Rittal – The System.

Faster – better – everywhere.

Excerpt from System Catalogue 36

SYSTEM CATALOGUE 36

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

FRIEDHELM LOH GROUP

RITTAL

Rittal – The System.

Faster – better – everywhere.

ENCLOSURES **POWER DISTRIBUTION** **CLIMATE CONTROL**

FRIEDHELM LOH GROUP

For information on the delivery times of your preferred Model No., please go to:
www.rittal.com

Individual configuration options:
www.rittal.com/configurators

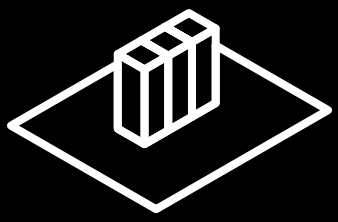
IT infrastructure

Industry 4.0 trends

Data processing close to production

More automation, more data

The digital transformation is revolutionising production. To control production in line with Industry 4.0, all components are now interlinked and communicate with one another: robots, human/machine interfaces, sensors and actuators, machines, tools and control systems. Their values are compared against their digital twin. This generates vast volumes of data.

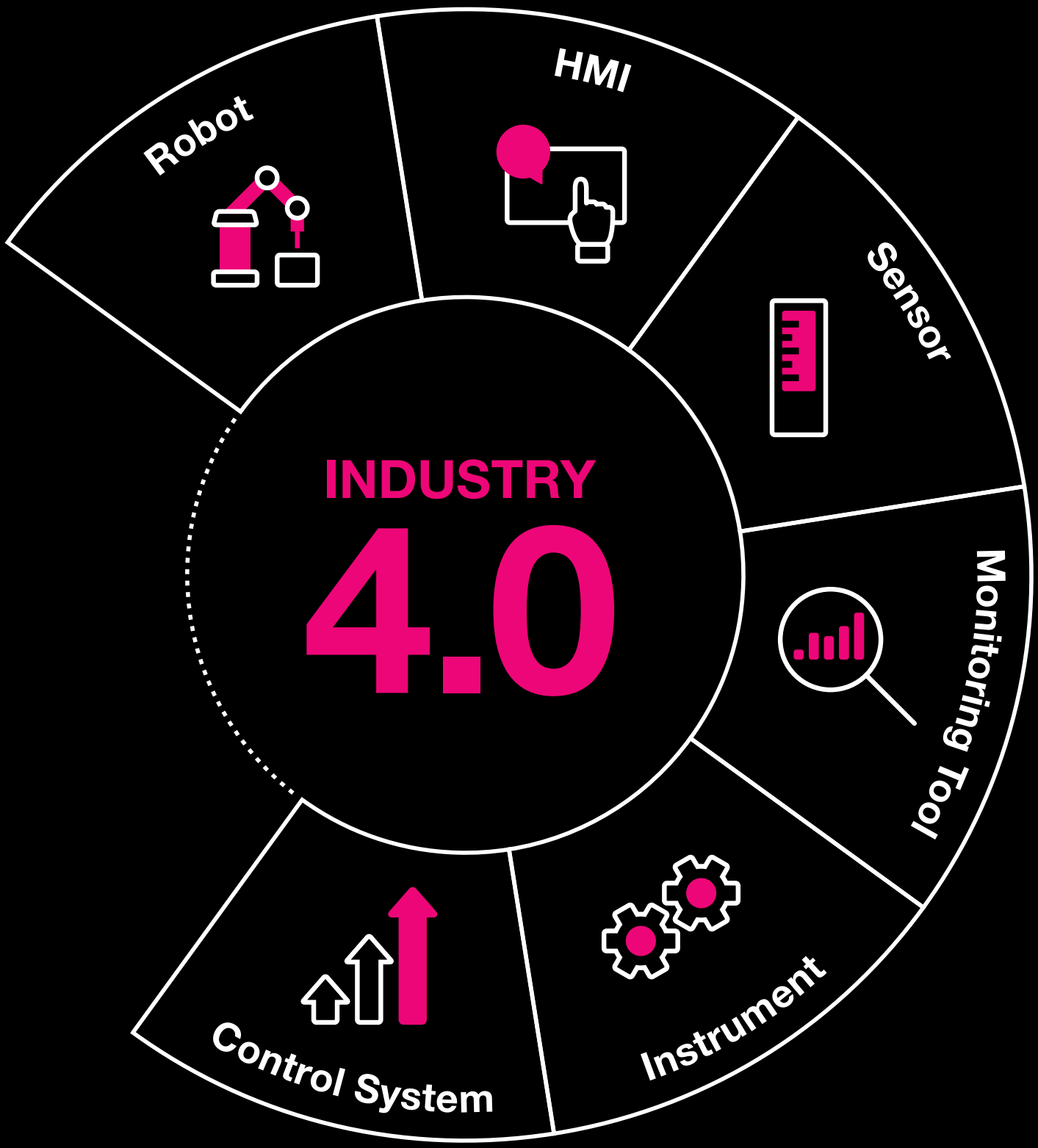


Edge data centres reduce latencies

Large volumes of data generated in the immediate production environment must be processed quickly and reliably. To this end, Rittal offers scalable edge data centres which ensure low latencies, maximum computing power and optimum security.

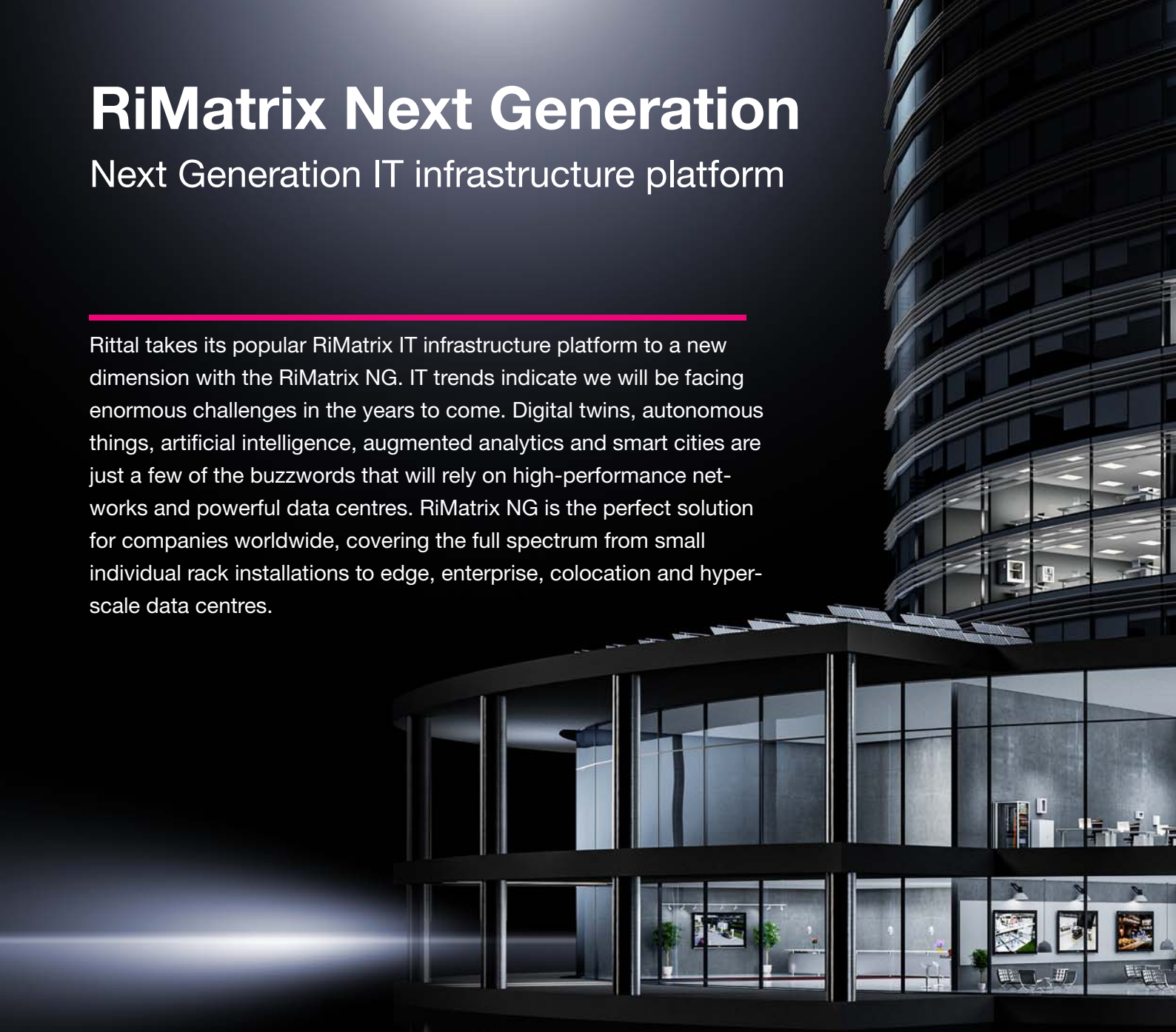
Private clouds offer security

From the individual sensor to the private cloud: invaluable, success-critical data flows need protective mechanisms to meet escalating security requirements. A combination of edge data centres and private cloud solutions allows customers to decide for themselves who may use their data and to what extent.


Robot
HMI
Sensor
Monitoring Tool
Instrument
Control System
INDUSTRY
4.0

RiMatrix Next Generation

Next Generation IT infrastructure platform



Rittal takes its popular RiMatrix IT infrastructure platform to a new dimension with the RiMatrix NG. IT trends indicate we will be facing enormous challenges in the years to come. Digital twins, autonomous things, artificial intelligence, augmented analytics and smart cities are just a few of the buzzwords that will rely on high-performance networks and powerful data centres. RiMatrix NG is the perfect solution for companies worldwide, covering the full spectrum from small individual rack installations to edge, enterprise, colocation and hyperscale data centres.

Innovative platform

- RiMatrix NG now includes a number of additional key components, such as predefined data centre modules and built-in OCP technology.
- Our ongoing R&D work keeps us up-to-date with future technology trends.
- Energy-efficient components provide the basis for implementing customised sustainability concepts.

Flexibly adaptable

- RiMatrix NG flexibly supports the IT lifecycle, from planning through to operation and optimisation.
- RiMatrix NG is freely scalable in every dimension, be it output range, installation size, availability or fail-safe operation. The open platform concept supports the addition of certified products and solutions from third-party providers.
- Variable financing models complement the portfolio and support flexible investment decisions.

Fast availability

- Predefined, tried-and-tested solutions such as edge and container data centres reduce the customer input.
- RiMatrix NG is perfectly tailored to the demands of IT components as well as superordinate management systems and applications, and supports the prompt implementation of complete solutions (XaaS).

Reliable solutions

- RiMatrix NG is synonymous with tested Rittal quality which meets international standards.
- The new platform is compatible with existing installed systems and guarantees flexible extendibility.
- Documentation and training, plus a comprehensive customer service package, round out the platform concept.

Rittal Competence Centre

Expert teams for the data centre lifecycle

Safeguard long-term efficiency and scalability
Data centres demand long-term action extending far beyond the initial setup. Everything must be modular and flexible to enable it to grow over a period of many years, while still maintaining maximum efficiency. With this in mind, the expert teams at the Rittal Competence Centre IT are happy to support your data projects throughout their entire lifecycle.

The lifecycle IT
Rittal’s lifecycle IT helps you to develop state-of-the-art IT landscapes. It defines the periodic lifecycle of data centres at the following stages:

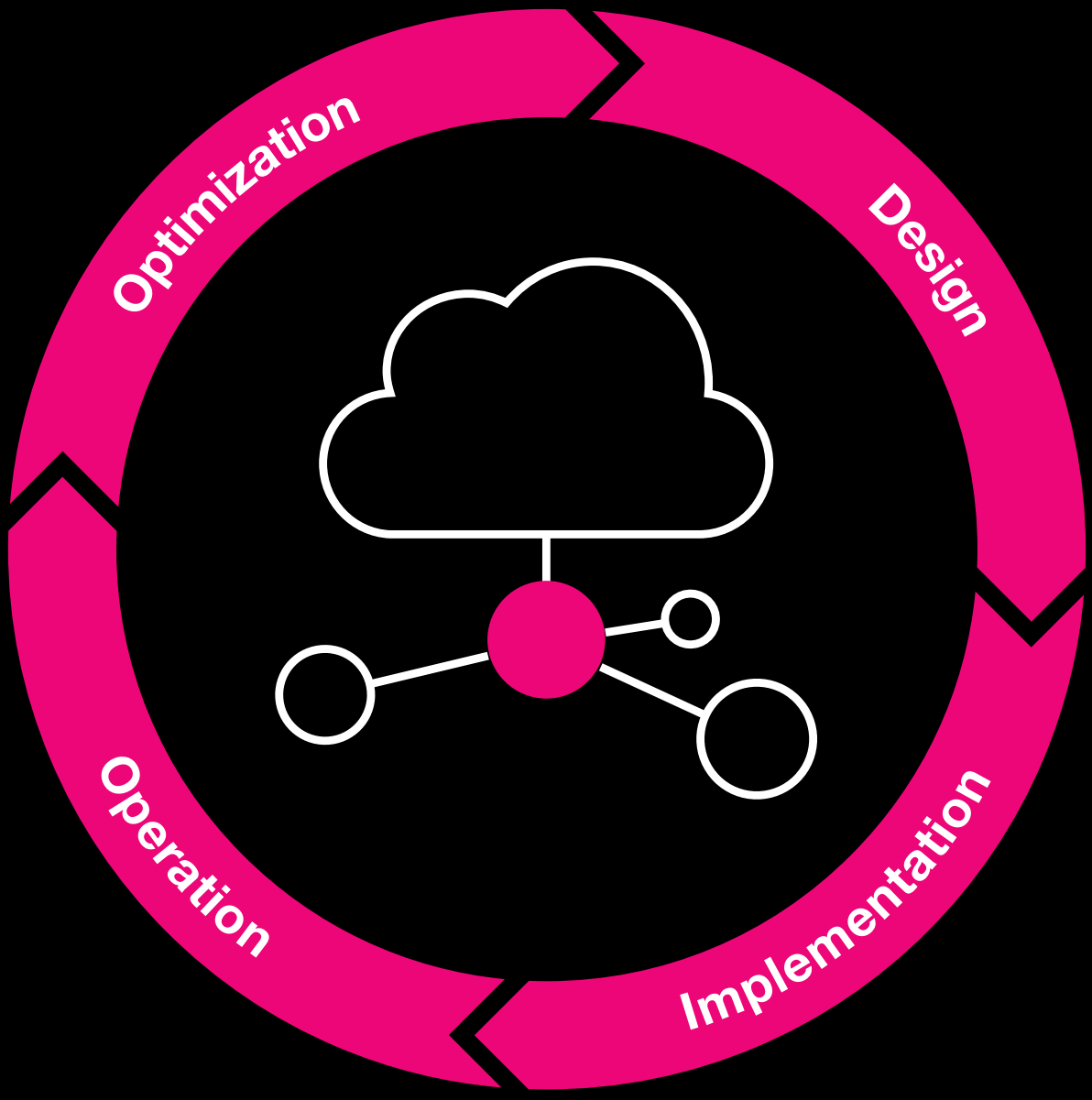
Design
Once the data centre concept has been developed, the solution modules are selected, and the investment (CAPEX) and operating costs (OPEX) are calculated.

Implementation
The physical infrastructure (electricity, cooling, monitoring, security) is assembled. This is followed by commissioning and sign-off of the data centre.

Operation
You may opt to operate the data centre yourself, or use a managed service from Innovo Cloud. You can also link into Innovo's central data centres, e.g. for backup purposes or to cushion peak loads.

Optimization
The efficiency, costs, sustainability and scalability of the installed solution are analysed. This allows us to draw conclusions about the potential for optimising your IT landscape.

Adopting an holistic view of all framework conditions and influencing factors helps to prevent data centre planning errors and develop a future-viable, resilient solution. A flexible, modular data centre architecture means you can respond flexibly to new or modified requirements to ensure that you always operate your data centre at the optimum point. This guarantees permanent savings, not just in relation to investments but also with operating costs. The expert teams at the Rittal IT competence centres have extensive expertise from many years spent working on countless international IT projects. Our specialists will support you with all issues relating to concept development and detailed planning of data centres, calculation of TCO, security aspects, and monitoring and maintenance planning.



Edge data centres

On-site data management

Production to Industry 4.0 generates huge volumes of data which must be processed and transported extremely rapidly, securely and seamlessly, for example for interaction between machines. This may prove too much for cloud-based solutions. Edge data centres, on the other hand, allow data to be processed in the immediate environment of the production process (i.e. at the edge of the cloud). This helps to boost the level of automation in production directly on site.

Minimal latency

- Autonomous systems such as vehicles and machines must be able to respond quickly to data generated in real time.
- High-performing data networks such as optical fibre connections, as well as 5G connections and edge data centres, are the key technologies in this regard.

System security

- Data privacy is vital and poses a challenge, particularly in distributed systems such as IIoT applications.
- Not only is it necessary to protect personal data, but also product and process data. Digital twin is the buzzword here, because a product's data is just as important as the product itself.

Local data processing

- Smart machines, autonomous systems and robots generate such huge volumes of data that it would be inappropriate to transmit them directly to a core or cloud data centre.
- Within the context of Industry 4.0 applications, as well as in smart cities, edge data centres are indispensable for bringing applications to the point of data generation.

High availability

- The availability of an edge data centre reflects the availability of the application.
- Redundant supply paths, backed-up power supplies and cooling, together with finely-tuned workflows and failover scenarios help to ensure the availability of a solution.

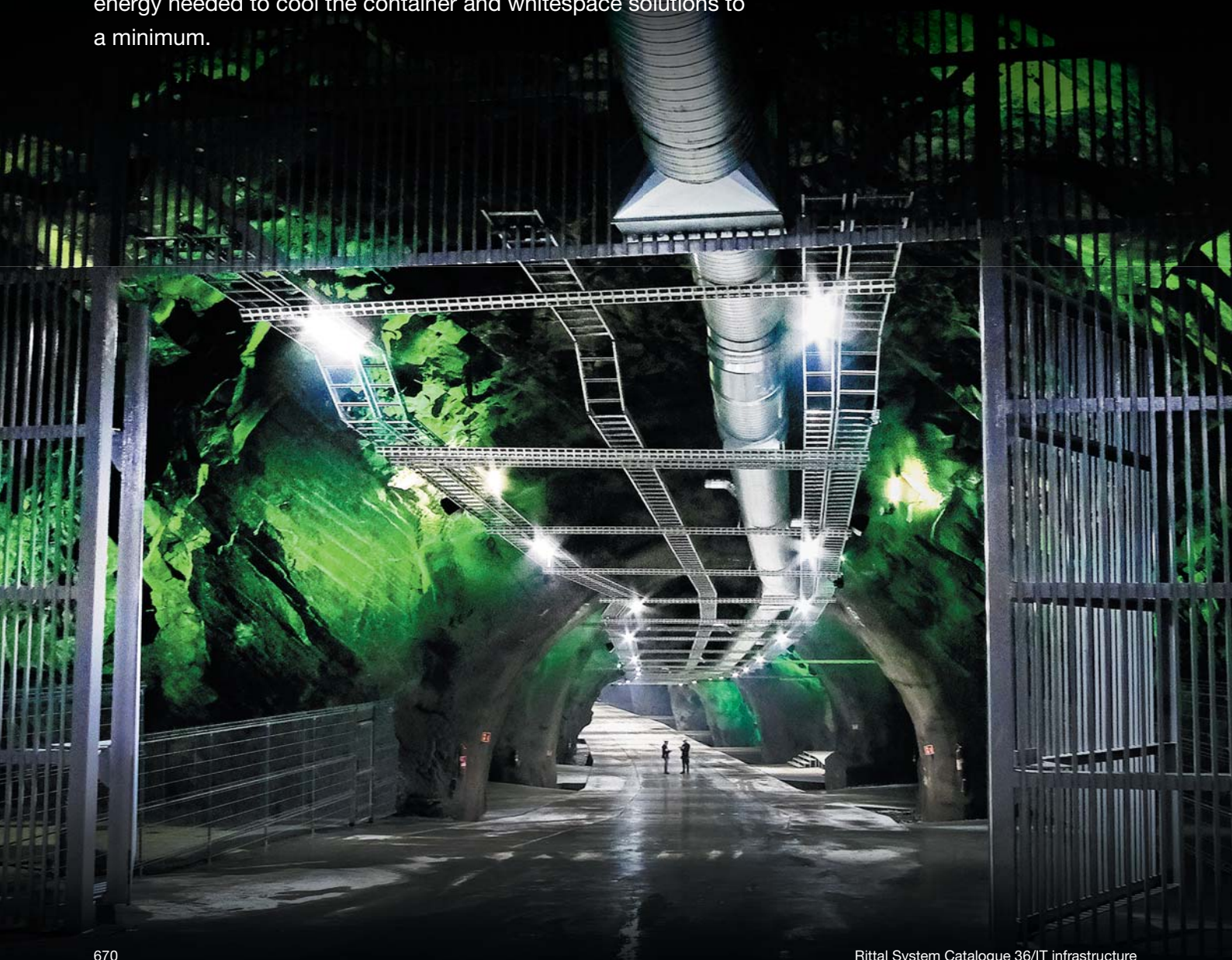
Dynamically scalable systems

- Edge applications are tailored to the customer's requirements. This calls for a high level of flexibility in infrastructure components (IT and OT) as well as in applications.
- For this reason, edge data centres need to be scalable and, in conjunction with the applications, capable of aligning with requirements. Predefined data centre modules that nevertheless offer a high degree of flexibility provide the basis for distributed data centre topologies.

IT infrastructure solutions

Green, reliable and efficient – an example

One of the world's largest data centres is housed in a decommissioned mine at the Lefdal Mine Datacenter (LMD) on the west coast of Norway. The five-storey tunnel system with 75 chambers provides 120,000 square metres of space with a potential total capacity of up to 200 MW. It is one of the most cost-effective, secure, flexible and eco-friendly data centre solutions in Europe. It is powered solely by electricity from renewable sources such as hydropower plants and solar farms, and uses water from the nearby fjord for cooling.
The primary circuit is connected to the 565 metre deep fjord, which guarantees unlimited supplies of cold water. Water/water heat exchangers supply the secondary circuit in the mine, keeping the energy needed to cool the container and whitespace solutions to a minimum.



LMD uses IT containers from the Rittal container platform, such as server containers with an output of up to 300 kW. Standardised interfaces for power supply, water connections and the network allows equipment to be incorporated rapidly into the heavy-duty shelving system, where up to three containers may be stacked on top of one another in a tunnel. The container platform is scalable in terms of both output and redundancy, and customer requests are flexibly accommodated.

The tunnels at LMD are also perfectly suited to whitespace solutions. The Rittal security room GSR is used to protect valuable IT components from the harsh mine environment. Infrastructure modules from the aforementioned container solutions are installed here. Individual planning of these areas is supported, making LMD freely scalable in every dimension.

When the Total Cost of Ownership (TCO) is taken into account, LMD is 40 percent cheaper than other data centres in Europe. This is due not only to the attractive electricity price and the use of sea water cooling from the fjord, but also to the outstanding partial PUE (efficiency) of the standardised data centre modules across the full breadth of applications, from memory-intensive storage/backup solutions through to high-performance computing (HPC).

Of course, a comprehensive security concept is also included in the range of services. In this regard, the mine system offers inestimable benefits: the facility is only accessible via well-protected entry points. The rock formation provides natural protection from electromagnetic pulses. Specially trained security staff patrol the entire installation around the clock, 365 days a year. A three-stage authentication process and smart camera systems provide additional security. The installation is certified to Uptime Tier III design and represents one of the most secure data centre solutions in the Nordic market.

Rittal – The System.

Faster – better – everywhere.

IT rack system/enclosure

Network/server racks VX IT

Cable management racks

Network racks TE 8000

Distributor racks

IT racks

Your benefits

Network/server racks

- For individual use as stand-alone installations and data centres
- Complete system solutions for small to large networks
- Maximum configuration versatility and protection for installed equipment
- Simple conversions and use of our extensive modular system ensures flexibility and safeguards your investment

Wall-mounted enclosures

- A comprehensive choice of products – the right enclosure for every application – up to protection category IP 66
- Wide range of sizes available from 3 U to 21 U
- Extensive selection of accessories with "Rittal – The System."
- Fast assembly, modification and simple installation based on the modular principle

Sample applications

1 Wall-mounted enclosure EL, see page 715

2 VerticalBox, see page 712

3 Wall-mounted enclosure AX IT with 482.6 mm (19″) mounting angles, see page 719

4 VX IT with glazed door for rack climate control, see page 692, base/plinth and installation accessories, see page 880

5 VX IT with vented door for room cooling, see page 686, bayed with base/plinth and installation accessories, see page 878

6 Small fibre-optic distributor, see page 720

VX IT

The solution for all network and server applications

Whether you need a network rack to house a corridor distributor, or server racks for an edge, cloud or hyperscale data centre, the new VX IT provides the ideal platform and meets all the requirements of a modern IT infrastructure.

Consistent customer focus
The new VX IT is based on a modular concept with a customer-friendly configurator to guide you quickly and easily to a solution that is tailored to your individual requirements. A state-of-the-art production line and optimised logistics ensure fast availability and on-time delivery.

Matching modules
The new VX IT provides the basis for RiMatrix Next Generation, the latest generation to have evolved from our extremely popular Rittal IT system, now with numerous new features and innovative products.

Seamless compatibility
A data centre infrastructure will outlive its individual servers. Compatibility with established RiMatrix systems is therefore crucial. The VX IT and RiMatrix NG are therefore ideal for extending existing data centres and replacing individual components.

Future-proof
We stay abreast of the latest trends and understand what drives experts and companies, enabling us to deliver forward-looking solutions. The VX IT, like the RiMatrix NG, are continuously being refined to keep pace with the challenges of an evolving IT infrastructure.

Comprehensive modular system

For all requirements

Versatility for every application

- Even the standard variants are available in up to 28 sizes (EU series) – 2 widths, 6 heights and 4 depths.
- Select your individual 482.6 mm (19″) installation to meet your specific requirements from a comprehensive range of racks, components and accessories plus two different load classes (dynamic or standard, as per the detailed rack specifications) and your chosen 482.6 mm (19″) interior installation variant, with maximum load limits of 15,000 N or 18,000 N.

Tailored door concept

The choice of door depends on the spatial conditions and your individual requirements with regard to access, climate control and protection category.

- The new 180° hinge ensures a maximum door opening angle even when bayed plus a large-scale handle system including security lock with profile half-cylinder.
- There is a door to suit every climate control system, be it rack, suite or room cooling.
- New options include an automatic door opener to provide emergency cooling or to ensure rack extinguishing with a gas-based room extinguisher system.
- Glazed doors are available for an optimum view or to ensure a closed climate control zone in conjunction with high-performance cooling applications, such as high-capacity heat exchangers.

Roof concept with the required protection category

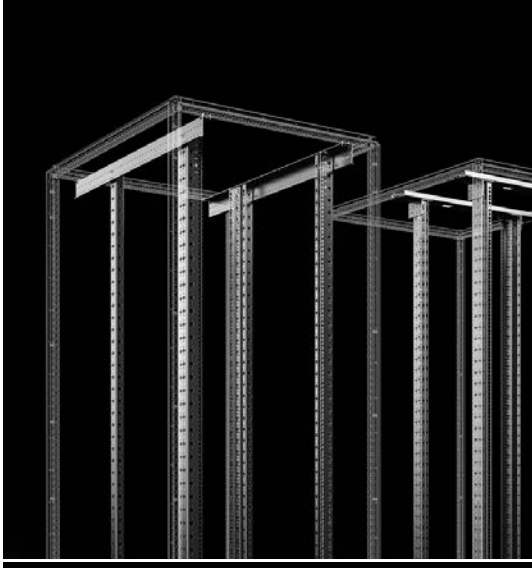
The choice of roof solution will depend on your planned cable entry and prescribed protection category, for example:

- One-piece, solid, with a protection category of up to IP 55
- With brush strip on both sides across the entire enclosure depth
- Cable entry via brush strip horizontally at the rear, across the entire enclosure width
- Cable entry in the corner zones via brush strips

User-friendly side panel solutions

Your choice of side panel will depend on the required level of access and the prescribed security and protection category parameters, for example:

- For individual enclosures: Optionally one-piece, multi-piece, horizontally divided, plug-in or vertically divided, hinged
- To finish off an enclosure suite: Multi-piece, screw-fastened or partitions, one-piece, slide-in fixing for physical separation of individual enclosures within an enclosure suite



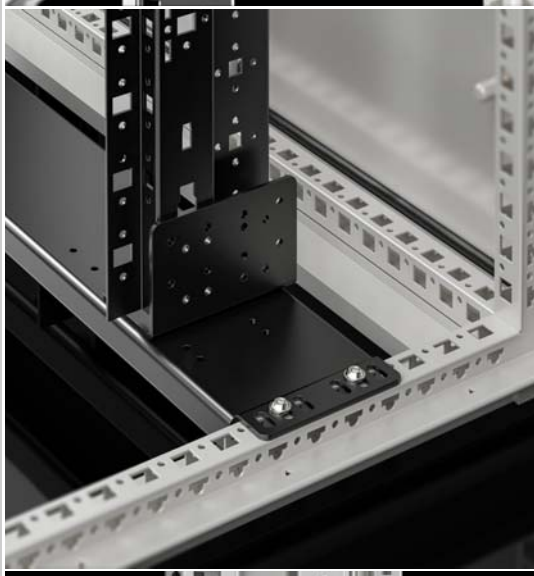
High load capacity

With maximum flexibility

Flexible 482.6 mm (19″) installation

Choose from two 482.6 mm (19″) installation systems to suit your requirements:

- Standard – Load capacity up to a maximum of 15,000 N or 12,000 N to UL 2416
- Dynamic – Load capacity up to a maximum of 18,000 N or 15,000 N to UL 2416
- Different installation concepts are available for the 482.6 mm (19″) mounting angles, depending on the enclosure dimensions. While 600 mm wide racks are mounted directly onto the enclosure frame, in 800 mm wide racks the 482.6 mm (19″) levels are mounted on depth stays or cross-members. In this way, alternative mounting dimensions of 21″, 23″ and 24″ are readily accommodated in the enclosure width 800 mm, as are asymmetrical arrangements of the 482.6 mm (19″) mounting level. The standard installation variant with cross-members is used with rack depths of up to 800 mm and is ideally suited for use as a network distributor by supporting fast, simple cable management across the entire enclosure width in any height unit.
- An asymmetrical arrangement of the 482.6 mm (19″) level gains additional installation space on one side which may be used for optimised cable routing or to integrate a Liquid Cooling Unit (LCU).



Easily extend your existing systems

- The VX IT is also compatible with all existing IT infrastructure solutions assembled with the TS IT and DK TS systems – in other words, further configuration and baying are easily achieved with the VX IT.
- The new baying variant with 3 mm baying gap means that entire racks or liquid cooling packages are easily extracted from the enclosure suite and replaced with updated hardware.

Converting to VX IT couldn't be simpler

- Our smart conversion assistant, available on the Rittal website, allows you to easily convert your existing enclosure systems to the new VX IT system.

Security and ease of use

Customised at all levels

Roof

- A broad spectrum of individual roof solutions
- Ideal solutions for secure, simple cable entry, even with high cable volumes
- Closed variants for a high protection category of IP 55

Walls

- Divided side panels for problem-free one-man assembly
- Vertically divided, hinged side panels for easy access without dismantling the side panel
- Side panels latched from the inside for superior access protection

Doors

- Vented or solid, to suit the individual climate control concept
- Mechanical and electronic lock systems for optimum security
- Door control systems to automatically open the doors in the event of a cooling failure or for room-based extinguisher systems

Base

- Individual base modules for optimum, secure cable entry from below
- Base/plinth systems with integral cable management solutions

Room integration

- Perfectly adapted modules for achieving cold or hot aisle solutions

Interior installation

With unlimited diversity

Power

- Wide range of socket strips and power distribution systems
- Power distribution unit in the zero-U space
- Professional monitoring and link to DCIM software (such as RiZone)
- Measurement of power, current, active and apparent power and power factor

Cooling

- Individual climate control concepts for rack, suite and room cooling up to 53 kW per rack
- Energy-efficient systems help to minimise operating costs

Monitoring

- CMC III enables preventive intervention to reduce the risk of downtime
- Mechanical and electronic lock systems for optimum security

Security

- Fire alarm and extinguisher systems for early fire detection and automatic extinguishing
- Door control systems to automatically open the doors in the event of a cooling failure and for room-based extinguisher systems

Interior installation

- Practical vertical and horizontal air routing inside the rack, even with a high density of ports
- Component shelves, for static or withdrawable installation
- Air blocking systems for optimum air routing inside the rack, adapted to the individual climate control concept

Network/server racks VX IT

Door variant, front		Vented door	Vented door	Vented door	
482.6 mm (19") configuration		**standard**	**dynamic**	**standard**	
Material thickness 482.6 mm (19") configuration variant, mm		2.0	2.5	2.0	
Load capacity, static N max., depending on size variant		15000	18000	15000	
Load capacity, static N max., to UL 2416, depending on size variant		12000	15000	12000	
Load capacity, dynamic N max., transport using castors, depending on size variant		10000	10000	10000	
Protection category to IEC 60 529		–	–	–	
Variants		53XX.11X	53XX.81X	53XX.166	
Product-specific scope of supply					
Base	Open	■	■	–	
	Multi-piece, solid	–	–	–	
Rear door	One-piece, solid, 130° hinges	–	–	–	
	Vertically divided, from H ≥ 1800 mm, solid, 180° hinges	–	–	–	
	One-piece, vented, 130° hinges	■	■	–	
	Vertically divided, from H ≥ 1800 mm, vented, 180° hinges	■	■	■	
	Rear panel, screw-fastened	–	–	–	
Roof	With cable entry	■	■	■	
	Solid	–	–	–	
Pre-configured					
Base/plinth	VX base/plinth, vented	–	–	■	
Base	Solid front, one base module as infill panel	–	–	■	
Walls	One-piece, screw-fastened	–	–	■	
Page		686	689	691	

	Glazed door	Glazed door	Glazed door	Glazed door	Glazed door	Glazed door
	standard	**dynamic**	**standard**	**standard**	**swing frame**	**without interior installation**
	2.0	2.5	2.0	2.0	2.0	–
	15000	18000	15000	15000	3500	–
	12000	15000	12000	12000	3500	–
	10000	10000	10000	10000	3500	–
	–	–	IP 55	–	–	IP 55
	53XX.12X	53XX.82X	53XX.13X	53XX.15X	53XX.157	53XX.190
	■	■	–	–	–	–
	–	–	■	–	–	■
	■	■	■	■	–	■
	■	■	–	■	–	–
	–	–	–	–	–	–
	–	–	–	–	–	–
	–	–	–	–	■	–
	■	■	–	■	■	–
	–	–	■	–	–	■
	–	–	–	■	■	–
	–	–	–	■	■	–
	–	–	–	■	■	–
	692	695	696	697	698	699

Network/server racks VX IT

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation, vent grille at the front: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Aluminium/sheet steel door at the front, vented (vented surface area approx. 85% perforated), 180° hinges
- Sheet steel rear door, vented (vented surface area approx. 85% perforated)
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Please observe the product-specific scope of supply.

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with vented doors, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	24	24	42	42	42	Page
Width mm		800	800	600	600	600	
Height mm		1200	1200	2000	2000	2000	
Depth mm		800	1000	600	800	1000	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front	front and rear	front and rear	
482.6 mm (19") attachment		on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	
Max. load capacity (static) per enclosure N		8000	15000	7500	15000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		8000	12000	6000	12000	12000	
Distance between prefitted 482.6 mm (19") levels mm		520	720	–	520	720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		150 / 130	87 / 193	87 / 435	87 / 193	87 / 193	
Model No.	1 pc(s).	**5303.114**	**5304.116**	**5329.111**	**5330.113**	**5308.113**	
Product-specific scope of supply, roof plate							
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	■	■	–	–	–	
Roof plate, multi-piece, removable, for horizontal cable entry at the rear and with covered cut-out for fan mounting plate	1 pc(s).	–	–	■	–	–	
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	–	–	–	■	■	
Product-specific scope of supply, door							
Sheet steel door, vented, one-piece, 130° hinges	1 pc(s).	■	■	–	–	–	
Sheet steel rear door, vented, vertically divided, 180° hinges	1 pc(s).	–	–	■	■	■	
Accessories							
Side panel, screw-fastened, sheet steel	2 pc(s).	8175.245	8176.245	8106.245	8108.245	8100.245	901
Side panel, horizontally divided	1 pc(s).	–	–	–	–	5301.250	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.337	5301.344	–	–	5301.338	897

with vented doors, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	42	42	42	42	47	Page
Width mm		600	800	800	800	600	
Height mm		2000	2000	2000	2000	2200	
Depth mm		1200	800	1000	1200	800	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	screw-fastened onto depth stays, top and bottom, and to the support rail on the frame structure	with mounting bracket screw-fastened to the frame at the top and bottom	
Max. load capacity (static) per enclosure N		15000	8000	15000	15000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	8000	12000	12000	12000	
Distance between prefitted 482.6 mm (19") levels mm		720	520	720	720	520	
Free mounting space to the 482.6 mm (19") level, front/rear mm		150 / 330	150 / 130	87 / 193	150 / 330	87 / 193	
Model No.	1 pc(s).	**5310.118**	**5307.114**	**5309.116**	**5311.116**	**5331.113**	
Product-specific scope of supply, roof plate							
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	–	–	–	■	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	■	■	■	–	
Product-specific scope of supply, door							
Sheet steel rear door, vented, vertically divided, 180° hinges	1 pc(s).	■	■	■	■	■	
Accessories							
Side panel, screw-fastened, sheet steel	2 pc(s).	8102.245	8108.245	8100.245	8102.245	8128.245	901
Side panel, horizontally divided	1 pc(s).	5301.254	–	5301.250	5301.254	–	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.341	5301.337	5301.344	5301.347	–	897

Network/server racks VX IT

with vented doors, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	47	47	47	47	47	Page
Width mm		600	600	800	800	800	
Height mm		2200	2200	2200	2200	2200	
Depth mm		1000	1200	800	1000	1200	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	screw-fastened onto depth stays, top and bottom, and to the support rail on the frame structure	
Max. load capacity (static) per enclosure N		15000	15000	8000	15000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	12000	8000	12000	12000	
Distance between prefitted 482.6 mm (19") levels mm		720	720	520	720	720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 193	150 / 330	150 / 130	87 / 193	150 / 330	
Model No.	1 pc(s).	**5313.113**	**5315.118**	**5312.114**	**5314.116**	**5316.116**	
Product-specific scope of supply, roof plate							
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	■	–	–	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	■	■	■	
Product-specific scope of supply, door							
Sheet steel rear door, vented, vertically divided, 180° hinges	1 pc(s).	■	■	■	■	■	
Accessories							
Side panel, screw-fastened, sheet steel	2 pc(s).	8120.245	8122.245	8128.245	8120.245	8122.245	901
Side panel, horizontally divided	1 pc(s).	5301.257	5301.261	–	5301.257	5301.261	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.341	5301.337	5301.344	5301.347	897

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation, vent grille at the front: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Aluminium/sheet steel door at the front, vented (vented surface area approx. 85% perforated), 180° hinges
- Sheet steel rear door, vented (vented surface area approx. 85% perforated), vertically divided, 180° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Please observe the product-specific scope of supply.

