)]**	**7857.364[1)]**
Accessories			
Base/plinth components, front and rear, RAL 7035, 600 mm wide/100 mm high	1 set	8601.605	
Base/plinth components, sides, RAL 7035, 800 mm deep/100 mm high	1 set	8601.085	
Base/plinth components, sides, RAL 7035, 1000 mm deep/100 mm high	1 set	8601.015	

[1)] Batteries not included with the supply of the battery rack.

Rittal TopTherm cooling units



TopTherm cooling units

- Energy-saving range of cooling units in the output range from 500 to 4000 W
- Savings of **up to 45%** energy consumption with the same cooling output (ideally 70% compared with a conventional Rittal TopTherm Plus cooling unit in field trials)

Eco-mode control

Intelligent, targeted use of energy thanks to the new eco-mode control from Rittal

1 Cooling switches off: The interior fan only runs to ensure air circulation inside the enclosure.

2 The interior fan is switched off.

3 The interior fan is switched on for 30 seconds every 10 minutes to briefly blend the air.

4 The interior fan is switched back on.

Generation “Blue e”

Save energy permanently with Rittal cooling units.

Roof-mounted cooling units

With e-Comfort controller

Useful cooling output	Dimensions W x H x D mm	Voltage V, Hz	**Model No. SK**
500 W	597 x 417 x 380	230, 50/60	**3382.500**
		115, 50/60	**3382.510**
750 W	597 x 417 x 380	230, 50/60	**3359.500**
		115, 50/60	**3359.510**
		400, 2~, 50/60	**3359.540**
1000 W	597 x 417 x 475	230, 50/60	**3383.500**
		115, 50/60	**3383.510**
		400, 2~, 50/60	**3383.540**
1500 W	597 x 417 x 475	230, 50/60	**3384.500**
		115, 50/60	**3384.510**
		400, 2~, 50/60	**3384.540**
2000 W	597 x 417 x 475	230, 50/60	**3385.500**
		115, 50/60	**3385.510**
		400, 2~, 50/60	**3385.540**
3000 W	796 x 470 x 580	400, 3~, 50 460, 3~, 60	**3386.540**
4000 W	796 x 470 x 580	400, 3~, 50 460, 3~, 60	**3387.540**

Cooling unit versions in stainless steel may be found on the Internet.

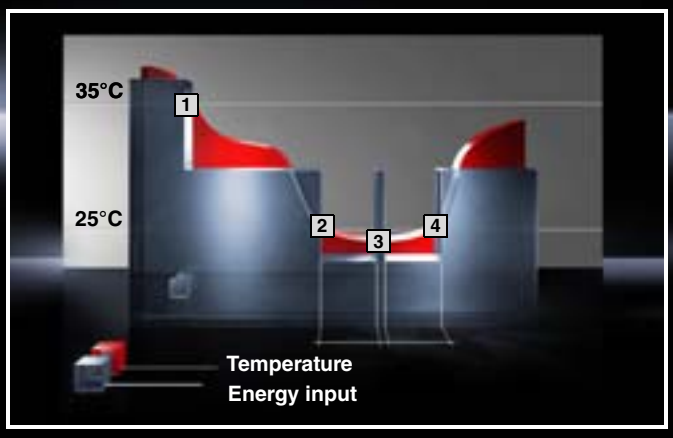
Wall-mounted cooling units

With e-Comfort controller

Useful cooling output	Dimensions W x H x D mm	Voltage V, Hz	**Model No. SK**
500 W	280 x 550 x 200	230, 50/60	**3303.500**
		115, 50/60	**3303.510**
750 W	280 x 550 x 280	230, 50/60	**3361.500**
		115, 50/60	**3361.510**
		400, 2~, 50/60	**3361.540**
1000 W	400 x 950 x 260	230, 50/60	**3304.500**
		115, 50/60	**3304.510**
		400, 3~, 50 460, 3~, 60	**3304.540**
1500 W	400 x 950 x 260	230, 50/60	**3305.500**
		115, 50/60	**3305.510**
		400, 3~, 50 460, 3~, 60	**3305.540**
1500 W	450 x 1590 x 205	230, 50/60	**3366.500**
		115, 50/60	**3366.510**
		400, 3~, 50 460, 3~, 60	**3366.540**
2000 W	400 x 1580 x 295	230, 50/60	**3328.500**
		115, 50/60	**3328.510**
		400, 3~, 50 460, 3~, 60	**3328.540**
2500 W	400 x 1580 x 295	230, 50/60	**3329.500**
		115, 50/60	**3329.510**
		400, 3~, 50 460, 3~, 60	**3329.540**
4000 W	500 x 1580 x 340	400, 3~, 50 460, 3~, 60	**3332.540**

Cooling unit versions in stainless steel, Nema 4X and with climate control doors may be found on the Internet.

Rittal air/water heat exchangers



Air/water heat exchangers

- Easier assembly:
  Assembled in less than 2 minutes
- Extensive choice of water connection options
- All units with Comfort control become efficient energy-saving variants with eco-mode control.
- Temperature display comes as standard even with the Basic version

Eco-mode control

Intelligent, targeted use of energy thanks to the new eco-mode control from Rittal

1 Cooling switches off: The interior fan only runs to ensure air circulation inside the enclosure.

2 The interior fan is switched off.

3 The interior fan is switched on for 30 seconds every 10 minutes to briefly blend the air.

4 The interior fan is switched back on.

Air/water heat exchangers

Roof mounting with Basic or e-Comfort controller

Useful cooling output	Water-carrying parts		Dimensions W x H x D mm	Voltage V, Hz	Model No. SK	
	V4A (1.4571)	CuAl			With Basic controller	With e-Comfort controller
1875 W	■		597 x 415 x 475	230, 50/60	**3209.104[1)]**	**3209.504[1)]**
2500 W		■	597 x 415 x 475	230, 50/60	**3209.100**	**3209.500**
3000 W	■		597 x 415 x 475	230, 50/60	**3210.104[1)]**	**3210.504[1)]**
4000 W		■	597 x 415 x 475	230, 50/60	**3210.100**	**3210.500**
				400, 2~, 50/60	**3210.140[1)]**	**3210.540[1)]**

[1)] Extended delivery times. 115 V and 400 V, 2~ available on request.
Further information can be found on the Internet

Air/water heat exchangers

Wall mounting with Basic or e-Comfort controller

Useful cooling output	Water-carrying parts		Dimensions W x H x D mm	Rated operating voltage V, Hz	Model No. SK	
	V4A (1.4571)	CuAl			With Basic controller	With e-Comfort controller
500 W	■		280 x 550 x 120	230, 1~, 50/60	**3363.104[1)]**	**3363.504[1)]**
500 W		■	280 x 550 x 120	230, 1~, 50/60	**3363.100**	**3363.500**
750 W	■		280 x 550 x 120	230, 1~, 50/60	**3364.104[1)]**	**3364.504[1)]**
1000 W		■	280 x 550 x 120	230, 1~, 50/60	**3364.100**	**3364.500**
1750 W	■		400 x 950 x 140	230, 1~, 50/60	**3373.104[1)]**	**3373.504[1)]**
2000 W		■	400 x 950 x 140	230, 1~, 50/60	**3373.100**	**3373.500**
2500 W	■		400 x 950 x 140	230, 1~, 50/60	**3374.104[1)]**	**3374.504[1)]**
3000 W		■	400 x 950 x 140	230, 1~, 50/60	**3374.100**	**3374.500**
4000 W	■		450 x 1400 x 220	230, 1~, 50/60	**3375.104[1)]**	**3375.504[1)]**
5000 W		■	450 x 1400 x 220	230, 1~, 50/60	**3375.100**	**3375.500**

[1)] Extended delivery times. 115 V and 400 V, 2~ available on request.
Further information may be found on the Internet.

Rittal Therm 6.1 software

Rittal Therm 6.1 is a calculation program for enclosure climate control.
The Therm 6.1 software package takes care of the complex calculation of climate control requirements. A user-friendly interface guides the operator to the most suitable, correctly dimensioned climate control component. All evaluations are closely based on the requirements of IEC/TR 60 890 AMD1/02.95 and DIN 3168 for enclosure cooling units.

- Improved user guidance via tabs and simple selection menus
- Express and expert versions
- Configurator for recooling systems
- Heat loss calculator for busbars
- Key calculation data is visible at all times
- Internet updates
- Fast and thorough determination of the required climate control measures
- Determining the correct climate control measures leads to cost savings
- Easy calculation by determining the required actual cooling output, as well as any upgrades or enhancements to the switchgear
- Detailed documentation will be provided with the calculation

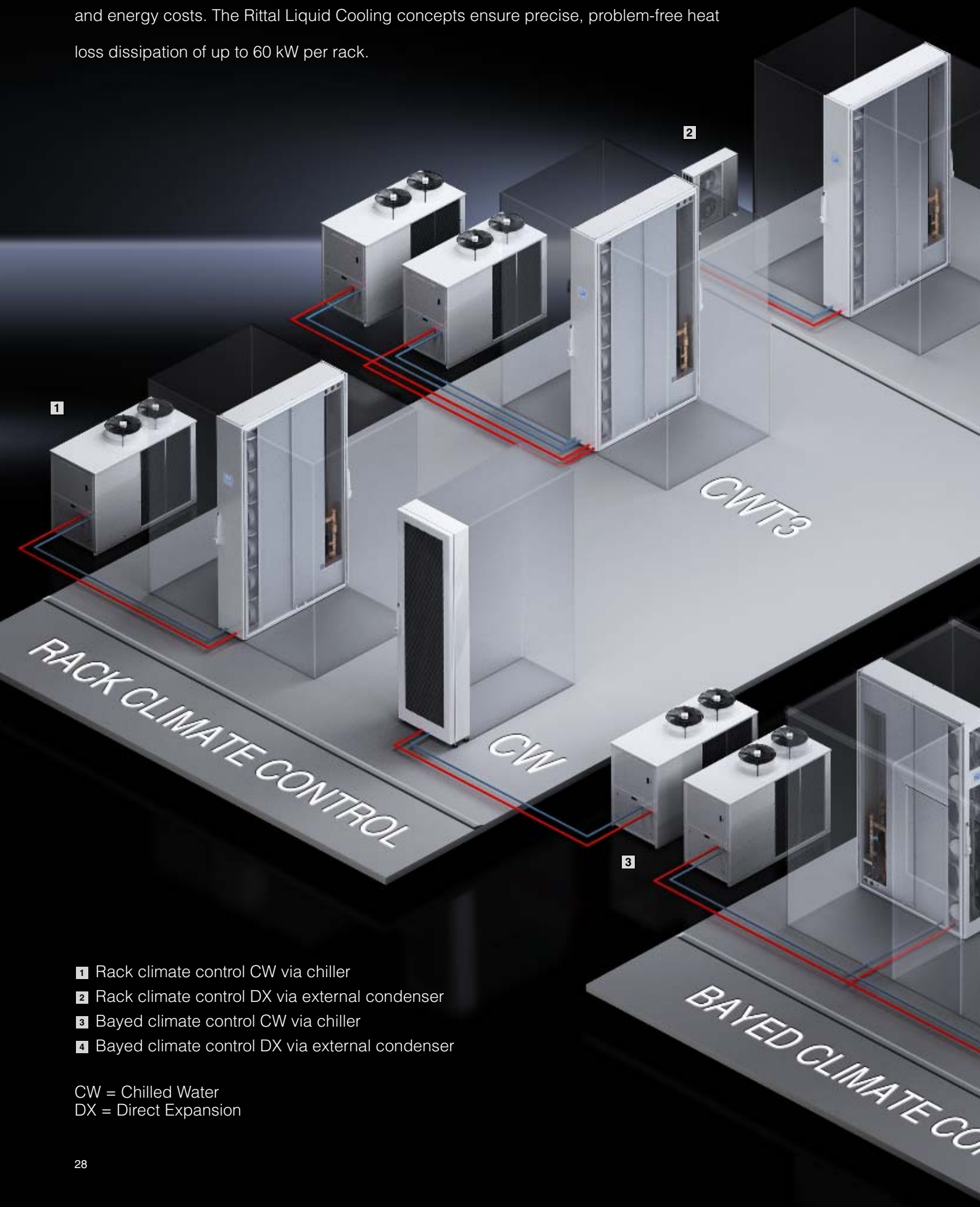
Packs of	Model No. SK
1	**3121.000**

Supply includes:
CD-ROM, with 19 languages.

Note:
Your free 30-day trial version may be downloaded at **www.rittal.com**

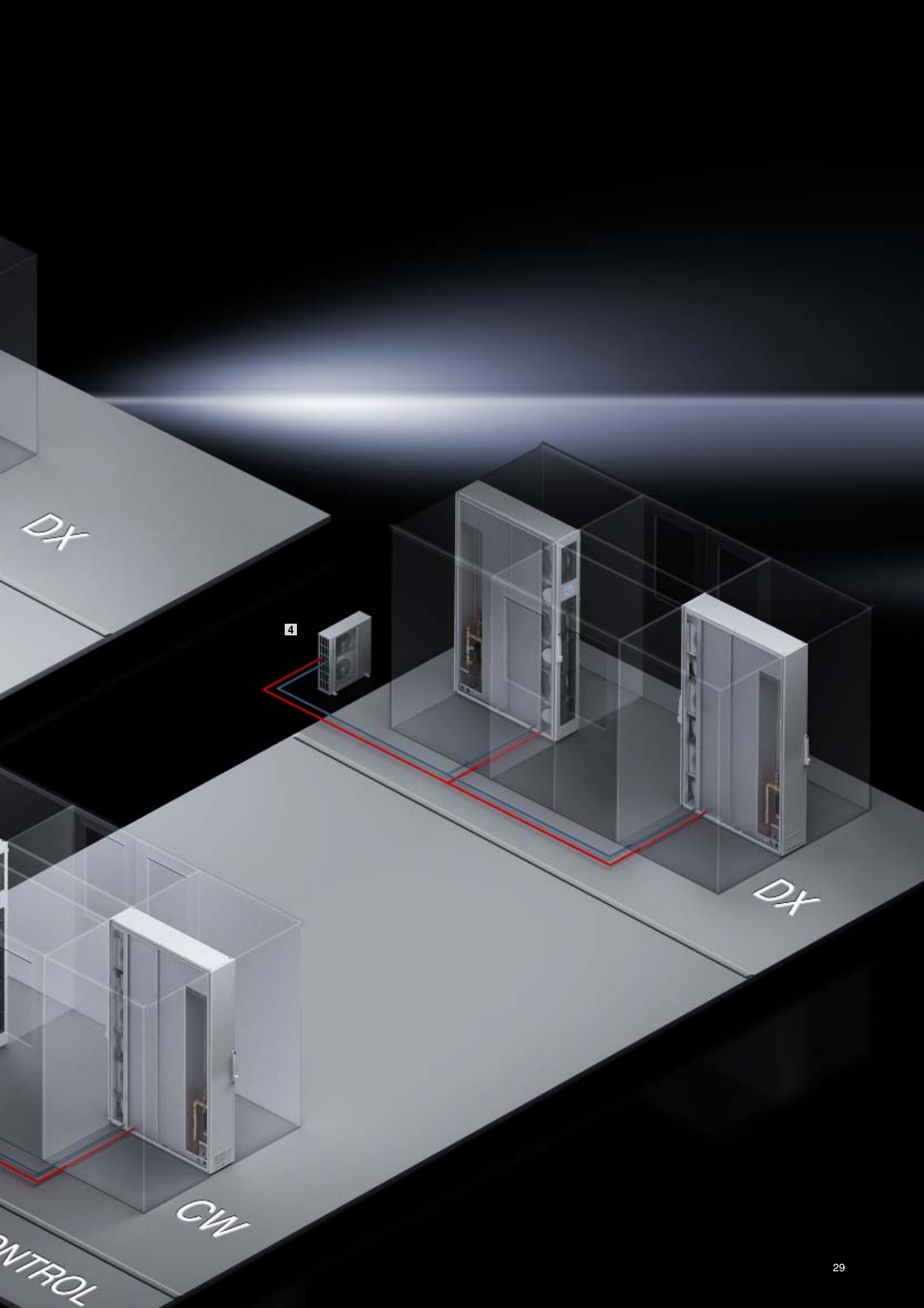
Rittal Liquid Cooling Package LCP

Climate control of your data centre is becoming ever more important in terms of availability and energy costs. The Rittal Liquid Cooling concepts ensure precise, problem-free heat loss dissipation of up to 60 kW per rack.



1 Rack climate control CW via chiller
2 Rack climate control DX via external condenser
3 Bayed climate control CW via chiller
4 Bayed climate control DX via external condenser

CW = Chilled Water
DX = Direct Expansion


DX
4
DX
CW
NTROL

Best performance in all categories

Rack climate control

	The LCP for rack climate control is designed for siting within a bayed enclosure suite. The cold air is expelled sideways on the front of the servers, and warm air is drawn back in at the rear. The LCP for rack climate control is ideal for maximum cooling performance and maximum fail-safeness, thanks to redundancy of all key components.			A large-scale high-capacity air/water heat exchanger, designed as the rear door of the server enclosure, ensures that heated waste air from the servers is cooled down to server intake air level. This is achieved extremely energy-efficiently, because no electrical power is required for fans. High inlet temperatures above the dew point improve energy efficiency still further.
Technology CW = Chilled Water DX = Direct Expansion T3+ = for Tier 3 and 4	CW	CWT3	DX	CW
Output kW	10, 20, 30, 40, 50, 60	25	10	20
Cooling medium	Water	Water	Coolant	Water
Auto-load balancing	–	■	–	–
Auto-recovery	–	■	–	–

The benefits to you:

- Maximum energy efficiency by positioning the EC fan technology in the cold air zone with a considerably extended service life
- Minimal pressure loss at the air end, which in turn minimises the power consumption of the fans
- Optimum adaptability thanks to dynamic, continuous control of the cold water volume flow.
- By using high water inlet temperatures, the proportion of indirect free cooling is increased, which in turn reduces operating costs.

Bayed climate control

The LCP for bayed climate control is designed for siting within a bayed enclosure suite. The hot air is drawn in from the room or hot aisle at the rear of the device and expelled at the front into the cold aisle after cooling. The LCP for inline bayed climate control achieves maximum performance and efficiency in conjunction with Rittal cold aisle containment.

Technology CW = Chilled Water DX = Direct Expansion T3+ = for Tier 3 and 4	CW	DX
Output kW	10, 20, 30, 40, 50, 60	10
Cooling medium	Water	Coolant
Auto-load balancing	–	–
Auto-recovery	–	–

Liquid Cooling Package

Photo shows a configuration example with equipment not included in the scope of supply.