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with vented doors, with 482.6 mm (19") mounting angles, dynamic

Units U	Packs of	42	42	42	42	Page
Width mm		600	600	800	800	
Height mm		2000	2000	2000	2000	
Depth mm		1000	1200	1000	1200	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and on depth stays at the bottom	on depth stays, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		18000	18000	18000	18000	
Max. load capacity (static) per enclosure to UL 2416 N		15000	15000	15000	15000	
Distance between prefitted 482.6 mm (19") levels mm		700	725	700	725	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 213	150 / 325	87 / 213	150 / 325	
Model No.	1 pc(s).	**5308.813**	**5310.818**	**5309.816**	**5311.816**	
Note on Model No.		–	–	–	–	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	■	–	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	■	■	
Accessories						
Side panel, screw-fastened, sheet steel	2 pc(s).	8100.245	8102.245	8100.245	8102.245	901
Side panel, horizontally divided	1 pc(s).	5301.250	5301.254	5301.250	5301.254	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.341	5301.344	5301.347	897

Network/server racks VX IT

with vented doors, with 482.6 mm (19") mounting angles, dynamic

Units U	Packs of	47	47	47	47	Page
Width mm		600	600	800	800	
Height mm		2200	2200	2200	2200	
Depth mm		1000	1200	1000	1200	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and on depth stays at the bottom	on depth stays, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		18000	18000	18000	18000	
Max. load capacity (static) per enclosure to UL 2416 N		15000	15000	15000	15000	
Distance between prefitted 482.6 mm (19") levels mm		700	725	700	725	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 213	150 / 325	87 / 213	150 / 325	
Model No.	1 pc(s).	**5313.813**	**5315.818**	**5314.816**	**5316.816**	
Note on Model No.		–	–	–	–	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	■	–	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	■	■	
Accessories						
Side panel, screw-fastened, sheet steel	2 pc(s).	8120.245	8122.245	8120.245	8122.245	901
Side panel, horizontally divided	1 pc(s).	5301.257	5301.261	5301.257	5301.261	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.341	5301.344	5301.347	897

with vented doors, with 482.6 mm (19") mounting angles, dynamic

Units U	Packs of	52	52	52	52	Page
Width mm		600	600	800	800	
Height mm		2450	2450	2450	2450	
Depth mm		1000	1200	1000	1200	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and on depth stays at the bottom	on depth stays, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		18000	18000	18000	18000	
Max. load capacity (static) per enclosure to UL 2416 N		15000	15000	15000	15000	
Distance between prefitted 482.6 mm (19") levels mm		700	725	700	725	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 213	150 / 325	87 / 213	150 / 325	
Model No.	1 pc(s).	**5334.813**	**5332.818**	**5335.816**	**5333.816**	
Note on Model No.		Minimum order quantity = 10 pc(s).	Minimum order quantity = 10 pc(s).	Minimum order quantity = 10 pc(s).	Minimum order quantity = 10 pc(s).	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	■	–	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	■	■	
Accessories						
Side panel, screw-fastened, sheet steel		–	–	–	–	
Side panel, horizontally divided	1 pc(s).	5301.264	5301.265	5301.264	5301.265	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.341	5301.344	5301.347	897

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Plastic

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation, vent grille at the front, base/plinth: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Aluminium/sheet steel door at the front, vented (vented surface area approx. 85% perforated), 180° hinges
- Sheet steel rear door, vented (vented surface area approx. 85% perforated), vertically divided, 180° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- 482.6 mm (19") mounting angle, standard, variably screw-fastened to depth stays at the top and bottom
- Side panels, one-piece, for screw fastening
- Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate
- Base module mounted at front as infill panel
- Base/plinth system VX, 100 mm, vented
- Base/plinth corner pieces and trim panels, sides, screw-fastened
- Base/plinth trim panels, front and rear plus corner and baying covers supplied loose
- 4 levelling feet, M12, including base/plinth adaptor (supplied loose)
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- 4 combination rails for inner and outer mounting level, to fit rack depth (supplied loose)
- 10 cable shunting rings, metal, 125 x 65 mm (supplied loose)
- IPPC pallet

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with vented doors, pre-configured, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	42	Page
Width mm		800	
Height mm		2000	
Height including base/plinth mm		2100	
Depth mm		1000	
Max. load capacity (static) per enclosure N		15000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	
Distance between prefitted 482.6 mm (19") levels mm		720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 193	
Model No.	1 pc(s).	**5309.166**	
Accessories			
Fan mounting plate	1 pc(s).	5502.020	790
Cable route	1 pc(s).	5302.120	1066

Network/server racks VX IT

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front, 180° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Please observe the product-specific scope of supply.

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with glazed door, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	15	24	24	24	38	Page
Width mm		600	600	800	800	600	
Height mm		800	1200	1200	1200	1800	
Depth mm		600	600	800	1000	600	
Mounting position of the 482.6 mm (19") level(s)		front	front	front and rear	front and rear	front	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	
Max. load capacity (static) per enclosure N		7500	7500	8000	15000	7500	
Max. load capacity (static) per enclosure to UL 2416 N		6000	6000	8000	12000	6000	
Distance between prefitted 482.6 mm (19") levels mm		–	–	520	720	–	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 435	87 / 435	150 / 130	87 / 193	87 / 435	
Model No.	1 pc(s).	**5325.121**	**5326.121**	**5303.124**	**5304.126**	**5327.121**	
Product-specific scope of supply, roof plate							
Roof plate, multi-piece, with horizontal cable entry at the rear and prepared for fan mounting plate	1 pc(s).	■	■	–	–	■	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	■	■	–	
Product-specific scope of supply, door							
Sheet steel rear door, solid, one-piece, 130° hinges	1 pc(s).	■	■	■	■	–	
Sheet steel rear door, solid, vertically divided, 180° hinges	1 pc(s).	–	–	–	–	■	
Accessories							
Side panel, screw-fastened, sheet steel	2 pc(s).	8173.245	8170.245	8175.245	8176.245	8186.245	901
Side panel, horizontally divided		–	–	–	–	–	
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	–	–	5301.337	5301.344	–	897

with glazed door, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	38	38	42	42	Page
Width mm		600	800	600	600	
Height mm		1800	1800	2000	2000	
Depth mm		800	800	600	800	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	
Max. load capacity (static) per enclosure N		15000	8000	7500	15000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	8000	6000	12000	
Distance between prefitted 482.6 mm (19") levels mm		520	520	–	520	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 193	150 / 130	87 / 435	87 / 193	
Model No.	1 pc(s).	**5328.123**	**5305.124**	**5329.121**	**5330.123**	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	–	–	■	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	■	–	–	
Roof plate, multi-piece, with horizontal cable entry at the rear and prepared for fan mounting plate	1 pc(s).	–	–	■	–	
Product-specific scope of supply, door						
Sheet steel rear door, solid, vertically divided, 180° hinges	1 pc(s).	■	■	■	■	
Accessories						
Side panel, screw-fastened, sheet steel	2 pc(s).	8188.245	8188.245	8106.245	8108.245	901
Side panel, horizontally divided		–	–	–	–	
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	–	5301.337	–	–	897

with glazed door, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	42	42	42	42	Page
Width mm		600	600	800	800	
Height mm		2000	2000	2000	2000	
Depth mm		1000	1200	600	800	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on the cross-member, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		15000	15000	4000	8000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	12000	4000	8000	
Distance between prefitted 482.6 mm (19") levels mm		720	720	–	520	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 193	150 / 330	150 / 372	150 / 130	
Model No.	1 pc(s).	**5308.123**	**5310.128**	**5306.122**	**5307.124**	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	■	–	–	
Roof plate, multi-piece, with horizontal cable entry at the rear and prepared for fan mounting plate	1 pc(s).	–	–	■	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	–	–	■	
Product-specific scope of supply, door						
Sheet steel rear door, solid, vertically divided, 180° hinges	1 pc(s).	■	■	■	■	
Accessories						
Side panel, screw-fastened, sheet steel	2 pc(s).	8100.245	8102.245	8106.245	8108.245	901
Side panel, horizontally divided	1 pc(s).	5301.250	5301.254	–	–	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.341	5301.336	5301.337	897

Network/server racks VX IT

with glazed door, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	42	42	47	47	Page
Width mm		800	800	800	800	
Height mm		2000	2000	2200	2200	
Depth mm		1000	1200	800	1000	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		on depth stays, screw-fastened at the top and bottom	screw-fastened onto depth stays, top and bottom, and to the support rail on the frame structure	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		15000	15000	8000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		12000	12000	8000	12000	
Distance between prefitted 482.6 mm (19") levels mm		720	720	520	720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 193	150 / 330	150 / 130	87 / 193	
Model No.	1 pc(s).	**5309.126**	**5311.126**	**5312.124**	**5314.126**	
Product-specific scope of supply, roof plate						
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	■	■	■	■	
Product-specific scope of supply, door						
Sheet steel rear door, solid, vertically divided, 180° hinges	1 pc(s).	■	■	■	■	
Accessories						
Side panel, screw-fastened, sheet steel	2 pc(s).	8100.245	8102.245	8128.245	8120.245	901
Side panel, horizontally divided	1 pc(s).	5301.250	5301.254	–	5301.257	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.344	5301.347	5301.337	5301.344	897

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front, 180° hinges
- Sheet steel rear door, solid, vertically divided, 180° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Please observe the product-specific scope of supply.

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with glazed door, with 482.6 mm (19") mounting angles, dynamic

Units U	Packs of	42	42	42	Page
Width mm		600	800	800	
Height mm		2000	2000	2000	
Depth mm		1000	1000	1200	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	on depth stays, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		18000	18000	18000	
Max. load capacity (static) per enclosure to UL 2416 N		15000	15000	15000	
Distance between prefitted 482.6 mm (19") levels mm		700	700	725	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 213	87 / 213	150 / 325	
Model No.	1 pc(s).	**5308.823**	**5309.826**	**5311.826**	
Product-specific scope of supply, roof plate					
Roof plate, multi-piece, with cable entry in the corner sections front and rear	1 pc(s).	■	–	–	
Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate	1 pc(s).	–	■	■	
Accessories					
Side panel, screw-fastened, sheet steel	2 pc(s).	8100.245	8100.245	8102.245	901
Side panel, horizontally divided	1 pc(s).	5301.250	5301.250	5301.254	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	5301.310	914
Gland plate set, multi-piece, solid	1 pc(s).	5301.338	5301.344	5301.347	897

Network/server racks VX IT

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation: RAL 9005
- Handle and hinges: RAL 9005

Protection category IP to IEC 60 529:
- IP 55 only in conjunction with baying seal or screw-fastened side panels

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front, 180° hinges
- Sheet steel rear door, solid, one-piece, 130° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Roof plate, one-piece, solid
- Base tray with gland plate, multi-piece, solid
- Baying seal and sealing kit for gland plates (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with glazed door, IP 55, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	24	24	42	42	42	42	Page
Width mm		600	800	600	600	800	800	
Height mm		1200	1200	2000	2000	2000	2000	
Depth mm		600	800	600	800	800	1000	
Mounting position of the 482.6 mm (19") level(s)		front	front and rear	front	front and rear	front and rear	front and rear	
482.6 mm (19") attachment		with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	with mounting bracket screw-fastened to the frame at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		7500	8000	7500	15000	8000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		6000	8000	6000	12000	8000	12000	
Distance between prefitted 482.6 mm (19") levels mm		–	520	–	520	520	720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		87 / 435	150 / 130	87 / 435	87 / 193	150 / 130	87 / 193	
Model No.	1 pc(s).	**5326.131**	**5303.134**	**5329.131**	**5330.133**	**5307.134**	**5309.136**	
Accessories								
Side panel, screw-fastened, sheet steel	2 pc(s).	8170.245	8175.245	8106.245	8108.245	8108.245	8100.245	901
Baying connector, external	6 pc(s).	8617.502	8617.502	8617.502	8617.502	8617.502	8617.502	912
Combination rails	4 pc(s).	5302.020	5302.021	5302.020	5302.021	5302.021	5302.022	1063
Cable route	1 pc(s).	–	–	5302.120	5302.120	5302.120	5302.120	1066
Component shelf for frame attachment		see page	see page	see page	see page	see page	see page	1006

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Plastic
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation, base/plinth: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front, 180° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Side panels, one-piece, lockable
- Roof plate, multi-piece, with side cable entry in the depth, double-sided, prepared for fan mounting plate
- Base module mounted at front as infill panel
- Base/plinth system VX, 100 mm, vented
- Base/plinth corner pieces and trim panels, sides, screw-fastened
- Base/plinth trim panels, front and rear plus corner and baying covers supplied loose
- 4 levelling feet, M12, including base/plinth adaptor (supplied loose)
- Spacers to raise the fan cover plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- 4 combination rails for inner and outer mounting level, to fit rack depth (supplied loose)
- 10 cable shunting rings, metal, 125 x 65 mm (supplied loose)
- IPPC pallet

Please observe the product-specific scope of supply.

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

with glazed door, pre-configured, with 482.6 mm (19") mounting angles, standard

Units U	Packs of	24	42	42	Page
Width mm		800	800	800	
Height mm		1200	2000	2000	
Height including base/plinth mm		1300	2100	2100	
Depth mm		800	800	1000	
Mounting position of the 482.6 mm (19") level(s)		front and rear	front and rear	front and rear	
482.6 mm (19") attachment		on the cross-member, screw-fastened at the top and bottom	on the cross-member, screw-fastened at the top and bottom	on depth stays, screw-fastened at the top and bottom	
Max. load capacity (static) per enclosure N		8000	8000	15000	
Max. load capacity (static) per enclosure to UL 2416 N		8000	8000	12000	
Distance between prefitted 482.6 mm (19") levels mm		520	520	720	
Free mounting space to the 482.6 mm (19") level, front/rear mm		150 / 130	150 / 130	87 / 193	
Model No.	1 pc(s).	**5303.154**	**5307.154**	**5309.156**	
Product-specific scope of supply, door					
Sheet steel rear door, solid, one-piece, 130° hinges	1 pc(s).	■	–	–	
Sheet steel rear door, solid, vertically divided, 180° hinges	1 pc(s).	–	■	■	
Accessories					
Fan mounting plate	1 pc(s).	5502.020	5502.020	5502.020	790
Combination rails	4 pc(s).	5302.021	5302.021	5302.022	1063
Gland plate set, multi-piece, solid	1 pc(s).	5301.337	5301.337	5301.344	897
Castor module	2 pc(s).	5301.518	5301.518	5301.518	894

Network/server racks VX IT

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Plastic
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Interior installation: Spray-finished
- Rear panel and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear panel and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Interior installation, base/plinth: RAL 9005
- Handle and hinges: RAL 9005

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front (180°), with comfort handle for profile half-cylinders and security lock 3524 E
- Rear panel
- Roof plate, multi-piece, removable, with side cable entry in the depth and covered cut-out for fan mounting plate
- Base module mounted at front as infill panel
- Swing frame, large, with side trim panel for the installation of 482.6 mm (19") mounting components whilst utilising the full rack height, 130°
- Side panels, one-piece, for screw fastening
- Base/plinth system VX, 100 mm, vented
- Base/plinth corner pieces and trim panels, sides, screw-fastened
- Base/plinth trim panels, front and rear plus corner and baying covers supplied loose
- 4 levelling feet, M12, including base/plinth adaptor (supplied loose)
- Spacers, height 50 mm, to raise the cover plate above the fan cut-out in the roof plate, for passive cooling (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- 4 combination rails for inner and outer mounting level, to fit rack depth (supplied loose)
- 10 cable shunting rings, metal, 125 x 65 mm (supplied loose)
- IPPC pallet

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with glazed door, pre-configured, with 482.6 mm (19") swing frame

Width mm	Packs of	800	Page
Height mm		2000	
Height including base/plinth mm		2100	
Depth mm		800	
Max. load capacity (static) per enclosure N		3500	
Model No.	1 pc(s).	**5307.157**	
Accessories			
Fan mounting plate	1 pc(s).	5502.020	790
Combination rails	4 pc(s).	5302.021	1063
Cable route	1 pc(s).	5302.120	1066
Gland plate set, multi-piece, solid	1 pc(s).	5301.337	897

IT power Page 723 **IT cooling** Page 757 **IT monitoring** Page 799 **System accessories** Page 877

Material:
- Sheet steel
- Aluminium
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Enclosure frame: Dipcoat-primed
- Rear door and roof: Dipcoat-primed, powder-coated
- Front door: Aluminium, anodised/spray-finished

Colour:
- Enclosure frame, rear door and roof: RAL 7035
- Front door: Vertical sections, silver coloured and horizontal sections, RAL 9005
- Handle and hinges: RAL 9005

Protection category IP to IEC 60 529:
- IP 55 only in conjunction with baying seal or screw-fastened side panels

Supply includes:
- VX enclosure frame with doors and roof plate
- Glazed aluminium door at the front, 180° hinges
- Sheet steel rear door, solid, one-piece, 130° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- Roof plate, one-piece, solid
- Base tray with gland plate, multi-piece, solid
- Baying seal and sealing kit for gland plates (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 25 multi-tooth screws, conductive (supplied loose)
- IPPC pallet

Note:
- Depending on how and where it is sited, the door opening angle may vary for selected applications

Approvals:
- UL
- cUL

with glazed door, IP 55, empty rack

Width mm	Packs of	600	600	600	600	600	600	Page
Height mm		800	1200	1800	1800	2000	2000	
Depth mm		600	600	600	800	1000	600	
Model No.	1 pc(s).	**5325.190**	**5326.190**	**5327.190**	**5328.190**	**5308.190**	**5329.190**	
Accessories								
Side panel, screw-fastened, sheet steel	2 pc(s).	8173.245	8170.245	8186.245	8188.245	8100.245	8106.245	901
Baying connector, external	6 pc(s).	8617.502	8617.502	8617.502	8617.502	8617.502	8617.502	912
Cable route	1 pc(s).	–	–	–	–	5302.120	5302.120	
Combination rails	4 pc(s).	5302.020	5302.020	5302.020	5302.021	5302.022	5302.020	1063
Component shelf for frame attachment		see page	see page	see page	see page	see page	see page	1006

with glazed door, IP 55, empty rack

Width mm	Packs of	600	600	800	800	800	Page
Height mm		2000	2200	2000	2000	2000	
Depth mm		800	800	600	800	1000	
Model No.	1 pc(s).	**5330.190**	**5331.190**	**5306.190**	**5307.190**	**5309.190**	
Accessories							
Side panel, screw-fastened, sheet steel	2 pc(s).	8108.245	8128.245	8106.245	8108.245	8100.245	901
Baying connector, external	6 pc(s).	8617.502	8617.502	8617.502	8617.502	8617.502	912
Cable route	1 pc(s).	5302.120	5302.122	5302.120	5302.120	5302.120	1066
Combination rails	4 pc(s).	5302.021	5302.021	5302.020	5302.021	5302.022	1063
Component shelf for frame attachment		see page	see page	see page	see page	see page	1006

Cable management enclosure

More space for network cabling

The cable management enclosure is the ideal solution when you need to manage large quantities of cables, especially surplus cables. Because it is fitted as standard with six punched sections with mounting flanges, the enclosure is perfectly equipped to accommodate a wide range of cable management systems. The cable management enclosure can also be used for the symmetrical balancing of cold/ hot aisle containment.

The benefit to you:

- Optimum integration into VX IT rack suites, 2000 mm high and 1000 / 1200 mm deep
- Doors at the front and rear for easy access
- Fast cable entry in the base and roof section, thanks to integral brush strips

Cable management rack VX IT

Cable management Page 1044 **System accessories** Page 877 **IT monitoring** Page 799 **IT cooling** Page 757

For laying, securing and storing cables or as an empty enclosure with uneven Liquid Cooling Package (LCP) installations.

Applications:
- As a cable management rack between fully configured network and server racks
- As an empty rack for symmetrical balancing in cold/hot aisle containment with an uneven number of LCPs in two enclosure suites
- As a placeholder for easy retrofitting of LCP installations

Benefits:
- Optimum accommodation of surplus cables and structured cable management

Material:
- Sheet steel
- Aluminium

Surface finish:
- Enclosure frame: Dipcoat-primed
- Doors and roof: Dipcoat-primed, powder-coated

Colour:
- Enclosure: RAL 7035
- Front: RAL 9005

Supply includes:
- Enclosure frame with front and rear door
- Aluminium door, front, solid with black designer trim panel, 180° hinges
- Sheet steel rear door, solid, one-piece, 130° hinges
- Lock front and rear: Comfort handle for profile half-cylinders and security lock 3524 E
- 2 roof/base plates, with cut-outs for cable entry via brush strips
- 3 VX punched sections with mounting flanges mounted on the left and right
- Baying seal

Note:
- For positioning at the start/end of an enclosure suite, a side panel will be required

Width mm	Packs of	300	300	Page
Height mm		2000	2000	
Depth mm		1000	1200	
Model No.	1 pc(s).	**5380.830**	**5381.830**	
Accessories				
Side panel, horizontally divided	1 pc(s).	5301.250	5301.254	902
Baying connector, external, 3 mm	1 pc(s).	5301.310	5301.310	913
Combination rails	4 pc(s).	5302.022	5302.025	1063
Nylon tape holder	10 pc(s).	5502.155	5502.155	1062
Cable manager	20 pc(s).	5502.405	5502.405	1064
Cable shunting ring		see page	see page	1064
Cable clip		see page	see page	1060
Surplus cable holder	1 pc(s).	7220.500	7220.500	1066
Support	1 pc(s).	7246.500	7246.500	1097

Network racks TE 8000

Efficient and cost-effective

TE 8000 – the flexible network rack

- 482.6 mm (19″) network rack, may be dismantled, which uses the 482.6 mm (19″) level as its supporting structure
- By removing the doors and side panels, free access is available from all sides
- The entire interior is available to use for IT components, cabling and accessories
- Fast assembly, dismantling and conversion (dismantles fully for transporting to confined locations)

Comprehensive range of accessories for customised interior installation

- AX comfort handle with various lock options
- Brush strip for sealing the cable entries in the roof plate
- Depth-variable cable guide rail
- Universal interior installation with depth-variable attachment
- Direct installation on the 482.6 mm (19″) mounting frame

System accessories for assembling a professional IT environment

- Power distribution system (PDU) in a range of sizes and functions
- Enclosure monitoring with the CMC III monitoring system
- Optimum cable management with the Network Cable Organizer (NCO)
- Cooling options for use in the network sector

Network racks TE 8000

System accessories Page 877 **IT monitoring** Page 799 **IT cooling** Page 757 **IT power** Page 723

Benefits:
- No frame structure
- Optimum accessibility
- Readily dismantled and therefore easily installed
- Interchangeable door hinge

Material:
- Sheet steel
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Mounting frame: Dipcoat-primed
- Enclosure panels: Powder-coated

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Max. load capacity (static) per enclosure:
- 4000 N

Supply includes:
- Self-supporting 482.6 mm (19") mounting frames, front and rear, depth-variable
- Glazed door at the front, including 130° hinge, designer handle and security lock 3524 E
- Sheet steel door at the rear, including 130° hinge, security lock 3524 E
- Base frame with maximum cut-out (for optional population with module plates)
- Roof plate including concealed cut-out for cable entry and optional fan
- 4 levelling feet, M10 (supplied loose)
- 4 spacers, 20 mm (supplied loose) to raise the roof plate

Please observe the product-specific scope of supply.

Width 600 mm

Units U	Packs of	11	11	24	24	42	42	Page
Width mm		600	600	600	600	600	600	
Height mm		600	600	1200	1200	2000	2000	
Depth mm		600	800	600	800	600	800	
Distance between prefitted 482.6 mm (19") levels mm		495	495	495	495	495	495	
Free mounting space to the 482.6 mm (19") level, front/rear mm		30 / 30	130 / 130	30 / 30	130 / 130	30 / 30	130 / 130	
Model No.	1 pc(s).	**7888.390**	**7888.410**	**7888.430**	**7888.440**	**7888.500**	**7888.510**	
Product-specific scope of supply								
Side panels, lockable, including security lock 3524 E	2 pc(s).	■	■	■	■	■	■	
Accessories								
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Side panel		–	–	–	–	–	–	
Baying kit	4 pc(s).	7888.640	7888.640	7888.640	7888.640	7888.640	7888.640	916
Brush kit	2 pc(s).	7888.610	7888.610	7888.610	7888.610	7888.610	7888.610	963
Fan mounting plate	1 pc(s).	5502.020	5502.020	5502.020	5502.020	5502.020	5502.020	790
Complete earthing kit	1 pc(s).	7000.675	7000.675	7000.675	7000.675	7000.675	7000.675	1036
Comfort handle AX	1 pc(s).	2435.100	2435.100	2435.100	2435.100	2435.100	2435.100	939
Component shelf, static installation	1 pc(s).	7000.620	7000.620	7000.620	7000.620	7000.620	7000.620	1008
Component shelf, pull-out	1 pc(s).	7000.625	7000.625	7000.625	7000.625	7000.625	7000.625	1009
Slide rail	2 pc(s).	7963.410	7963.410	7963.410	7963.410	7963.410	7963.410	1088
Socket strip in a plastic housing	1 pc(s).	7000.630	7000.630	7000.630	7000.630	7000.630	7000.630	1041

Width 800 mm

Units U	Packs of	24	42	42	42	Page
Width mm		800	800	800	800	
Height mm		1200	2000	2000	2000	
Depth mm		800	600	800	800	
Distance between prefitted 482.6 mm (19") levels mm		495	495	495	495	
Free mounting space to the 482.6 mm (19") level, front/rear mm		130 / 130	30 / 30	130 / 130	130 / 130	
Model No.	1 pc(s).	**7888.460**	**7888.520**	**7888.530**	**7888.532**	
Product-specific scope of supply						
Side panels, lockable, including security lock 3524 E	2 pc(s).	■	■	■	–	
Baying kit	4 pc(s).	–	–	–	■	
Accessories						
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	1097
Side panel	2 pc(s).	–	–	–	7888.652	903
Baying kit	4 pc(s).	7888.640	7888.640	7888.640	–	916
Brush kit	2 pc(s).	7888.610	7888.610	7888.610	7888.610	963
Fan mounting plate	1 pc(s).	5502.020	5502.020	5502.020	5502.020	790
Complete earthing kit	1 pc(s).	7000.675	7000.675	7000.675	7000.675	1036
Comfort handle AX	1 pc(s).	2435.100	2435.100	2435.100	2435.100	939
Component shelf, static installation	1 pc(s).	7000.620	7000.620	7000.620	7000.620	1008
Component shelf, pull-out	1 pc(s).	7000.625	7000.625	7000.625	7000.625	1009
Slide rail	2 pc(s).	7963.410	7963.410	7963.410	7963.410	1088
Socket strip in a plastic housing	1 pc(s).	7000.630	7000.630	7000.630	7000.630	1041

Network racks TE 8000

System accessories Page 877 **IT monitoring** Page 799 **IT cooling** Page 757 **IT power** Page 723

Benefits:
- No frame structure
- Optimum accessibility
- Readily dismantled and therefore easily installed
- Interchangeable door hinge

Material:
- Enclosure: Sheet steel
- Glazed door: Single-pane safety glass, 3 mm

Surface finish:
- Mounting frame: Dipcoat-primed
- Enclosure panels: Powder-coated

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Max. load capacity (static) per enclosure:
- 4000 N

Supply includes:
- Self-supporting 482.6 mm (19") mounting frames, front and rear, depth-variable
- Glazed door at the front, including 130° hinge, designer handle and security lock 3524 E
- Sheet steel door at the rear, including 130° hinge, security lock 3524 E
- Side panels, lockable, including security lock 3524 E
- Base frame with maximum cut-out (for optional population with module plates)
- Roof plate including concealed cut-out for cable entry and optional fan
- 4 levelling feet, M12, including base/plinth adaptor (supplied loose)
- 4 spacers, 20 mm (supplied loose) to raise the roof plate
- Base/plinth system VX, 100 mm, vented
- Tested frame earthing to IEC 60 950, fitted
- 4 cable guide rails, for cable clamping in the enclosure depth via cable clamps (supplied loose)
- 10 cable shunting rings, metal, 125 x 65 mm (supplied loose)
- 12 x 482.6 mm (19") fastener, 1 U, conductive (supplied loose)
- 50 multi-tooth screws, conductive (supplied loose)
- Brush kit for cable entry in the roof (supplied loose)

Pre-configured

Units U	Packs of	24	42	Page
Width mm		800	800	
Height mm		1200	2000	
Height including base/plinth mm		1300	2100	
Depth mm		800	800	
Distance between prefitted 482.6 mm (19") levels mm		495	495	
Free mounting space to the 482.6 mm (19") level, front/rear mm		130 / 130	130 / 130	
Model No.	1 pc(s).	**7888.840**	**7888.850**	
Accessories				
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	1097
Baying kit	4 pc(s).	7888.640	7888.640	916
Fan mounting plate	1 pc(s).	5502.020	5502.020	790
Complete earthing kit	1 pc(s).	7000.675	7000.675	1036
Comfort handle AX	1 pc(s).	2435.100	2435.100	939
Component shelf, static installation	1 pc(s).	7000.620	7000.620	1008
Slide rail	2 pc(s).	7963.410	7963.410	1088
Complete CAT 6 system		see page	see page	1069
IT LED system light	1 pc(s).	7859.000	7859.000	1027
Socket strip in a plastic housing	1 pc(s).	7000.630	7000.630	1041

System accessories Page 877 **Power System Module** Page 744 **IT monitoring** Page 799 **Climate control** Page 449

Benefits:
- No frame structure
- Optimum accessibility
- Readily dismantled and therefore easily installed
- Interchangeable door hinge

Material:
- Sheet steel

Surface finish:
- Mounting frame: Dipcoat-primed
- Enclosure panels: Powder-coated

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Max. load capacity (static) per enclosure:
- 7000 N

Supply includes:
- Self-supporting 482.6 mm (19") mounting frames, front and rear, depth-variable
- Sheet steel door vented (vented surface area > 67%), front with designer handle, 130° hinge, security lock 3524 E
- Sheet steel door vented (vented surface area > 67%), rear with 130° hinge, security lock 3524 E
- Base frame with maximum cut-out (for optional population with module plates)
- Roof plate including concealed cut-out for cable entry and optional fan
- 4 levelling feet, M10 (supplied loose)
- 4 spacers, 20 mm (supplied loose) to raise the roof plate

Please observe the product-specific scope of supply.

Vented

Units U	Packs of	24	42	42	Page
Width mm		600	600	800	
Height mm		1200	2000	2000	
Depth mm		1000	1000	1000	
Distance between prefitted 482.6 mm (19") levels mm		745	745	745	
Free mounting space to the 482.6 mm (19") level, front/rear mm		80 / 130	80 / 130	80 / 130	
Model No.	1 pc(s).	**7888.875**	**7888.882**	**7888.892**	
Product-specific scope of supply					
Side panels, lockable, including security lock 3524 E	2 pc(s).	■	–	–	
Baying kit	4 pc(s).	–	■	■	
Accessories					
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	1097
Side panel	2 pc(s).	–	7888.653	7888.653	903
Baying kit	4 pc(s).	7888.640	–	–	916
Brush kit	2 pc(s).	7888.610	7888.610	7888.612	963
Complete earthing kit		see page	see page	see page	1036
Comfort handle AX	1 pc(s).	2435.100	2435.100	2435.100	939
Component shelf, static installation	1 pc(s).	5501.665	5501.665	5501.665	1008
Component shelf, pull-out	1 pc(s).	5501.685	5501.685	5501.685	1009
Slide rails, heavy-duty	2 pc(s).	7063.740	7063.740	7063.740	1087
Slide rail, 1 U, depth-variable	2 pc(s).	5302.035	5302.035	5302.035	1088
Combination rails	4 pc(s).	5302.020	5302.020	5302.020	1063
Cable clamp rail, depth-variable	1 pc(s).	5302.044	5302.044	5302.044	1063
Transport castors	4 pc(s).	7000.672	7000.672	7000.672	895
Socket strip in a plastic housing	1 pc(s).	7000.630	7000.630	7000.630	895

Distributor racks

19" installation Page 1079 **System accessories** Page 877 **TE 8000** Page 703

Benefits:
- Optimum accessibility from all sides during assembly and nstallation
- Unrestricted airflow, due to the open design
- The distance between attachment levels is infinitely variable

Material:
- Sheet steel

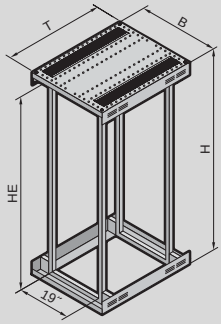
Surface finish:
- Powder-coated

Colour:
- RAL 7035

Max. load capacity (static) per enclosure:
- 7000 N

Supply includes:
- Self-supporting mounting frame, with 482.6 mm (19") mounting level front and rear
- Roof-plate, prepared for accommodating cable organisers
- Open base frame with 2 punched sections with mounting flanges for individual configuration fitted in the width
- 4 levelling feet, M10 (supplied loose)

Please observe the product-specific scope of supply.



TE 8000 open

Units U	Packs of	42	42	Page
Width mm		600	800	
Height mm		2000	2000	
Depth mm		1000	1000	
Distance between prefitted 482.6 mm (19") levels mm		745	745	
Free mounting space to the 482.6 mm (19") level, front/rear mm		80 / 130	80 / 130	
Model No.	1 pc(s).	**7888.940**	**7888.944**	
Product-specific scope of supply				
Roof plate with brush strip, rear horizontal		■	–	
Roof plate with brush strip on both sides		–	■	
Accessories				
Cable organiser	4 pc(s).	7888.950	7888.950	963
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	1097
Component shelf, static installation	1 pc(s).	5501.665	5501.665	1008
Component shelf, pull-out	1 pc(s).	5501.685	5501.685	1008
Slide rails, heavy-duty	2 pc(s).	7063.740	7063.740	1087
Slide rail, 1 U, depth-variable	2 pc(s).	5302.035	5302.035	1088
Combination rails	4 pc(s).	5302.026	5302.026	1074
Cable route	1 pc(s).	7000.685	7000.685	1066
Cable duct	1 pc(s).	–	–	
Cable routing bars, 482.6 mm (19") attachment	4 pc(s).	7111.224	7111.224	1067
Shunting ring	4 pc(s).	–	7220.600	1064
Cable management panel		see page	see page	1072

19" installation Page 1079 **IT monitoring** Page 799 **Power System Module** Page 747 **Accessories for Data Rack** Page 1079

Material:
- Profile frame, base/plinth: Sheet steel
- Feet: Die-cast zinc

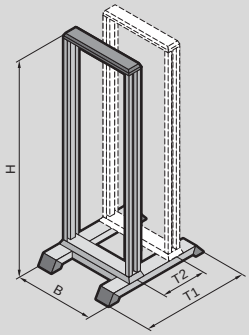
Colour:
- Profile frame, base/plinth: RAL 7035
- Trim panel, feet: RAL 5018

Max. load capacity (static) per 482.6 mm (19") level:
- 1500 N

Supply includes:
- Torsionally stiff profile frame with 482.6 mm (19") punchings
- Stable base/plinth with integral feet, with the option of floor anchoring without base trim panels
- Mounting accessories

Note:
- Order second mounting level separately

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



Data Rack

Units U	Packs of	31	36	40	45	Page
Width (B) mm		550	550	550	550	
Height (H) mm		1500	1722	1900	2122	
Depth (T1) mm		750	750	750	750	
Distance from the second mounting level, 50 mm pitch pattern (T2) mm		150 - 350	150 - 350	150 - 350	150 - 350	
Model No.	1 pc(s).	**7391.000**	**7396.000**	**7400.000**	**7445.000**	
Accessories						
Second pair of mounting angles	1 pc(s).	7296.000	7297.000	7298.000	7299.000	1079
Levelling feet		see page	see page	see page	see page	892
Twin castors	1 pc(s).	7495.000	7495.000	7495.000	7495.000	893
Baying clamp	3 pc(s).	7494.000	7494.000	7494.000	7494.000	1079
Support strips	2 pc(s).	7401.000	7401.000	7401.000	7401.000	1079
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	1010
Component shelf 2 U, static installation		see page	see page	see page	see page	1010
Slide rail, 2 U, static installation, continuous	2 pc(s).	7402.000	7402.000	7402.000	7402.000	1079
Slide rail		see page	see page	see page	see page	1079
Combination rails	4 pc(s).	5302.026	5302.026	5302.026	5302.026	1074
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	1097
Keyboard drawer 2 U	1 pc(s).	7281.035	7281.035	7281.035	7281.035	1115

Small IT racks series

Solutions for every application

VerticalBox – the ideal solution for small networks in office environments

- Compact wall-mounted, under-desk or desktop rack
- Free access from all sides to the 482.6 mm (19″) level
- Door and side parts may be dismantled with no need for tools
- Passive ventilation as standard, fan may be retrofitted

FlatBox – the space-saving flat-pack solution

- 482.6 mm (19″) rack for networks in office environments
- Supplied flat-packed, for easy and fast tool-free assembly
- May be used as wall-mounted or floor-standing enclosure, with free access from all sides
- Passive ventilation as standard, fan may be retrofitted

Wall-mounted enclosure EL, 3-part – optimum access to IT components

- Flexible wall-mounted enclosure in a range of designs and outputs
- Vertically hinged centre part for optimum access to IT equipment
- Suitable for industrial and IT applications
- High protection category up to IP 55

AX IT – for use in harsh environments

- Enclosure series to accommodate small IT components
- Data collection and distribution in industrial environments
- High protection category up to IP 66

VerticalBox

System accessories Page 877

Compact 482.6 mm (19") enclosure for small networks.

Benefits:
- May be used as wall-mounted, under-desk or desktop enclosure
- Free access from three sides for interior installation
- Passive ventilation with vent slots
- Rear panel prepared to accommodate a fan
- Freely selectable door hinging
- Space-saving, vertical mounting of 482.6 mm (19") installation components at the side

Material:
- Sheet steel
- Viewing window: Single-pane safety glass, 3 mm

Surface finish:
- Powder-coated

Colour:
- RAL 7035

Supply includes:
- Enclosure with glazed door
- Side panels (1 x fixed, 1 x slot-in) with vent slots
- Knockouts for cable entry via roof or base
- Slot-in rear panel with knockouts for cable entry and fan accommodation
- 482.6 mm (19") mounting level, 5 U, horizontal front and rear, depth-variable, distance between levels 434 – 489 mm
- Security lock 12321 on the door, side and rear panel
- 4 plastic feet, self-adhesive

Units U	Packs of	5	Page
Width mm		300	
Height mm		540	
Depth mm		600	
Model No.	1 pc(s).	**7501.000**	
Accessories			
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	1097
Captive nuts	50 pc(s).	2094.500	1098
Assembly screws	50 pc(s).	7094.130	1098
IT LED system light	1 pc(s).	7859.000	1027
Brush strip	1 pc(s).	7072.200	1055
Complete earthing kit	1 pc(s).	7000.675	1036
Fan expansion kit	1 pc(s).	7980.100	790
Socket strip in a plastic housing	1 pc(s).	7000.630	1041
Socket strip for IEC 320 connectors	1 pc(s).	7240.200	1040
Socket strip in an aluminium duct		see page	1040
Blanking panel, 482.6 mm (19")		see page	1093
Cable management panel		see page	1072
Cable management panel with brush strip	1 pc(s).	5302.202	1074

System accessories Page 877

For flexible use as a wall-mounted or floor-standing enclosure.