Benefits:
- Maximum energy efficiency thanks to EC fan technology and IT-based control
- Minimal pressure loss at the air end, which in turn minimises the power consumption of the fans
- Optimum adaptability thanks to dynamic, continuous control of the cold water volume flow
- By using high water inlet temperatures, the proportion of indirect free cooling is increased, which in turn reduces operating costs
- Thanks to six modular, box-type plug-in fan units, the cooling output can be adapted to actual requirements
- The box-type plug-in fan units are configurable as n+1 redundancy
- Standard 3-phase connection for electrical redundancy
- With redundant temperature sensor integrated at the air end as standard
- The separation of cooling and rack prevents water from penetrating the server enclosure.
- Up to 60 kW cooling output on a footprint of just 0.36 m²
- The low weight means a minimal load area
- Touchscreen display may be retrofitted

Monitoring:
Monitoring of all system-relevant parameters such as:
- Server air intake temperature
- Server waste air temperature
- Water inlet/return temperature
- Water flow
- Cooling output
- Fan speed
- Leakage
- Optional sensors
- Direct connection of the unit via snmp/Ethernet
- Integration into RiZone

Application and mode of operation:
The LCP draws in the air at the sides at the rear of the server enclosures, cools it using high-performance compact impellers, and blows the cooled air back into the front part of the server enclosure at the sides.

Colour:
RAL 7035

Protection category:
IP 40 to EN 60 529

TopTherm LCP rack CW and DX

Design		CW	CW	CW	DX
Cooling medium		Water (for specifications see Internet)			Refrigerant R410A
Model No. SK		**3311.130**	**3311.230**	**3311.260**	**3311.110**
Rated operating voltage V, Hz		230, 1~, 50/60 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60
Dimensions mm	W x H x D	300 x 2000 x 1000	300 x 2000 x 1200	300 x 2000 x 1200	300 x 2000 x 1000
Usable U		42	42	42	42
Useful cooling output		**Up to 30 kW**	**Up to 30 kW**	**Up to 60 kW**	**Up to 10 kW**

Duty cycle		100%			
Electrical connection		Connection cable			
Temperature control		Linear fan control			
		Two-way control valve			–
Fans may be exchanged with the system operational		■	■	■	■
EC fan		■	■	■	■
Accessories	Packs of				
Condenser unit	1	–	–	–	3311.310
Fan module	1	3311.010	3311.010	3311.010	3311.010
Touchscreen display, coloured	1	3311.030	3311.030	3311.030	3311.030
Connection hose, top	1	3311.040	3311.040	3311.040	3311.040
Connection hose, bottom	1	3311.050	3311.050	3311.050	3311.050

Liquid Cooling Package

Photo shows a configuration example with equipment not included in the scope of supply.

Benefits:
- Error-tolerant, efficient cooling of server racks with high thermal loads
- Fully redundant – Two active cooling circuits and two switchable power circuits ensure optimum fail-safeness
- The built-in controllers are capable of adapting all device parameters automatically to preserve the required climate conditions
- A separate decentralised intelligence which automatically recognises emergency situations and responds appropriately with the "auto-load balancing" and "auto-recovery" functions
- Interfaces which facilitate user-friendly operation and monitoring via the network or BSM systems

Optional:
– Fully integrated fire detection and extinguisher system
– Automatic server enclosure door opening
– Various sensors

Application and mode of operation:
The LCP draws in the air at the sides at the rear of the server enclosures, cools it using high-performance compact impellers, and blows the cooled air back into the front part of the server enclosures at the sides.

Colour:
RAL 7035

Protection category:
IP 40 to EN 60 529

TopTherm LCP T3+ CW

Cooling medium		Water (for specifications see Internet)
Model No. SK		**3311.400**
Rated operating voltage V, Hz		230, 1~, 50/60 400, 3~, 50/60
Dimensions mm	W x H x D	300 x 2000 x 1200
Usable U		42
Useful cooling output, redundant		**Up to 25 kW**

Duty cycle		100%
Electrical connection		C19/C20
Temperature control		Linear fan control
		Two-way control valve
Fans may be exchanged with the system operational		■
EC fan		■
Auto-load balancing		■
Auto-recovery		■
Accessories	Packs of	
Fan module	1	3311.010
Touchscreen display, coloured	1	3311.030
Connection hose, top	1	3311.040
Connection hose, bottom	1	3311.050

Liquid Cooling Package

Photo shows a configuration example with equipment not included in the scope of supply.

Benefits:
- Maximum energy efficiency thanks to EC fan technology and IT-based control
- Minimal pressure loss at the air end, which in turn minimises the power consumption of the fans
- Optimum adaptability thanks to dynamic, continuous control of the cold water volume flow
- By using high water inlet temperatures, the proportion of indirect free cooling is increased, which in turn reduces operating costs.
- Thanks to six modular, box-type plug-in fan units, the cooling output can be adapted to actual requirements
- The box-type plug-in fan units are configurable as n+1 redundancy
- Standard 3-phase connection for electrical redundancy
- With redundant temperature sensor integrated at the air end as standard
- The separation of cooling and rack prevents water from penetrating the server enclosure
- Up to 60 kW cooling output on a footprint of just 0.36 m²
- The low weight means a minimal load area
- Touchscreen display may be retrofitted

Monitoring:
Monitoring of all system-relevant parameters such as:
- Server air intake temperature
- Server waste air temperature
- Water inlet/return temperature
- Water flow
- Cooling output
- Fan speed
- Leakage
- Optional sensors
- Direct connection of the unit via snmp/Ethernet
- Integration into RiZone

Application and mode of operation:
The LCP is designed for siting within a bayed enclosure suite. The hot air is drawn in from the room or hot aisle at the rear of the device and expelled at the front into the cold aisle after cooling.
The LCP achieves maximum performance and efficiency in conjunction with Rittal cold aisle containment. With this product, a raised floor is not necessary.

Colour:
RAL 7035

Protection category:
IP 40 to EN 60 529

TopTherm LCP Inline CW and DX

Design		CW	CW	DX
Cooling medium		Water (for specifications see Internet)		Refrigerant R410A
Model No. SK		**3311.530**	**3311.560**	**3311.210**
Rated operating voltage V, Hz		230, 1~, 50/60 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60
Dimensions mm	W x H x D	300 x 2000 x 1200	300 x 2000 x 1200	300 x 2000 x 1200
Usable U		42	42	42
Useful cooling output		**Up to 30 kW**	**Up to 60 kW**	**Up to 10 kW**

Duty cycle		100%		
Electrical connection		Connection cable		
Temperature control		Linear fan control		
		Two-way control valve		–
Fans may be exchanged with the system operational		■	■	■
EC fan		■	■	■
Accessories	Packs of			
Condenser unit	1	–	–	3311.310
Front cover	1	3311.060	3311.060	3311.060
Fan module	1	3311.020	3311.020	3311.020
Touchscreen display, coloured	1	3311.030	3311.030	3311.030
Connection hose, top	1	3311.040	3311.040	3311.040
Connection hose, bottom	1	3311.050	3311.050	3311.050

Liquid Cooling Package

Photo shows a configuration example with equipment not included in the scope of supply.

Benefits:
- High cooling output of 20 kW in a minimal space
- Easily exchanged for the standard rear door of the server enclosure
- Retrofitting is not a problem
- A door opening angle of 120° allows rear access to the server enclosure and makes assembly and configuration inside the enclosure easier
- The LCP does not require its own fan, and therefore does not need an integrated control
- Maximum energy efficiency, as there is no electrical power consumption whatsoever

Application and mode of operation:
Air/water heat exchanger mechanically integrated into a rear door for server enclosures. The 482.6 mm (19˝) equipment built into the server enclosure must have suitable airflow capabilities in order to route the heated waste air through the heat exchanger rear door. The waste air is cooled down to room temperature. The heat energy absorbed by the water is transported to the external cold water supply, where it is cooled back down to the required inlet temperature.

Colour:
RAL 7035

Approvals:
Available on the Internet.

TopTherm LCP Passive CW

Model No. SK		**3311.600**
Dimensions mm	W x H x D	600 x 2000 x 170
Usable U		42
Useful cooling output		**Up to 20 kW**

Rittal China

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TopTherm fan-and-filter units

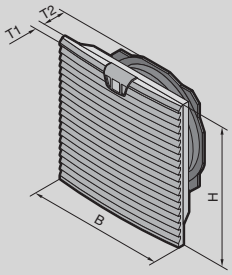
Assembly without tools
- Straightforward assembly, exchange and maintenance with no need for tools
- Simple reversal of the air flow direction by turning the fan module
- Air flow spreads diagonally from the fan, promoting a more even air distribution in the enclosure

Colour:
RAL 7035

Protection category:
See table.

Supply includes:
– Unit ready for installation
– Filter mat

Note:
For energy-efficient operation and monitoring of the fan-and-filter unit, we recommend the control unit SK 3235.440.



Air throughput 900 m³/h, with EC technology

Model No. SK fan-and-filter unit		3245.500[1)]	3245.600[1)]	3245.510[1)]
EMC version		–	■	–
Rated operating voltage V, Hz		230, 50/60	230, 50/60	115, 50/60
Dimensions mm	W x H	323 x 323	323 x 323	323 x 323
	T1	25	25	25
Max. installation depth mm	T2	130.5	130.5	130.5
Air throughput, unimpeded air flow		**900 m³/h**	**900 m³/h**	**900 m³/h**
Air throughput with outlet filter including standard filter mat		1 x SK 3243.200: **680 m³/h** 2 x SK 3243.200: **820 m³/h**	1 x SK 3243.060: **680 m³/h** 2 x SK 3243.060: **820 m³/h**	1 x SK 3243.200: **680 m³/h** 2 x SK 3243.200: **820 m³/h**

Diagonal fan		EC motor	EC motor	EC motor
Rated current		1.3 A	1.3 A	2.5 A
Power consumption		170 W	170 W	170 W
Pre-fuse		4 A	4 A	6 A
Noise level		72 dB (A)	72 dB (A)	72 dB (A)
Operating temperature range		–30°C to +55°C	–30°C to +55°C	–30°C to +55°C
Storage temperature range		–30°C to +70°C	–30°C to +70°C	–30°C to +70°C
Protection category				
Standard		IP 51	IP 51	IP 51
With additional fine filter mat		IP 52	IP 52	IP 52
With hose-proof hood		IP 56	IP 56	IP 56
Accessories	Packs of			
SK outlet filter	1	3243.200	–	3243.200
SK outlet filter – EMC	1	–	3243.060	–
Spare filter mats	5	3173.100	3243.066	3173.100
Fine filter mats	5	3183.100	3183.100	3183.100
Hose-proof hood	1	3245.080	3245.080	3245.080
Blanking cover	1	3243.020	3243.020	3243.020
Enclosure internal thermostat	1	3110.000	3110.000	3110.000
Digital temperature indicator/controller	1	3114.200	3114.200	3114.200
Hygrostat	1	3118.000	3118.000	3118.000
Control units for EC fan-and-filter units	1	3235.440	3235.440	3235.440

[1)] 0 – 10 V/PWM input and tachosignal output
Special voltages available on request. We reserve the right to make technical modifications.

Filter mats for EMC fan-and-filter units

To achieve the shielding/dampening properties of EMC fan-and-filter units. Made from chopped fibre mat with a progressive structure and a special copper coating. Temperature-resistant to +100°C, self-extinguishing category F1 to DIN 53 438.
Dust-laden air side: Open structure
Clean air side: Compressed structure

Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:
Copper-nickel coated chemical fibres

For fan-and-filter units	Filter class to DIN EN 779	Packs of	**Model No. SK**
3237.6XX, 3237.060	G2	5	**3237.066**
3238.6XX, 3238.060	G2	5	**3238.066**
3239.6XX, 3239.060	G3	5	**3239.066**
3240.6XX, 3241.6XX, 3240.060	G3	5	**3240.066**
3243.6XX, 3244.6XX, 3245.6XX, 3243.060	G3	5	**3243.066**

Hose-proof hood

For fan-and-filter units/outlet filters. Easy cleaning thanks to exterior silicon coating approved for use with foodstuffs When mounted over the fan-and-filter unit and outlet filter, a protection category of IP 56 to EN 60 529 is achieved.

Material:
– Stainless steel
– Silicone

Protection category:
– In conjunction with the fan-and-filter units/outlet filters, NEMA type 12, 3, 3R, 4 and 4X is met.
– For 3237.080 and 3245.080; NEMA type 12 and 3R.

For fan-and-filter units	Dimensions mm	**Model No. SK**
SK 3237. . . .	150 x 230 x 40	**3237.080**
SK 3238. . . .	176 x 245 x 55	**3238.080**
SK 3239. . . .	233 x 330 x 55	**3239.080**
SK 3240. . . ./SK 3241. . . .	282 x 390 x 85	**3240.080**
SK 3243. . . ./SK 3244. . . .	350 x 480 x 110	**3243.080**
SK 3245. . . .	350 x 480 x 160	**3245.080**

Control unit for EC fan-and-filter units

Temperature-dependent speed control for EC fan-and-filter units to reduce noise and save energy. The function of the fan can also be monitored.

- Activation and monitoring of up to 4 EC fan-and-filter units (caution: EC fan-and-filter units cannot be controlled with speed control 3120.200!)
- Rated operating voltage: 24 V DC
- Top hat rail mounting
- Temperature setting range: +5°C to +55°C/41°F to 131°F
- External temperature sensor to record the ACTUAL temperature
- Status LED to display the operating status
- Alarm relay for reporting overtemperature, fan defect, cable interruption and sensor failure

For fan-and-filter units	**Model No. SK**
SK 3245.XXX	**3235.440**

Supply includes:
NTC sensor, length 1.80 m.

Filter technology/general

Auto Range power pack 240 W

for 24 V (DC) components

For power supply e.g. to DC fan-and-filter units or the Thermoelectric Cooler SK 3201.300 with primary 115/230 V (AC) voltage supply input.

Technical specifications:

– Approvals: CE, UL-listed
– Dimensions W x H x D: 83 x 125 x 126 mm
– Operating temperature range: –10°C to +71°C
– Snaps onto a 35 mm top hat rail

Packs of	Model No. SK
1	**3201.040**

Master/slave adaptor

for Thermoelectric Cooler

Parallel operation of up to 5 thermoelectric coolers to increase cooling output or for redundant use.

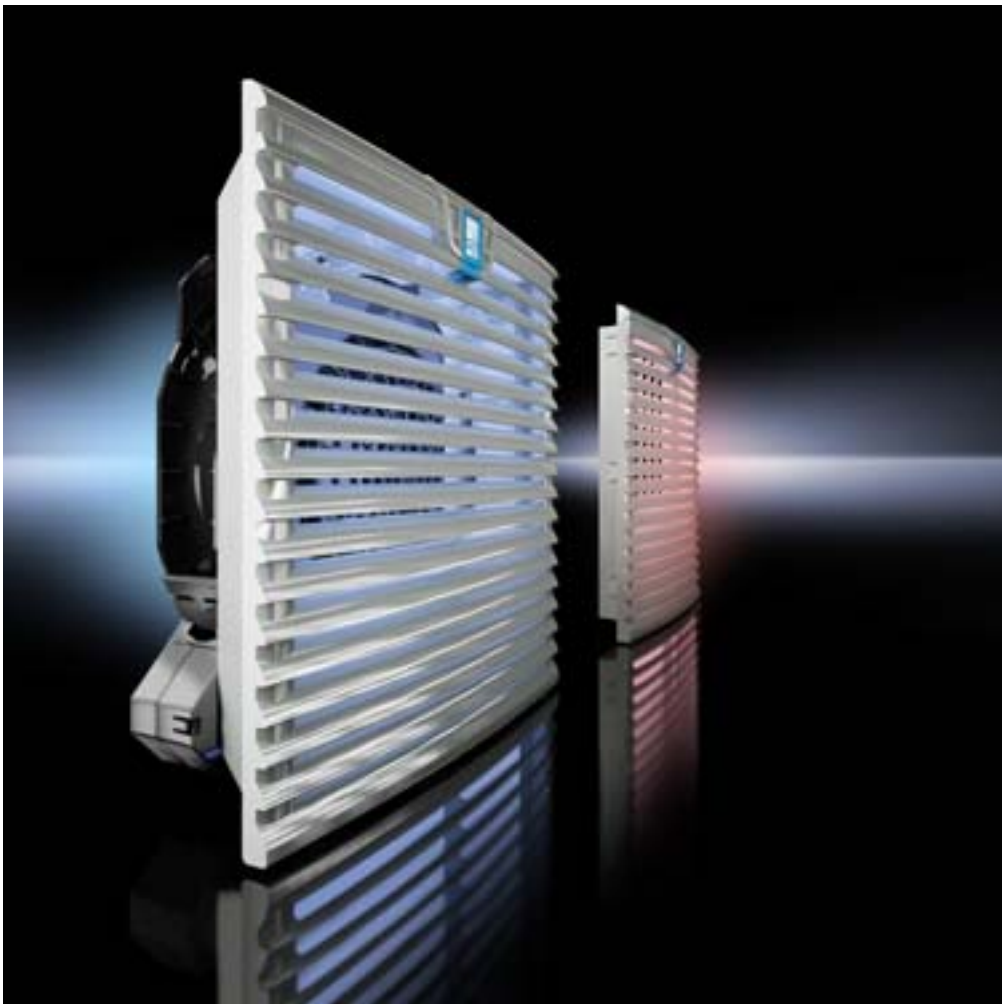
Supply includes:

Nylon loop tape for attachment.

For units	Model No. SK
SK 3201.200, SK 3201.300	**3201.070**

Also required:

Per slave 1 x RJ 45 network cable DK 7320.470 or DK 7320.472.