Benefits:
– Tool-free quick assembly
– System assembly on the open 482.6 mm (19") frame

Material:
– Sheet steel
– Viewing window: Single-pane safety glass, 3 mm

Surface finish:
– Powder-coated

Colour:
– RAL 7035

Supply includes:
– Flat-packed enclosure
– 1 wall section
– 2 basic supports
– 2 roof/base plates, with cut-outs for cable entry via brush strips
– 2 side panels, lockable
– 1 glazed door, lockable, security lock 3524 E, door hinge point selectable
– Connection components for tool-free, fast assembly
– Earthing kit for system-compatible earthing of all enclosure parts

Please observe the product-specific scope of supply.

Note:
– Max. installation depth: Depth - 58 mm to rear panel
– Max. distance between two 482.6 mm (19") levels: Depth - 104 mm

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

Design with 482.6 mm (19") mounting angles

Units U	Packs of	6	6	9	9	Page
Width mm		600	600	600	600	
Height mm		358	358	492	492	
Depth mm		400	600	400	600	
Load capacity		max. 300 N	max. 300 N	max. 450 N	max. 450 N	
Model No.	1 pc(s).	**7507.000**	**7507.100**	**7507.010**	**7507.110**	
Product-specific scope of supply						
482.6 mm (19") mounting frame	1 pc(s).	■	■	■	■	
Accessories						
Base/plinth	1 pc(s).	–	7507.750	–	7507.750	891
Transport castors	4 pc(s).	7000.672	7000.672	7000.672	7000.672	884
Levelling feet	4 pc(s).	7507.740	7507.740	7507.740	7507.740	892
Mounting angles, 482.6 mm (19")	2 pc(s).	7507.706	7507.706	7507.709	7507.709	1085
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	1097
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	1010
Component shelf 2 U, static installation		see page	see page	see page	see page	1010
Component shelf, pull-out	1 pc(s).	–	5501.675	–	5501.675	1007
Cover plates for fan panels	6 pc(s).	7507.760	7507.760	7507.760	7507.760	791
Combination rails	4 pc(s).	5302.026	5302.026	5302.026	5302.026	1074
Fan expansion kit		see page	see page	see page	see page	790
Cable management panel	1 pc(s).	5502.205	5502.205	5502.205	5502.205	1072
Cable management panel with brush strip	1 pc(s).	5302.202	5302.202	5302.202	5302.202	1074
Earth rail, horizontal	1 pc(s).	7113.000	7113.000	7113.000	7113.000	1036
Thermostat	1 pc(s).	3110.000	3110.000	3110.000	3110.000	547

FlatBox

Design with 482.6 mm (19") mounting frame

Units U	Packs of	12	12	15	15	18	21	Page
Width mm		600	600	600	700	700	700	
Height mm		625	625	758	758	892	1025	
Depth mm		400	600	400	700	700	700	
Load capacity		max. 600 N	max. 600 N	max. 750 N	max. 750 N	max. 750 N	max. 750 N	
Model No.	1 pc(s).	**7507.020**	**7507.120**	**7507.030**	**7507.200**	**7507.210**	**7507.220**	
Product-specific scope of supply								
482.6 mm (19") mounting angles	2 pc(s).	■	■	■	■	■	■	
Accessories								
Base/plinth	1 pc(s).	–	7507.750	–	7507.755	7507.755	7507.755	891
Transport castors	4 pc(s).	7000.672	7000.672	7000.672	7000.672	7000.672	7000.672	884
Levelling feet	4 pc(s).	7507.740	7507.740	7507.740	7507.740	7507.740	7507.740	892
Mounting angles, 482.6 mm (19")	2 pc(s).	7507.712	7507.712	7507.715	7507.715	7507.718	7507.721	1085
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	5501.635	5501.635	1010
Component shelf 2 U, static installation		see page	see page	see page	see page	see page	see page	1010
Component shelf, pull-out	1 pc(s).	–	5501.675	–	5501.675	5501.675	5501.675	1007
Cover plates for fan panels	6 pc(s).	7507.760	7507.760	7507.760	7507.760	7507.760	7507.760	791
Combination rails	4 pc(s).	5302.026	5302.026	5302.026	5302.026	5302.026	5302.026	1074
Fan expansion kit		see page	see page	see page	see page	see page	see page	790
Cable management panel	1 pc(s).	5502.205	5502.205	5502.205	5502.205	5502.205	5502.205	1072
Cable management panel with brush strip	1 pc(s).	5302.202	5302.202	5302.202	5302.202	5302.202	5302.202	1074
Earth rail, horizontal	1 pc(s).	7113.000	7113.000	7113.000	7113.000	7113.000	7113.000	1036
Thermostat	1 pc(s).	3110.000	3110.000	3110.000	3110.000	3110.000	3110.000	547

Wall-mounted enclosures EL, 3-part

System accessories Page 877 **Socket strips** Page 1040 **Wall mounting bracket** Page 958 **Cable clamps** Page 1060

Wall-mounted enclosure with optimum accessibility due to hinged part.

Material:
– Wall and hinged part: Sheet steel, 1.5 mm
– Viewing window: Single-pane safety glass, 3 mm

Surface finish:
– Powder-coated

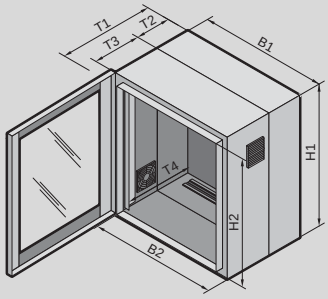
Colour:
– Wall and hinged part: RAL 7035
– Glazed door: RAL 7035/7015 (slate grey)

Protection category IP to IEC 60 529:
– IP 54 in conjunction with solid gland plate, top and bottom

Supply includes:
– Wall section with solid gland plate at the top and brush strip at the bottom, two vertical mounting rails and C rail, horizontal, for cable clamping
– Hinged part with 25 mm pitch pattern of holes in the front and rear frame, two 482.6 mm (19") mounting angles at the front, infinitely depth-variable, and side outlet filters on the left and right
– Earth rail with star earthing
– Designer glazed door
– 1 double-kit key no. 5

Please observe the product-specific scope of supply.

Approvals:
– UL
– cUL



Pre-configured with mounting angles, depth-variable

Units U	Packs of	9	9	15	15	21	21	Page
Width (B1) mm		600	600	600	600	600	600	
Height (H1) mm		478	478	746	746	1012	1012	
Depth (T1) mm		573	673	573	673	573	673	
Clearance width (B2) mm		502	502	502	502	502	502	
Clearance height (H2) mm		415	415	683	683	949	949	
Depth of wall section (T2) mm		135	135	135	135	135	135	
Depth of hinged part (T3) mm		416	516	416	516	416	516	
Max. installation depth (T4) mm		520	620	520	620	520	620	
Load capacity of hinged part (static) N		450	450	750	750	750	750	
Model No.	1 pc(s).	**7709.735**	**7709.535**	**7715.735**	**7715.535**	**7721.735**	**7721.535**	
Product-specific scope of supply								
Wall mounting bracket, 10 mm	4 pc(s).	■	–	■	–	■	–	
Mini-comfort handle for lock inserts	1 pc(s).	■	■	■	■	–	–	
Security lock 3524 E	1 pc(s).	■	■	■	■	■	■	
Wall mounting bracket, 10 mm, reinforced	4 pc(s).	–	■	–	■	–	■	
Comfort handle for lock inserts and 2-point locking	1 pc(s).	–	–	–	–	■	■	
Accessories								
Gland plate for metric cable glands	1 pc(s).	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1054
Fan expansion kit	1 pc(s).	7980.100	7980.100	7980.100	7980.100	7980.100	7980.100	790
Spare filter mat	5 pc(s).	3322.700	3322.700	3322.700	3322.700	3322.700	3322.700	535
Component shelf 2 U, static installation		see page	see page	see page	see page	see page	see page	1010
Cable management panel	1 pc(s).	7257.200	7257.200	7257.200	7257.200	7257.200	7257.200	1072
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Wall mounting bracket	4 pc(s).	2503.020	–	2503.020	–	2503.020	–	967

Wall-mounted enclosures EL, 3-part

System accessories Page 877 **Socket strips** Page 1040 **Wall mounting bracket** Page 958 **Earthing** Page 1033

Wall-mounted enclosure with optimum accessibility due to hinged part.

Material:
– Wall and hinged part: Sheet steel, 1.5 mm
– Viewing window: Single-pane safety glass, 3 mm

Surface finish:
– Powder-coated

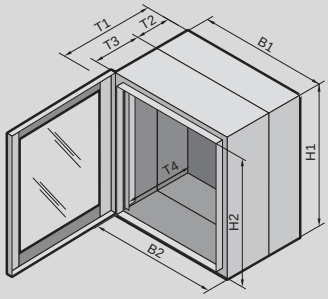
Colour:
– Wall and hinged part: RAL 7035
– Glazed door: RAL 7035/7015 (slate grey)

Protection category IP to IEC 60 529:
– IP 55

Supply includes:
– Wall section with solid gland plate, top and bottom, two vertical mounting rails and C rail, horizontal, for cable clamping
– Hinged part with 25 mm pitch pattern of holes in the front and rear frame, and two 482.6 mm (19") mounting angles at the front, infinitely depth-variable
– 4 wall mounting brackets 10 mm
– Designer glazed door
– 1 double-kit key no. 5

Please observe the product-specific scope of supply.

Approvals:
– UL
– cUL



with punched rails and mounting angles, depth-variable

Units U	Packs of	6	9	12	15	21	Page
Width (B1) mm		600	600	600	600	600	
Height (H1) mm		345	478	612	746	1012	
Depth (T1) mm		473	473	473	473	473	
Clearance width (B2) mm		502	502	502	502	502	
Clearance height (H2) mm		282	415	549	683	949	
Depth of wall section (T2) mm		135	135	135	135	135	
Depth of hinged part (T3) mm		316	316	316	316	316	
Max. installation depth (T4) mm		420	420	420	420	420	
Load capacity of hinged part (static) N		300	450	600	750	750	
Model No.	1 pc(s).	**7706.135**	**7709.135**	**7712.135**	**7715.135**	**7721.135**	
Product-specific scope of supply							
Mini-comfort handle for lock inserts	1 pc(s).	■	■	■	■	–	
Security lock 3524 E	1 pc(s).	■	■	■	■	■	
Comfort handle for lock inserts and 2-point locking	1 pc(s).	–	–	–	–	■	
Accessories							
Gland plate with brush insert	1 pc(s).	7705.035	7705.035	7705.035	7705.035	7705.035	1055
Gland plate for metric cable glands	1 pc(s).	7705.235	7705.235	7705.235	7705.235	7705.235	1054
Earth rail, horizontal	1 pc(s).	7113.000	7113.000	7113.000	7113.000	7113.000	1036
Component shelf 2 U, static installation		see page	see page	see page	see page	see page	1010
Cable management panel	1 pc(s).	7257.200	7257.200	7257.200	7257.200	7257.200	1072
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	5501.635	1010

Wall-mounted enclosures EL, 3-part

System accessories Page 877 **Socket strips** Page 1040 **Wall mounting bracket** Page 958 **Cable clamps** Page 1060

Wall-mounted enclosure with optimum accessibility due to hinged part.

Material:
– Wall and hinged part: Sheet steel, 1.5 mm
– Viewing window: Single-pane safety glass, 3 mm

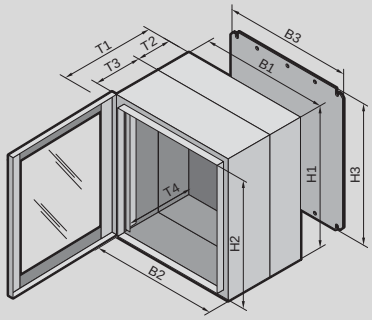
Surface finish:
– Powder-coated

Colour:
– Wall and hinged part: RAL 7035
– Glazed door: RAL 7035/7015 (slate grey)

Protection category IP to IEC 60 529:
– IP 55

Supply includes:
– Wall section with solid gland plate, top and bottom and mounting plate (supplied loose).
– Hinged part with 25 mm pitch pattern of holes in the front and rear frame, and two 482.6 mm (19") mounting angles, front, static installation
– Designer glazed door
– 1 double-kit key no. 5
Please observe the product-specific scope of supply.

Approvals:
– UL
– cUL



with mounting plate and mounting angles, static installation

Units U	Packs of	3	3	6	6	9	9	Page
Width (B1) mm		600	600	600	600	600	600	
Height (H1) mm		212	212	345	345	478	478	
Depth (T1) mm		373	473	373	473	373	473	
Clearance width (B2) mm		502	502	502	502	502	502	
Clearance height (H2) mm		149	149	282	282	415	415	
Depth of wall section (T2) mm		135	135	135	135	135	135	
Depth of hinged part (T3) mm		216	316	216	316	216	316	
Max. installation depth (T4) mm		320	420	320	420	320	420	
Mounting plate width (B3) mm		485	485	485	485	485	485	
Mounting plate height (H3) mm		165	165	299	299	432	432	
Load capacity of hinged part (static) N		150	150	300	300	450	450	
Model No.	1 pc(s).	**2243.605**	**2253.605**	**2246.605**	**2256.605**	**2249.605**	**2259.605**	
Product-specific scope of supply								
Mini-comfort handle for lock inserts	1 pc(s).	■	■	■	■	■	■	
Security lock 3524 E	1 pc(s).	■	■	■	■	■	■	
Accessories								
Gland plate with brush insert	1 pc(s).	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1055
Gland plate for metric cable glands	1 pc(s).	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1054
Wall mounting bracket		see page	see page	see page	see page	see page	see page	966
Component shelf 2 U, static installation		–	see page	–	see page	–	see page	1010
Blanking plate, 482.6 mm (19")		see page	see page	see page	see page	see page	see page	1092
Lock insert		see page	see page	see page	see page	see page	see page	941
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	5501.635	5501.635	1010

Wall-mounted enclosures EL, 3-part

with mounting plate and mounting angles, static installation

Units U	Packs of	12	12	15	15	21	21	Page
Width (B1) mm		600	600	600	600	600	600	
Height (H1) mm		612	612	746	746	1012	1012	
Depth (T1) mm		373	473	373	473	373	473	
Clearance width (B2) mm		502	502	502	502	502	502	
Clearance height (H2) mm		549	549	683	683	949	949	
Depth of wall section (T2) mm		135	135	135	135	135	135	
Depth of hinged part (T3) mm		216	316	216	316	216	316	
Max. installation depth (T4) mm		320	420	320	420	320	420	
Mounting plate width (B3) mm		485	485	485	485	485	485	
Mounting plate height (H3) mm		565	565	699	699	965	965	
Load capacity of hinged part (static) N		600	600	750	750	750	750	
Model No.	1 pc(s).	**2252.605**	**2262.605**	**2255.605**	**2265.605**	**2261.605**	**2271.605**	
Product-specific scope of supply								
Mini-comfort handle for lock inserts	1 pc(s).	■	■	■	■	–	–	
Security lock 3524 E	1 pc(s).	■	■	■	■	■	■	
Comfort handle for lock inserts and 2-point locking	1 pc(s).	–	–	–	–	■	■	
Accessories								
Gland plate with brush insert	1 pc(s).	7705.035	7705.035	7705.035	7705.035	7705.035	7705.035	1055
Gland plate for metric cable glands	1 pc(s).	7705.235	7705.235	7705.235	7705.235	7705.235	7705.235	1054
Wall mounting bracket		see page	see page	see page	see page	see page	see page	967
Component shelf 2 U, static installation		–	see page	–	see page	–	see page	1010
Blanking plate, 482.6 mm (19")		see page	see page	see page	see page	see page	see page	1092
Lock insert		see page	see page	see page	see page	see page	see page	941
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	2090.000	2090.000	1097
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	5501.635	5501.635	1010

Wall-mounted enclosures AX IT

System accessories Page 877 **Socket strips** Page 1040 **Captive nuts** Page 1002 **Glazed doors** Page 926

IT wall-mounted enclosure based on AX, with high protection category, for use in industrial environments.

Applications:
- IT enclosure for use in industrial environments
- Secure, protected integration of IT directly into your production plant processes

Benefits:
- Fully pre-assembled IT enclosure for immediate accommodation of 482.6 mm (19") IT components, with depth-variable mounting angles
- Welded enclosure construction with all-round solid body ensures maximum protection for installed components, up to IP 66
- Door hinged on the right, may be swapped to the left
- Maximum usable interior volume with an extremely compact design
- Individual interior configuration
- Maximum cut-out in the enclosure base with optimised gland plates increases the space for cable routing by up to 33%
- Convenient cable entry from below via a gland plate with integral brush strip

Installation options:
- Pre-configured mounting bracket including C rail for cable clamping
- Mounting bracket to accommodate a central earth rail
- Mounting bracket for mounting a 482.6 mm (19") socket strip

Material:
- Sheet steel

Surface finish:
- Enclosure and door: Dipcoat primed, powder-coated on the outside, textured paint
- Interior installation: Zinc-plated

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 10 (up to IP 66 on request)
- Up to IP 66 (depending on the selected gland pate)

Supply includes:
- Pre-assembled IT enclosure with hinged door, of all-round solid construction
- Cam lock with 3 mm double-bit insert
- Gland plate with brush strip
- 482.6 mm (19") mounting angle, front, mounted onto four interior installation rails with depth adjustment in 25 mm pitch pattern
- Mounting bracket
- C rail, fastened to the rear panel

Note:
- Variant with UL approval available on request

with 482.6 mm (19") mounting angles, depth-variable

Units U	Packs of	7	12	15	15	Page
Width mm		600	600	600	600	
Height mm		380	600	760	800	
Depth mm		350	350	350	400	
Max. installation depth mm		278	278	278	316	
Cam locks		1	2	2	2	
Model No.	1 pc(s).	**7641.350**	**7643.350**	**7645.350**	**7646.400**	
Gland plate, size		7	7	7	7	
Gland plate, qty.		1	1	1	1	
Accessories						
Wall angle	4 pc(s).	2505.510	2505.510	2505.510	2505.510	967
Wall mounting bracket		see page	see page	see page	see page	967
Plastic gland plate	1 pc(s).	2567.200	2567.200	2567.200	2567.200	1050
Metal gland plate	1 pc(s).	2577.100	2577.100	2577.100	2577.100	1053
Plastic gland plate	1 pc(s).	2567.300	2567.300	2567.300	2567.300	1052
Component shelf, pull-out, 2 U	1 pc(s).	5501.635	5501.635	5501.635	5501.635	1010
Earth rail, horizontal	1 pc(s).	7113.000	7113.000	7113.000	7113.000	1036
Mini-comfort handle AX	1 pc(s).	2537.100	2537.100	2537.100	2537.100	96
482.6 mm (19") fastener, 1 U	24 pc(s).	2090.000	2090.000	2090.000	2090.000	1097
Cable management panel	1 pc(s).	5502.205	5502.205	5502.205	5502.205	1072
Cable management panel with brush strip	1 pc(s).	5302.202	5302.202	5302.202	5302.202	1074

Small fibre-optic distributor

System accessories Page 877

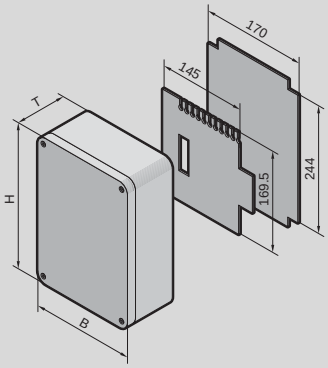
Benefits:
- Mounting plate with variable accommodation for up to two splicing cassettes (cassette width variable from 92 to 120 mm) and integral anti-twist guard
- Dividing plate with comb strip for cable clamping, to cover the splicing cassette, and to accommodate 2 patch panels
- Cable entry via prepunched knockouts using cable glands (2 x 22.5 mm and 12 x 12.5 mm)

Material:
- Enclosure with cover: Fibreglass-reinforced poly-carbonate
- Cover screws: Polyamide
- Insulating bungs: Polyamide
- Foamed-in PU seal

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 66

Supply includes:
- Enclosure with knockouts for cable glands
- Hinged cover with seal
- 2 cover screws, prepared for a lead seal
- Insulating bungs for wall mounting
- Mounting plate
- Dividing plate
- 12 cable glands M12 x 1.5
- 1 cable gland M20 x 1.5



with mounting plate and splicing cassette accommodation

Width (B) mm	Packs of	180	Page
Height (H) mm		254	
Depth (T) mm		90	
Maximum number of fibres (when using patch panels)		24	
Model No.	1 pc(s).	**7451.000**	
Accessories			
Patch panels for small fibre-optic distributors		see page	1101
Wall mounting bracket	40 pc(s).	9583.000	47

Network rack TE 8000

A comprehensive range of accessories for individual interior installation, see page 877

Rittal – The System.

Faster – better – everywhere.

IT power

Your benefits
- Holistic, systematic energy management concepts
- Comprehensive, complete solutions for power distribution and back-up, consistently modular, and flexibly extendible at any time
- Optimum energy and cost efficiency with maximum availability of the entire system
- Reduced installation, administration and resource costs
- High level of investment security
- All from a single source

Sample applications
1 Power distribution, see page 724
2 UPS (partner product), see page 726
3 Power Distribution Rack PDR, see page 728
4 Power Distribution Unit PDU, see page 742

VX25 Ri4Power

The reliable mains infeed for supplying power to data centres

Low-voltage power distribution for data centres

- The VX25 Ri4Power is suitable for use with open and compact circuit-breakers from all well-known manufacturers.
- The busbar systems are dimensioned to your specific requirements with standard copper bars up to 6300 A and individually configured.
- This allows you to achieve a range of infeed sources for data centres (A and B supply) and to connect emergency generators and UPS systems.
- Automatic transfer switches (ATS) may be used to switch between different infeed sources.

Tailored power distribution

- Power supply to individual areas (e.g. server zone, plant room) is implemented in the outgoing section.
- Individual functional spaces, shielded from one another, are created within the outgoing section.
- Each outgoing section can be tailored to your specific requirements and individually populated e.g. with switchgear.
- May also be contacted directly with the multi-terminal busbar systems in data centres using a flexible busbar system.

Simple, efficient planning

- The Rittal Power Engineering planning software makes it much easier to configure section types and equipment. The connector kits are automatically generated and documented when this software is used for project planning.
- Installation of the operating equipment in low-voltage switchgear complies with IEC 61 439 and documented with a design verification. Once the system has been planned with Rittal Power Engineering, the design verification is easily generated.

UPS systems

The ideal power back-up solution for data centres

UPS systems from ABB/Rittal

- Critical loads need to be protected by online double conversion UPS systems. The UPS systems from ABB provide optimum availability and total cost of ownership (TCO), and are based on a complete redundancy concept.
- In the modular UPS series, each UPS module has all the hardware and software needed for autonomous operation. All critical components are available in each individual module, thereby eliminating weak points altogether. This modular approach is known as DPA™ (decentralised parallel architecture).

UPS systems for every application

- The DPA UPScale RI is one of the most compact uninterruptible power supply systems on the market. It can be installed directly into the 482.6 mm (19˝ level) of the rack and is therefore particularly ideal for customer-specific solutions. DPA UPScale RI is designed for applications in the lower and medium output range with 10kW or 20 kW modules and an overall output of between 10 kW and 80 kW per system.
- Conceptpower DPA S4 is a double conversion UPS system for applications in the medium to high output range. The modular architecture of Conceptpower DPA allows a flexible output configuration with 50 kVA rack-mounted modules, which may be retrofitted to meet a rising power demand. This enables implementation of rack-mounted modular and monoblock systems with an output of up to 3 MW.
- With an efficiency of 97.4% in online double conversion mode, this is one of the most advanced systems available on the marketplace.

Communicate easily

- In line with IEC/EN 62040-3, the double conversion UPS meets all the requirements for category VFI-SS-111.
- For connecting the UPS to the network with the option of linking additional sensors and I/O options, either directly on the card or via a sensor manager. HTTP, SNMP, SMTP, Modbus RS232 and Modbus TCP protocols are supported.

Power Distribution Rack

Targeted power distribution in the data centre

Power distribution module in the 482.6 mm (19˝) format

- Power distribution between the UPS and rack PDU or PSM in a compact 482.6 mm (19˝) form factor for installation within the IT rack
- Ideal for small data centres and individual rack installations
- Four fused 3-phase outlets to the rack
- Independent fusing of each phase and each output
- Built-in master switch
- All outputs plug-type
- Optional RC circuit-breaker

Power distribution for the rack suite

- Compact PDR for installation within the rack suite with a width of just 300 mm
- Seamless integration into a rack suite with VX IT rack
- Additional equipment may optionally be connected whilst operational
- Optional current measurement system
- Prepared for project-specific design
- Ideal for applications in the IT container

Flexible power distribution

- Installation as either a room or rack solution
- Project-specific selection of peripheral conditions such as rack type and form, ACB type and options ensures flexibility
- Compact design

Power Distribution Unit

Demand-based power distribution in the IT rack

The convincing benefits

- The compact design and tool-free clip fastening onto the 482.6 mm (19″) frame in Rittal IT racks allows simple installation in the zero-U-space, guaranteeing free access to the 482.6 mm (19″) level – a major advantage when retrofitting IT equipment with the system operational.
- The PDU has every application covered with just five variants
  – Basic (simple power distribution)
  – Metered (measurement per phase)
  – Metered Plus (measurement per output slot
  – Switched (measurement per phase, switching function per output)
  – Managed (measurement and switching per output)
- The fully redundant Gigabit network interface for connection to management systems such as RiZone allows cascading of up to 16 PDUs.

Technical perfection

- Key monitoring functions (alarm relay, digital input and alarm signal generator) are pre-integrated into the PDU, and up to 8 sensors are supported.
- Extended measuring functions such as fault current monitoring (RCM type B) are available.
- The modular concept means that the PDU controller board and overvoltage protection are replaceable.
- The reliable bistable relays allow up to 300 A starting current on all switchable PDUs.
- Optional integrated surge protection with arresters, which can be replaced with the system operational.

Configure your individual solution online

- The PDU's modular system concept allows individual configuration and optimum adaptation to your specific application. For example, you choose the colour of the housing, the length of the cable, the connector plug or the position of the display yourself.
- Rittal can provide further configuration options, e.g. changing the output slots, adding features such as fault current monitoring and overvoltage protection. Please call us to discuss your individual configuration.

Power Distribution Unit

Overview Page 737 **Network/server racks VX IT** Page 686

Benefits:
- With the compact PDU, any IT rack is easily equipped with a professional power distribution system
- With the VX IT rack, assembly is tool-free
- Compact design
- Easy to install, even in the zero-U-space
- Power-saving design with minimal inherent consumption by the PDU itself, thanks to the use of bistable relays and durable TFT colour display with power-saving function
- Integral Web server for direct network connection with extensive user administration functions
- Redundant power supply from all 3 phases and additionally via an existing PoE (Power over Ethernet) network
- Extensive range of management and monitoring functions
- High-MTBF and measurement accuracy of ±1%
- Redundant network interface, may also be used for cascading up to 16 PDUs (not with PDU basic)
- Electric handle systems and ambient monitoring with up to 8 CMC III sensors (temperature, humidity, access, vandalism)
- 2 x Gigabit Ethernet interfaces for fully redundant network connection
- PDU controller may be replaced without having to disconnect the PDU from the power supply

PDU design variants:
PDU basic
Robust, compact basic power distributor for the IT environment

PDU metered
Energy measurement per phase, i.e. output requirement of an entire IT rack

PDU metered plus
Energy measurement per output connector, to determine the power requirements of individual consumers

PDU switched
Measurement function per phase and individually switchable output slots

PDU managed
High-end IT rack, power distribution with energy measurement and monitoring functions for each individual output slot

Material:
- Extruded aluminium section, anodised

Protection category IP to IEC 60 529:
- IP 20

Supply includes:
- Connector lock for IEC C14 and C20 connectors
- Assembly parts

Standards:
- EN 62 368-1
- EN 61 000-4
- EN 61 000-6
- EN 55 022

Assembly instructions:
- For mounting in the TE 8000 rack, mounting adaptor 7000.688 is additionally required

Low Voltage Directive:
- 2014/35/EU

EMC directive:
- 2014/30/EU

PDU, basic version

Power			Slots/slot type				Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs IEC C13	Outputs IEC C19	Outputs Earthing-pin	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT (zero U) 482.6 mm (19") mounting angles	
1~	16	3.7	IEC C20	8	–	–	–	–	450 (19"/1 U)	800	800	**7979.102**
1~	16	3.7	CEE	–	–	8	–	–	450 (19"/1 U)	800	800	**7979.103**
1~	32	7.4	CEE	4	2	–	–	–	450 (19"/1 U)	800	800	**7979.104**
1~	16	3.7	CEE	12	1	–	–	–	695	1200	1200	**7979.110**
1~	16	3.7	CEE	–	–	10	–	–	695	1200	1200	**7979.111**
1~	32	7.4	CEE	16	2	–	–	–	845	1200	1200	**7979.112**
1~	32	7.4	CEE	12	4	–	–	–	845	1200	1200	**7979.113**
1~	32	7.4	CEE	–	–	16	–	–	1,095	1200	1800	**7979.114**
1~	16	3.7	CEE	24	4	–	–	–	1,095	1200	1800	**7979.115**
1~	32	7.4	CEE	24	4	–	–	–	1,295	1800	1800	**7979.116**
3~	16	11	CEE	–	9	–	–	–	695	1200	1200	**7979.130**
3~	32	22	CEE	–	12	–	–	–	1095	1200	1800	**7979.131**
3~	16	11	CEE	6	6	–	–	–	695	1200	1200	**7979.132**
3~	16	11	CEE	–	–	18	–	–	1095	1200	1800	**7979.133**
3~	32	22	CEE	–	–	24	–	–	1695	1800	2000	**7979.134**
3~	16	11	CEE	18	3	–	–	–	845	1200	1200	**7979.135**
3~	16	11	CEE	24	6	–	–	–	1095	1200	1800	**7979.136**
3~	32	22	CEE	24	6	–	–	–	1495	1800	1800	**7979.137**
3~	16	11	CEE	18	12	–	–	–	1295	1800	1800	**7979.138**
3~	32	22	CEE	12	12	–	–	–	1495	1800	1800	**7979.139**
3~	16	11	CEE	36	6	–	–	–	1495	1800	1800	**7979.140**
3~	32	22	CEE	36	6	–	–	–	1895	2000	2200	**7979.141**
3~	16	11	CEE	42	–	–	–	–	1495	1800	1800	**7979.142**
3~	32	22	CEE	48	–	–	–	–	1895	2000	2200	**7979.143**

PDU, metered version

Power			Slots/slot type				Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs IEC C13	Outputs IEC C19	Outputs Earthing-pin	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT (zero U) 482.6 mm (19") mounting angles	
1~	16	3.7	IEC C20	6	–	–	per phase	–	450 (19"/1 U)	800	800	**7979.202**
1~	16	3.7	CEE	–	–	4	per phase	–	450 (19"/1 U)	800	800	**7979.203**
1~	32	7.4	CEE	4	2	–	per phase	–	450 (19"/1 U)	800	800	**7979.204**
1~	16	3.7	CEE	12	1	–	per phase	–	845	1200	1200	**7979.210**
1~	16	3.7	CEE	–	–	10	per phase	–	1095	1200	1800	**7979.211**
1~	32	7.4	CEE	16	2	–	per phase	–	1095	1200	1800	**7979.212**
1~	32	7.4	CEE	12	4	–	per phase	–	1095	1200	1800	**7979.213**
1~	32	7.4	CEE	–	–	16	per phase	–	1295	1800	1800	**7979.214**
1~	16	3.7	CEE	24	4	–	per phase	–	1295	1800	1800	**7979.215**
1~	32	7.4	CEE	24	4	–	per phase	–	1495	1800	1800	**7979.216**
3~	16	11	CEE	–	9	–	per phase	–	845	1200	1200	**7979.230**
3~	32	22	CEE	–	12	–	per phase	–	1495	1800	1800	**7979.231**
3~	16	11	CEE	6	6	–	per phase	–	1095	1200	1200	**7979.232**
3~	16	11	CEE	–	–	18	per phase	–	1495	1800	1800	**7979.233**
3~	32	22	CEE	–	–	24	per phase	–	1895	2000	2200	**7979.234**
3~	16	11	CEE	18	3	–	per phase	–	1095	1200	1800	**7979.235**
3~	16	11	CEE	24	6	–	per phase	–	1495	1800	1800	**7979.236**
3~	32	22	CEE	24	6	–	per phase	–	1740	2000	2000	**7979.237**
3~	16	11	CEE	18	12	–	per phase	–	1695	1800	2000	**7979.238**
3~	32	22	CEE	12	12	–	per phase	–	1695	1800	2000	**7979.239**
3~	16	11	CEE	36	6	–	per phase	–	1895	2000	2200	**7979.240**
3~	16	11	CEE	42	–	–	per phase	–	1695	1800	2000	**7979.242**

Power Distribution Unit

PDU, metered plus version

Power			Slots/slot type				Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs IEC C13	Outputs IEC C19	Outputs Earthing-pin	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT (zero U) 482.6 mm (19") mounting angles	
1~	16	3.7	IEC C20	6	–	–	per output	–	450 (19"/1 U)	800	800	**7979.502**
1~	16	3.7	CEE	–	–	4	per output	–	450 (19"/1 U)	800	800	**7979.503**
1~	32	7.4	CEE	4	2	–	per output	–	450 (19"/1 U)	800	800	**7979.504**
1~	16	3.7	CEE	12	1	–	per output	–	845	1200	1200	**7979.510**
1~	16	3.7	CEE	–	–	10	per output	–	1095	1200	1800	**7979.511**
1~	32	7.4	CEE	16	2	–	per output	–	1095	1200	1800	**7979.512**
1~	32	7.4	CEE	12	4	–	per output	–	1095	1200	1800	**7979.513**
1~	32	7.4	CEE	–	–	16	per output	–	1495	1800	1800	**7979.514**
1~	16	3.7	CEE	24	4	–	per output	–	1295	1800	1800	**7979.515**
1~	32	7.4	CEE	24	4	–	per output	–	1495	1800	1800	**7979.516**
3~	16	11	CEE	–	9	–	per output	–	845	1200	1200	**7979.530**
3~	32	22	CEE	–	12	–	per output	–	1495	1800	1800	**7979.531**
3~	16	11	CEE	6	6	–	per output	–	1095	1200	1200	**7979.532**
3~	16	11	CEE	–	–	18	per output	–	1495	1800	1800	**7979.533**
3~	32	22	CEE	–	–	24	per output	–	2095	2200	2200	**7979.534**
3~	16	11	CEE	18	3	–	per output	–	1095	1200	1800	**7979.535**
3~	16	11	CEE	24	6	–	per output	–	1495	1800	1800	**7979.536**
3~	32	22	CEE	24	6	–	per output	–	1740	2000	2000	**7979.537**
3~	16	11	CEE	18	12	–	per output	–	1695	1800	2000	**7979.538**
3~	32	22	CEE	12	12	–	per output	–	1695	1800	2000	**7979.539**
3~	16	11	CEE	36	6	–	per output	–	1895	2000	2200	**7979.540**
3~	16	11	CEE	42	–	–	per output	–	1695	1800	2000	**7979.542**

PDU, switched version

Power			Slots/slot type				Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs IEC C13	Outputs IEC C19	Outputs Earthing-pin	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT (zero U) 482.6 mm (19") mounting angles	
1~	16	3.7	IEC C20	6	–	–	per phase	■	450 (19"/1 U)	800	800	**7979.302**
1~	16	3.7	CEE	–	–	4	per phase	■	450 (19"/1 U)	800	800	**7979.303**
1~	32	7.4	CEE	4	2	–	per phase	■	450 (19"/1 U)	800	800	**7979.304**
1~	16	3.7	CEE	12	1	–	per phase	■	845	1200	1200	**7979.310**
1~	16	3.7	CEE	–	–	10	per phase	■	1095	1200	1800	**7979.311**
1~	32	7.4	CEE	16	2	–	per phase	■	1095	1200	1800	**7979.312**
1~	32	7.4	CEE	12	4	–	per phase	■	1095	1200	1800	**7979.313**
1~	32	7.4	CEE	–	–	16	per phase	■	1495	1800	1800	**7979.314**
1~	16	3.7	CEE	24	4	–	per phase	■	1295	1800	1800	**7979.315**
1~	32	7.4	CEE	24	4	–	per phase	■	1495	1800	1800	**7979.316**
3~	16	11	CEE	–	9	–	per phase	■	845	1200	1200	**7979.330**
3~	32	22	CEE	–	12	–	per phase	■	1495	1800	1800	**7979.331**
3~	16	11	CEE	6	6	–	per phase	■	1095	1200	1200	**7979.332**
3~	16	11	CEE	–	–	18	per phase	■	1495	1800	1800	**7979.333**
3~	32	22	CEE	–	–	24	per phase	■	2095	2200	2200	**7979.334**
3~	16	11	CEE	18	3	–	per phase	■	1095	1200	1800	**7979.335**
3~	16	11	CEE	24	6	–	per phase	■	1495	1800	1800	**7979.336**
3~	32	22	CEE	24	6	–	per phase	■	1740	2000	2000	**7979.337**
3~	16	11	CEE	18	12	–	per phase	■	1695	1800	2000	**7979.338**
3~	32	22	CEE	12	12	–	per phase	■	1695	1800	2000	**7979.339**
3~	16	11	CEE	36	6	–	per phase	■	1895	2000	2200	**7979.340**
3~	16	11	CEE	42	–	–	per phase	■	1695	1800	2000	**7979.342**

PDU, managed version

Power			Slots/slot type				Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs IEC C13	Outputs IEC C19	Outputs Earthing-pin	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT (zero U) 482.6 mm (19") mounting angles	
1~	16	3.7	IEC C20	6	–	–	per output	■	450 (19"/1 U)	800	800	**7979.402**
1~	16	3.7	CEE	–	–	4	per output	■	450 (19"/1 U)	800	800	**7979.403**
1~	32	7.4	CEE	4	2	–	per output	■	450 (19"/1 U)	800	800	**7979.404**
1~	16	3.7	CEE	12	1	–	per output	■	845	1200	1200	**7979.410**
1~	16	3.7	CEE	–	–	10	per output	■	1095	1200	1800	**7979.411**
1~	32	7.4	CEE	16	2	–	per output	■	1095	1200	1800	**7979.412**
1~	32	7.4	CEE	12	4	–	per output	■	1095	1200	1800	**7979.413**
1~	32	7.4	CEE	–	–	16	per output	■	1495	1800	1800	**7979.414**
1~	16	3.7	CEE	24	4	–	per output	■	1295	1800	1800	**7979.415**
1~	32	7.4	CEE	24	4	–	per output	■	1495	1800	1800	**7979.416**
3~	16	11	CEE	–	9	–	per output	■	845	1200	1200	**7979.430**
3~	32	22	CEE	–	12	–	per output	■	1495	1800	1800	**7979.431**
3~	16	11	CEE	6	6	–	per output	■	1095	1200	1200	**7979.432**
3~	16	11	CEE	–	–	18	per output	■	1495	1800	1800	**7979.433**
3~	32	22	CEE	–	–	24	per output	■	2095	2200	2200	**7979.434**
3~	16	11	CEE	18	3	–	per output	■	1095	1200	1800	**7979.435**
3~	16	11	CEE	24	6	–	per output	■	1495	1800	1800	**7979.436**
3~	32	22	CEE	24	6	–	per output	■	1740	2000	2000	**7979.437**
3~	16	11	CEE	18	12	–	per output	■	1695	1800	2000	**7979.438**
3~	32	22	CEE	12	12	–	per output	■	1695	1800	2000	**7979.439**
3~	16	11	CEE	36	6	–	per output	■	1895	2000	2200	**7979.440**
3~	16	11	CEE	42	–	–	per output	■	1695	1800	2000	**7979.442**

PDU UK, basic version

Power			Slots/slot type			Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs BS1363	Outputs IEC C19	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT 482.6 mm (19") mounting angles	
1~	13	3.0	BS1363	6	–	–	–	450 (19"/1 U)	800	800	**7979.801**
1~	13	3.0	BS1363	8	–	–	–	695	800	800	**7979.811**
1~	13	3.0	BS1363	12	–	–	–	845	1200	1200	**7979.812**
1~	13	3.0	BS1363	16	–	–	–	1095	1200	1800	**7979.813**
1~	16	3.7	CEE	16	4	–	–	1295	1800	1800	**7979.814**
1~	32	7.4	CEE	16	4	–	–	1495	1800	1800	**7979.815**

PDU UK, metered version

Power			Slots/slot type			Function		Dimensions	PDU installed in rack/ min. rack height mm		Model No.
No. of phases	Phase current A	Output kW	Input	Outputs BS1363	Outputs IEC C19	Measuring	Switching	PDU length mm	VX IT rack frame	VX IT 482.6 mm (19") mounting angles	
1~	13	3.0	BS1363	16	–	per phase	–	1495	1800	1800	**7979.821**
1~	16	3.7	CEE	16	4	per phase	–	1695	1800	2000	**7979.822**
1~	32	7.4	CEE	16	4	per phase	–	1695	1800	2000	**7979.823**

Power Distribution Unit

Overvoltage protection modules, with replaceable arresters and alarm contact

Overvoltage protection module type 3	Type of connection	Connection cable/length	Phases	Phase current A	Output kW	Packs of	**Model No.**	Page
Design	CEE connector/coupling	H05VV-F3G2.5, 1 m	1~	16	3.7	1 pc(s).	**7979.721**	754
Design	CEE connector/coupling	H05VV-F3G4.0, 1 m	1~	32	7.4	1 pc(s).	**7979.722**	754
Design	CEE connector/coupling	H05VV-F5G2.5, 1 m	3~	16	11.0	1 pc(s).	**7979.723**	754
Design	CEE connector/coupling	H05VV-F5G4.0, 1 m	3~	32	22.0	1 pc(s).	**7979.724**	754

PDU accessories

	Packs of	**Model No.**	Page
Slot cover for C13 jack, lockable	10 pc(s).	**7955.010**	752
Slot cover for C19 jack, lockable	10 pc(s).	**7955.015**	752
Connector lock for C14/C20 connector	20 pc(s).	**7979.020**	752
PDU mounting adaptor for TE 7000/TE 8000	2 pc(s).	**7000.688**	752
PDU accessory pack	1 pc(s).	**7979.001**	

CMC III/PDU sensors

CMC III/PDU sensor type	Packs of	**Model No.**	Page
Temperature sensor	1 pc(s).	**7030.110**	807
Temperature/humidity sensor (combi-sensor)	1 pc(s).	**7030.111**	807
Infrared access sensor	1 pc(s).	**7030.120**	807
Vandalism sensor	1 pc(s).	**7030.130**	807
Analogue airflow sensor	1 pc(s).	**7030.140**	807
Analogue differential pressure sensor	1 pc(s).	**7030.150**	807
Universal sensor (digital inputs)	1 pc(s).	**7030.190**	807
Smoke detector	1 pc(s).	**7030.400**	807
Leak sensor	1 pc(s).	**7030.430**	807
Leak sensor, 15 m	1 pc(s).	**7030.440**	807
CMC III CAN bus connection cable RJ 45 (length: 0.5 m, 1x required for each sensor)	1 pc(s).	**7030.090**[1)]	818
CMC III CAN bus connection cable RJ 45 (length: 1.0 m, 1x required for each sensor)	1 pc(s).	**7030.091**[1)]	818
CMC III CAN bus connection cable RJ 45 (length: 1.5 m, 1x required for each sensor)	1 pc(s).	**7030.092**[1)]	818
CMC III CAN bus connection cable RJ 45 (length: 2.0 m, 1x required for each sensor)	1 pc(s).	**7030.093**[1)]	818

[1)] Other cable lengths may be found under CMC III accessories on page 818

VX IT handle system

VX IT handle system (2 handles may be connected per PDU)	Packs of	**Model No.**	Page
CMC III online comfort handle VX	1 pc(s).	**7030.611**	814
Coded lock for CMC III	1 pc(s).	**7030.223**	813
Transponder reader for CMC III	1 pc(s).	**7030.233**	813
CMC III Access Control (1x required for each handle system)	1 pc(s).	**7030.202**	812

Overview

PDU version[1)]	managed	switched	metered plus	metered	basic
Mechanical	**managed**	**switched**	**metered plus**	**metered**	**basic**
Compact extruded aluminium section, black anodised (other enclosure colours optionally available), W x D: 1 U x 70 mm, various lengths depending on number of slots	■	■	■	■	■
May be fitted in the the zero-U-space in the 600 mm wide Rittal IT rack, (2 PDUs per side, up to 4 in 800 mm wide Rittal IT racks)	■	■	■	■	■
Special PDU versions available for 482.6 mm (19") mounting	■	■	■	■	■
Colour coding of phases and fuse circuits (L1 = pink, L2 = black, L3 = white)	■	■	■	■	■
Universal mounting kit and assembly parts included with the supply	■	■	■	■	■
Tool-free installation kit especially for Rittal VX IT rack included with the supply	■	■	■	■	■
Display/controller unit in the PDU enclosure rotatable through 180° and replaceable	■	■	■	■	–
Connection cable, static, 3 m, with CEE (IEC 60 309) or IEC C20 input connector (customised modification available)	■	■	■	■	■
Compact circuit-breaker, 16 A, Carling type (only for 32 A PDU versions)	■	■	■	■	■
Output slots IEC 60 320 C13 available	■	■	■	■	■
Output slots IEC 60 320 C19 available	■	■	■	■	■
Output slots CEE 7/3 (earthing-pin socket) available	■	■	■	■	■
Output slots BS 1363 (UK plug) available	–	–	–	■	■
Connector lock for C13 and C19 sockets (optionally as accessories)	■	■	■	■	■
Lockable cover for unneeded C13/C19 slots (optional accessory)	■	■	■	■	■
Electrical	**managed**	**switched**	**metered plus**	**metered**	**basic**
Rated operating voltage 230 V (400 V, 3~), 50 – 60 Hz	■	■	■	■	■
PDUs for rated current 16 A/32 A, single-phase/3-phase	■	■	■	■	■
Integral, fully-redundant power pack, power supply from all phases	■	■	■	■	–
Power-saving design, minimal intrinsic power consumption	■	■	■	■	–
PDU with own power supply, no external power supply required	■	■	■	■	–
Error-tolerant PDU power supply redundant across all phases (with 3-phase PDUs)	■	■	■	■	–
Emergency power supply to PDU web server via PoE (Power over Ethernet) and sequential relay circuit (PoE+ to IEEE 802.3at), remains accessible even in the event of a mains failure	■	■	–	–	–
Optional: Type 3 overvoltage protection with interchangeable arresters while operational, with status monitoring, suitable for integration into PDU enclosure)	■	■	■	■	■
Switching function per output slot	■	■	–	–	–
Sequential activation of the outputs once the power is resumed (avoids overload peaks)	■	■	–	–	–
Relay states are saved even in the event of a power failure	■	■	–	–	–
Bistable relays/low current consumption/high switching capacity also for higher starting currents (max. 300 A)	■	■	–	–	–
Grouping (joint switching of several outputs)	■	■	–	–	–
Programmable startup response following voltage recovery (on/off/last status)	■	■	–	–	–
Programmable startup response (time and programmable logic)	■	■	–	–	–
Measurement functions	**managed**	**switched**	**metered plus**	**metered**	**basic**
Voltage (V), current (A), frequency (Hz)	■	■	■	■	–
Active power (kW), active energy (kWh), apparent power (VA), apparent energy (kVA)	■	■	■	■	–
Power factor (cosPhi) and phase angle	■	■	■	■	–
Neutral conductor measurement to identify unbalanced loads (3-phase PDUs only)	■	■	■	■	–
Optional: Differential current measurement (type B) per infeed/phase/fuse	■	■	■	■	–
Fuse monitoring for PDUs with integral fuse (32 A PDUs)	■	■	■	■	–
Monitoring of the optionally available overvoltage protection	■	■	■	■	–
Alarm contact for optional overvoltage protection on terminals	–	–	–	–	■
Measurement per phase or infeed	■	■	■	■	–
Measurement per output slot	■	–	■	–	–
Measurement accuracy ±1% to IEC/EN 62 053-21	■	■	■	■	–

[1)] In addition to the defined products, customised modifications are also possible.

Note:
– Select plausibility-checked enclosures and components easily with the Rittal Configuration System, plan machining and place your order, see page 272

Power Distribution Unit

Overview

PDU version[1)]	managed	switched	metered plus	metered	basic

Connectivity/management functions	managed	switched	metered plus	metered	basic
Powerful CPU (ARM Cortex A8)	■	■	■	■	–
Integral real-time clock with battery buffering (max. 10 years, battery replaceable)	■	■	■	■	–
Integral piezo beeper	■	■	■	■	–
Digital input (floating contact)	■	■	■	■	–
Additional alarm output/relay output (changeover contact)	■	■	■	■	–
Bright TFT display, 128 x 128 pixels (RGB) with back-lighting and energy-saving mode (display of output data and basic PDU configuration)	■	■	■	■	–
Position sensors for display rotation and correct PDU representation on the website	■	■	■	■	–
Multi-colour LEDs (green/amber/red) to indicate switching states and warning/alarm limits per phase or infeed	■	■	■	–	–
Multi-colour LEDs (green/amber/red) to indicate switching states and limits per individual output slot	■	–	■	–	–
Power LED, indicates presence of voltage	■	■	■	■	–
Adjustable limit values (warning/alarm) for voltage, current, output	–	■	–	■	–
Adjustable limit values (warning/alarm) for current, voltage, output, individually setting for each output slot	■	–	■	–	–
Operating hours meter, total and cyclical (resettable)	■	■	■	■	–
Fully redundant Ethernet interface 10/100/1000 Mbit/s (2 x RJ45)	■	■	■	■	–
USB 2.0 port (USB-A) for mass configuration, firmware update and data logging	■	■	■	■	–
CAN bus interface (RJ 45) for a maximum of 8 ambient sensors	■	■	■	■	–
Serial interface RS232 (RJ12) for CMC III LTE unit, scripting, CLI	■	■	■	■	–
Web server (HTTP, HTTPS, SSL, SSH) Telnet, NTP	■	■	■	■	–
TCP/IP v4 and v6, DHCP, DNS	■	■	■	■	–
SNMP v1, v2c and v3, Modbus/TCP, OPC-UA	■	■	■	■	–
MIB for linking into 3rd party DCIM software	■	■	■	■	–
FTP/SFTP (update/file transfer)	■	■	■	■	–
Rest API	■	■	■	■	–
Use of own certificates/TLS 1.3	■	■	■	■	–
E-mail forwarding in case of alarm (SMTP)	■	■	■	■	–
User administration including rights management	■	■	■	■	–
LDAP(S)/Radius/Active Directory connection	■	■	■	■	–
Syslog server connection (max. 2 servers)	■	■	■	■	–
Fully redundant monitoring via 2nd network	■	■	■	■	–
CMC III CAN bus sensors may be connected for ambient monitoring (max. 8 sensors)	■	■	■	■	–
CMC III sensors: Temperature, humidity, smoke detector, VX IT handle systems, infrared access sensor, vandalism sensor, airflow, differential pressure, etc.	■	■	■	■	–

Ambient conditions	managed	switched	metered plus	metered	basic
Operating temperature	+5...+50 °C @100% load				
Storage temperature	-25 °C...+70 °C				
Ambient humidity (non-condensing)	10 – 95% rel. humidity				
Protection category (IEC 60 529)	IP 20				

Approvals and standards	managed	switched	metered plus	metered	basic
Approvals and standards	CE/EAC/RoHS/WEEE				
Low Voltage Directive	2014/35/EU				
EMC Directive	2014/30/EU				
Standards (excerpt)	EN 62 368-1/EN 62 053-21/EN 61 000-3/EN 61 000-4/ EN 61 000-6				

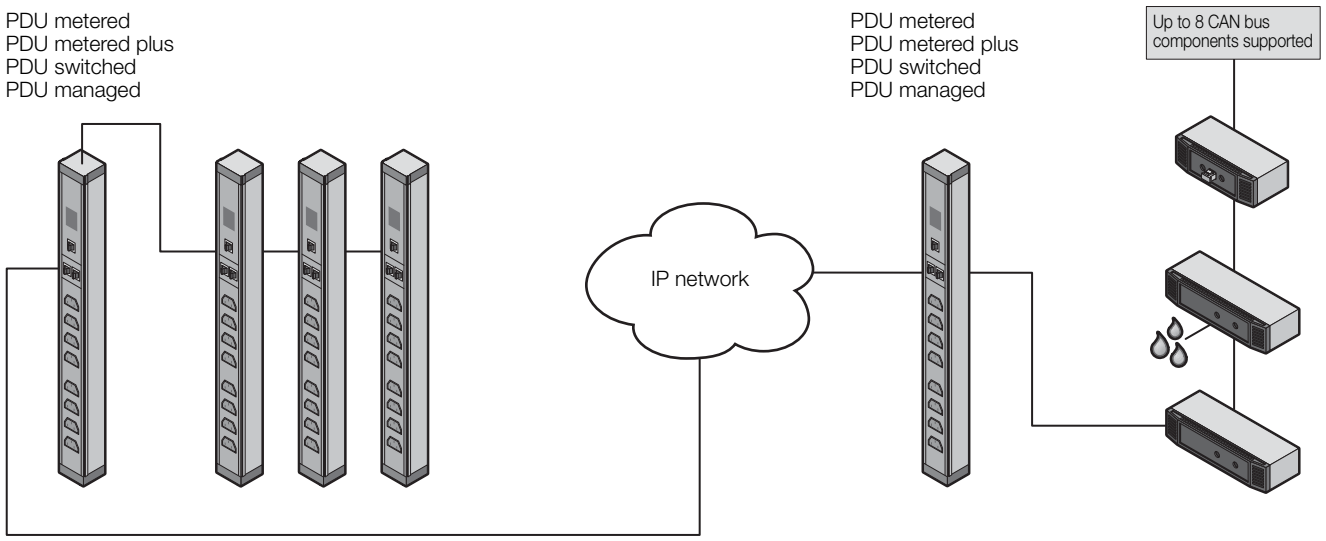
[1)] In addition to the defined products, customised modifications are also possible.

Sample application

PDU cascading
Cascading of up to 16 PDUs in series is supported via the network interface.

Master/slave operating mode
Each PDU may also be used individually as a master or slave PDU. The master PDU controls up to three slave PDUs.

Connection of CAN bus sensors
Up to 8 CMC III CAN bus sensors may be connected to one PDU for ambient monitoring (temperature, humidity, access, vandalism).



Technical specifications

Equipment		
Standards	Safety	EN 62 368-1
	EMC	EN 55 022/B, EN 61 000-4-2, EN 61 000-4-3, EN 61 000-6-2, EN 61 000-6-3
Low Voltage Directive		2014/35/EU
EMC Directive		2014/30/EU
MTBF (at 40 °C)		100,000 hours
Protection category		IP 20 (IEC 60 529)
Protection class		1
Contamination level		2
Overvoltage category		II
Environmental properties		RoHS 2 (2011/65/EU)
Storage temperature		-20 °C...+70 °C
Ambient temperatures		+5 °C...+50 °C
Ambient humidity (non-condensing)		10 – 95% rel. humidity
Connector lock C14/C20		1 x (optional additional locks 7979.020)
Covers C13		Optional 7955.010
Covers C19		Optional 7955.015

Power Distribution Unit

Technical specifications

Compact power distributor for use in IT server and network racks. Please observe the relevant product dimensions and check whether the PDU can be installed in your preferred rack. The PDU dimensions and the minimum rack height required may be found in the ordering table from page 733. The technical specifications listed below apply wholly or partially to the following PDU products:

- PDU metered (power measurement at the infeed or per phase. Without switching function)
- PDU metered plus (power measurement per individual outgoing slot. Without switching function)
- PDU switched (power measurement at the infeed or per phase. With switching function)
- PDU managed (power measurement per individual outgoing slot. With switching function)

Technical specifications apply to the following product variants:
PDU metered 7979.2XX, PDU metered plus 7979.5XX, PDU switched 7979.3XX, PDU managed 7979.4XX

Equipment		
Input voltage range (L – N)		230 V (400 V, 3~), 50 – 60 Hz
Input current		16 A/32 A (depending on product variant)
No. of phases		1 or 3 depending on product variant
PDU inherent supply		Integral long-range SMPS, error-tolerant from all phases
PDU power consumption		approx. 10 W
Redundant power supply via PoE		Yes (with PDU switched, PDU managed)
Marking of phases (3-phase PDUs only: L1, L2, L3)		Rittal Power Pink, black, white
Slots type EN 60 320/C13		Quantity depends on version
Slots type EN 60 320/C19		Quantity depends on version
No. of circuit-breakers		2 (single-phase) or 6 (3-phase) with 32 A version
Hydraulic-magnetic protective circuit-breaker		16 A (Carling)
Slots individually switchable		Yes, only for PDU switched, PDU managed (bistable relay, minimal inherent consumption)
Connector, PDU input		EN 60 309/CEE or EN 60 320-C20 (depending on product variant)
Length of connection cable		3 m
Connection cable type		H05-VV
No. of wires		3/5 (single-phase/3-phase PDU)
Cable cross-section		2.5 mm^2/4.0 mm^2 (for 16 A/32 A versions)
PDU enclosure width		44 mm (1 U)
PDU enclosure depth		70 mm
PDU enclosure height (length)		Depends on product variant
PDU material		Aluminium, anodised in RAL 9005 (black, other colours may be configured)
PDU mounting adaptor		Plastic, black
PDU mounting options		On the enclosure frame, at the side of the 482.6 mm (19") mounting frame (zero-U space) as well as on the cable route (push-button attachment)
Measurement functions (input/phase or output slot)	Values recorded (standard configuration)	Voltage (V), phase current (A), frequency (Hz), active power (kW), active energy (kWh), apparent power (VA), apparent energy, reactive power, power factor, neutral-conductor measurement / load imbalance detection, crest factor, THDU/THDI, fuse monitoring (with 32 A versions) and operating hours meter
	Acquired values (individually configurable)	Differential current measurement (RCM type B), measurement range: 0 - 100 mA AC, max. 6 measuring points per PDU supported, input per phase/per fuse
	Overvoltage protection (type 3, replaceable with the system operational)	Electronic monitoring with PDU metered, metered plus, switched, managed, with PDU basic via floating alarm contact
	Voltage measurement range	90 V – 260 V
	Voltage resolution	0.1 V
	Current measurement range	0 – 16/32 A (depending on product variant)
	Current resolution	0.1 A
	Measurement accuracy	Typ. 1%
	Freely settable limit values for warning/alarm	Yes
Operating hours meter		Yes
Display		TFT colour display, RGB 128 x 128 pixels, LED per slot (for PDU switched, PDU managed)
Network interface		2 x RJ45, 10/100/1000 Mbit/s
Supported protocols		TCP/IP v4 and v6, HTTP, HTTPS, SSL, SSH, NTP, Telnet, DHCP, DNS, NTP, Syslog, SNMP v1, v2c and v3, XML, FTP/SFTP (update/file transfer), e-mail forwarding (SMTP), OPC-UA server, Modbus/TCP
User administration including rights management		Yes
LDAP(S)/Radius/Active Directory connection		Yes
Interfaces		
USB port for firmware update, data logging function, mass configuration		Yes
Serial interface		RS232 (RJ12) for LTE unit, scripting, CLI
Digital input		Floating contact
Alarm (acoustic)		Piezo beeper
CAN bus interface		RJ45, for connecting sensors
CAN sensor types		Temperature, temperature/humidity (combined), infrared access sensor, vandalism sensor, handle systems (except wireless) and automatic door opening
Max. number of sensors per PDU		8 sensor configuration freely selectable
Plug & play drivers in the Rittal RiZone DCIM software		Yes
Conformity		CE, EAC

We reserve the right to make technical modifications

Power Distribution Unit

Ambient monitoring with up to 8 CMC III sensors,
see page 730

Modular Power Distribution Unit

Flexible power distribution in IT racks

Maximum efficiency

- A modern PDU (PSM) allows you to respond flexibly at any time to changing requirements for the IT power supply in the server rack, even years later. You can change the slot configuration of the modular PDU (PSM) at any time, and even add completely new functions, without having to interrupt the power supply to the IT rack.
- The vertical, contactless busbar as the basic equipment for any IT rack permits a high degree of flexibility with versatile, plug-in modules with different socket types that may be exchanged while the system is operational.
- Patented plug & play system for exchanging modules while operational. In redundant systems, the circuit is changed by simply rotating the module.

Monitor, control and switch

- Power measurement and switching functions for the output slots can be added to any busbar with these plug-in modules. The modules are also suitable for upgrading existing installations if it becomes necessary to record the power data or add a switching option for the connected equipment.
- The outgoing slots may be switched individually and in groups, with the status for each slot indicated by an LED.
- Voltage, current and active power limits may be configured to suit your requirements. This supports the implementation of ISO 50001 and EN 600-2-2.

Impressive functions

- Extensive power measurement and switching functions for each output slot, both individually and in groups
- Easily integrated into the CMC III monitoring system
- Single-phase or 3-phase infeed, up to 22 kW per PSM busbar
- All standard protocols supported in conjunction with CMC III

Modular busbars

PSM busbars and PSM socket modules

PSM busbars
The modular system facilitates basic configuration of the racks, thanks to a vertical support rail with single-/3-phase infeed. The various socket 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.

PSM socket modules
The various modules, earthing pins, IEC 60 320 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.

Approvals:
Available on the Internet

Technical specifications/benefits:
- Each socket 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
- Single-/3-phase construction with a maximum current of 2 x (3 x 16 A)
- 3-phase redundant infeed supported
- The redundant circuit is completely separate from the 3 phases of the support rail
- Modules may be retrofitted whilst operational
- 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
- Various modules also available with current measurement and switchable outputs

PSM busbar

Equipment	7856.005	7856.006	7856.008	7856.010	7856.020
Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Minimum height of rack	2000 mm	2000 mm	2200 mm	1200 mm	2000 mm
Type of connection/length	fixed/3 m	fixed/3 m	WAGO jack	WAGO jack	WAGO jack
Connector	CEE	CEE	X-COM	X-COM	X-COM
No. of infeeds	1	2	2	2	2
No. of phases	3	3	3	3	3
Phase current	16 A	16 A	16 A	16 A	16 A
Various connection cables, also for single-phase connection	–	–	■	■	■
No. of PSM module slots	7	7	8	4	7
Integral energy measurement of voltage, current, active power, apparent power, active energy, power factor, mains frequency	–	–	–	–	–
Measurement accuracy (U, I, f, P, S)	–	–	–	–	–
Measurement accuracy (E/kWh)	–	–	–	–	–
Graphic display for visualising the measurements (24 V DC required)	–	–	–	–	–
CAN bus interface for connecting to CMC III system	–	–	–	–	–
Web server (IPv4, IPv6, SNMP, SSH) via CMC III (PU 7030.000/PU Compact 7030.010)	–	–	–	–	–
E-mail forwarding of exceeded limits and alarms (CMC III required)	–	–	–	–	–
Operating temperature	+5 °C...+45 °C				
Ambient humidity (non-condensing)	10 – 90%				
Protection category IP (to IEC 60 529)	IP 20				
Approvals	CE	CE	CE	CE	CE

Equipment	7856.321	7856.323	7859.050	7859.053
Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Minimum height of rack	2000 mm	2000 mm	2000 mm	2000 mm
Type of connection/length	fixed/3 m	fixed/3 m	WAGO jack	fixed/3 m
Connector	CEE	CEE	X-COM	CEE
No. of infeeds	1	1	2	1
No. of phases	1	3	3	1
Phase current	32 A	32 A	16 A	32 A
Various connection cables, also for single-phase connection	–	–	■	–
No. of PSM module slots	6	6	6	6
Integral energy measurement of voltage, current, active power, apparent power, active energy, power factor, mains frequency	–	–	■	■
Measurement accuracy (U, I, f, P, S)	–	–	2%	2%
Measurement accuracy (E/kWh)	–	–	1%	1%
Graphic display for visualising the measurements (24 V DC required)	–	–	■	■
CAN bus interface for connecting to CMC III system	–	–	■	■
Web server (IPv4, IPv6, SNMP, SSH) via CMC III (PU 7030.000/PU Compact 7030.010)	–	–	■	■
E-mail forwarding of exceeded limits and alarms (CMC III required)	–	–	■	■
Operating temperature	+5 °C...+45 °C			
Ambient humidity (non-condensing)	10 – 90%			
Protection category IP (to IEC 60 529)	IP 20			
Approvals	CE	CE	CE	CE

Also required:

– PSM socket modules, see page 748

Accessories:

– Mounting kit for PSM busbars, see page 751
– Connection cables, see page 751
– Cable lock, see page 752
– Overvoltage protection, see page 751

Modular busbars

PSM zero-U space

Modular PDU for space-saving integration in the zero-U space between side panel and 482.6 mm (19") mounting level in 800 mm wide IT racks.

Equipment	7859.080	7859.081	7859.090
Packs of	1 pc(s).	1 pc(s).	1 pc(s).
Minimum height of rack	2000 mm	2000 mm	2000 mm
Length	1695 mm	1695 mm	1695 mm
Type of connection/length	WAGO jack	fixed/3 m	fixed/3 m
Connector	X-COM	CEE	CEE
No. of infeeds	2	1	1
No. of phases	3	3	1
Phase current	16 A	16 A	32 A
Various connection cables, also for single-phase connection	■	–	–
No. of PSM module slots	6	6	5
Operating temperature	+5 °C...+45 °C		
Ambient humidity (non-condensing)	10 – 90%		
Protection category IP (to IEC 60 529)	IP 20		
Approvals	CE	CE	CE

Also required:

- PSM socket modules, see page 748
- Mounting kit for PSM busbars 7859.065, see page 751

Accessories:

- Connection cables, see page 751
- Cable lock, see page 752
- Overvoltage protection, see page 751

PSM measurement bar for CMC III

Measurement bars for direct connection to the CMC III system. With a PSM mounting kit, the measurement bar may be vertically mounted in 2000 mm high VX IT racks. Display and monitoring of all major output parameters is supported, separated by phase and infeed. An integral display provides a local on-site display in the rack. Remote administration and network connectivity are created via the CMC III system.

Benefits:
- Modular extendible system
- For 16 A and 32 A phase current
- Various PSM connection modules (pin patterns)
- PSM modules may be connected with the system operational
- Easy to assemble
- CAN bus for connection to CMC III system
- Extensive management and monitoring monitoring functions (via CMC III)
- High-MTBF and measurement accuracy of 1 %
- Energy-efficient electric design – minimal inherent power consumption
- High-quality aluminium housing, for flexible mounting

Measurement functions:
- Voltage (V), current (A), frequency (Hz)
- Active power (kW), active energy (kWh), apparent power (VA), apparent energy (kVAh)
- Power factor (cos phi)
- Zero conductor current measurement/ load imbalance detection
- Measurement per phase or infeed
- Measurement accuracy 1% (kWh) to IEC 62 053-21

Material:
- Extruded aluminium section, anodised

Protection category IP to IEC 60 529:
- IP 20

Standards:
- EN 61 000-6-1
- EN 61 000-6-2
- EN 55 022

Low Voltage Directive:
- 2014/35/EU

EMC directive:
- 2014/30/EU

Approvals:
Available on the Internet

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

Model No.	**7859.050**	**7859.053**	Page
Packs of	1 pc(s).	1 pc(s).	
Version/rated current (per phase)	16 A	32 A	
No. of infeeds (3-phase, 16 A/single-phase, 32 A)	2	1	
Connection cable, plug-in, various configurations	■	–	
Connection cable, fixed, 3 m, with CEE connector, 32 A, single-phase (IEC 60 309)	–	■	
Electromagnetic circuit-breaker (2 x 16 A, type C)	–	■	
Input voltage 230 V/400 V (50/60 Hz)	■	■	
Power supply via CMC III system (24 V DC)	■	■	
CAN bus for direct connection to CMC III system (RJ45, 2x sockets)	■	■	
Maximum no. of systems that may be connected to one CMC III PU	8	8	
Ambient conditions			
Operating temperature	0 °C…+45 °C		
Storage temperature	-25 °C…+70 °C		
Ambient humidity (non-condensing)	10 – 95 %		
Accessories			
PSM connection cable, 3-phase, with CEE connectors (IEC 60 309), length 3 m (2 x required when using both infeeds)	7856.025	Fixed installation	751
PSM mounting kit for mounting on the VX IT rack frame, height 2000 mm	7859.060	7859.060	751
PSM module 4 x earthing-pin, black	7856.100	7856.100	748
PSM module 4 x earthing-pin, red	7856.240	7856.240	748
PSM module 6 x C13	7856.080	7856.080	748
PSM module 4 x C19	7856.230	7856.230	748
Other PSM socket modules	see page 748		

PSM socket modules

max. 16 A/3680 W per module

	Model No.							
	1							
Equipment	**7856.080**	**7856.082**	**7856.100**	**7856.240**	**7856.230**	**7856.070**	**7856.220**	**7856.090**
Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Occupied slots in PSM busbar	1	1	1	1	1	1	1	1
Connector pattern (type)	IEC 60 320 C13	IEC 60 320 C13	Earthing-pin CEE 7/3	Earthing-pin CEE 7/3	IEC 60 320 C19	IEC 60 320 C13	IEC 60 320 C13	Earthing-pin CEE 7/3
Number of outputs	6	6	4	4	4	6	4	4
Colour of slots	black	red	black	red	black	black	black	black
Lockable connectors (optional)	■	■	–	–	–	–	–	–
Miniature fuse per output	–	–	–	–	–	–	■	–
Thermal overload protection	–	–	–	–	–	■	–	■
Optical LED display (total current)	–	–	–	–	–	–	–	–
Optical LED display (switching status/status)	–	–	–	–	–	–	–	–
Illuminated colour display (display of measurements/alarms)	–	–	–	–	–	–	–	–
Switchable outputs (via CMC III)	–	–	–	–	–	–	–	–
Energy measurement per module (total values)	–	–	–	–	–	–	–	–
Dimensions (W x H x D)	52 x 250 x 45 mm							
Operating temperature	+5 °C...+45 °C							
Ambient humidity (non-condensing)	10 – 95 %							
Material	Extruded aluminium section/plastic							
Approvals	CE	CE	CE	CE	CE	CE	CE	CE

	Model No.						
	2		3		4		
Equipment	**7856.120**	**7856.191**	**7859.120**	**7859.130**	**7859.410**	**7859.420**	**7859.430**
Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Occupied slots in PSM busbar	1	1	1	1	2	2	2
Connector pattern (type)	UTE CEE7/5	Switzerland T23	IEC 60 320 C13	IEC 60 320 C19	IEC 60 320 C13	IEC 60 320 C19 (+ 2 C13)	Earthing-pin CEE7/3 (+ 2 C13)
Number of outputs	4	4	6	4	8	6	6
Colour of slots	black	black	black	black	black	black	black
Lockable connectors (optional)	–	–	■	–	■	■	–
Miniature fuse per output	–	–	–	–	–	–	–
Thermal overload protection	–	–	–	–	–	–	–
Optical LED display (total current)	–	–	■	■	–	–	–
Optical LED display (switching status/status)	–	–	–	–	■	■	■
Illuminated colour display (display of measurements/alarms)	–	–	–	–	■	■	■
Switchable outputs (via CMC III)	–	–	–	–	■	■	■
Energy measurement per module (total values)	–	–	–	–	■	■	■
Dimensions (W x H x D)	52 x 250 x 45 mm				52 x 505 x 45 mm		
Operating temperature	+5 °C...+45 °C				+5 °C...+60 °C (at max 8 A per switch output)		
Ambient humidity (non-condensing)	10 – 95 %						
Material	Extruded aluminium section/plastic						
Approvals	CE	CE	CE	CE	CE	CE	CE

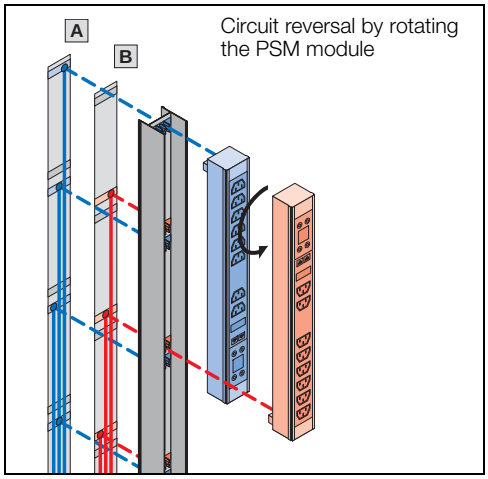
Approvals:
Available on the Internet

PSM measurement modules with CAN bus

for PSM busbars

A power meter and switching functions for the output slots can be added to any PSM busbar with these PSM plug-in modules. The modules are also suitable for upgrading existing PSM installations if it becomes necessary to record the power data or add a switching option for the connected equipment.

There are three variants available with different socket types. In the PSM busbar, the PSM modules occupy two module slots each. Measurements are displayed locally on a backlit LC display. For quick checks, the colour of the display backlight changes to red if current and power limits are exceeded.



Integration into the CMC III monitoring system

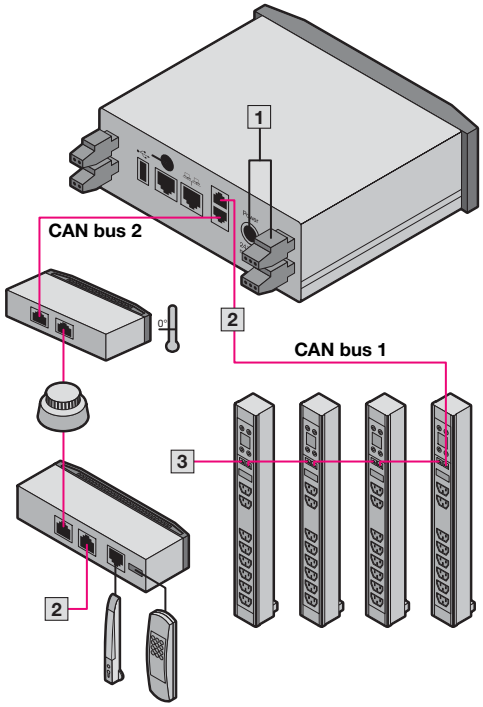
Multiple modules may be interconnected and linked directly to the CMC III enclosure monitoring system via the integral CAN bus interface. The PSM measurement module supports the configuration of an energy data management (EMS) system to ISO 50001. This may be combined with the CMC III. Using the CMC III, the individual output slots of the PSM modules may be switched individually or in groups via the network. Similarly, data logging, including diagrammatic representation, is also available via the CMC III website. Data is forwarded from the CMC III via an Ethernet interface with common protocols such as SNMPv3, Modbus/TCP and OPC-UA. The switch function is easily linked to other sensors connected to the CMC III monitoring system (e.g. CMC III temperature sensor, smoke alarm or DET-AC III extinguisher system). In larger installations, we recommend incorporating the CMC III PU with PSM modules into a DCIM software package (e.g. RiZone).

Additional functions:

- Alarm management via CMC III (e.g. e-mail or text message)
- Visualisation of the switching status on the CMC III website and RiZone
- Up to 16 PSM modules on one CMC III PU (per IP address)
- Rights management via CMC III (e.g. restriction of the switching function)

Functions:

- Simple, shock-hazard-protected, plug & play installation with the system operational
- Measurement of power consumption per module
- Output slots may be switched individually and in groups
- Blue LEDs per slot to visually indicate the switching status
- Status LEDs for CAN bus communication per module
- LC matrix display with multi-coloured backlight for local display
- Location sensor for correct display and Web view in 90° increments
- Adjustable limits for voltage, current and active power
- Configurable overload detection per module
- High level of measurement accuracy
- Alarm signalling via the display
- Facilitates the implementation of requirements to ISO 50 001 and EN 50 600-2-2
- Stable aluminium section with plastic socket inserts
- Supports universal connector locking of the IEC 60 320, C13 and C19 slots
- Supports the closure of unneeded IEC 60 320, C13 and C19 slots
- PSM module is easily fitted into and removed from the PSM busbar, for use at different locations
- Compatible with the European PSM busbar range
- Depending on the PSM busbar, up to four modules per bar may be fitted
- In redundant systems, the circuit may be switched over by rotating the module
- For ambient temperatures up to +60 °C



1 Voltage supply 24 V (DC) and redundant voltage supply 24 V (DC)

2 Supports up to 16 sensors per CAN bus (depending on the power supply/connection combinations)

3 Supports up to 8 PSM modules per CAN bus

PSM measurement modules

PSM measurement modules with CAN bus

for PSM busbars

Supply includes:
- PSM measurement module, depending on type
- CAN bus connection cable, 1 m long

Also required:
- PSM busbars and accessories, see page 745
- CMC III Processing Unit/Compact, see page 803
- CMC III accessories, see page 806

Accessories:
- Slot cover, see page 752
- Connector lock, see page 752

Model No.	7859.410	7859.420	7859.430
Packs of	1 pc(s).	1 pc(s).	1 pc(s).
No. of IEC 60 320 C13 slots	8	2	2
No. of IEC 60 320 C19 slots	–	4	–
No. of earthing-pin slots (CEE 7/3 or type F)	–	–	4
Total no. of all switchable outputs	8	6	6
No. of slots required in the PSM busbar	2	2	2
Module dimensions (W x H x D)	53 x 500 x 45 mm		
Section	Aluminium, anodised		
Plastic	PA 6		
Electrical			
No. of infeeds per module	1 pc(s).		
Input voltage	230 V AC		
Input voltage, tolerance	207 – 250 V AC		
Rated current	16 A		
Distribution power per module (at 230 V)	3680 W		
Power supply (via CMC III system, alternatively with power pack 7201.210)	18 – 24 V DC		
Relay type	Dual coil/bistable		
Relay switching load	4000 VA		
Measurement functions			
Voltage V, current A, frequency Hz	■		
Active power kW, active energy kWh	■		
Reactive power kVar, reactive energy kVarh	■		
Apparent power kVA, apparent energy kVAh	■		
Power factor cos ϕ, crest factor (amplitude factor)	■		
Operating hours meter d, h, min	■		
Measurement accuracy	±1%		
Resettable measurement functions/reset via software/interval measurement			
Active energy kWh	■		
Operating hours meter h	■		
Threshold values (warning/alarm) freely configurable	Voltage, current, active power		
Connectivity / management functions (in conjunction with CMC III)			
Maximum number of usable modules per CMC III Processing Unit	16 (2 x 8)		
Maximum number of usable modules per CMC III Processing Unit Compact	4		
CAN bus for direct connection to CMC III system	2 (RJ45)		
Network functionality (only in conjunction with CMC III system)	IPv4, IPv6, SNMPv3, Modbus/TCP, OPC-UA		
Ambient conditions			
Operating temperature (at max. 8 A per output slot)	+5 °C…+60 °C		
Storage temperature	-20 °C…+70 °C		
Ambient humidity (non-condensing)	rel. humidity 10 – 90%		
Maximum operating altitude	2000 m		
Contamination level	2		
Protection class (IEC 60 529)	IP 20		
Approvals and standards			
Approval	CE		
Standards (excerpt)	Low Voltage Directive 2014/35/EU, EMC Directive, 2014/30/EU, EN 50 600-2-2		

Mounting kit

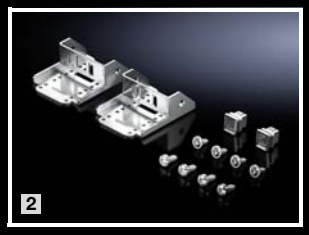
for PSM busbars

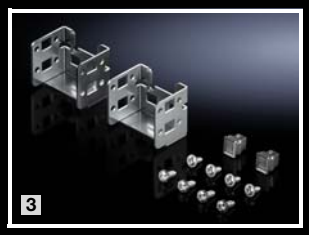
Benefits:
– In the VX IT rack, orientation of the busbar is possible either to the rear or to the enclosure interior

Material:
– Sheet steel, zinc-plated

Supply includes:
– 2 mounting brackets
– Assembly parts

To fit enclosure type	Installation options	Packs of	Model No.
1 TE 8000	Static	2 pc(s).	**7000.684**
2 VX IT	Plug & play on the rack frame	2 pc(s).	**7859.060**
3 VX IT	Plug & play in the zero-U space	2 pc(s).	**7859.065**





Connection cable

for PSM busbars

	Length m	Packs of	Model No.
Connection cable, 3-phase			
CEE-conforming 5-pole/16 A	3	1 pc(s).	**7856.025**
Connection cable, 1-phase			
CEE-conforming 3-pole/16 A	3	1 pc(s).	**7856.026**
Connection cable, UPS, single-phase			
C14/X-COM 10 A/UPS, 1 – 2 kVA	3	1 pc(s).	**7856.027**
C20/X-COM 16 A/UPS, 3 kVA	3	1 pc(s).	**7856.030**
Connection cable C19/C20			
16 A	2	1 pc(s).	**7200.217**
Connection cable C13/C14			
10 A	0.5	2 pc(s).	**7856.014**

Overvoltage protection PSM

Connected upstream of the busbar.