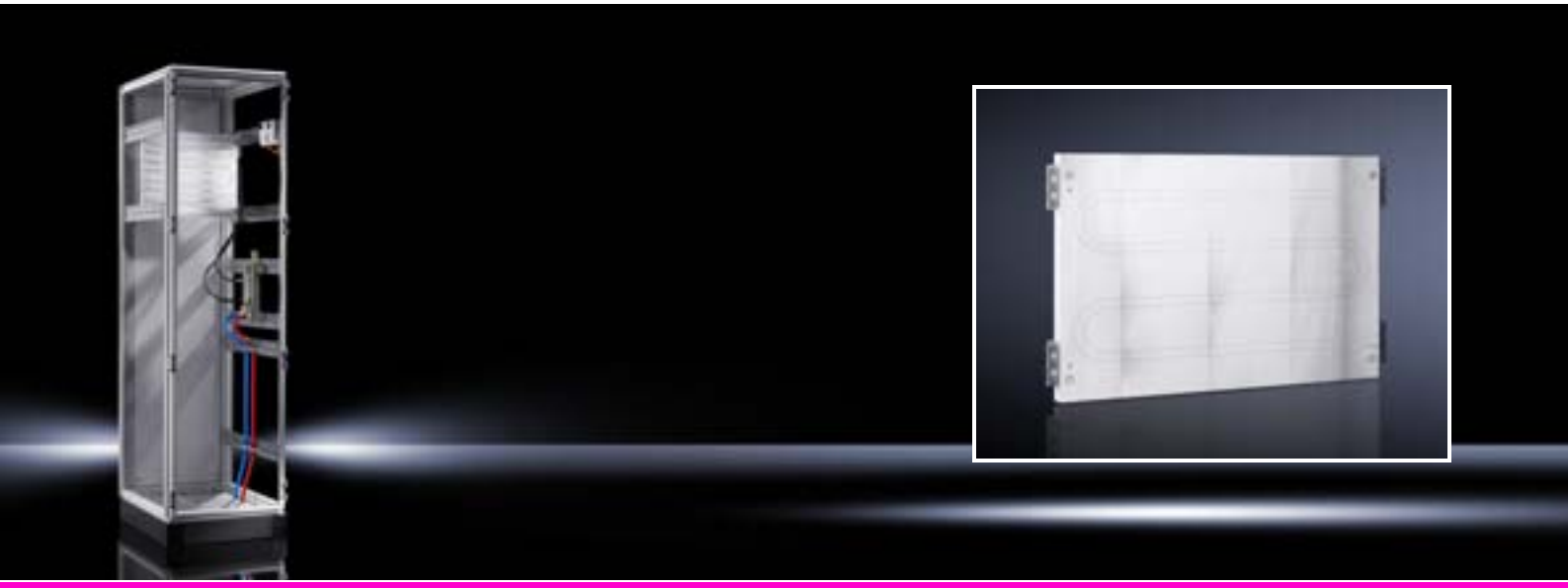


Photo shows a configuration example with equipment not included in the scope of supply.

Liquid-cooled partial mounting plate with drilling surface and T channel
Complete surface may be used for tapped holes provided by the customer.
Alternatively, drive units may be secured to the T channel depending on the version.

Design:
- Press-fitted copper or stainless steel tubes, dependent on the application, in closed recooling systems or existing (open) water infrastructure.
- Cooling water connection: G 1/4˝, anti-twist

Supply includes:
Mounting accessories for system integration into TS 8.

Accessories:
- Quick-action vent valve
- Connection fluid distributor
- TS punched section with mounting flange 17 x 73 mm for the outer mounting level
- Recooling systems for closed cooling circuit
- System attachment SK 8616.700, SK 8616.710, SK 8616.720

Technical information:
Available on the Internet.

Cold Plate incl. T channel for frequency converters

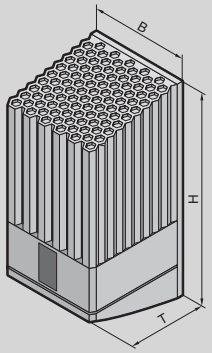
Model No. SK		**8616.602**	**8616.622**	**8616.802**	**8616.822**
For installation in	Enclosure width mm	600	600	800	800
	Enclosure depth (side) mm	600	600	800	800
Dimensions mm	W H D	499 399 20	499 399 20	699 399 20	699 399 20
Output[1]		**2500 W**	**2500 W**	**3000 W**	**3000 W**
Material		CU	VA	CU	VA
Packs of		1	1	1	1
Accessories					
Fluid distribution manifold		8616.750	8616.750	8616.750	8616.750
Quick-action vent valve		8616.762	8616.762	8616.762	8616.762
Flexible hose	500 mm	8616.772	8616.760[2]	8616.772	8616.760[2]
	1000 mm	8616.773	8616.761[2]	8616.773	8616.761[2]
System attachment with all-round clamping surface		8616.700	8616.700	8616.700	8616.700
System attachment with side clamping surfaces		8616.710	8616.710	8616.710	8616.710
System attachment with clamping surfaces top and bottom		8616.720	8616.720	8616.720	8616.720

[1] At 25°C medium inlet temperature, Cold Plate surface temperature ≈ 50°C, medium flowrate $\dot{Q}$ = 200 l/h, surface roughness: 1.2 µm.
[2] Delivery times available on request.
Special sizes available on request.

Enclosure heaters

Supply includes:
– Heater with fan
– Quick-connection terminal
– Assembly parts

Note:
– For precise temperature control inside the enclosure, we recommend the enclosure internal thermostat SK 3110.000 or the digital thermostat SK 3114.200 with display.
– In order to prevent condensation on assemblies, we recommend the hygrostat SK 3118.000 (see accessories) to regulate heating.
– In larger enclosures, even heat distribution is best achieved by installing several low-output heaters.
– The installation of heaters is generally advisable, in order to prevent condensation.



With fan, continuous thermal output 250 – 800 W

Model No. SK		**3105.410**	**3105.380**	**3105.420**	**3105.390**	**3105.430**	**3105.400**
Dimensions mm	W (B) H (H) D (T)	103 200 103		103 200 103		103 200 103	
Rated operating voltage V, Hz		115 V, 50/60 Hz	230 V, 50/60 Hz	115 V, 50/60 Hz	230 V, 50/60 Hz	115 V, 50/60 Hz	230 V, 50/60 Hz
Continuous thermal output at T_u = 10°C		**250 W**		**400 W**		**800 W**	
Pre-fuse T		4 A	4 A	6 A	6 A	10 A	6 A
Accessories	Packs of						
Enclosure internal thermostat	1	3110.000	3110.000	3110.000	3110.000	3110.000	3110.000
Hygrostat	1	3118.000	3118.000	3118.000	3118.000	3118.000	3118.000
Digital temperature display/thermostat	1	3114.200	3114.200	3114.200	3114.200	3114.200	3114.200

We reserve the right to make technical modifications.

Rittal Therm 6.1 software

Rittal Therm 6.1 is a calculation program for enclosure climate control.
The Therm 6.1 software package takes care of the complex calculation of climate control requirements. A user-friendly interface guides the operator to the most suitable, correctly dimensioned climate control component. All evaluations are closely based on the requirements of IEC/TR 60 890 AMD1/02.95 and DIN 3168 for enclosure cooling units.

- Improved user guidance via tabs and simple selection menus
- Express and expert versions
- Configurator for recooling systems
- Heat loss calculator for busbars
- Key calculation data is visible at all times
- Internet updates
- Fast and thorough determination of the required climate control measures
- Determining the correct climate control measures leads to cost savings
- Easy calculation by determining the required actual cooling output, as well as any upgrades or enhancements to the switchgear
- Detailed documentation will be provided with the calculation

Packs of	**Model No. SK**
1	**3121.000**

Supply includes:
CD-ROM, with 19 languages.

Note:
Your free 30-day trial version may be downloaded at **www.rittal.com**

Rittal Power Engineering V 6.0 with design certificate

Planning software for RiLine60 busbar systems and Ri4Power low-voltage switchgear
The multi-lingual software package includes the following functions:

- Project handling, from the initial enquiry through to ordering
- Configuration of RiLine60 busbar systems in the Top enclosure system TS 8. Compact enclosures AE, CM, KS and free-standing enclosure ES 5000
- Configuration of low-voltage switchgear with Ri4Power systems Form 1-4 and ISV
- Complete, automatic function for generating bills of materials and a calculation program for producing a quote
- Input and evaluation of assembly times to calculate man hours
- Access to the entire range of Rittal products
- Output of automatically generated plant documentation with rated current and heat loss calculation

Packs of	**Model No. SV**
1	**3020.500**

- Generation of special fields configured by the customer with graphical processing in the CAD view
- Import/export interfaces for product and CAD data
- Export function for order lists and bills of materials in Excel format
- Interface to EPLAN Electric P8, for the export of CAD data and bills of materials
- The extra benefit for engineering and planning offices: Output of detailed tender texts in MS Word format based on plant project-planned in Power Engineering.
- Output of project-specific assembly plans together with field and plant definitions
- Integral configurator for the generation of drawings and bills of materials to create connector kits for connecting air circuit-breakers (ACB).

Supply includes:
CD-ROM
Languages: German/English/French/Dutch/Danish/Swedish/Czech/Italian/Spanish/Polish/Russian

RiZone module SNMP support for units from other manufacturers

For the incorporation of SNMP-compatible units from other manufacturers into RiZone. With MIB browser.

The function is activated via a new licence key together with the latest version of RiZone.

Extension	**Model No. DK**
RiZone SNMP support for units from other manufacturers	**7990.014**

! Also required:

RiZone Appliance Standard, DK 7990.001 or DK 7990.003.

Note:
For each IP unit from another manufacturer, one IP node in the Rittal Appliance licence is used.

CMC III monitoring system – A solution for every task

IT security is now inextricably linked with the Computer Multi Control (CMC) monitoring system – it has become firmly established as a permanent feature of physical IT security, allowing modern IT infrastructures to be operated securely, while at the same time ensuring optimum performance.

The CMC III monitoring system sets new standards with regard to simple assembly and configuration, reduced system complexity, and cost-effectiveness.