Rated operating voltage:
– 230 V, 3~

Rated current:
– 16 A

Overvoltage protection:
– Fine fuse (type 3 arrester)

Connections:
– Jack Wago X-COM
– Connector Wago X-COM

Overvoltage protection	Packs of	Model No.
With adaptor connector	1 pc(s).	**7856.170**

Note:
– With redundant infeed to the PSM busbar, 2 x this item is required

Accessories

Cable lock PSM

for all modules with EN 60 320 C13 connector configurations
All terminal connection cables are therefore protected against unintentional disconnection of the power supply. Two bars are needed for two cables.

Type	Packs of	Model No.
Bar	20 pc(s).	**7856.013**

Accessories:

– Optimum locking function is only achieved with connection cable 7856.014, see page 751

Connector lock

for C14 and C20 connectors
The universal lock can be used to latch IEC 60 320 C14 or C20 connectors in place to prevent accidental removal. Latching is adjustable and adapts to standard connector forms. This creates a reliable manufacturer-independent connection for most connection cables commonly available on the market.

Material:
– Plastic (PA 12)

Colour:
– RAL 9005

Packs of	Model No.
20 pc(s).	**7979.020**

Slot cover

for C13 and C19 slots
The slot cover is used to close open, unused IEC 60 320 C13 and C19 slots. This prevents accidental overloading of individual phases. The cover can be removed at any time using the enclosed release tool (or a slotted screwdriver).

Material:
– Plastic (PA 66)

Colour:
– RAL 9005

Supply includes:
– Release tool

For slots	Packs of	Model No.
C13	10 pc(s).	**7955.010**
C19	10 pc(s).	**7955.015**

PDU mounting adaptor

for TE
For installing the power distribution unit PDU in the zero-U space of the TE. The divider kit included with the supply of the PDU is required for mounting.

Material:
– Sheet steel, zinc-plated

Supply includes:
– Assembly parts

Packs of	Model No.
2 pc(s).	**7000.688**

Modular PDU (PSM) Page 744 **Power basic** Page 733

Autonomous energy metering unit (including differential current monitoring) in a 1 U/19" form factor. The unit is incorporated into the supply lead to the equipment, a PDU basic or a modular PDU without measurement function. All key electrical characteristics are logged in the same way as with a PDU metered. Additionally, the measurement module features an integral differential current measurement (type B) for fault current monitoring of the connected equipment. Consumption data is conveniently retrieved via a network interface or locally via a TFT display. Additionally, all the PDU metered interfaces, e.g. for connecting external sensors and smart handle systems, are available.

Benefits:
- The ideal solution for upgrading existing installations which lack modern measurement functions
- Includes differential current measurement/fault current monitoring
- Extensive measuring functions (as with PDU metered)
- Versions for 16 A/32 A phased current, 1-phase/3-phase
- Versions with connection cable and CEE connectors, ready to use immediately
- Fast upgrade, installation only requires a brief interruption to operation
- Compact 482.6 mm (1 U 19") enclosure with pre-assembled connection cables
- High degree of measurement accuracy (typically ±1%)
- Energy-efficient design, minimal inherent power consumption
- Acoustic alarm may be set if certain limits are exceeded (such as fault currents)
- Integral GbE interface with web server for autonomous operation without any additional components
- Sensor interface for up to 8 CMC III/PDU ambient sensors (including access management/handle systems)

Material:
- Extruded aluminium section, anodised

Colour:
- RAL 9005

Protection category IP to IEC 60 529:
- IP 51

Standards:
- EN 62 368-1
- EN 61 000-4
- EN 61 000-6
- EN 55 022

Low Voltage Directive:
- 2014/35/EU

EMC directive:
- 2014/30/EU

RCM measurement module – Inline meter

Model No.		7979.711	7979.712	7979.713	7979.714
	Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Version		16 A	32 A	16 A	32 A
Type of connection		CEE connector/coupling	CEE connector/coupling	CEE connector/coupling	CEE connector/coupling
Connection cable/length		H05VV F3G2.5/1 m	H05VV F3G4.0/1 m	H05VV F5G2.5/1 m	H05VV F5G4.0/1 m
Output kW		3.7	7.4	11.0	22.0
Phases		1~	1~	3~	3~
Phase current		16 A	32 A	16 A	32 A

Upgrade solution

Modular PDU (PSM) Page 744 **Power distribution unit (PDU)** Page 732

Compact overvoltage protection module for protecting terminal equipment (type 3) with alarm contact, for mounting on the enclosure frame. The modules are used to protect sensitive hardware and represent the third or final stage in the overvoltage protection chain. Additionally, other type 1 or type 2 overvoltage protective devices must be present in the building installation or power distribution system.

Benefits:
- Fully wired overvoltage protection solution, ready to connect and use immediately
- For universal use
- High availability – In the event of a fault, arresters can be replaced without interrupting the power supply
- Maintenance-friendly version with a plug-in system for the protective modules
- Versions for 16 A/32 A phased current, 1-phase/3-phase
- Versions with connection cable and CEE connectors
- Ready to use immediately on TN-S networks
- Connection paths L/N and N/PE
- Optical status monitoring directly on the arrester
- Status message via floating alarm contact for forwarding e.g. to building services management
- Space-saving assembly thanks to compact design

Material:
- Extruded aluminium section, anodised

Colour:
- RAL 9005

Protection category IP to IEC 60 529:
- IP 51

Standards:
- IEC 61 643-11
- EN 61 643-11

Low Voltage Directive:
- 2014/35/EU

EMC directive:
- 2014/30/EU

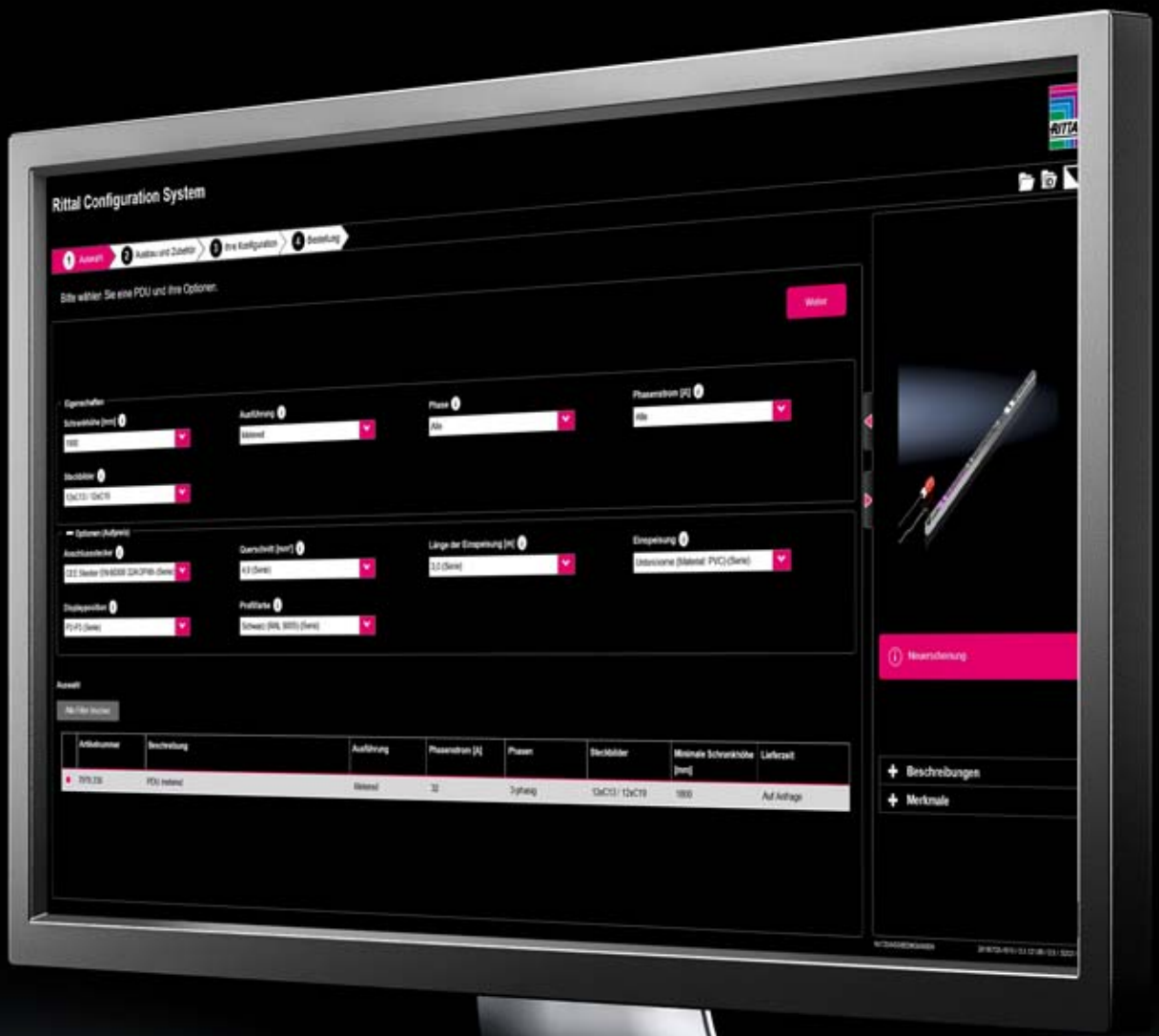
Supply includes:
- Assembly parts

Overvoltage protection module, type 3

Model No.		7979.721	7979.722	7979.723	7979.724
	Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Type of connection		CEE connector/coupling	CEE connector/coupling	CEE connector/coupling	CEE connector/coupling
Connection cable/length		H05VV F3G2.5/1 m	H05VV F3G4.0/1 m	H05VV F5G2.5/1 m	H05VV F5G4.0/1 m
Output kW		3.7	7.4	11.0	22.0
Phases		1~	1~	3~	3~
Phase current		16 A	32 A	16 A	32 A

Rittal Configuration System

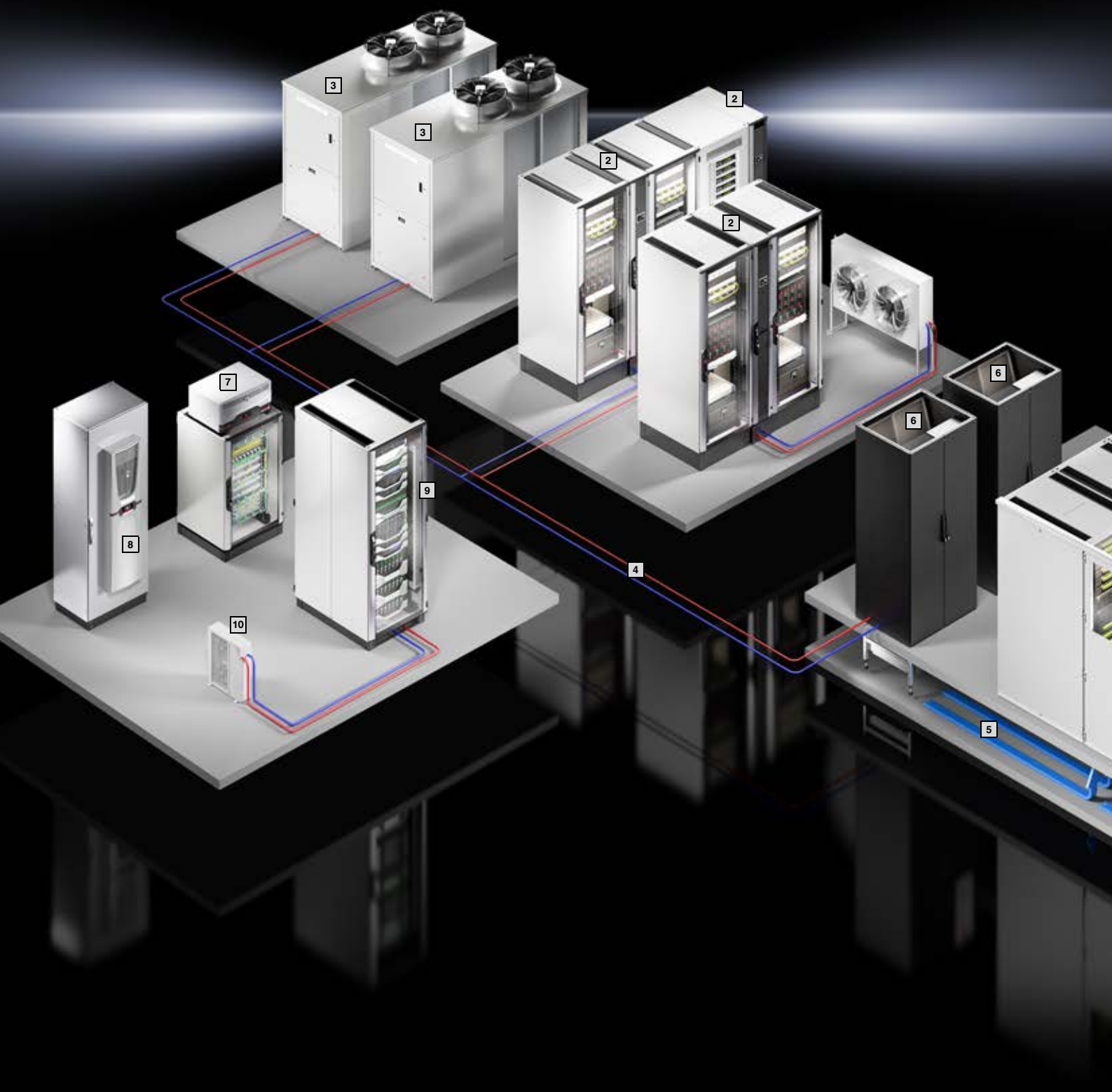
Customised, modular PDU variants



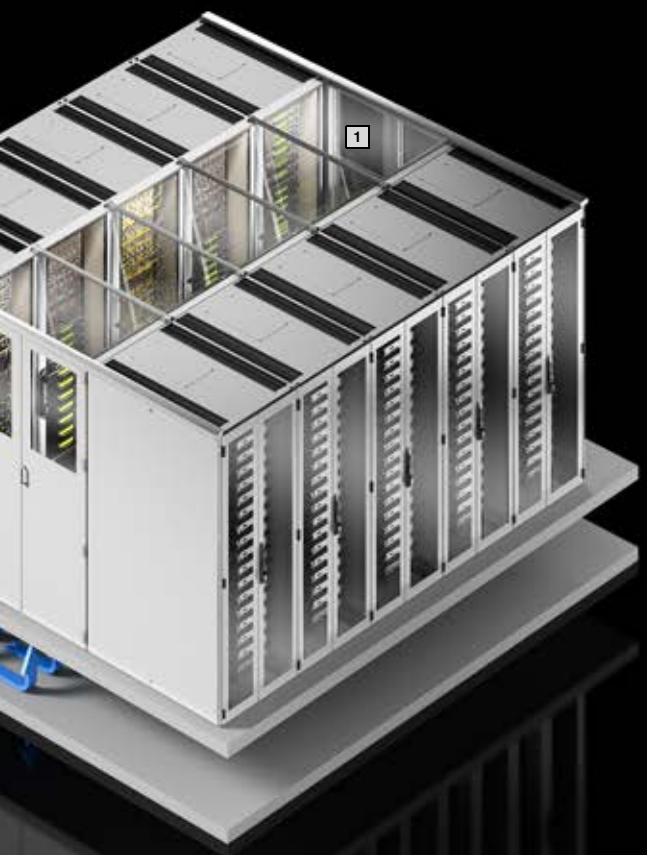
Use it online at www.rittal.com/rics

Rittal – The System.

Faster – better – everywhere.



IT cooling



Your benefits

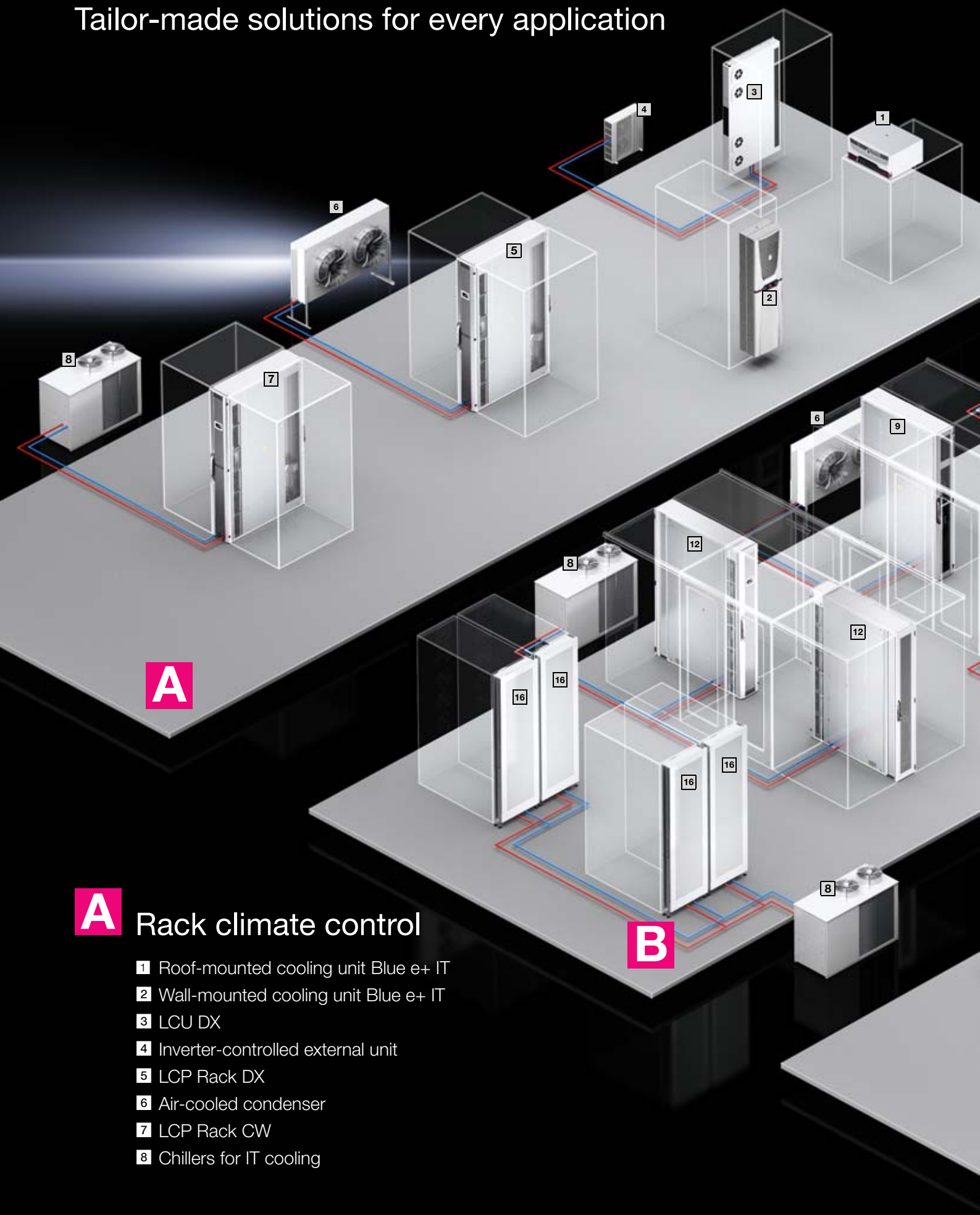
- State-of-the-art climate control technology, from cooling of a single rack through to entire data centres
- Individual climate control concepts for rack, suite and room cooling
- Enhanced security plus superior energy and cost efficiency
- Optimisation with aisle containment and cross-system control concepts
- Energy-efficient cooling using IT chillers
- Minimise your operating costs with free cooling
- Environmentally friendly, thanks to resource savings and reduced CO_2 emissions
- Planning, assembly, commissioning and servicing – all from a single source!

Sample applications

1 Aisle containment, see page 788
2 Liquid Cooling Package LCP, from page 773
3 IT chiller with integral free cooling (partner product), see page 794
4 Pipework
5 Raised floor for cold air supply
6 Computer Room Air Conditioner CRAC (partner product), see page 792
7 Roof-mounted cooling unit Blue e+ IT, see page 764
8 Wall-mounted cooling unit Blue e+ IT, see page 765
9 LCU DX, see page 768
10 Inverter-regulated external unit, see page 768

IT cooling

Tailor-made solutions for every application



A Rack climate control

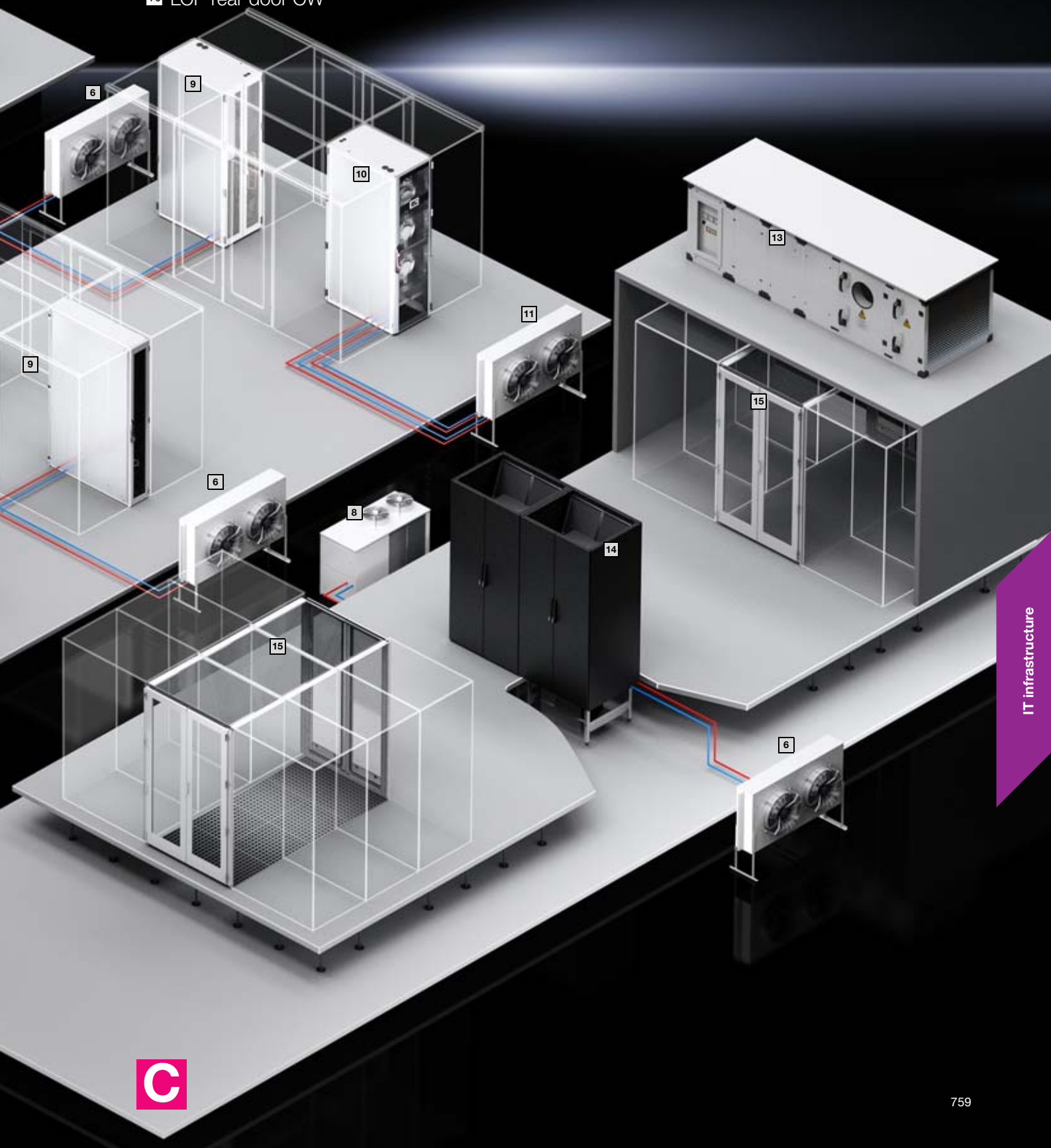
1. Roof-mounted cooling unit Blue e+ IT
2. Wall-mounted cooling unit Blue e+ IT
3. LCU DX
4. Inverter-controlled external unit
5. LCP Rack DX
6. Air-cooled condenser
7. LCP Rack CW
8. Chillers for IT cooling

B Bayed climate control

- 6 Air-cooled condenser
- 8 Chillers for IT cooling
- 10 LCP Inline DX, flush
- 10 LCP Inline DX/FC
- 11 Air-cooled condenser with integral free cooler
- 12 LCP Inline CW, set forward
- 16 LCP rear door CW

C Room climate control

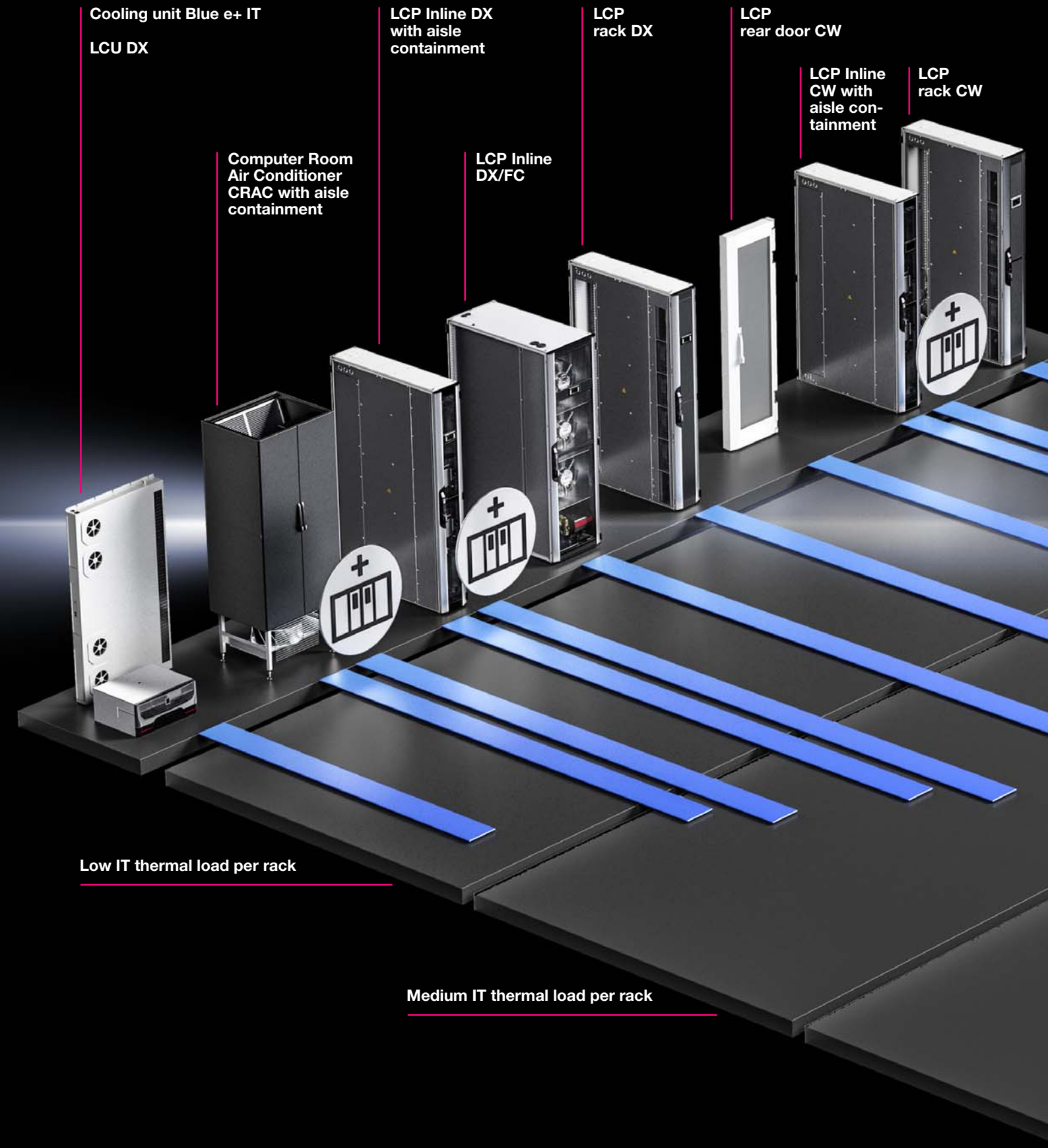
- 6 Air-cooled condenser
- 8 Chillers for IT cooling
- 13 Air Handling Unit AHU
- 14 Computer Room Air Conditioner CRAC
- 15 Aisle containment



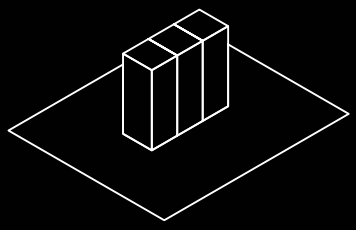
C

State-of-the-art climate control technology

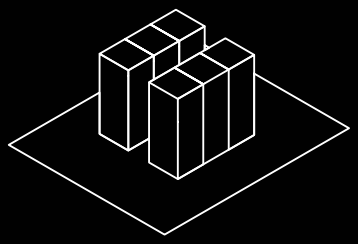
Bespoke climate control concepts



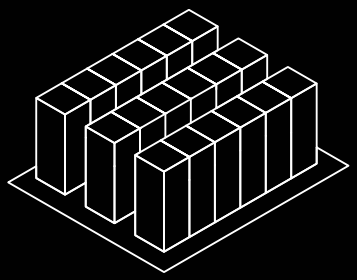
From cooling a single rack through to entire data centres – climate control technology from Rittal covers all your applications. Whether you opt for fan systems, refrigerant-based or water-based solutions, reliability and optimum energy and cost efficiency are the paramount considerations.



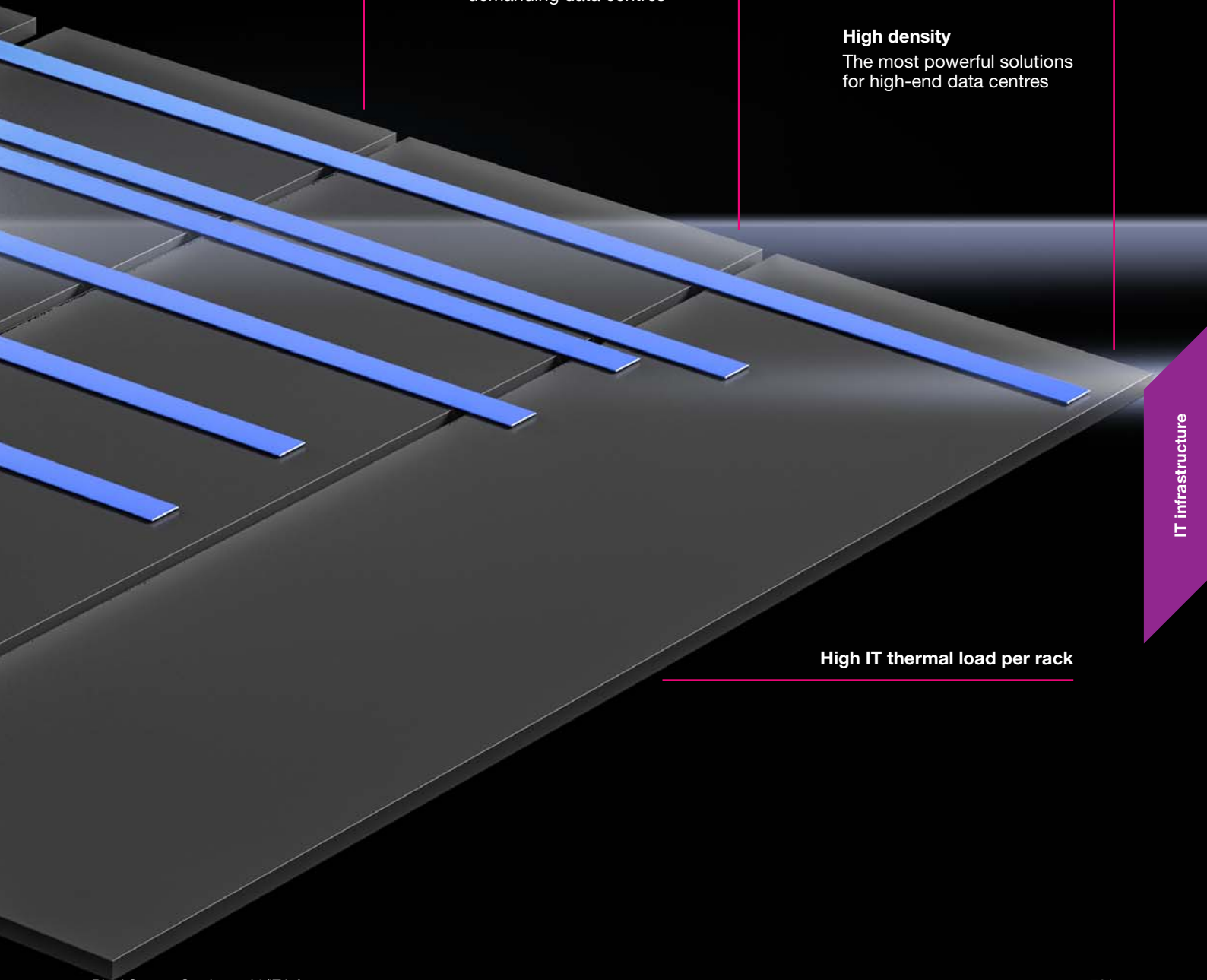
Low density
Professional IT climate control for individual IT racks and mini data centres



Mid density
Bespoke solutions for more demanding data centres



High density
The most powerful solutions for high-end data centres



High IT thermal load per rack

Cooling units Blue e+ IT

Rack cooling with innovative hybrid technology

Blue e+ IT – the world's most efficient IT cooling unit

- Cooling of closed IT racks with a heat loss of up to 3 kW in ventilated rooms
- Cooling of edge data centres and network racks in ventilated corridor distributor rooms
- Heat pipe technology reduces operating costs
- Simple installation equals minimal commissioning costs
- Suitable for use in industrial environments, thanks to the high protection category

How are Blue e+ units used?

- The roof-mounted unit is mounted on the racks. The cold air is blasted immediately in front of the 482.6 mm (19″) level and drawn in by the IT equipment. The warm air expelled to the rear is drawn in and cooled down again by the roof-mounted unit. Air baffle plates on the 482.6 mm (19″) level separate the cold and hot air.
- The wall-mounted unit is mounted on the rear door of the IT rack The outlet opening of the cooling unit docks onto an air duct which directs the cold air forwards, in front of the 482.6 mm (19″) level. There, the cold air is drawn in by the IT equipment, heated, expelled to the rear and then drawn in again by the cooling unit.
- In both applications, air baffle plates on the 482.6 mm (19″) level separate the cold and hot air

Simply efficient

- Active cooling circuit with speed-regulated components for demand-based cooling
- Integral heat pipe for passive cooling achieves up to 75% energy savings
- USB interface, Blue e+ app, IoT interface, touchscreen display
- Ethernet connection and data retrieval via SNMP, OPC-UA and Modbus/TCP
- Blue e+ efficiency calculator

Roof-mounted cooling unit Blue e+ IT

Accessories for IT cooling Page 784 **IT rack system** Page 684 **Roof-mounted cooling unit** Page 498 **IoT interface** Page 554

The use of Blue e+ technology makes this bundle ideally suited to the requirements of energy-efficient cooling of IT racks. In combination with the IoT interfaces, it supports communication with various different systems as well as monitoring and energy management.

Benefits:
- Energy savings thanks to speed-regulated components and heat pipe technology
- Suitable for international use due to a unique multi-voltage capability
- Intuitive operation due to touch display and intelligent interfaces

Functions:
- The cold air is directed immediately in front of the 482.6 mm (19") level and drawn in by the IT equipment. The warm air expelled to the rear is drawn in and cooled down again by the roof-mounted unit. Air baffle plates on the 482.6 mm (19") level separate the cold and hot air.

Temperature control:
- e+ controller

Protection category IP to IEC 60 529:
- External circuit IP 54 with pleated filter
- Internal circuit IP 54 with pleated filter

Supply includes:
Bundle comprised of the following individual components:
- Roof-mounted cooling unit (3185.730)
- IoT interface (3124.300)
- Temperature sensor (3124.400)
- Connection cable (7030.091)
- Nylon loop cable holder (7111.350)

Note:
- Firmware can be updated using the RiDiag III software (3159.300)

Approvals:
Available on the Internet

Model No.	Packs of	**3312.800**	Page
Technical specifications, cooling unit			
Total cooling output L30 L22 W		1600	
Width mm		700	
Height mm		308	
Depth mm		560	
Material		Sheet steel	
Colour		RAL 7035	
Rated operating voltage V, ~, Hz		110 - 240, 1~, 50/60 380 - 480, 3~, 50/60	
Type of electrical connection		Plug-in terminal strip	
Operating temperature range		-20 °C...+55 °C	
Refrigerant g		R134a, 590	
Technical specifications, IoT interface			
Protocols		OPC-UA/SNMPv1/SNMPv2/SNMPv3/Modbus/TCP/TCP/IPv4/TCP/IPv6/Radius/Telnet/SSH/FTP/SFTP/HTTP/HTTPS/NTP/DHCP/DNS/SMTP/Syslog/LDAP	

Wall-mounted cooling unit Blue e+ IT

Accessories for IT cooling Page 784 **IT rack system** Page 684 **Wall-mounted cooling unit** Page 475 **IoT interface** Page 554

The use of Blue e+ technology makes this bundle ideally suited to the requirements of energy-efficient cooling of IT racks. In combination with the IoT interfaces, it supports communication with various systems as well as monitoring and energy management.

Benefits:
- Energy savings thanks to speed-regulated components and heat pipe technology
- Suitable for international use due to a unique multi-voltage capability
- Intuitive operation due to touch display and intelligent interfaces

Functions:
- The wall-mounted unit is mounted on the rear door of the IT rack. The outlet opening of the cooling unit docks onto an air duct which directs the cold air forwards, in front of the 482.6 mm (19") level. There, the cold air is drawn in by the IT equipment, heated, blown out to the rear and then drawn in again by the cooling unit.

Temperature control:
- e+ controller

Protection category IP to IEC 60 529:
- External circuit IP 24
- Internal circuit IP 55

Supply includes:
Bundle comprised of the following individual components:
- Wall-mounted cooling unit (3187.930)
- IoT interface (3124.300)
- Temperature sensor (3124.400)
- Connection cable (7030.091)
- Nylon loop cable holder (7111.350)

Note:
- Firmware can be updated using the RiDiag III software (3159.300)

Approvals:
Available on the Internet

Model No.	Packs of	**3312.810**	Page
Technical specifications, cooling unit			
Total cooling output L30 L22 W		3000	
Width mm		450	
Height mm		1600	
Depth mm		294	
Material		Sheet steel	
Colour		RAL 7035	
Rated operating voltage V, ~, Hz		110 - 240, 1~, 50/60 380 - 480, 3~, 50/60	
Type of electrical connection		Plug-in terminal strip	
Operating temperature range		-20 °C...+60 °C	
Refrigerant g		R134a, 1150	
Technical specifications, IoT interface			
Protocols		OPC-UA/SNMPv1/SNMPv2/SNMPv3/Modbus/TCP/TCP/IPv4/TCP/IPv6/Radius/Telnet/SSH/FTP/SFTP/HTTP/HTTPS/NTP/DHCP/DNS/SMTP/Syslog/LDAP	
Also required			
Air duct	1 pc(s).	3312.820	784

Liquid Cooling Unit DX

Efficient cooling with no loss of space

Single or redundant – your compact IT cooling solution

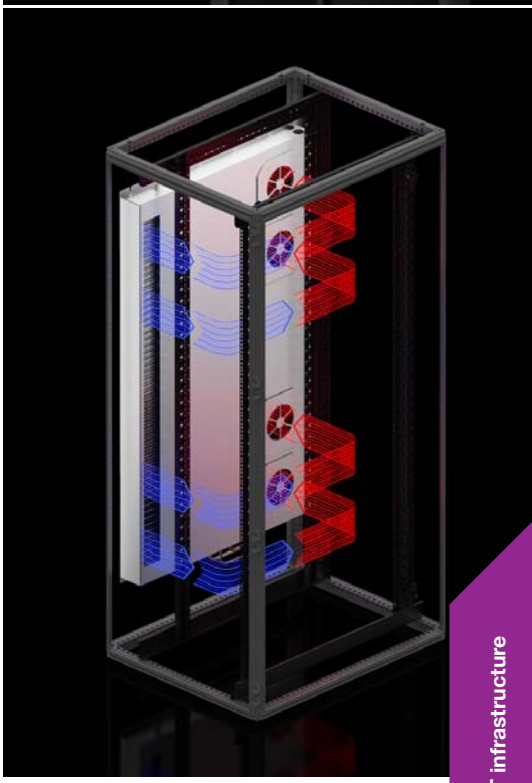
- Cooling of closed IT racks with a heat loss of up to 6.5 kW
- Cooling of edge and micro data centres
- Cooling of IT equipment in uncooled IT rooms or decentralised data centre applications
- Single version (one cooling circuit) and redundant version (two separate cooling circuits) have the same internal unit dimensions, but two independent external units

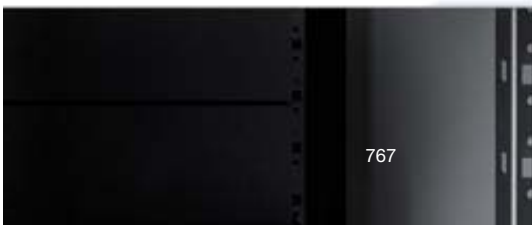
How are the LCU DX units used?

- The LCU DX is fitted in the IT rack at the side, to the left or right of the 482.6 mm (19″) level
- The cold air is blasted in front of the slightly recessed 482.6 mm (19″) level across the entire height of the LCU DX and drawn in by the IT equipment
- The warm air expelled to the rear is drawn back in over the full height of the LCU DX at the rear and cooled
- Air baffle plates on the 482.6 mm (19″) level separate the cold and hot air

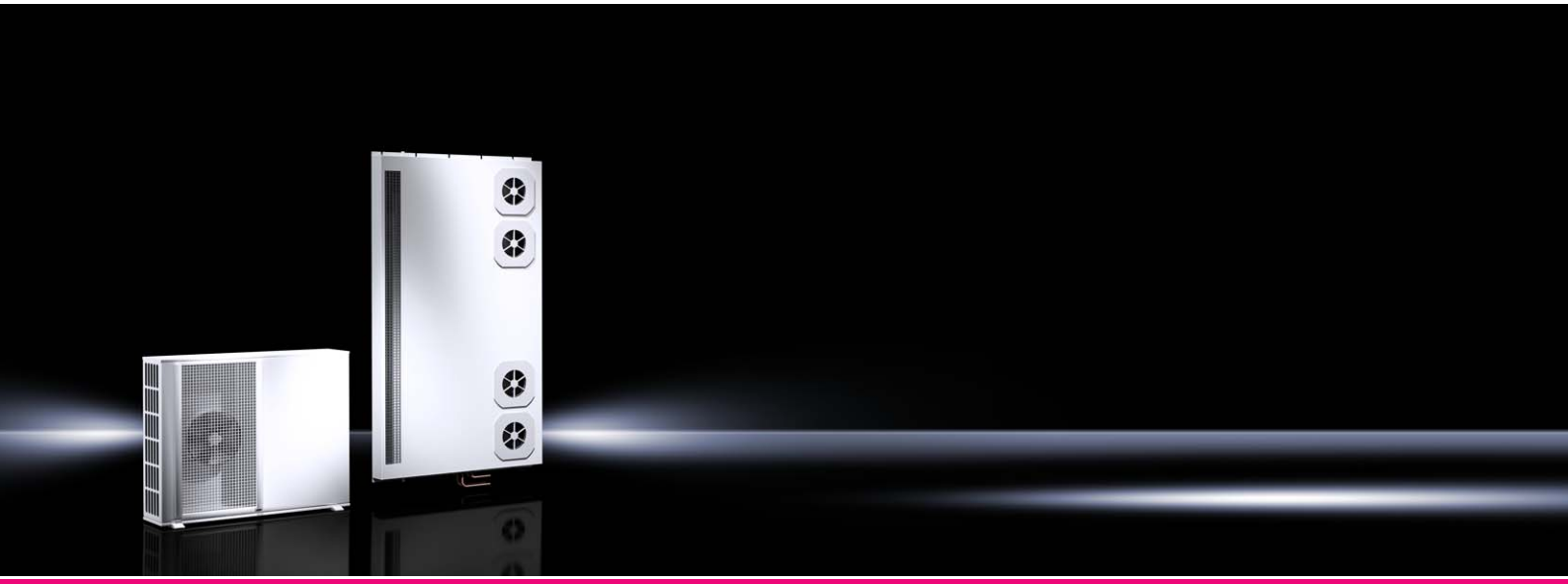
The compact system solution

- Active cooling circuit with speed-regulated components for demand-based cooling
- By only cooling the IT rack rather than the entire room, energy savings are achieved
- Unlike conventional ceiling and wall cassettes, cooling is demand-based
- All waste heat from the IT equipment is dissipated out of the building and emitted to the surrounding environment at the site of the external condenser
- May be combined with integral rack extinguisher systems





Liquid Cooling Unit



Network/server racks VX IT Page 686 **Micro Data Center** Page 842

Applications:
– Cooling unit for VX IT server racks and for Micro Data Centers

Benefits:
– Space-saving solution by installing the internal unit in the VX IT server enclosure or the Micro Data Center
– Maximum energy efficiency due to EC fan technology and IT-based control
– Control of the server inlet temperature
– The inverter-controlled compressor adapts the cooling output to the current heat loss inside the enclosure
– Absorbed thermal energy is emitted directly to the ambient air at the (inverter-controlled) external unit's location, without heating up the installation room

Functions:
– The device supports front-to-back air routing typical of IT applications, and regulates the server inlet temperature to the set value

Material:
– Sheet steel, spray-finished

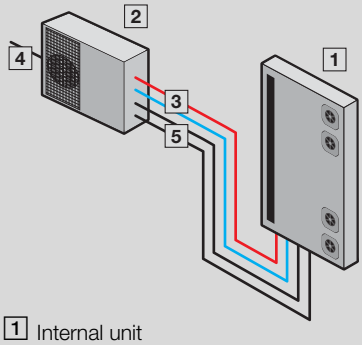
Colour:
– Internal unit: RAL 7035
– External unit: white

Protection category IP to IEC 60 529:
– Internal unit IP 20
– External unit IP X4

Supply includes:
– Internal unit (evaporator coil)
– External unit (inverter-controlled)
– 482.6 mm (19") mounting trim panel with display and control components
– Condensate hose

Note:
– Below the operating limit, fluctuations in the air inlet temperature are possible
– The electrical connection is made on the external unit. The internal unit is supplied by the external unit.

Installation in VX IT:
– 482.6 mm (19") mounting angles, standard or dynamic, must be offset in the width by 50 mm off-centre
– The front distance between the 482.6 mm (19") mounting angles and the front edge of the VX frame must be at least 100 mm
– Two punched sections with mounting flanges are required for attachment on the inner mounting level
– Air baffle plates are required to separate the hot/cold zones within an enclosure
– A base/plinth is required to route the cable downwards



1 Internal unit
2 External unit
3 Refrigerant lines
4 Power supply
5 Data cable

LCU DX, single

Model No.	Packs of	**3311.490**	**3311.492**	Page
Modulation range kW		1 - 3	3 - 6.5	
Useful cooling output L22 L35 kW		**3**	**6.5**	
For enclosure width mm		800	800	
For enclosure height mm		≥ 1800	≥ 1800	
For enclosure depth mm		≥ 1000	≥ 1000	
External unit, W x H x D mm		810 x 558 x 310	845 x 700 x 320	
Internal unit, W x H x D mm		105 x 1550 x 820	105 x 1550 x 820	
Type of electrical connection		Connection clamp	Connection clamp	
Rated operating voltage V, ~, Hz		230, 1~, 50	230, 1~, 50	
Rated current max. A		7	15.9	
Pre-fuse A		16	20	
Refrigerant		R410a	R410a	
Duty cycle %		100	100	
Sound pressure level at a distance of 10 m (external unit) dB(A)		40	40	
Operating temperature range (external unit)		-20 °C...+45 °C	-20 °C...+45 °C	
Weight as delivered kg		116.0	121.5	
Accessories				
Refrigerant lines	1 pc(s).	3311.495	3311.496	785

Liquid Cooling Unit

Network/server racks VX IT Page 686 **Micro Data Center** Page 842

Applications:
- Cooling unit for VX IT server racks and for Micro Data Centers

Benefits:
- Space-saving solution by installing the internal unit in the VX IT server enclosure or the Micro Data Center
- Maximum energy efficiency due to EC fan technology and IT-based control
- Control of the server inlet temperature
- The inverter-controlled compressor adapts the cooling output to the current heat loss inside the enclosure
- Absorbed thermal energy is emitted directly to the ambient air at the (inverter-controlled) external unit's location, without heating up the installation room

Functions:
- The redundant variants have two cooling circuits and controllers inside the internal unit, plus two inverter-regulated external units. The fault and operating hours changeover allows regular switching between the two external units, and ensures automatic changeover in the event of a malfunction or failure.
- The device supports front-to-back air routing typical of IT applications, and regulates the server inlet temperature to the set value

Material:
- Sheet steel, spray-finished

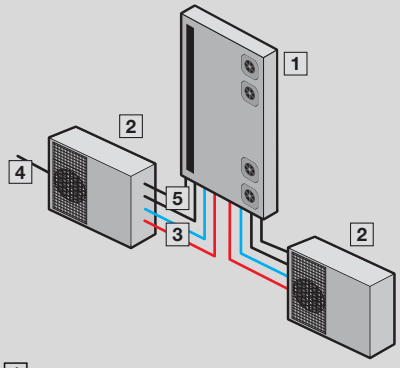
Colour:
- Internal unit: RAL 7035
- External unit: white

Protection category IP to IEC 60 529:
- Internal unit IP 20
- External unit IP X4

Supply includes:
- Internal unit (evaporator coil)
- 2 external units (inverter-controlled)
- 482.6 mm (19") mounting trim panel with display and control components
- Condensate hose

Note:
- Below the operating limit, fluctuations in the air inlet temperature are possible
- The electrical connection is made on the external unit. The internal unit is supplied by the external unit.
- A separate power supply may be needed, depending on the external unit

Installation in VX IT:
- 482.6 mm (19") mounting angles, standard or dynamic, must be offset in the width by 50 mm off-centre
- The front distance between the 482.6 mm (19") mounting angles and the front edge of the VX frame must be at least 100 mm
- Two punched sections with mounting flanges are required for attachment on the inner mounting level
- Air baffle plates are required to separate the hot/cold zones within an enclosure
- A base/plinth is required to route the cable downwards



1 Internal unit
2 External unit
3 Refrigerant lines
4 Power supply
5 Data cable

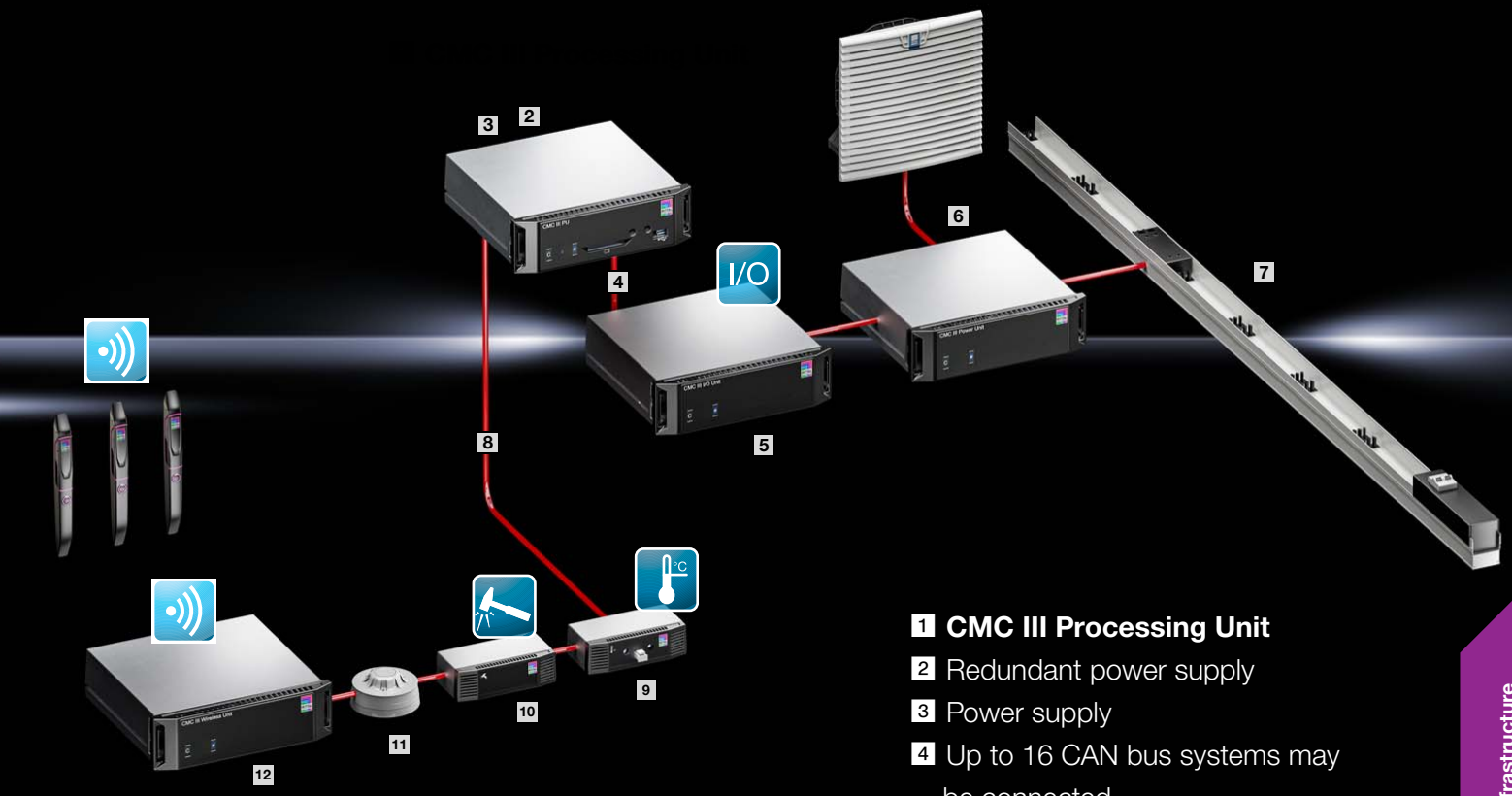
Liquid Cooling Unit

LCU DX, redundant

Model No.	Packs of	**3311.491**	**3311.493**	Page
Modulation range kW		1 - 3	3 - 6.5	
Useful cooling output L22 L35 kW		**3**	**6.5**	
For enclosure width mm		800	800	
For enclosure height mm		≥ 1800	≥ 1800	
For enclosure depth mm		≥ 1000	≥ 1000	
External unit, W x H x D mm		810 x 558 x 310	845 x 700 x 320	
Internal unit, W x H x D mm		105 x 1550 x 820	105 x 1550 x 820	
Type of electrical connection		Connection clamp	Connection clamp	
Rated operating voltage V, ~, Hz		230, 1~, 50	230, 1~, 50	
Rated current max. A		7	15.9	
Pre-fuse A		16	20	
Refrigerant		R410a	R410a	
Duty cycle %		100	100	
Sound pressure level at a distance of 10 m (external unit) dB(A)		40	40	
Operating temperature range (external unit)		-20 °C...+45 °C	-20 °C...+45 °C	
Weight as delivered kg		161.0	184.0	
Accessories				
Refrigerant lines	1 pc(s).	3311.495	3311.496	785

CMC III – Monitoring system

Computer Multi Control (CMC) is an alarm system for network and server enclosures, standard enclosures, containers and rooms.



1 CMC III Processing Unit
2 Redundant power supply
3 Power supply
4 Up to 16 CAN bus systems may be connected
5 CMC III I/O unit
6 CMC III power unit
7 CMC III PSM measurement bar for direct connection
8 Up to 16 CAN bus systems may be connected
9 CMC III temperature sensor
10 CMC III vandalism sensor
11 CMC III smoke alarm
12 CMC III Wireless Unit with radio comfort handles VX

Liquid Cooling Packages DX

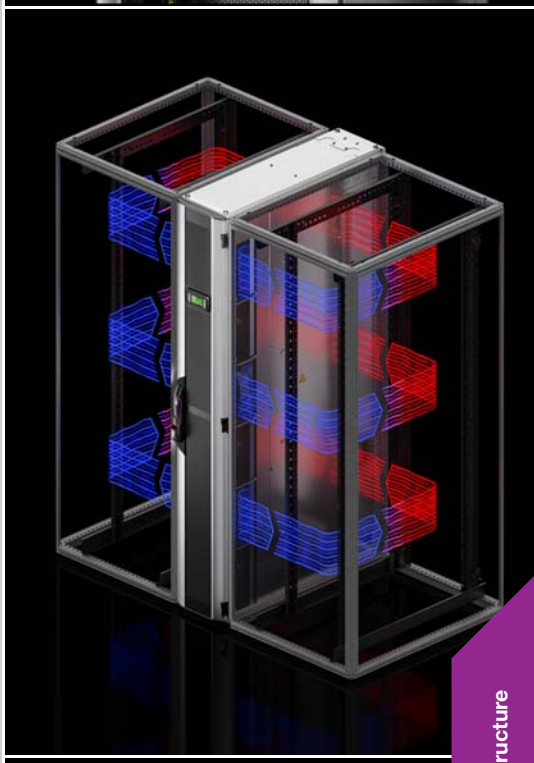
The new output categories for suite cooling

LCP DX – An innovative solution for both rack and suite cooling

- Cooling of closed and open IT racks with high heat losses in the output categories 12 kW, 20 kW and 35 kW
- Cooling of IT equipment in uncooled IT rooms or decentralised data centre applications (edge)
- Ideal for IT cooling in small and medium-sized enterprises (SMEs)
- 35 kW DX/FC variant saves energy by using indirect free cooling
- With suite cooling, additional equipment such as UPS, printers and other equipment in the installation room are cooled at the same time

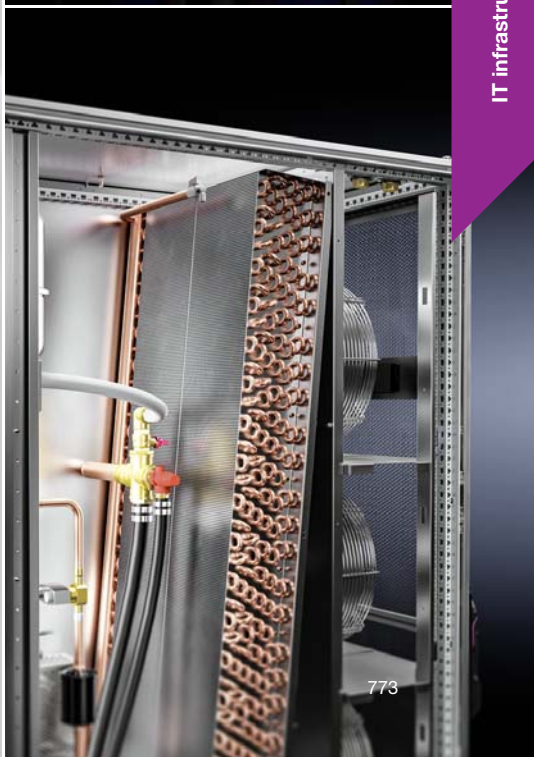
How are the LCP DX units used?

- LCP rack DX units cool up to two closed IT racks to the left and right of the unit. The cold air is blasted in front of the slightly recessed 482.6 mm (19″) level across the entire height of the LCP DX and drawn in by the IT equipment. The warm air expelled to the rear is drawn in again across the full height of the LCP DX at the rear and cooled.
- LCP Inline DX units cool multiple open IT racks in suites on both the left and right. To this end, the cold air from the LCP Inline DX is blasted into the cold aisle and drawn in by the IT equipment via the perforated front doors of the IT racks. The air heated by the IT hardware is blasted into the hot aisle via the perforated rear door of the IT rack and from there, is drawn in via the perforated rear door of the LCP Inline DX and cooled again. Aisle containment separates the air in the cold/hot aisle.
- In both cases, air baffle plates on the 482.6 mm (19″) level separate the cold and hot air within the IT rack.



Customer benefits

- Active cooling circuit with speed-regulated components for demand-based cooling
- Regulated to the IT inlet temperature
- Hot spot cooling directly at the point of heat generation
- All waste heat from the IT equipment is dissipated and emitted to the surrounding environment at the site of the external condenser
- Depending on the application, this may be combined with integral rack or room extinguisher systems



Liquid Cooling Package

Accessories for IT cooling Page 784 **Network/server racks VX IT** Page 686 **System accessories** Page 877

Applications:
- Ideal for IT cooling of small and medium-sized locations
- One or two racks can be cooled separately

Benefits:
- Maximum energy efficiency due 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
- Control of the server inlet temperature
- Thanks to the speed-regulated compressor, the cooling output is ideally adapted to actual requirements
- With redundant temperature sensor integrated at the air end as standard
- Specific maintenance of the LCP DX due to separation of cooling and server racks

Functions:
- 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
- Absorbed thermal energy is emitted to the ambient air at the external condenser location, without heating up the installation room

IT monitoring:
- Direct connection of the unit via SNMP over Ethernet
- Integration into RiZone

Temperature control:
- Linear fan control
- Inverter-controlled compressor

Material:
- Sheet steel, spray-finished

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Cooling medium:
- Refrigerant

Optional:
- Humidifier
- Dehumidification and reheater
- Condensate drain pump
- Higher cooling output
- Low-temperature/high-temperature condenser (-40 °C/+53 °C)

Note:
- Variant with UL approval available on request

LCP rack DX, LCP rack DX/FC

Model No.	Packs of	**3313.290**	**3313.410**	**3313.420**	Page
Design		DX	DX	DX	
Modulation range kW		5 - 20	3 - 12	3 - 12	
Total cooling output/Number of fan modules kW		**20 / 4**	**12 / 4**	**12 / 4**	
Width mm		300	300	300	
Height mm		2000	2000	2000	
Depth mm		1200	1000	1200	
Type of electrical connection		Connection clamp	Connection clamp	Connection clamp	
Installation in bayed enclosure suite		Flush	Flush	Flush	
Rated operating voltage V, ~, Hz		380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	
Pre-fuse (T) A		32	20	20	
Air throughput at max. cooling output m^3/h		4800	4800	4800	
Fans may be exchanged with the system operational		■	■	■	
EC fan		■	■	■	
SNMP card		■	■	■	
Rated current max. A		12.4	7.5	7.5	
Cooling medium		Refrigerant	Refrigerant	Refrigerant	
Refrigerant		R410a	R410a	R410a	
Duty cycle %		100	100	100	
Operating temperature range		+5 °C...+35 °C	+5 °C...+35 °C	+5 °C...+35 °C	
Weight as delivered kg		239.0	181.0	201.0	
Also required					
Condenser unit	1 pc(s).	3311.363	3311.360	3311.360	785

Liquid Cooling Package

Accessories for IT cooling Page 784 **Network/server racks VX IT** Page 686 **Aisle containment** Page 788

Applications:
- Ideal for IT cooling of small and medium-sized locations
- One or two racks can be cooled separately

Benefits:
- Maximum energy efficiency due 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
- Temperature monitoring and control
- With redundant temperature sensor integrated at the air end as standard
- Thanks to the speed-regulated compressor, the cooling output is ideally adapted to actual requirements
- Specific maintenance of the LCP DX due to separation of cooling and server racks
- Using LCP DX/FC variants in combination with indirect free cooling helps to save operating costs

Functions:
- The LCP is designed for siting within a bayed enclosure suite. Hot air is drawn in from the aisle at the rear of the device, cooled by the high-capacity compact impellers, and blown back into the room or cold aisle after cooling.
- The LCP DX/FC variants include both a refrigerant and a water/glycol heat exchanger. There is an additional free cooler integrated into the external condenser.
- Absorbed thermal energy is emitted to the ambient air at the external condenser location, without heating up the installation room

IT monitoring:
- Direct connection of the unit via SNMP over Ethernet
- Integration into RiZone

Temperature control:
- Linear fan control
- Inverter-controlled compressor

Material:
- Sheet steel, spray-finished

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Optional:
- Humidifier
- Dehumidification and reheater
- Condensate drain pump
- Higher cooling output
- Air filter
- Low-temperature/high-temperature condenser (-40 °C/+53 °C)

Note:
- Variant with UL approval available on request

LCP Inline DX, LCP Inline DX/FC

Model No.	Packs of	**3313.390**	**3313.430**	**3313.440**	**3313.450**	Page
Design		DX	DX	DX	DX	
Modulation range kW		5 - 20	3 - 12	3 - 12	8 - 35	
Total cooling output/Number of fan modules kW		**20 / 4**	**12 / 4**	**12 / 4**	**35 / 3**	
Width mm		300	300	300	600	
Height mm		2000	2000	2000	2000	
Depth mm		1200	1000	1200	1000	
Type of electrical connection		Connection clamp	Connection clamp	Connection clamp	Connection clamp	
Installation in bayed enclosure suite		Flush	Flush	Flush	Flush	
Rated operating voltage V, ~, Hz		380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	
Pre-fuse (T) A		32	20	20	40	
Air throughput at max. cooling output m^3/h		4800	4800	4800	9900	
Fans may be exchanged with the system operational		■	■	■	■	
EC fan		■	■	■	■	
SNMP card		■	■	■	■	
Rated current max. A		12.4	7.5	7.5	22.4	
Cooling medium		Refrigerant	Refrigerant	Refrigerant	Refrigerant	
Refrigerant		R410a	R410a	R410a	R410a	
Duty cycle %		100	100	100	100	
Operating temperature range		+5 °C...+35 °C	+5 °C...+35 °C	+5 °C...+35 °C	+5 °C...+35 °C	
Weight as delivered kg		239.0	181.0	201.0	300.0	
Also required						
Condenser unit	1 pc(s).	3311.363	3311.360	3311.360	3311.370	785

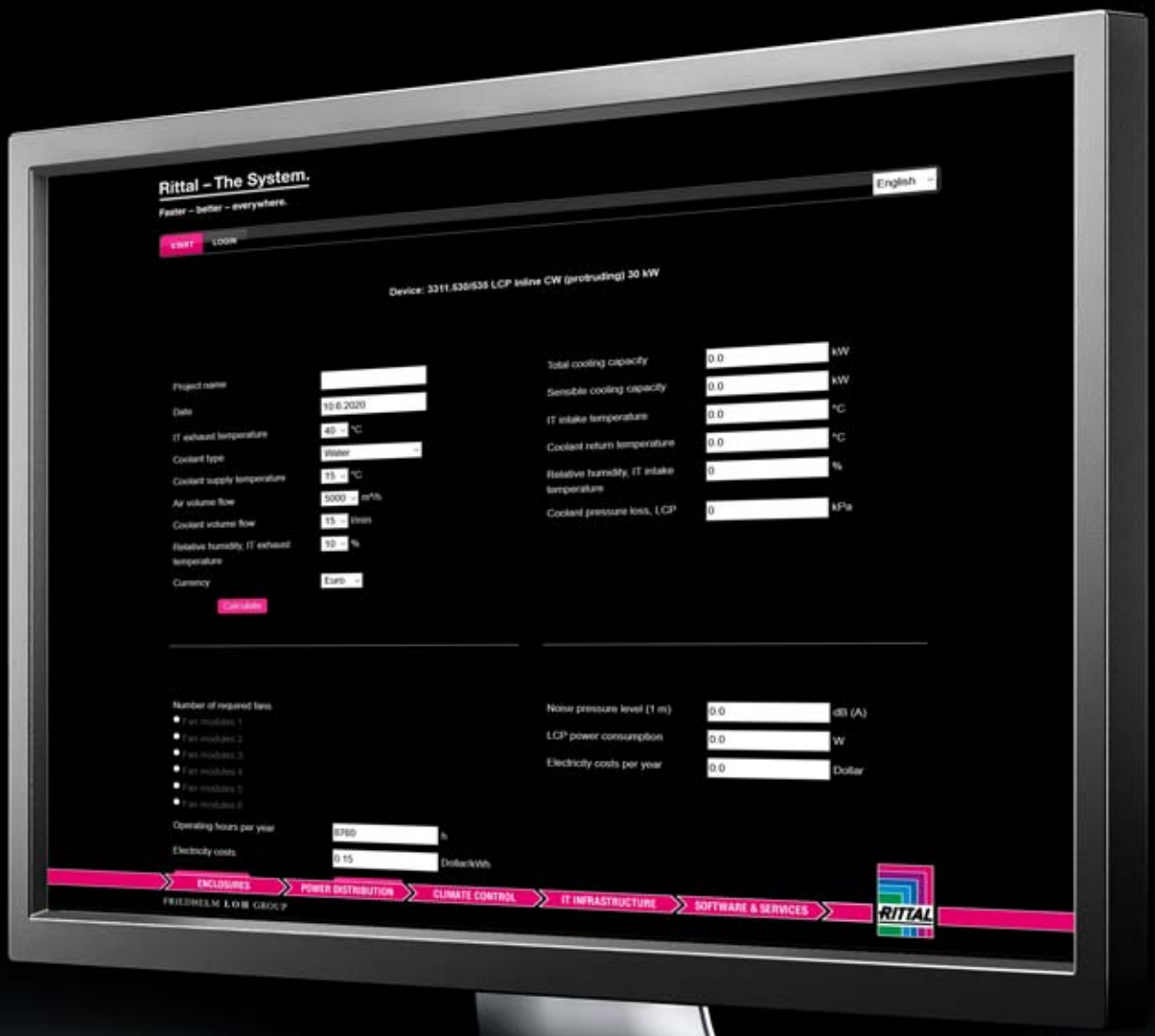
Liquid Cooling Package

LCP Inline DX, LCP Inline DX/FC

Model No.	Packs of	**3313.460**	**3313.470**	**3313.480**	Page
Design		DX/FC	DX	DX/FC	
Modulation range kW		8 - 35	8 - 35	8 - 35	
Total cooling output/Number of fan modules kW		**35 / 3**	**35 / 3**	**35 / 3**	
Width mm		600	600	600	
Height mm		2000	2000	2000	
Depth mm		1000	1200	1200	
Type of electrical connection		Connection clamp	Connection clamp	Connection clamp	
Installation in bayed enclosure suite		Flush	Flush	Flush	
Rated operating voltage V, ~, Hz		380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	380 - 480, 3~, 50/60	
Pre-fuse (T) A		50	40	50	
Air throughput at max. cooling output m^3/h		9900	9900	9900	
Fans may be exchanged with the system operational		■	■	■	
EC fan		■	■	■	
SNMP card		■	■	■	
Rated current max. A		31.6	22.4	31.6	
Cooling medium		Refrigerant	Refrigerant	Refrigerant	
Refrigerant		R410a	R410a	R410a	
Duty cycle %		100	100	100	
Operating temperature range		+5 °C...+35 °C	+5 °C...+35 °C	+5 °C...+35 °C	
Weight as delivered kg		398.0	300.0	398.0	
Also required					
Condenser unit	1 pc(s).	3311.380	3311.370	3311.380	785

IT cooling calculator

For simple calculation of the required cooling output of LCP CW cooling units



Configure online at
www.rittal.com/configurators

Liquid Cooling Packages CW

High-performance cooling

LCP CW – Efficient high-performance cooling

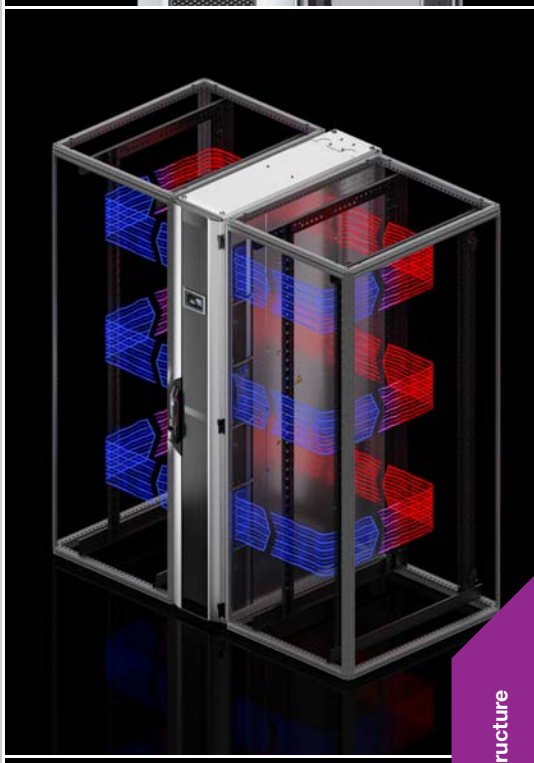
- Cooling of closed and open IT racks with high heat losses of up to 53 kW
- Cooling of IT equipment in uncooled IT rooms or decentralised data centre applications (edge)
- Ideal for IT cooling in medium and large data centre infrastructures as well as high-performance computing (HPC)
- Saves energy by using indirect free cooling
- Cooling of very high heat losses with a small footprint (HPC)

How are the LCP CW units used?

- LCP rack CW units cool up to two closed IT racks to the left and right of the unit. The cold air is blasted in front of the slightly recessed 482.6 mm (19″) level across the entire height of the LCP rack CW and drawn in by the IT equipment. The warm air expelled to the rear is drawn in again across the full height of the LCP rack CW at the rear and cooled.
- LCP Inline CW units cool multiple open IT racks in suites on both the left and right. Cold air is blasted into the cold aisle via the perforated front door or at the side of the LCP Inline CW, and from here, is drawn in by the IT equipment via the perforated front doors of the IT racks. Warm air from the IT hardware is blasted into the hot aisle via the perforated rear door of the IT rack and from there, is drawn in via the perforated rear door of the LCP Inline CW and cooled again.
- In both cases, air baffle plates on the 482.6 mm (19″) level separate the cold and hot air within the IT rack.

A configurable portfolio

- Cooling output is achieved with high water inlet temperatures, which enables a high proportion of free cooling
- High water return temperatures with LCP CW glycol variants help to improve heat recovery
- All waste heat from the IT systems is dissipated out of the building and emitted to the surrounding environment at the installation site of the external chiller or free cooler
- Depending on the application, this may be combined with integral rack or room extinguisher systems
- A calculator enables the simple selection of Liquid Cooling Packages CW for rack and suite cooling in the IT infrastructure.
- IT cooling calculator: www.rittal.com/configurators



Liquid Cooling Package

Accessories for IT cooling Page 784 **Network/server racks VX IT** Page 686 **Chillers for IT cooling** Page 795

Benefits:
- Maximum energy efficiency due 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
- Control of the server inlet temperature
- With redundant temperature sensor integrated at the air end as standard
- Optimum adaptability due 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
- Targeted cooling output due to modular fan units
- Fan modules configurable as n+1 redundancy
- Standard 3-phase connection for electrical redundancy
- The separation of cooling and enclosure prevents the ingress of water into the server enclosure
- A footprint of max. 0.36 m^2 for all cooling services
- Improved heat recovery, thanks to high water return temperatures when using LCP CW glycol variants, for example in combination with a heat pump
- Optimum access for maintenance and servicing from the front and rear
- Tool-free replacement of the fan modules

Functions:
- 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

IT 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
- Direct connection of the unit via SNMP over Ethernet
- Integration into RiZone

Temperature control:
- Linear fan control
- Two-way control valve

Material:
- Sheet steel, spray-finished

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Optional:
- Fully integrated fire detection and extinguisher system
- Automatic server enclosure door opening
- Direct connection of additional CMC III sensors is supported
- Racks 2200 mm high

LCP Rack CW

Model No.	Packs of	**3313.130**	**3313.230**	**3313.250**	**3313.260**	Page
Design		CW	CW	CWG	CW	
Total cooling output/Number of fan modules kW		**10 / 1 20 / 2 30 / 3**	**10 / 1 20 / 2 30 / 3**	**38 / 4 40 / 5 44 / 6**	**48 / 4 51 / 5 53 / 6**	
Number of fan modules in supplied state		1	1	4	4	
Width mm		300	300	300	300	
Height mm		2000	2000	2000	2000	
Depth mm		1000	1200	1200	1200	
Type of electrical connection		Connector	Connector	Connector	Connector	
Installation in bayed enclosure suite		Flush	Flush	Flush	Flush	
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	
Air throughput at max. cooling output m^3/h		4800	4800	4800	8000	
Fans may be exchanged with the system operational		■	■	■	■	
EC fan		■	■	■	■	
Optimised condensate management, even at low water inlet temperatures		–	–	■	–	
Cooling medium		Water	Water	Water/glycol	Water	
Water inlet temperature °C		15	15	15	15	
Permissible operating pressure (p. max.) bar		10	10	10	10	
Duty cycle %		100	100	100	100	
Water connection		DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	
Weight as delivered kg		220.0	220.0	280.0	260.0	
Accessories						
Fan module	1 pc(s).	3313.016	3313.016	3313.016	3313.016	787
Touchscreen display, colour	1 pc(s).	3311.030	3311.030	3311.030	3311.030	785
Connection hose	2 pc(s).	3311.040	3311.040	3311.040	3311.040	786
Condensate pump	1 pc(s).	–	–	3312.012	–	786

Liquid Cooling Package

Accessories for IT cooling Page 784 **Network/server racks VX IT** Page 686 **Chillers for IT cooling** Page 795 **Aisle containment** Page 788

Benefits:
- Maximum energy efficiency due 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 due 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
- Targeted cooling output due to modular fan units
- Fan modules 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 enclosure prevents the ingress of water into the server enclosure
- A footprint of max. 0.36 m^2 for all cooling services
- Improved heat recovery, thanks to high water return temperatures when using LCP CW glycol variants, for example in combination with a heat pump
- Optimum access for maintenance and servicing from the front and rear
- Tool-free replacement of the fan modules

Functions:
- 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. With this product, a raised floor is not necessary.