In order to be able to cover the wide range of potential applications in IT and industry, the CMC III monitoring system is available in two variants:

CMC III Processing Unit Compact
The compact monitoring solution for applications in industry and building monitoring or for smaller IT projects with up to four additional CAN-Bus monitoring components.

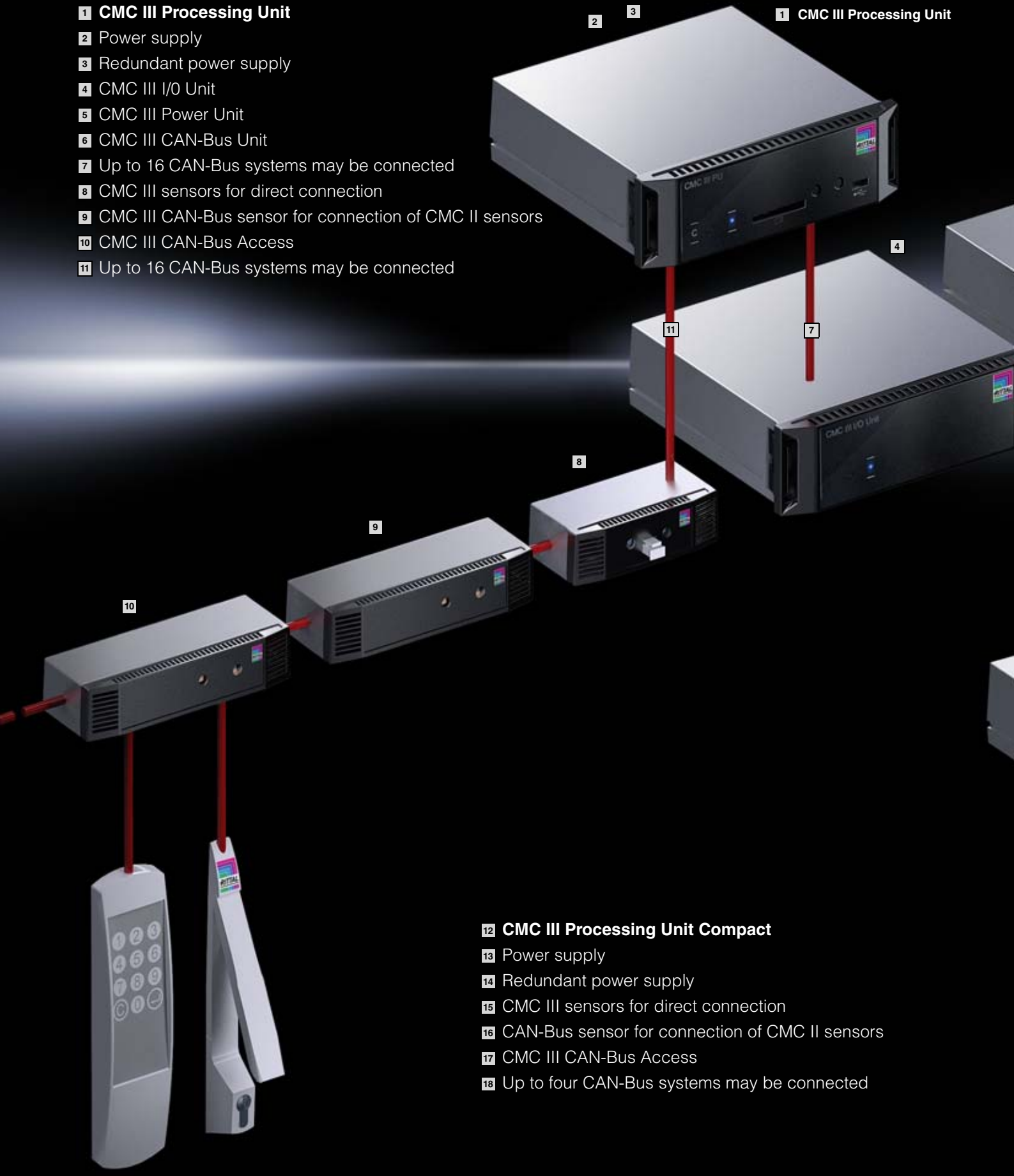
CMC III Processing Unit
The powerful, modularly extendible monitoring solution for demanding IT and industrial environments with the option of connecting up to 32 additional monitoring components.

The benefits to you with both variants:

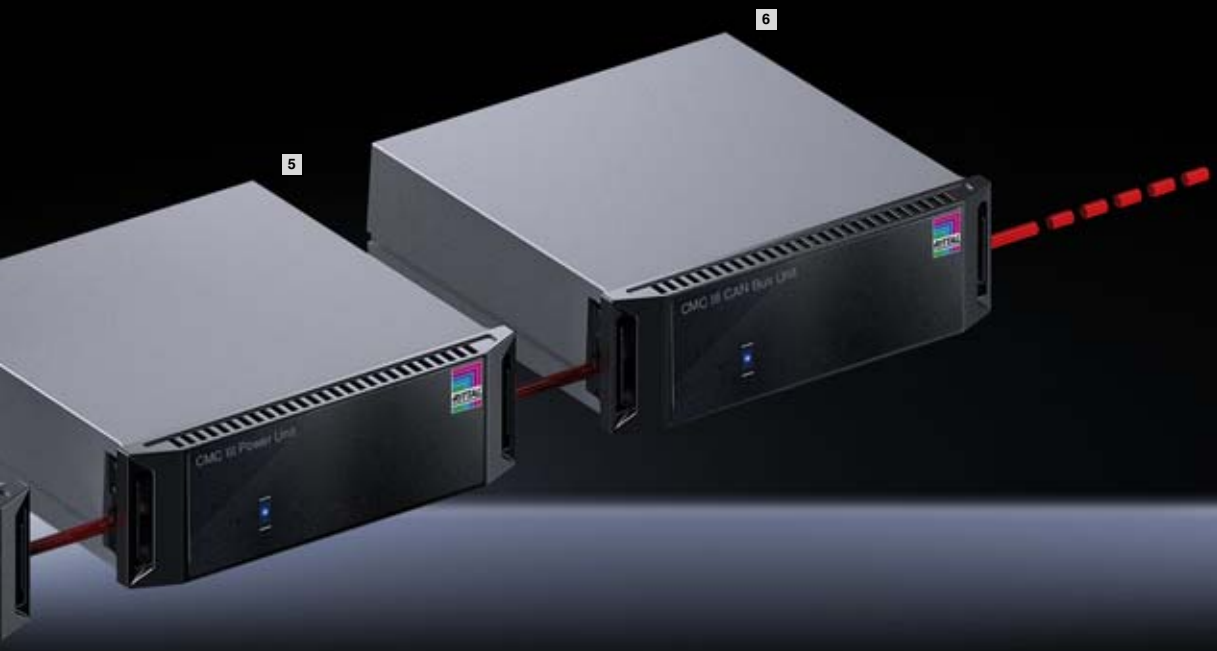
- Minimal cabling work thanks to bus technology
- Temperature and access sensor, digital inputs and relay output already integrated into the base unit
- Sensors may be connected directly
- Power supply either redundant via two PSUs, directly via 24 V DC with industrial applications, or with Power over Ethernet (PoE)
- Integral OPC server allows direct communication with the control room (BMS or SCADA system)
- Fail-safeness, thanks to CAN-Bus technology. Even if the processing unit should fail, the sensors can still communicate with one another autonomously.