IT 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
- Direct connection of the unit via SNMP over Ethernet
- Integration into RiZone

Temperature control:
- Linear fan control
- Two-way control valve

Material:
- Sheet steel, spray-finished

Colour:
- RAL 7035

Protection category IP to IEC 60 529:
- IP 20

Optional:
- Direct connection of additional CMC III sensors is supported
- Racks 2200 mm high

LCP Inline CW, LCP Inline CWG

Model No.	Packs of	**3313.530**	**3313.540**	**3313.550**	**3313.560**	**3313.570**	Page
Design		CW	CW	CWG	CW	CWG	
Total cooling output/Number of fan modules kW		**10 / 1 20 / 2 30 / 3**	**18 / 2 27 / 3 30 / 4**	**20 / 2 31 / 3 35 / 4**	**48 / 4 51 / 5 53 / 6**	**38 / 4 40 / 5 44 / 6**	
Number of fan modules in supplied state		1	2	2	4	4	
Width mm		300	300	300	300	300	
Height mm		2000	2000	2000	2000	2000	
Depth mm		1200	1200	1200	1200	1200	
Type of electrical connection		Connector	Connector	Connector	Connector	Connector	
Installation in bayed enclosure suite		Set forward	Flush	Flush	Set forward	Set forward	
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~, 50/50 400, 3~, 50/60	230, 1~, 50/60 400, 3~, 50/60	
Air throughput at max. cooling output m^3/h		4800	5000	5000	8000	4800	
Fans may be exchanged with the system operational		■	■	■	■	■	
EC fan		■	■	■	■	■	
Optimised condensate management, even at low water inlet temperatures		–	–	■	–	■	
Water inlet temperature °C		15	15	15	15	15	
Permissible operating pressure (p. max.) bar		10	10	10	10	10	
Duty cycle %		100	100	100	100	100	
Water connection		DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	DN 40 (G 1½" external thread)	
Weight as delivered kg		220.0	220.0	280.0	260.0	280.0	
Accessories							
Fan module	1 pc(s).	3313.016	3313.016	3313.016	3313.016	3313.016	787
Touchscreen display, colour	1 pc(s).	3311.030	3311.030	3311.030	3311.030	3311.030	785
Connection hose	2 pc(s).	3311.040	3311.040	3311.040	3311.040	3311.040	786
Rear adaptor		see page	–	–	see page	see page	786
Condensate pump	1 pc(s).	–	–	3312.012	–	3312.012	786

Accessories

Air duct

for wall-mounted cooling unit Blue e+ IT
For cold air infeed in front of the 482.6 mm (19") level in combination with the Blue e+ IT wall-mounted cooling unit.

Benefits:
– One air duct for different enclosure depths

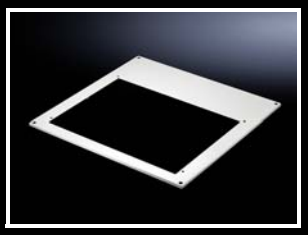
Installation options:
– Mounting in the bottom 3 U of the 482.6 mm (19") level

Material:
– Sheet steel, spray-finished

Colour:
– RAL 9005

Supply includes:
– Assembly parts

Width mm	Height U	For enclosure depth mm	Packs of	Model No.
482.6	3	800 1000 1200	1 pc(s).	**3312.820**



Roof plate

for roof-mounted cooling unit Blue e+ IT
For mounting the roof-mounted cooling unit. The cut-out in the roof plate is arranged so that the roof-mounted cooling unit is positioned centrally on the enclosure.

Material:
– Sheet steel

Surface finish:
– Spray-finished

Colour:
– RAL 7035

To fit Model No.	Width mm	Depth mm	Packs of	Model No.
3312.800	800	800	1 pc(s).	**3312.805**
3312.800	800	1000	1 pc(s).	**3312.806**
3312.800	800	1200	1 pc(s).	**3312.807**

Assembly

– Use the assembly parts of the existing solid roof plate for assembly

Sheet steel door

for wall-mounted cooling unit Blue e+ IT
For mounting the roof-mounted unit. The cut-out in the door is arranged so that the roof-mounted cooling unit is positioned centrally on the door.

Material:
– Sheet steel

Surface finish:
– Spray-finished

Colour:
– RAL 7035

Supply includes:
– Sheet steel door at the rear, 180° hinges
– Comfort handle for profile half-cylinders with security lock 3524 E
– Assembly parts

To fit Model No.	Width mm	Height mm	Packs of	Model No.
3312.810	600	2000	1 pc(s).	**3312.815**
3312.810	800	2000	1 pc(s).	**3312.816**

Refrigerant lines

for LCU DX

For connecting the internal and external unit of the LCU DX. Consisting of intake gas line and liquid line. The refrigerant lines are insulated.

Design	Length m	Product-specific scope of supply	Packs of	**Model No.**
LCU DX 3 kW	20	Intake gas line ½" Liquid line ¼"	1 pc(s).	**3311.495**
LCU DX 6.5 kW	20	Intake gas line ⅝" Liquid line ⅜"	1 pc(s).	**3311.496**

Touchscreen display, colour

for LCP Rack/Inline CW

The display offers the opportunity of directly monitoring key functions of the LCP, and implementing settings.

Supply includes:
– Assembly parts

Packs of	**Model No.**
1 pc(s).	**3311.030**

Condenser unit

for LCP DX

The condenser units are necessary for operating refrigerant-based LCPs. Depending on the version, the units have an external condenser and fan, or additionally a free cooler. The variant with free cooler is needed for the combination variant LCP DX/FC. The units are suitable for roof and wall mounting.

Material:
– Sheet steel, spray-finished

Surface finish:
– Powder-coated, zinc-plated

Colour:
– RAL 9003

Supply includes:
– Assembly parts

W x H x D mm	1303 x 578 x 510	2282 x 480 x 510	2393 x 1270 x 1110	3047 x 1270 x 1111
Design	Condenser	Condenser	Condenser	Condenser with free cooler
Temperature control	Speed-controlled fan	Speed-controlled fan	Speed-controlled fan	Speed-controlled fan
No. of fans	2	3	2	2
Rated operating voltage V, ~, Hz	230, 1~, 50/60	230, 1~, 50/60	230, 1~, 50/60	230, 1~, 50/60
Cooling medium	-	-	-	Water/glycol
Refrigerant	R410a	R410a	R410a	R410a
Weight kg	34.0	68.0	170.0	285.0
Packs of	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).
Model No.	**3311.360**	**3311.363**	**3311.370**	**3311.380**

Accessories

Vertical shielding

for VX IT
To block the airflow on the left and right of the 482.6 mm (19") level, for enclosure height 2000 mm.

Design:
– Self-adhesive on one side

Material:
– Cellular PU foam
– Flame-inhibiting to UL 94 (HF1)

Colour:
– Anthracite

Sealing between	W x H x D mm	For enclosure width mm	Packs of	Model No.
LCP and 482.6 mm (19") level	210 x 1915 x 110	800	1 pc(s).	**3301.320**
LCP and 482.6 mm (19") level	110 x 1915 x 110	600	1 pc(s).	**3301.370**
Side panel and 482.6 mm (19") level	84 x 1910 x 84	600	1 pc(s).	**3301.380**
Side panel and 482.6 mm (19") level	184 x 1910 x 84	800	1 pc(s).	**3301.390**

Connection hose

for LCP Rack/Inline CW
Flexible connection hose at the bottom or top, may be cut to required length, including union nuts on both ends for connecting the LCP to existing pipe-work.

Material:
– EPDM

Length m	Water connections	Packs of	Model No.
1.8	1½"	2 pc(s).	**3311.040**

Rear adaptor

for LCP Inline CW
May be positioned to the rear of the set forward LCP Inline CW to close the existing gap to the rear section.

Material:
– Sheet steel, spray-finished

Colour:
– RAL 7035

Supply includes:
– Adaptor
– With roof plate
– Assembly parts

Width mm	Height mm	Depth mm	Packs of	Model No.
300	2000	200	1 pc(s).	**3312.081**

Condensate pump

for LCP Rack/Inline CW
For discharging condensate with LCP Rack/Inline CW applications.

Benefits:
– Plug & play installation in all LCP Rack/Inline CW variants

Supply includes:
– Condensate pump
– Condensate hose
– Condensate sensor
– Connection cable
– Assembly parts

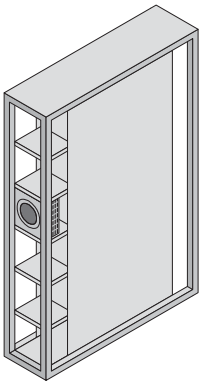
Packs of	Model No.
1 pc(s).	**3312.012**

Fan module

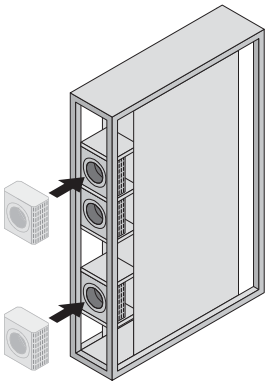
for LCP Rack/Inline CW

To increase the cooling output, individual fan modules may be retro-fitted into the LCPs. Additional integration can also achieve redundancy and reduce the electrical power consumption of the LCP.

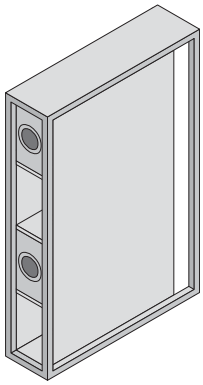
Packs of	**Model No.**
1 pc(s).	**3313.016**



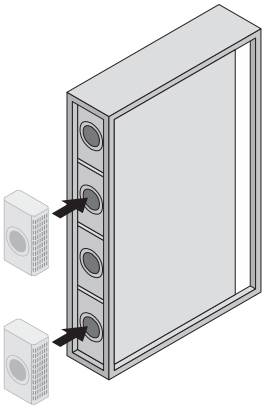
The LCP 3313.130/.230/.530 (max. 30 kW) is supplied with one fan module as standard.



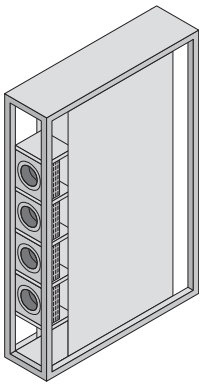
To achieve the max. cooling output, the customer/service should install two additional fan modules.



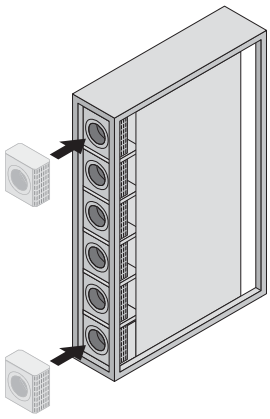
The LCP 3313.540/.550 (max. 30/28 kW) is supplied with two fan modules as standard.



To achieve the max. cooling output, the customer/service should install two additional fan modules.



The LCP 3313.250/.260/.560/ .570 (max. 35/53/53/35 kW) is supplied with four fan modules as standard.



To achieve the max. cooling output, the customer/service should install two additional fan modules.

Note:

– The max. cooling output for the relevant LCP variants can be found in the order tables from page 774

Aisle containment

Liquid Cooling Package Page 772 **Network/server racks VX IT** Page 686

Slimline door element with viewing window and sliding door. Stable roof elements in a composite material with a high level of light permeability. Where required, safety glass may also be used. The aisle width is 1,200 mm.

Applications:
– Depending on the application, aisle containment may be used with CRAC systems or LCP Inline as hot or cold aisle containment

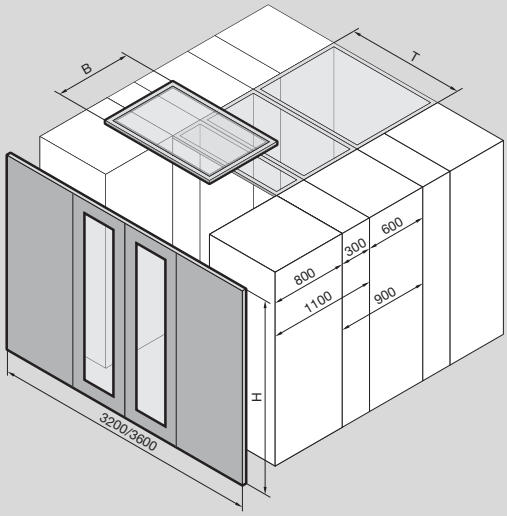
Benefits:
– Increased energy efficiency and performance capability of climate control
– Easily installed and retrofitted, as it is fully compatible with the VX IT rack system
– An inexpensive way to boost the performance of your existing installation, lengthening the investment cycle until a replacement needs to be purchased

Functions:
– Aisle containment is a combination of door and roof components which facilitate consistent separation of the hot and cold air in the data centre. Such separation is pivotal to saving energy and increasing the efficiency of the available climate control technology.

Material:
– Sheet steel, spray-finished

Colour:
– RAL 7035

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



Model No.	Packs of	3311.161	3311.163	3311.170	3311.180	3311.190	3311.200	3311.210	3311.270	3311.280	Page
Design		Door element	Door element	Roof element centre	Roof element centre	Roof element centre	Roof element centre	Roof element centre	Roof element start/end	Roof element start/end	
For enclosure depth mm		1000	1200	–	–	–	–	–	–	–	
Width (B) mm		3200	3600	600	800	300	900	1100	600	800	
Height (H) mm		2000	2000	–	–	–	–	–	–	–	
Depth (T) mm		–	–	1200	1200	1200	1200	1200	1200	1200	
Weight as delivered kg		120.0	150.0	30.0	35.0	20.0	30.0	33.0	30.0	28.0	

Roof-mounted fans

for VX, VX IT, for the office sector

This roof ventilation concept offers many performance, assembly and cost benefits associated when using integrated ventilation systems. The roof-mounted fan may be ordered with and without a roof plate. For the version with roof plate, the roof-mounted fan is pre-installed. This roof plate also has an integral rear cable entry via a sliding plate with rubber cable clamp strip. Another outstanding feature is the enormous volumetric flow combined with exceptionally low noise levels, making it ideal for use in sensitive office areas.

Benefits:
- Easy assembly, the roof plate variant eliminates the need to create mounting cut-outs
- Fully wired ready for connection

Material:
- Sheet steel, spray-finished

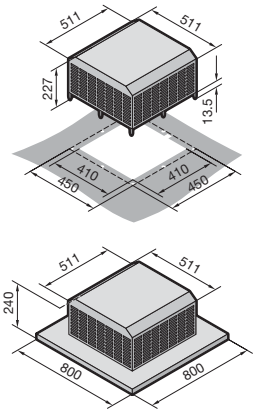
Colour:
- RAL 7035

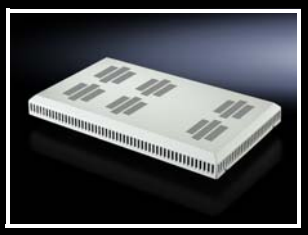
Supply includes:
- Roof-mounted fans
- Assembly parts

Note:
- Reduction in the specified air throughput to 800 m^3/h at 40 Pa counterpressure using two vented base/plinth trim panels

Model No.	3164.230	3164.620
Packs of	1 pc(s).	1 pc(s).
Rated operating voltage V, ~, Hz	230, 1~, 50/60	230, 1~, 50/60
Air throughput, unimpeded air flow m^3/h	1500	1500
Design	Without roof plate	With roof plate
Rated current A	0.3 / 0.35	0.3 / 0.35
Power consumption W	68 / 81	68 / 81
Width mm	511	800
Height mm	227	240
Depth mm	511	800
Required mounting cut-out mm	410 x 410	–
Fan	Radial	Radial
Operating temperature range	+20 °C...+55 °C	+20 °C...+55 °C
Noise level dB(A)	40	40
Weight kg	19.5	30.0

Accessories:
- Digital enclosure internal temperature display and thermostat integrated into a patch panel 1 U, see page 546
- Digital enclosure internal temperature display and thermostat , see page 546
- Thermostat, see page 547





Fan mounting plate

for VX IT, TE

For active ventilation. The unit may optionally be extended with additional fans.

Applications:
– For use in the cut-out integrated into the roof plate

Colour:
– RAL 7035

Supply includes:
– 1 fan unit
– 2 fans
– 1 thermostat
– Connection cable, open-ended
– Assembly parts

Note:
– The noise level given refers to the first fan
– Connection via distributor box or country-specific connector

Accessories:
– Fan expansion kit, see page 790

W x H x D mm	Installation options	No. of fans	Number of fans (max.)	Air through-put per fan m^3/h	Output per fan W	Rated operating voltage V, ~, Hz	Operating tempera-ture range	Noise level per fan dB(A)	Packs of	**Model No.**
200 x 59 x 550	In VX IT with W x D (mm): 600 x 600 / 600 x 800 / 600 x 1000 / 600 x 1200 / 800 x 600	2	3	160 / 180	15 / 14	230, 1~, 50/60	+5 °C...+5 5 °C	37	1 pc(s).	**5502.010**
340 x 54 x 550	In VX IT with W x D (mm): 800 x 800 / 800 x 1000 / 800 x 1200 In TE 8000 with W x D (mm): 600 x 600 / 600 x 800 / 600 x 1000 / 800 x 600 / 800 x 800 / 800 x 1000	2	6	160 / 180	15 / 14	230, 1~, 50/60	+5 °C...+5 5 °C	37	1 pc(s).	**5502.020**

Fan expansion kit

For use as a stand-alone fan, and for upgrading various fan units or to supplement the fan mounting plate.

Supply includes:
– Fan
– Connection cable (0.61 m)
– Assembly parts

W x H x D mm	Air through-put (unimpeded air flow) m^3/h	Rated operating voltage V, ~, Hz	Power consumption W	Operating temperature range	Noise level dB(A)	Packs of	**Model No.**
119 x 119 x 38	160 / 180	230, 1~, 50/60	15 / 14	-10 °C...+55 °C	37 / 37	1 pc(s).	**7980.000**
119 x 119 x 25	108 / 120	230, 1~, 50/60	14 / 12	-20 °C...+70 °C	34 / 34	1 pc(s).	**7980.100**
119 x 119 x 38	184	48 (DC)	7.7	-20 °C...+70 °C	43	1 pc(s).	**7980.148**

Cover plates for fan panels

for FlatBox
To cover unused fan panels when using fans in the FlatBox.

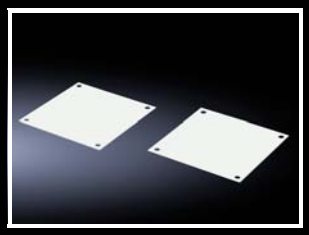
Material:
– Sheet steel

Surface finish:
– Powder-coated

Colour:
– RAL 7035

Supply includes:
– Assembly parts

Packs of	**Model No.**
6 pc(s).	**7507.760**



Vent cover

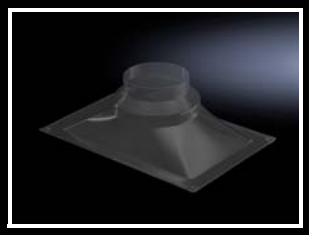
for VX, VX IT
The ideal addition for incorporating sealed racks into an existing central climate control system. The stepped connection is suitable for standard pipe diameters, thereby ensuring effective cooling thanks to targeted air exchange inside the rack.

Material:
– PET-G

Colour:
– Transparant

Supply includes:
– Assembly parts

Note:
– Required cut-out in the roof plate (W x D): 380 x 230 mm



W x H x D mm	Diameter of hose connection mm	Weight kg	Packs of	**Model No.**
450 x 144 x 300	150/200	0.96	1 pc(s).	**7826.750**

CRAC systems

Precision climate control units for data centres

CRAC DX/CW – Climate control for large data centres

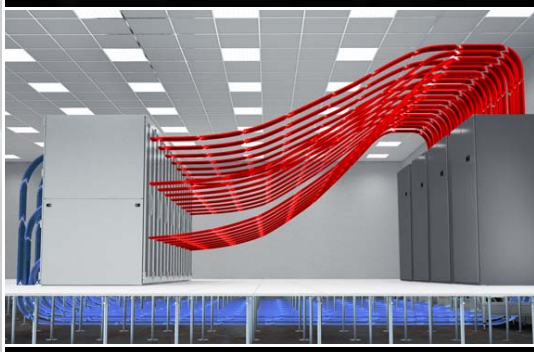
- Cooling with CRAC systems is ideal for data centres with low to medium outputs per IT rack
- The racks being cooled must be open
- Precision climate control units with accurate temperature and humidity control
- Reliable, familiar technology with a tried-and-tested track record spanning several decades

How are CRAC systems used?

- Downflow: CRAC units extract hot air from the data centre via the unit's open roof. The air is cooled via a heat exchanger and then blasted into the raised floor by fans.
- Upflow: CRAC units extract hot air via the front of the device and blast cold air back into the room via the open roof
- In both cases, air baffle plates on the 482.6 mm (19˝) level separate the cold and hot air within the IT rack

Tried-and-tested technology

- All waste heat from the IT systems is dissipated out of the building and emitted to the surrounding environment
- There are a range of different options (humidifier, reheater, filter, pressure regulator etc.) available
- Downflow units (raised floor required)
- Upflow units (raised floor not required)
- DX, CW or dual fluid (DX + CW) versions available
- Direct free cooling is supported



IT chillers

Precision climate control units for high cooling outputs

IT chillers – A continuous supply of cool water

- The ideal solution for server rooms and data centres with medium to high outputs which are supplied with cold water by one or more chillers (e.g. for CRAC CW or LCP CW systems, depending on the heat loss of the IT systems)
- Numerous configurations of the many different variants cover a broad spectrum of required cooling outputs
- Integral or additional free cooling option available for all variants

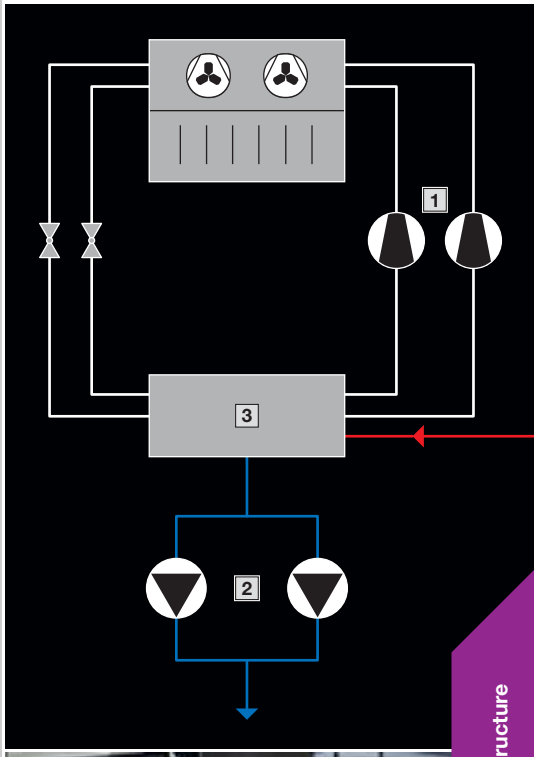
How do IT chillers work?

- IT chillers are air-cooled and suitable for outdoor siting
- Using large heat exchangers and high-end scroll compressors enables a high level of energy efficiency; depending on the cooling output, cold water is produced on the evaporator coil by one or two independent cooling circuits
- From the evaporator coil, one or two pumps (redundant) supply the equipment (CRACs or LCPs) with cold water. The use of an inverter gives the system a high degree of flexibility to vary the water flow-rate as well as the available pressure (to support large distances between chillers and server rooms)
- The smart device software manages thermal load fluctuations via the regulated use of all or selected compressors and via the pump speed
- At low external temperatures (below the water return temperature), the free cooling function is activated, which helps to save energy by shutting off selected compressors

1 Two independent cooling circuits (two or more compressors)
2 Two pumps (one operational, one in standby mode)
3 Evaporator coil

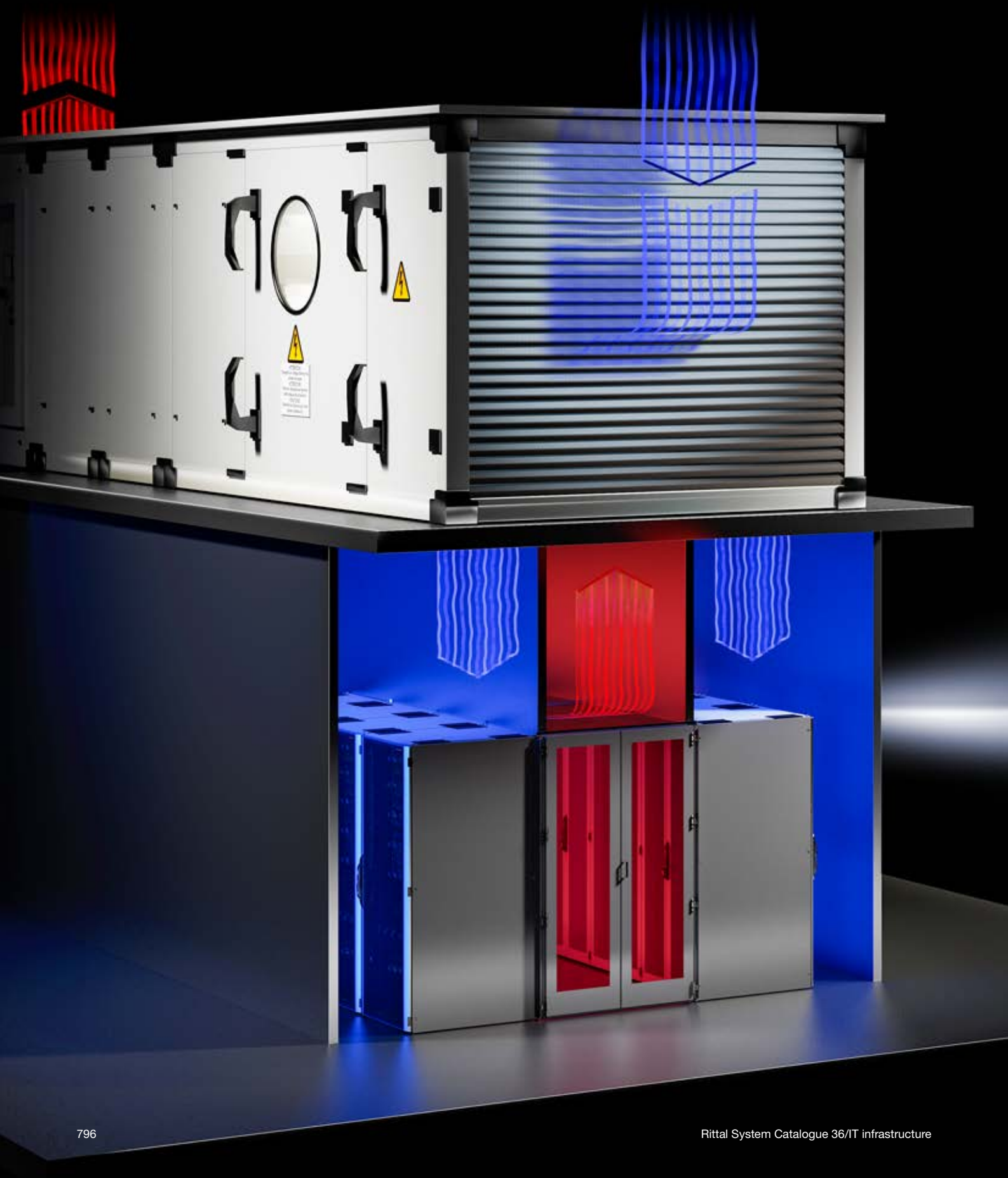
Customer benefits

- Low operating costs, thanks to a high level of energy efficiency and free cooling option
- Redundancy in selected chillers, thanks to two integrated, independent cooling circuits (over 50 kW) and two redundant pumps
- System redundancy permits cascading of multiple chillers and automatic operational rotation, either a preset times or in the event of a malfunction
- Remote monitoring via Ethernet and polling of status and alarm messages, plus remote operation of device functions



Air Handling Unit

High-efficiency room cooling for large data centres



AHU – Cooling for large data centres

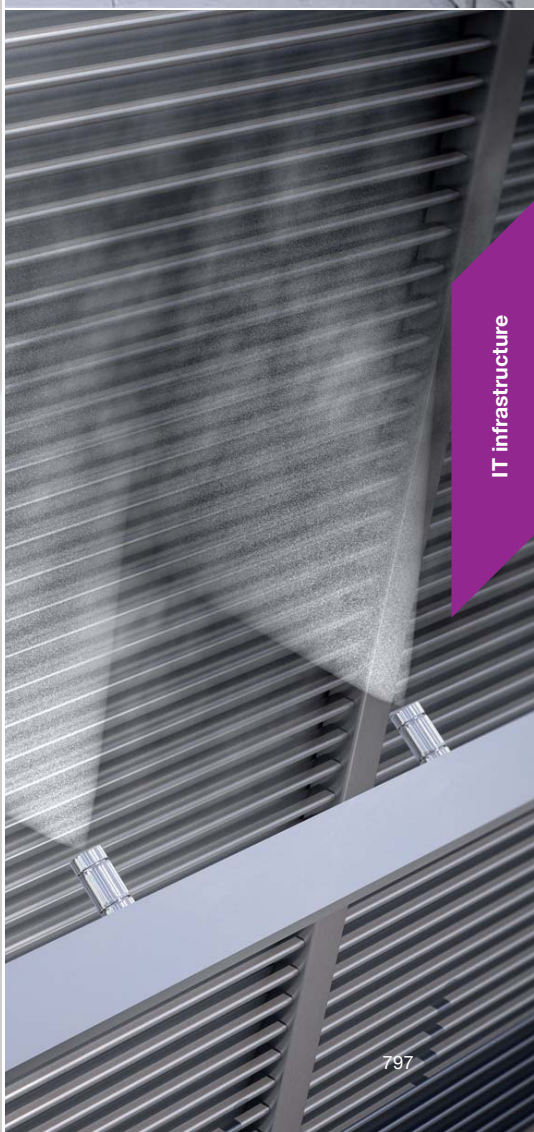
- An air handling unit or ventilation system is generally used in large data centres (hyperscale) where large volumes of air need to be moved
- The ventilation system makes extensive cooling output available without taking up space in the data centre. As the thermal loads being dissipated are generally high, a very large volumetric efficiency of the air-flow is required.

How does an AHU work with adiabatic cooling in the data centre?

- In the ventilation system, the hot waste air from the IT systems emits its energy to the cooler ambient air
- Energy is exchanged in the AHU via heat exchangers, e.g. cross-flow (indirect cooling)
- The data centre air does not come into contact with potentially contaminated exterior air
- Air is fed into the data centre via air ducts
- If the exterior air is cooler than the waste air from the IT systems, an active cooling system is not needed (indirect free cooling)
- As the exterior temperature rises, this period can be extended by spraying the heat exchanger with water (adiabatic cooling, or evaporation cooling)
- In enclosure suites, cold and hot zones are separated via aisle partitioning
- Air baffle plates on the 482.6 mm (19″) level separate cold and hot air within the IT rack

Integration into the building structure

- The AHU and its infrastructure (air ducts etc.) must be incorporated into the data centre structure. For this reason, AHUs tend only to be used with new-build data centres.
- Retrofitting existing building infrastructures is usually too costly and labour-intensive
- AHUs are custom-designed for each specific project – please contact us for advice



Rittal – The System.

Faster – better – everywhere.

IT monitoring

Your benefits
- A better overview of your IT infrastructure
- Enhanced security
- Automated processes
- Exceptional cost efficiency
- Huge energy savings
- Simple project management
- Fast installation
- Flexible, individual solutions using standard products from Rittal
- High standard of quality with coordinated standard products

Sample applications
1 CMC III, see page 802
2 Liquid Cooling Package LCP, see page 772
3 Monitor/keyboard unit, see page 822
4 Integrated Web interface of a CMC III Processing Unit, see page 806
5 Radio comfort handle VX, see page 947
6 Fire alarm and extinguisher system DET-AC master, see page 823
7 Add-on unit DET-AC III slave, see page 825
8 CMC III sensors, see page 807
9 RiZone, see page 828

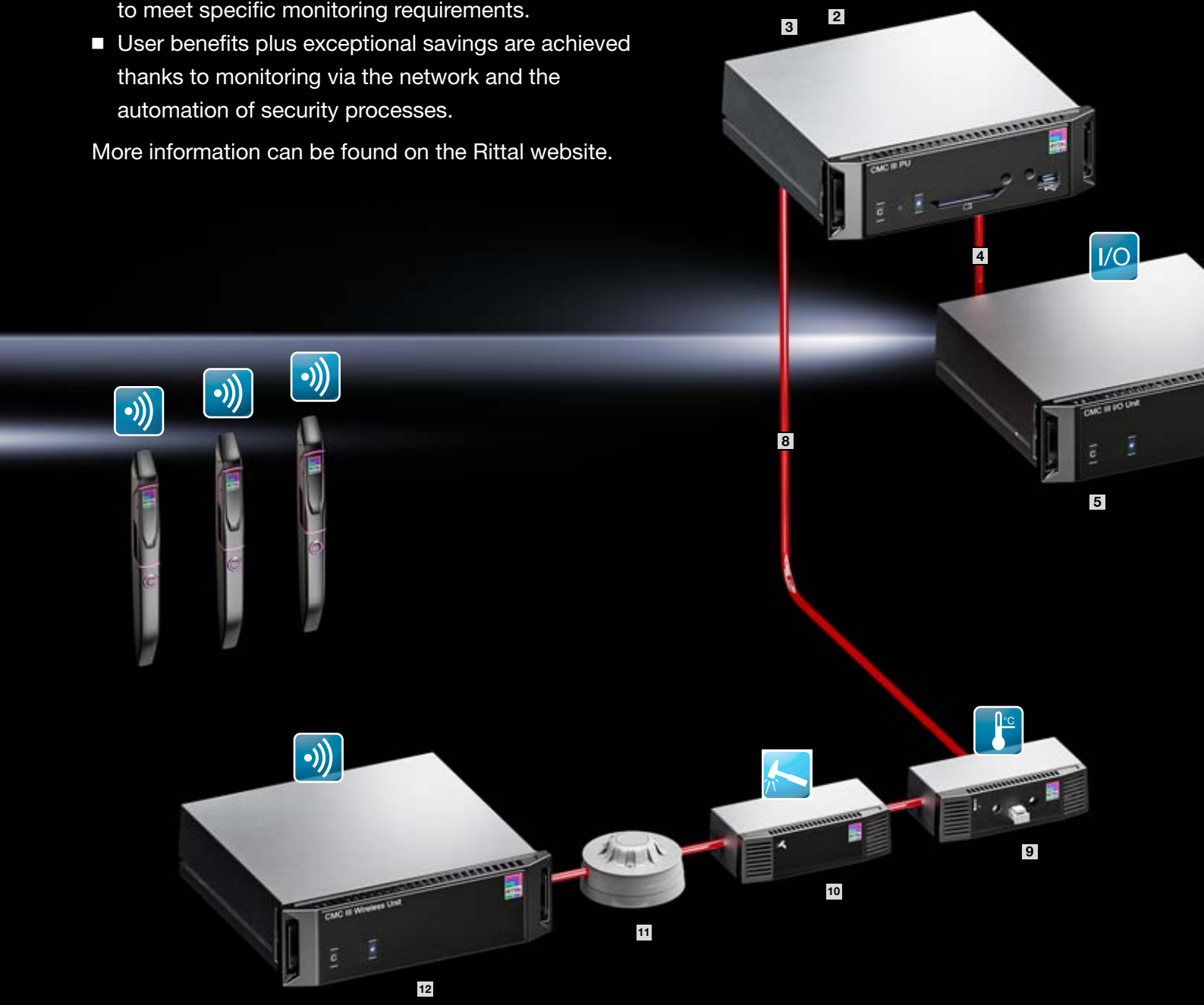
CMC III – Monitoring system

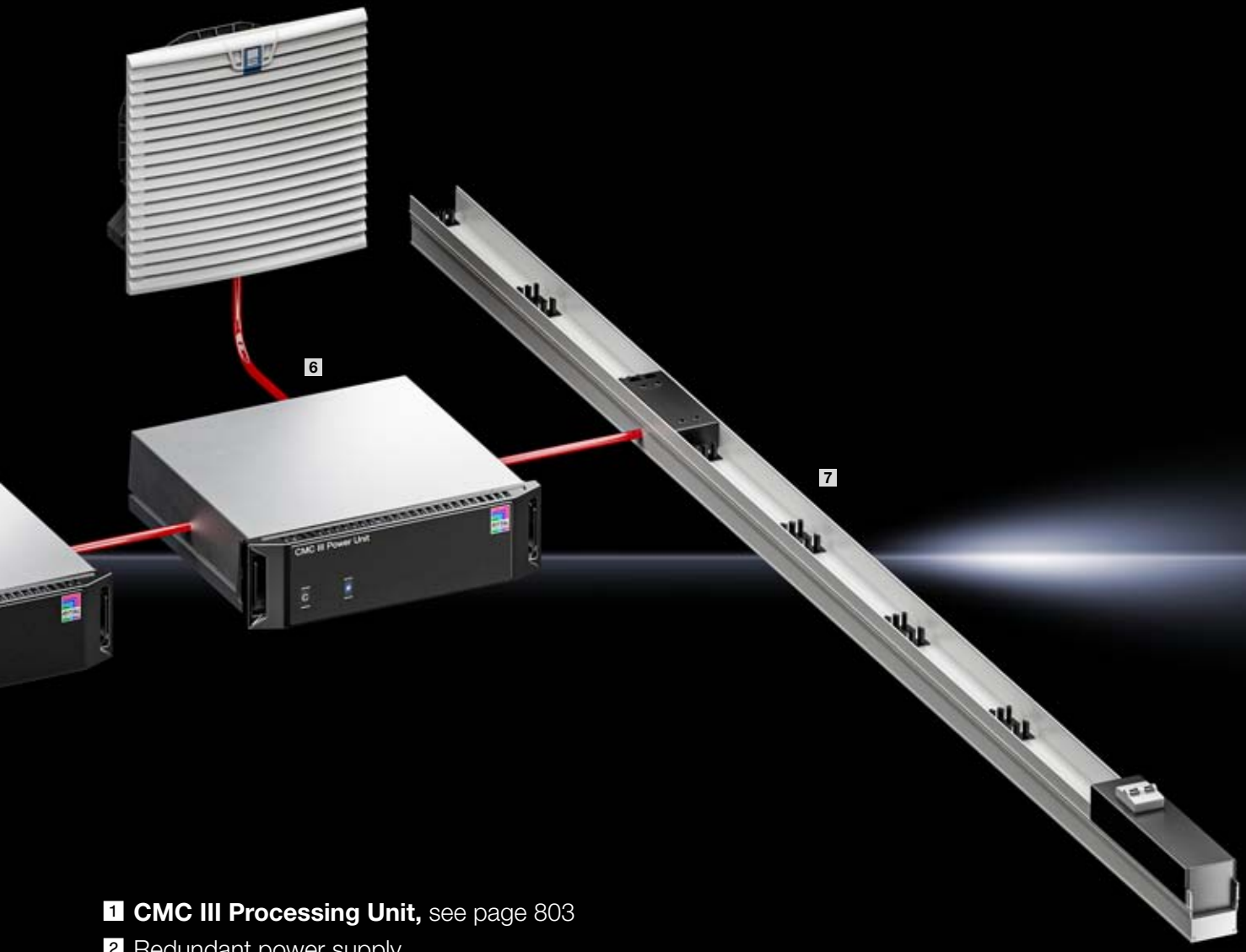
Computer Multi Control (CMC) is a monitoring system system for network and server racks, standard enclosures, containers and rooms.