CMC III monitoring system

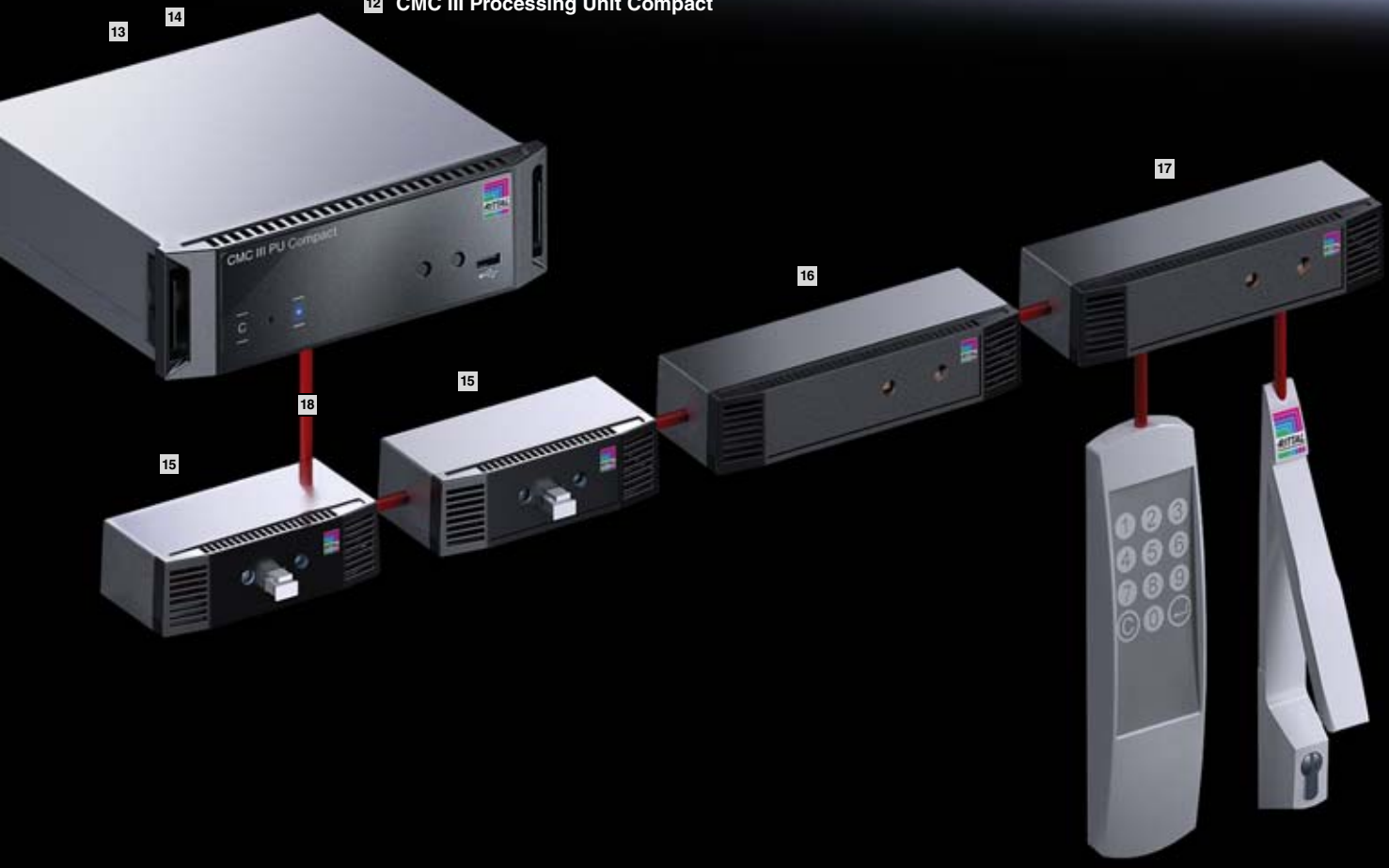
1 **CMC III Processing Unit**
2 Power supply
3 Redundant power supply
4 CMC III I/0 Unit
5 CMC III Power Unit
6 CMC III CAN-Bus Unit
7 Up to 16 CAN-Bus systems may be connected
8 CMC III sensors for direct connection
9 CMC III CAN-Bus sensor for connection of CMC II sensors
10 CMC III CAN-Bus Access
11 Up to 16 CAN-Bus systems may be connected



12 **CMC III Processing Unit Compact**
13 Power supply
14 Redundant power supply
15 CMC III sensors for direct connection
16 CAN-Bus sensor for connection of CMC II sensors
17 CMC III CAN-Bus Access
18 Up to four CAN-Bus systems may be connected



12 CMC III Processing Unit Compact



CMC III Processing Unit/Compact

System overview Page 48/49 **Basic modules and connection accessories** Page 50

Application areas:

CMC III Processing Unit Compact:
- Industrial and enclosure monitoring
- Building monitoring
- Small monitoring applications in IT

CMC III Processing Unit:
- Larger monitoring applications in IT and industry

Material:
Plastic

Surface finish:
– Front: Smooth
– Enclosure: Textured

Colour:
– Front: RAL 9005
– Enclosure: RAL 7035

Protection category:
IP 30 to EN 60 529

Supply includes:
– Basic system
– Quick-start instructions
– 4 mounting feet

		CMC III Processing Unit Compact	CMC III Processing Unit
W x H x D mm		138 x 40 (1 U) x 120 + 12 (front assembly)	138 x 40 (1 U) x 120 + 12 (front assembly)
Temperature range		0°C to +55°C	0°C to +55°C
Operating humidity range		5% to 95% relative humidity, non-condensing	5% to 95% relative humidity, non-condensing
Sensors/CAN-Bus connection units		max. 4	max. 32
Max. overall cable length for CAN-Bus		1 x 50 m	2 x 50 m
Model No. DK		**7030.010**	**7030.000**
Interfaces	Network interface (RJ 45)	Ethernet to IEEE 802.3 via 10/100BaseT with PoE	Ethernet to IEEE 802.3 via 10/100BaseT with PoE
	Front USB interface	Mini USB for system setting	Mini USB for system setting
	Rear USB interface	–	for USB stick for data recording and SW updates up to 32 G
	Front SD-HC slot	–	1 x up to 32G for data recording
	Rear serial RS232 (RJ 12)	1 x for connecting Display Unit DK 7320.491 or GSM Unit DK 7320.820 or ISDN Unit DK 7320.830	1 x for connecting Display Unit DK 7320.491 or GSM Unit DK 7320.820 or ISDN Unit DK 7320.830
Inputs and outputs	Digital inputs (terminal)	2	2
	Relay output (terminal)	Change-over contact max. 24 V DC,1 A	Change-over contact max. 24 V DC,1 A
	CAN-Bus (RJ 45)	1 x for max. 4 sensors (quantity restriction, see page 47)	2 x for max. 16 sensors each = 32 sensors in total (quantity restriction, see page 47)
Operation/ signals	Push-button	1 x acknowledgement button	1 x acknowledgement button
	Concealed reset button	1 x service button	1 x service button
	Piezo signal generator	1	1
	LED display	1 x multi-colour OK/warning/alarm	1 x multi-colour OK/warning/alarm
	Rear LED	1 x for the network status	1 x for the network status
Protocols	Ethernet	TCP/IPv4, TCP/IPv6, SNMPv1, SNMPv3, Telnet, SSH, FTP, SFTP, HTTP, HTTPS, NTP, DHCP, DNS server, SMTP, XML, Syslog, LDAP	TCP/IPv4, TCP/IPv6, SNMPv1, SNMPv3, Telnet, SSH, FTP, SFTP, HTTP, HTTPS, NTP, DHCP, DNS server, SMTP, XML, Syslog, LDAP
Redundant power supply	Input 24 V DC (jack)	1 x for connecting CMC III power pack	1 x for connecting CMC III power pack
	Input 24 V DC (terminals)	1 x for direct connection or for connecting CMC III power pack	1 x for direct connection or for connecting CMC III power pack
	Power over Ethernet	1 x	1 x
Functions	Time function	Real-time clock, energy-buffered (24 h) without battery/accumulator, with NTP	Real-time clock, energy-buffered (24 h) without battery/accumulator, with NTP
	User administration	LDAP	LDAP
	User interface	Integral WEB server	Integral WEB server
	Control room connection	Integral OPC server	Integral OPC server
Integral sensors	Temperature sensor	NTC sensor in the enclosure front	NTC sensor in the enclosure front
	Access sensor	Infrared technology in the enclosure front	Infrared technology in the enclosure front

Power pack

The CMC III power pack may be integrated into the CMC III assembly unit.

CMC III Power Supply	Model No. DK
CMC III Power Supply Input voltage 100 – 240 V 50/60 Hz, output voltage 24 V DC, 2 A	**7030.060**[1)]

[1)] Connection cable/extension required
D/F/B: 230 V, Model No. DK 7200.210
USA/CDN: 230/115 V, Model No. DK 7200.214
C13/C14: 230/115 V, Model No. DK 7200.215

Programming cable

The programming cable is required for commissioning of the Processing Unit (PU) or PU Compact.

	Model No. DK
CMC III programming cable USB	**7030.080**

CAN-Bus connection cable

This can be used to connect the PU with the CAN-Bus sensors III, Units III, control units III as a bus. Also for cabling together.

Cable	Length (m)	Packs of	Model No. DK
CMC III CAN-Bus connection cable RJ 45	0.5	1	**7030.090**
CMC III CAN-Bus connection cable RJ 45	1	1	**7030.091**
CMC III CAN-Bus connection cable RJ 45	1.5	1	**7030.092**
CMC III CAN-Bus connection cable RJ 45	2	1	**7030.093**
CMC III CAN-Bus connection cable RJ 45	5	1	**7030.094**
CMC III CAN-Bus connection cable RJ 45	10	1	**7030.095**

CMC III mounting unit, 1 U

To accommodate PU, PU Compact, control units, CMC III CAN-Bus unit and CMC III power pack. The mounting unit can accommodate up to 3 units and is secured in the 482.6 mm (19˝) frame.

	Packs of	Model No. DK
CMC III mounting unit, 1 U	1	**7030.070**

CMC III mounting unit

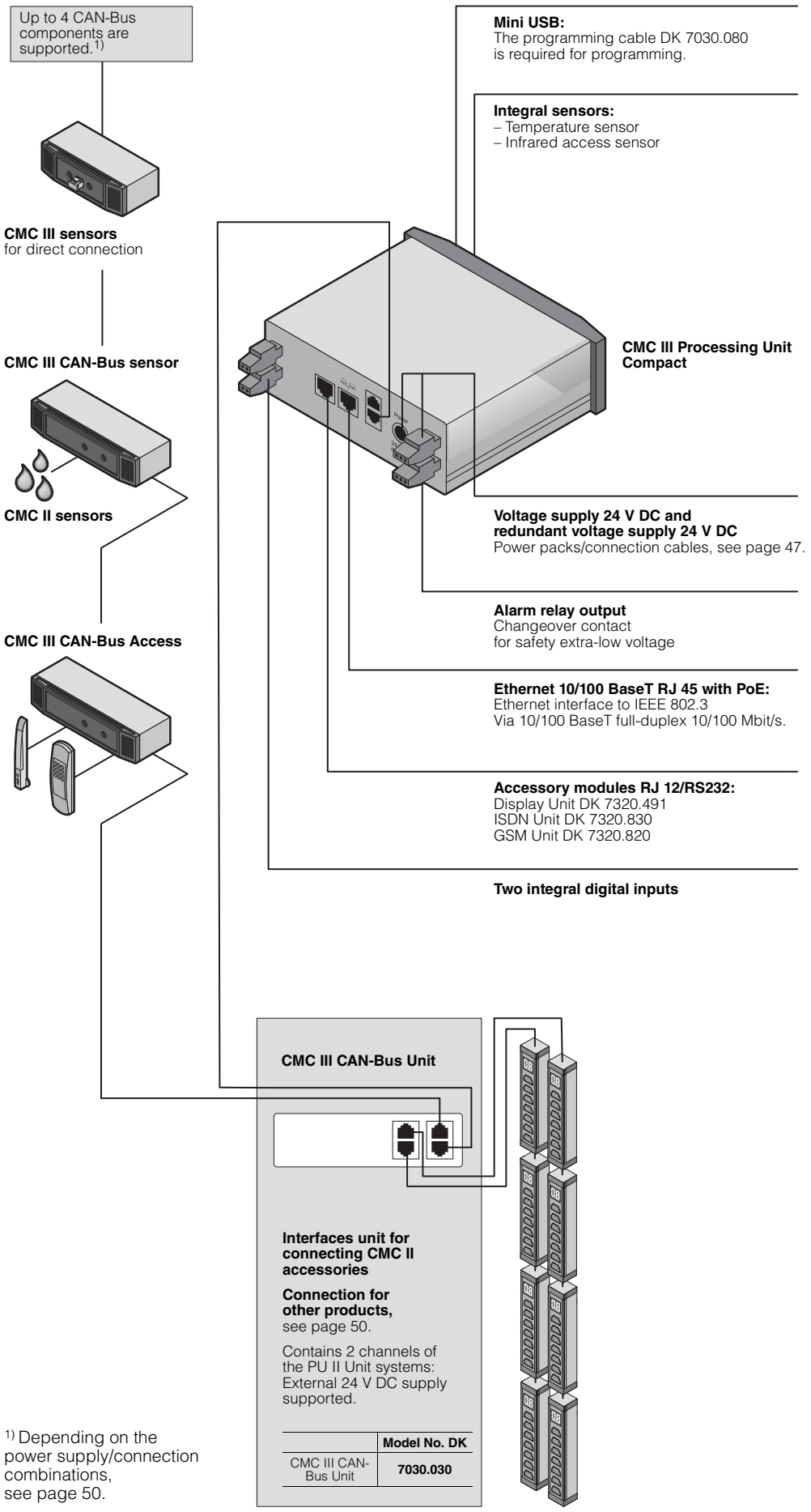
for enclosure frame

Can accommodate one unit and is mounted on the enclosure frame.

	Packs of	Model No. DK
CMC III mounting unit for enclosure frame	1	**7030.071**

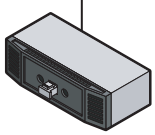
CMC III Processing Unit Compact

System overview



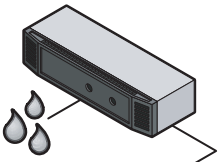
1) Depending on the power supply/connection combinations, see page 50.

System overview



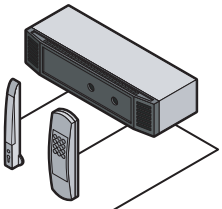
CMC III sensors:
for direct connection

CMC III CAN-Bus sensor



CMC II sensors

CMC III CAN-Bus Access

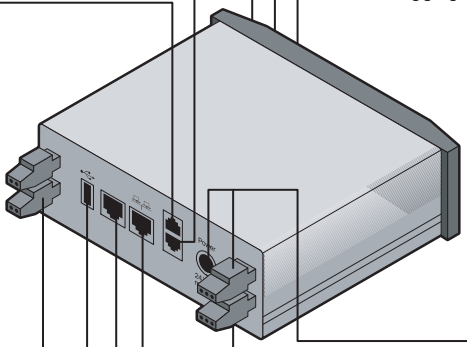


Up to 16 CAN-Bus systems are supported.[1)]

Mini USB:
The programming cable DK 7030.080 is required for programming.

Integral sensors:
– Temperature sensor
– Infrared access sensor

SD card insert:
for data logging



CMC III Processing Unit

Voltage supply 24 V DC and redundant voltage supply 24 V DC
Power packs/connection cables, see page 47.

Alarm relay output:
Change-over contact
for safety extra-low voltage

Ethernet 10/100 BaseT RJ 45 with PoE:
Ethernet interface to IEEE 802.3
Via 10/100 BaseT full-duplex 10/100 Mbit/s.

Accessory modules RJ 12/RS232:
Display Unit DK 7320.490
ISDN Unit DK 7320.830
GSM Unit DK 7320.820

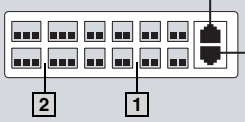
USB master for data logging and update

Two integral digital inputs

Up to 16 CAN-Bus systems are supported.[1)]

Control units

CMC III I/0 Unit



2 1

Contains

1 8 digital inputs

2 and 4 relay outputs

	Model No. DK
CMC III I/O Unit	7030.040

CMC III Power Unit

Functions:
Switching and measurement of voltage, power, output and work.
With two outputs.
Also for the activation of AC fans.

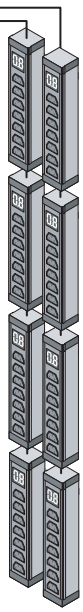
	Model No. DK
CMC III Power Unit	7030.050

CMC III CAN-Bus Unit

Interfaces unit for connecting CMC II accessories

Connection for other products,
see page 50.

	Model No. DK
CMC III CAN-Bus Unit	7030.030



[1)] Depending on the power supply/connection combinations, see page 50.

Control units for CMC III Processing Unit

	Model No. DK	PU Compact	PU
		Maximum quantity	
CMC III I/O Unit, 8 digital inputs + 4 relay outputs	7030.040[3)]	–	16
CMC III Power Unit, 1 input (C14) + 2 outputs (C13) 230 V, 50/60 Hz	7030.050[3)]	–	16

CMC III sensors for direct connection

Temperature sensor	7030.110	4	32
Temperature/humidity sensor	7030.111	4	32
Infrared access sensor	7030.120	4	32
Vandalism sensor	7030.130	4	32
Analog airflow sensor	7030.140	4	10[1)]
Analog differential pressure sensor	7030.150	4	32
Universal sensor (digital input or 4-20 mA or SoBus power meter or Wiegand interface)	7030.190	4	32

Interface for CMC II sensors

CMC III CAN-Bus Unit for sensor	**7030.100**	4	32
For connecting the following products:			
5 x access sensors (packs of 2), connect a max. of 5 in series	7320.530		
1 x smoke detector	7320.560		
1 x motion detector	7320.570		
1 x voltage monitor 48 V DC	7320.620		
1 x leakage sensor	7320.630		
1 x leakage sensor, with sensor length 15 m	7320.631		
1/3 x fire detector and extinguisher system DET-AC Plus with 3 messages	7338.120		
1/3 x early fire detector system DET-AC Plus with 3 messages	7338.220		
1/2 x Door Control System with 2 enclosure channels	7320.790		

Access System

CMC III CAN-Bus Unit Access (with integral infrared access sensor and interface for one reader III)	**7030.200**	2	16[1)]
For connecting the following products:			
1 x Ergoform-S handle (el. magn.)	7320.700		
1 x Comfort handle TS 8 (el. magn. TS 8 handle with master key function, with and without CCP)	7320.721		
1 x universal lock	7320.730		
1 x universal handle	7320.950		
1 x CMC III coded lock	7030.220	2	16[1)]
1 x CMC III transponder reader	7030.230	2	16[1)]

Interface for PSM, PCU, FCS, DRC

CMC III CAN-Bus Unit for 2 unit channels	**7030.030[3)]**	1	4[2)]
For connecting the following products (note: separate supply via power pack possible):			
2 x Fan Control System FCS (DK 7320.812 fan 24 V DC for FCS)	7320.810		
2 x fan mounting plate DC (universal fan roof W x D 800 x 800 mm with FCS)	7858.488		
2 x RFID Controller DRC	7890.500		
2 x 4 x Rittal Power Control Unit (PCU) 8-way	7200.001		
2 x 4 x Rittal Power Control Unit (PCU) C13/earthing pin LED 6-way	7859.215		
2 x 4 x Rittal Power Control Unit (PCU) C13 LED 8-way	7859.225		
2 x 4 x Rittal Power Control Unit (PCU) C13/19 LED 6-way	7859.235		
2 x 4 x PSM socket module active PSM C13 8-way	7856.201		
2 x 4 x PSM socket module active PSM C13/earthing pin 6-way	7856.203		
2 x 4 x PSM socket module active PSM C13/19 6-way	7856.204		
2 x 4 x PSM socket module active PSM C13/earthing pin LED 6-way	7859.212		
2 x 4 x PSM socket module active PSM C13 LED 8-way	7859.222		
2 x 4 x PSM socket module active PSM C13/19 LED 6-way	7859.232		
2 x PSM busbar with measurement 16 A	7856.016		
2 x PSM busbar with measurement 32 A	7856.003		
2 x PSM measurement module 16 A	7856.019		

[1)] Max. 5 hours and [2)] max. 1 hour for power supply with PoE or 48 V power pack.
[3)] Optional attachment see page 47.

List of model numbers/Index

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05.2011/E910

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