- It monitors temperatures, humidity, access, smoke, energy and many other physical ambient parameters.
- The system is modular and can be flexibly adapted to meet specific monitoring requirements.
- User benefits plus exceptional savings are achieved thanks to monitoring via the network and the automation of security processes.

More information can be found on the Rittal website.

1 CMC III Processing Unit

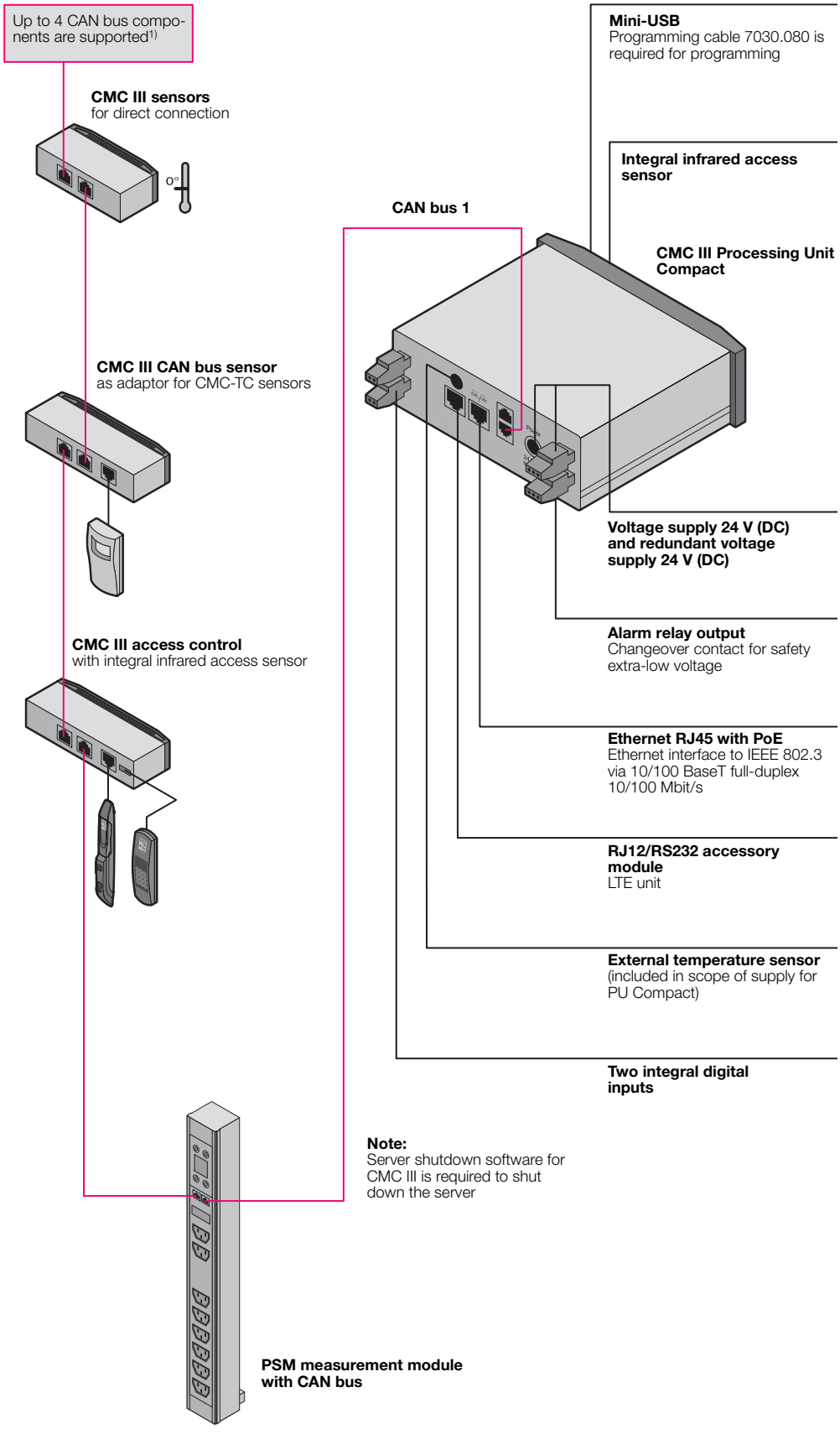




1 **CMC III Processing Unit,** see page 803
2 Redundant power supply
3 Power supply
4 Up to 16 CAN bus systems may be connected
5 CMC III I/O unit
6 CMC III power unit
7 CMC III PSM measurement bar for direct connection
8 Up to 16 CAN bus systems may be connected
9 CMC III temperature sensor
10 CMC III vandalism sensor
11 CMC III smoke alarm
12 CMC III Wireless Unit with radio comfort handles VX

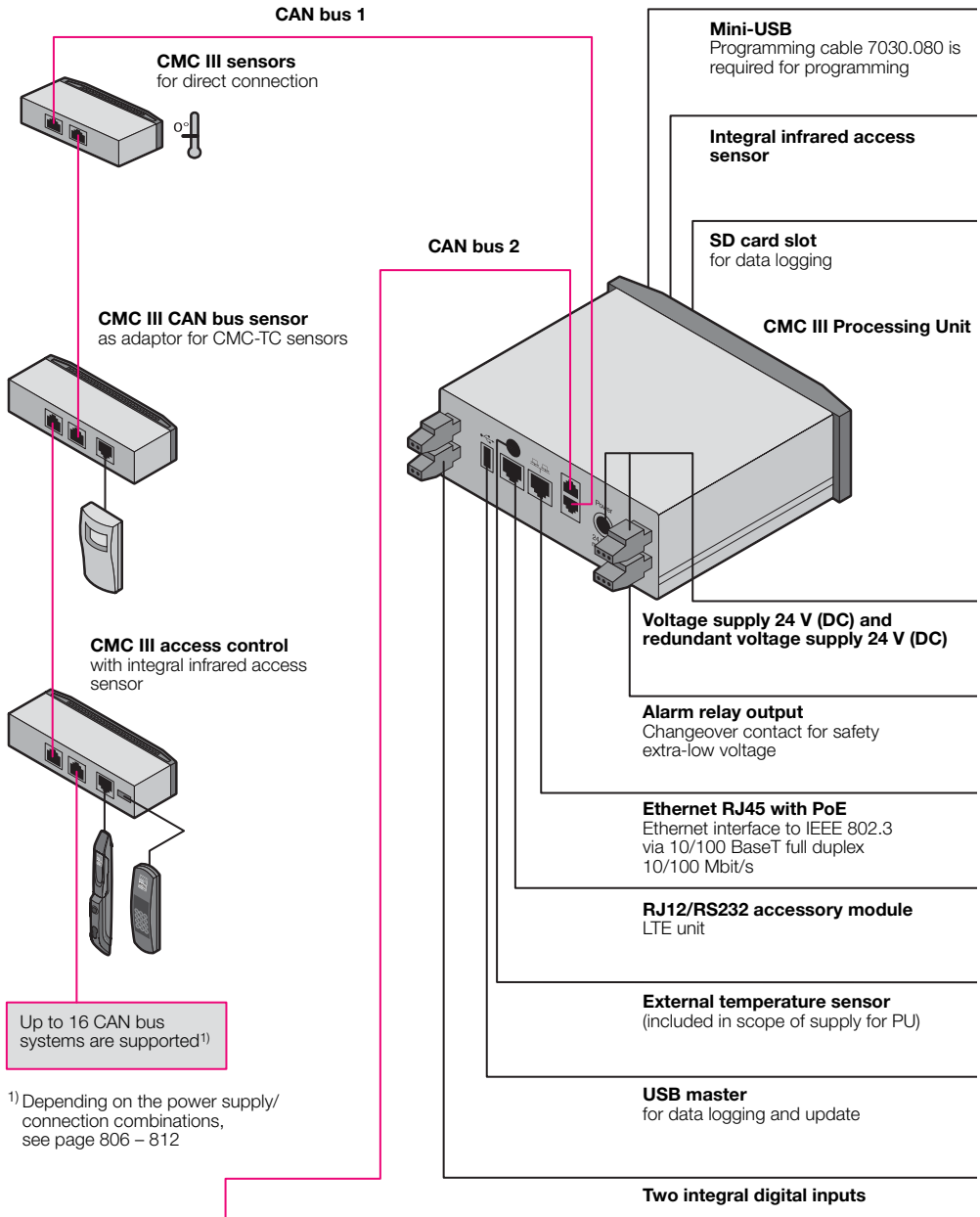
CMC III Processing Unit Compact

System overview



[1)] Depending on the power supply/ connection combinations, see page 806 – 812

System overview



[1)] Depending on the power supply/ connection combinations, see page 806 – 812

	Model No.
CMC III I/O unit	7030.040

	Model No.
CMC III power unit	7030.050

IT infrastructure

CMC III Processing Unit / Compact

System overview Page 802/803 **Basic modules and connection accessories** From page 806

Central unit of the CMC III monitoring system.
In addition, up to 32/4 external sensors/CAN-Bus connection units may be connected to the integral sensors.

Applications:
– Monitoring of enclosures, rooms and containers in the IT environment

Benefits:
– High redundancy due to redundant power supply
– Cost saving due to optimal space utilisation and connection technique
– High flexibility due to modular system
– High reliability due to permanent monitoring of the physical enclosure parameters

Material:
– Plastic

Surface finish:
– Front: Smooth
– Enclosure: Textured

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

Protection category IP to IEC 60 529:
– IP 30

Supply includes:
– Basic system
– External temperature sensor incl. connection cable (supplied loose)
– Infrared access sensor (integrated)
– Assembly parts for mounting on surfaces

Note:
– Unencrypted protocols may be deactivated for enhanced network security

Approvals:
– UL
– cUL

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

CMC III Processing Unit / Compact

		Packs of	CMC III Processing Unit	CMC III Processing Unit Compact
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)
Operating temperature range			0 °C…+45 °C	0 °C…+45 °C
Operating humidity range			5 – 95% relative humidity, non-condensing	5 – 95% relative humidity, non-condensing
Sensors/CAN bus connection units			max. 32	max. 4
Max. overall cable length for CAN bus			2 x 50 m	1 x 50 m
Model No.		1 pc(s).	**7030.000**	**7030.010**
Interfaces	Network interface (RJ45)		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 up to 32 GB	–
	Front SD-HC slot		1 x up to 32 GB for data recording	–
	Rear serial RS232 (RJ12)		1 x for connecting LTE unit with SMS functions	1 x for connecting LTE unit with SMS functions
	CAN bus (RJ45)		2 x for max. 16 sensors each = 32 sensors in total (quantity restriction, see page 806 – 812)	1 x for max. 4 sensors (quantity restriction, see page 806 – 812)
Inputs and outputs	Digital inputs (terminal)		2	2
	Relay output (terminal)		Changeover contact max. 24 V (DC), 1 A	Changeover contact max. 24 V (DC), 1 A
Operation/ signals	Switch/concealed reset button		1 x acknowledgement button/1 x service button	1 x acknowledgement 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, SNMPv2c, SNMPv3, Telnet, SSH, (S)FTP, HTTP(S), NTP, DHCP, DNS, SMTP(S), TLS, Syslog	TCP/IPv4, TCP/IPv6, SNMPv1, SNMPv2c, SNMPv3, Telnet, SSH, (S)FTP, HTTP(S), NTP, DHCP, DNS, SMTP(S), TLS, Syslog
Redundant power supply	Input 24 V (DC) (jack)		1 x for connecting the CMC III power pack	1 x for connecting the CMC III power pack
	Input 24 V (DC) (terminals)		1 x for direct connection or for connecting the CMC III power pack	1 x for direct connection or for connecting the CMC III power pack
	Power over Ethernet (PoE)		1 x 15.4 W	1 x 15.4 W
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		Local, LDAP(S), Radius	Local, LDAP(S), Radius
	User interface		Integral Web server with flexible dashboard and mobile view	Integral Web server with flexible dashboard and mobile view
	Control room connection		Integral OPC-UA server, Modbus/TCP	Integral OPC-UA server, Modbus/TCP
	Video monitoring		Incorporation of 1 x network camera	–
Also required				
Mounting unit, 1 U		1 pc(s).	7030.088	7030.088
CMC III power pack		1 pc(s).	7030.060	7030.060
Programming cable		1 pc(s).	7030.080	7030.080

System components

Control units for CMC III Processing Unit

Dimensions:
– W x H x D:
138 x 40 x 120 + 12 mm front frame

Material:
– Plastic

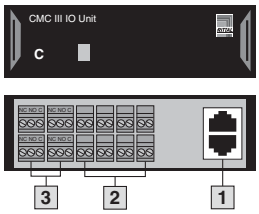
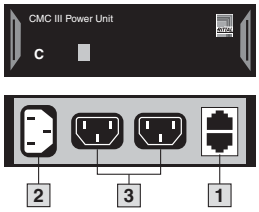
Surface finish:
– Front: Smooth
– Enclosure: Textured

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

Protection category IP to IEC 60 529:
– IP 30

Supply includes:
– Basic system
– Assembly parts for mounting on surfaces

Also required:
– CAN bus connection cable, see page 818
– CMC III Processing Unit, see page 804
– Mounting unit, 1 U, see page 819

		1 Connection RJ45 2 x CAN bus	2 Inputs	3 Outputs	Model No. Packs of 1	PU Compact Maximum quantity	PU Maximum quantity
	**CMC III I/O unit** In the software, the relays can be linked to measurement values so that they are actuated under certain circumstances. This allows devices to be controlled and messages to be forwarded. Cannot be operated with the Processing Unit Compact. – Inputs for potential-free signals – Relay output (changeover contact) can handle loads of up to max. 24 V (DC) / 1 A	■	8 x digital	4 x relays	**7030.040**	–	16
	**CMC III power unit** The input is switched to the outputs via two relays. In this way, the outputs can be linked to measured values for automatic switching. Fan regulation is one example of a potential application. Manual switching via the CMC III operating interface is likewise supported. Each output is monitored individually, and various values are measured. Cannot be operated with the Processing Unit Compact. – Switches 2 outputs – Measures voltage, current, power, work – Application: Controlling and switching fans, heaters, equipment – Note: For controlling fans, one interference suppressor 7030.051 per fan is required	■	1 x C14 110 – 230 V 50/60 Hz	2 x C13 Aggregate current max. 10 A	**7030.050**	–	16

CMC III sensors for direct connection

CMC III sensors are used for monitoring the physical environment and can be connected directly to the PU via a CAN bus connection cable RJ45. The sensors may also be linked together to form a bus.

Dimensions:
- 7030.110/.111/.120/.130
  W x H x D: 80 x 30 x 40 mm
- 7030.140/.150/.190/.430/.440
  W x H x D: 110 x 30 x 40 mm
- 7030.400
  Ø x H: 100 x 60 mm

Material:
- Plastic

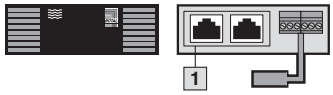
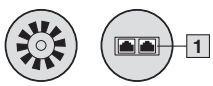
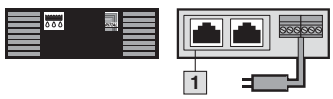
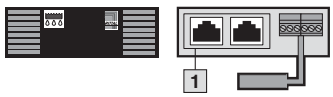
Surface finish:
- Front: Smooth
- Enclosure: Textured

Colour:
- Front: RAL 9005
- Enclosure: RAL 7035
- Smoke detector: White

Protection category IP to IEC 60 529:
- IP 30

Supply includes:
- Sensor
- Mounting plate
- Assembly parts

Also required:
- CAN bus connection cable, see page 818

		1 Connection RJ45 2 x CAN bus	2 Inputs	Model No. Packs of 1	PU Compact Maximum quantity	PU Maximum quantity
	**Temperature sensor** – External NTC sensor, 2 m cable – Measurement range for external sensors: -40 °C…+80 °C	■	–	**7030.110**	4	32
	**Temperature/humidity sensor** – Measurement range: 0 °C…+55 °C/ 5 – 95% rel. humidity	■	–	**7030.111**	4	32
	**Infrared access sensor** – Monitoring with reflector on the door, spacing adjustable	■	–	**7030.120**	4	32
	**Vandalism sensor** – Axis: x, y, z – Acceleration limits: -7...7 g, adjustable	■	–	**7030.130**	4	32
	**Analog airflow sensor** – External airflow sensor: 4 – 20 mA – Measurement range: 0.2 – 10 m/s – Application: Fans, filters, climate control devices	■	–	**7030.140**	4	10[1]
	**Analog differential pressure sensor** – Two pressure measuring points (infeed via hose) – Measurement range: -500 m Pa…+500 m Pa – Application: Cold aisle containment, raised floor	■	–	**7030.150**	4	32
	**Universal sensor** – Choice of digital inputs for an application: – Potential-free signals – S_0 input for energy measurement systems – 1 Wiegand interface (external access systems)	■	2 x digital may be switched over to pulse input S_0 or a Wiegand interface 1 x analog 4 – 20 mA	**7030.190**	4	32
	**Smoke detector** – Monitors the room air for smoke particles using an optical component	■	–	**7030.400**	4	32
	**Leak sensor** – Monitors a given point on the floor of the data centre or enclosure for liquids. The external sensor probe allows free selection of the point to be monitored.	■	–	**7030.430**	4	32
	**Leak sensor, 15 m** – Monitors a larger floor area for liquids using the 15 metre long detection cable. The sensor additionally indicates the section of cable where a leak has been detected.	■	–	**7030.440**	4	32

[1] Max. 5 pieces for power supply with PoE

System components

Interface for CMC-TC sensors

The CMC III CAN bus sensor supports the connection of selected sensors from the CMC-TC system to the current CMC III, allowing old applications to be upgraded with the CMC III Processing Unit / Compact.
As well as the two CAN bus connections, the unit also has another connection for one of the CMC-TC sensors. In this way, the unit functions as an interface between the CMC-TC sensor and the current CMC III Processing Unit, and adapts the sensor data to the CAN bus protocol.

Dimensions:
– W x H x D:
110 x 30 x 40 mm

Material:
– Plastic

Surface finish:
– Front: Smooth
– Enclosure: Textured

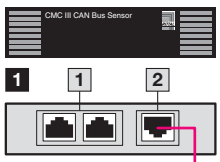
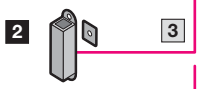
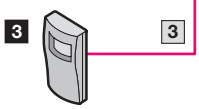
Colour:
– Front: RAL 9005
– Enclosure: RAL 7035

Protection category IP to IEC 60 529:
– IP 30

Supply includes:
– Sensor
– Mounting plate
– Assembly parts

The following CMC-TC access sensors may connected to the CMC III CAN bus sensor:
– 1 x temperature sensor
– 1 x analog input 4 – 20 mA
– 5 x access sensors in series
– 1 x airflow sensor
– 1 x smoke detector
– 1 x motion detector
– 1 x digital input
– 1 x digital relay output
– 1 x voltage monitor
– 1 x 48 V voltage sensor
– 1 x leak sensor
– 1 x leak sensor, 15 m sensors
– 1 x door control unit (two connections)
– 1 x DET-AC Plus extinguisher system (three connections)
– 1 x DET-AC Plus early fire detection system (three connections)

Also required:
– CAN bus connection cable, see page 818

		1	2	3	Model No.	PU Compact	PU
		Connection RJ45 2 x CAN bus	Input RJ12	Output RJ12	Packs of	Maximum quantity	
	**1 CMC III CAN bus sensor** – For connecting one CMC-TC sensor	■	1 x	–	**7030.100** 1 pc(s).	4	32
	Connectable sensors (max. 1 sensor per CAN bus sensor)						
	**2 CMC III access sensor VX** – Sensor: Reed contact/magnet – Max. 5 reed contacts in series – 0.5 m cable included with the supply **Also required:** – Connection cable RJ12 for connecting a sensor, see page 819 – Extension cable RJ12 for connecting more sensors in series, see page 819	–	–	1 x	**7030.128** 1 pc(s).	–	–
	**3 CMC motion detector** – Sensor: Infrared – 2 m cable included with the supply	–	–	1 x	**7320.570** 1 pc(s).	–	–

Products with CAN bus interface for direct connection

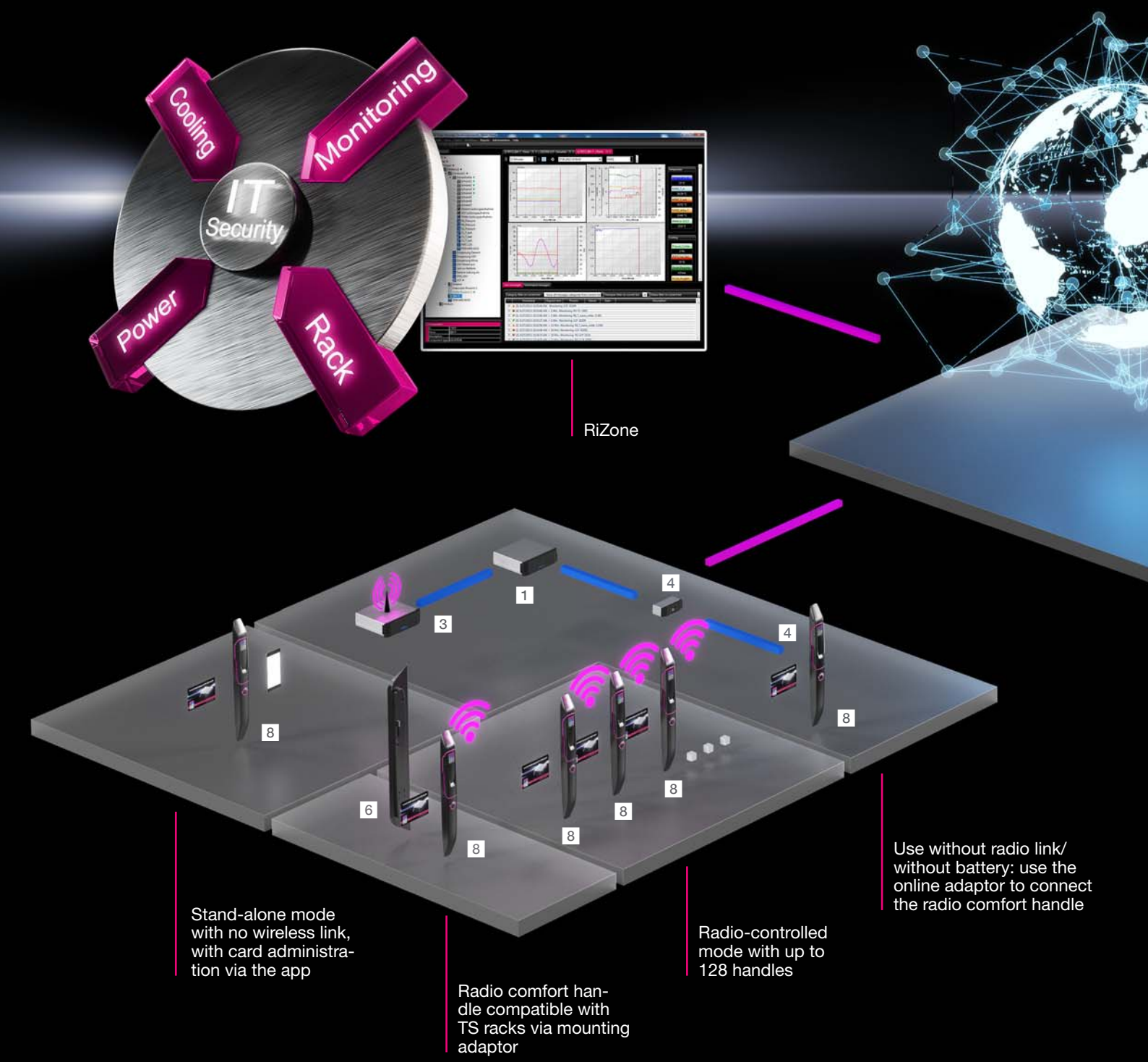
		Model No.	PU Compact	PU	Page
			Maximum quantity		
	PSM measurement bars 16 A, with 2 infeeds	7859.050	4	8	747
	PSM measurement bars 32 A, with 1 infeed	7859.053	4	8	747
	PSM measurement module with CAN bus, 8 x C13	7859.410	4	16	750
	PSM measurement module with CAN bus, 2 x C13, 4 x C19	7859.420	4	16	750
	PSM measurement module with CAN bus, 2 x C13, 4 x earthing-pin	7859.430	4	16	750
	Fire alarm and extinguisher system DET-AC III master	7338.121	4	16	823
	Add-on unit DET-AC III slave	7338.321	4	16	825
	Early fire detection system EFD III	7338.221	4	16	824
	NH measurement module for NH fuse-switch disconnectors, size 00	9343.070	4	8	333
	NH measurement module for NH fuse-switch disconnectors, size 1	9343.170	4	8	333
	NH measurement module for NH fuse-switch disconnectors, size 2	9343.270	4	8	333
	NH measurement module for NH fuse-switch disconnectors, size 3	9343.370	4	8	333

Accessories:

– CAN bus connection cable, see page 818

CMC III access

The secure solution



Stand-alone mode with no wireless link, with card administration via the app

Radio comfort handle compatible with TS racks via mounting adaptor

Radio-controlled mode with up to 128 handles

Use without radio link/ without battery: use the online adaptor to connect the radio comfort handle

CMC III Processing Unit, see page 803

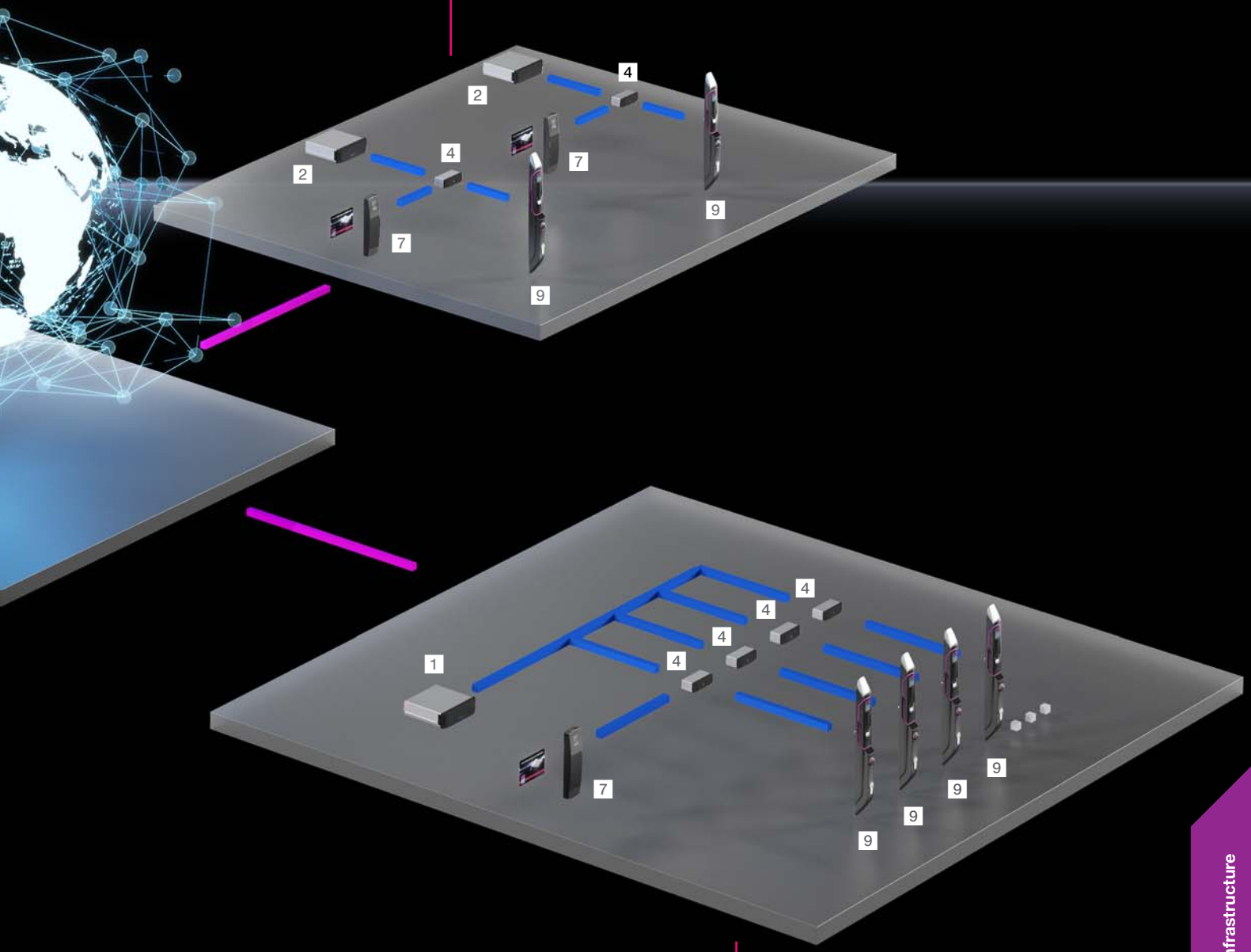
CMC III Processing Unit Compact, see page 802

CMC III Wireless Unit for radio comfort handle VX, see page 815

CMC III access control, see page 812

Online adaptor, see page 948

Distributed edge application
for individual racks



Transponder reader:
Activate up to 16 handles

Mounting adaptor, see page 948

Transponder reader for CMC III, see page 813

Radio comfort handle VX with card reader for VX, VX IT, see page 947

CMC III online comfort handle VX with master key function for VX, VX IT, see page 946

System components

CMC III access control

CMC III unit for controlling and monitoring access to enclosures. One handle and one reader unit may be connected to one CMC III access control. The handles can be linked to various numerical codes or transponder cards via the CMC III Processing Unit/Compact website, which means that all the handles connected to a CMC III Processing Unit/Compact can be controlled with just one reader unit. The integral infrared sensor also ensures that the status of the controlled door (open/closed) is monitored.

Dimensions:
– W x H x D:
110 x 30 x 40 mm

Sample applications:
– Record of every access and each time the door is opened, with user information and time stamp
– One central reader unit per CMC III system is supported
– Fixed allocation between handles and reader units
– Four-eyes principle
– Central administration of access rights across systems and locations with RiZone
– Activating the LED display in the handle

Material:
– Plastic

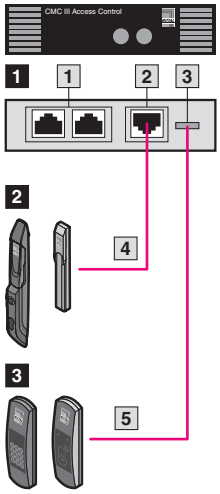
Surface finish:
– Front: Smooth
– Enclosure: Textured

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

Protection category IP to IEC 60 529:
– IP 30

Supply includes:
– CMC III access control
– Mounting plate
– Assembly parts

Also required:
– CAN bus connection cable, see page 818



	Connection	Inputs		Outputs		Model No.	PU Compact	PU	Page
	1	2	3	4	5				
	RJ45 2 x CAN bus	RJ12	Flat-pin connector	RJ12	Flat-pin connector	Packs of 1	Maximum quantity		
1 CMC III access control – For connecting one handle and one reader unit to monitor a door – Integral IR access sensor	■	1 x	1 x	–	–	**7030.202**	2	16[1]	
Connectable handles and reader units (max. 1 handle and max. 1 reader unit per CMC access control)									
2 Handles **– CMC III online comfort handle VX** RAL 9005	–	–	–	1 x	–	**7030.611**	–	–	946
– Ergoform-S handle (electromagnetic, for TE 8000) RAL 7035	–	–	–	1 x	–	**7320.700**	–	–	949
3 CMC III reader units **– Coded lock** RAL 9005	–	–	–	–	1 x	**7030.223**	–	–	813
– Transponder reader RAL 9005	–	–	–	–	1 x	**7030.233**	–	–	813

[1] Max. 5 pieces for power supply with PoE

Coded lock

for CMC III

For managing access to doors.

Benefits:
- Individual codes with up to 8 digits
- Use of a read system for multiple handles is supported, provided this is connected to the same CMC III system
- High security standards thanks to the four-eyes principle

Installation options:
- On VX IT doors
- Adjacent to room doors

Functional principle:
- Direct connection to the CMC III Access Control or CMC III Door Control Module
- Optical (LED) and acoustic (alarm sound) status display
- Authorisations are managed via the CMC III system or RiZone
- Door opening with a maximum of two linked numerical codes (four-eyes principle)
- Control via CMC III of:
  - Online comfort handle VX
  - Automatic Door Opening System (vent flaps)
  - Relay outputs from the CMC III

Packs of	**Model No.**
1 pc(s).	**7030.223**

Dimensions:
- W x H x D: 50 x 190 x 25 mm door-mounted

Material:
- Plastic

Colour:
- RAL 9005

Protection category IP to IEC 60 529:
- IP 40

Supply includes:
- Coded lock
- Connection cable 2.9 m
- Adaptor for glazed aluminium door for VX IT
- Assembly parts

Also required:
- CMC III access control, see page 812
- CMC III Processing Unit/Compact, see page 804

Accessories:
- CMC III online comfort handle VX, see page 946
- Door control module, see page 817

Transponder reader

for CMC III

For managing access to doors.

Benefits:
- Use of a read system for multiple handles is supported, provided this is connected to the same CMC III system
- High security standards thanks to the four-eyes principle

Installation options:
- On VX IT doors
- Adjacent to room doors

Functional principle:
- Direct connection to the CMC III Access Control or CMC III Door Control Module
- Optical (LED) and acoustic (alarm sound) status display
- Authorisations are managed via the CMC III system or RiZone
- Door opening with a maximum of two linked transponder cards (four-eyes principle)
- Control via CMC III of:
  - Online comfort handle VX
  - Automatic Door Opening System (vent flaps)
  - Relay outputs from the CMC III

Dimensions:
- W x H x D: 50 x 190 x 25 mm door-mounted

Material:
- Plastic

Colour:
- RAL 9005

Protection category IP to IEC 60 529:
- IP 40

Supply includes:
- Transponder reader
- Connection cable 2.9 m
- Adaptor for glazed aluminium door for VX IT
- Mifare classic transponder card
- Assembly parts

Also required:
- CMC III access control, see page 812
- CMC III Processing Unit/Compact, see page 804

Accessories:
- Transponder card, see page 814
- Door control module, see page 817
- CMC III online comfort handle VX, see page 946

Design	Frequency	Packs of	**Model No.**
Transponder reader for Mifare, Legic Advant, HID, FeliCa (Legic Prime available on request)	RFID – 13.56 MHz	1 pc(s).	**7030.233**

System components

Transponder card

Mifare classic
Contactless smart card for opening doors.

Benefits:
– Personalised authentication with history is supported in conjunction with the CMC III system

Applications:
– For use with the CMC III transponder reader or the CMC III radio comfort handle VX with integral card reader

Dimensions:
– W x H x D: 85 x 54 x 1 mm

Transponder card	Packs of	**Model No.**
Mifare classic	2 pc(s).	**7030.628**

Also required:
– CMC III transponder reader, see page 813
– CMC III radio comfort handle VX, see page 947

CMC III online comfort handle VX

with master key function for VX, VX IT
For door locking, handle lever monitoring and status display.

Further ordering information may be found in the chapter on system accessories, page 946

Packs of	**Model No.**
1 pc(s).	**7030.611**

CMC III Wireless Unit

for radio comfort handle VX

Up to 16 radio comfort handles VX and/or defined EnOcean sensors may be connected via the Wireless Unit. In complex environments with high levels of interference, additional CMC III Wireless Units may be used at alternative locations. This allows the wireless comfort handles/sensors to send their signal to multiple Wireless Units and facilitate redundancy. The Wireless Units can also be placed in multiple separate rooms/units in order to interlink the existing radio handles and sensors. The maximum overall length of the CAN bus route is 50 m/bus. The unit is compatible with the CMC III Processing Unit.

Benefits:
- High standard of security thanks to encrypted radio transmission of security-relevant signals
- Redundant transmission with up to 16 Wireless Units

Dimensions:
- W x H x D:
  138 x 40 (1 U) x 120 + 12 mm front assembly

Material:
- Plastic

Colour:
- Front: RAL 9005
- Enclosure: RAL 7035

Protection category IP to IEC 60 529:
- IP 30

Supply includes:
- Basic system
- Aerial with magnetic base, 2.5 m connection cable
- Assembly parts for mounting on surfaces

Radio technology	Packs of	**Model No.**
EnOcean, 868 MHz	1 pc(s).	**7030.690**

Max. no. of wireless units/radio comfort handles/ EnOcean sensors

	Wireless Unit	Processing Unit	Processing Unit Compact
Wireless Unit	–	16	–
Radio comfort handle/ EnOcean sensor	16	128	–

Note:
- More information on the compatibility of other EnOcean sensors can be found at www.rittal.de under Model No. 7030.690.

Also required:
- CAN bus connection cable, see page 818
- CMC III Processing Unit, see page 804
- Mounting unit, 1 U, see page 819
- Radio comfort handle VX, see page 947

Radio comfort handle VX

with card reader for VX, VX IT

Battery-operated radio handle for door locking, handle lever/rack door monitoring and status display.

Further ordering information may be found in the chapter on system accessories, page 947

Packs of	**Model No.**
1 pc(s).	**7030.621**

CMC III Automatic Door Opening (ADO)

For automatic cooling of closed network/server racks in an emergency situation.

The ADO system is comprised of:
– Door control module
– Glazed door VX IT for ADO with integral vent flaps

Applications:
– Overtemperature in the closed VX IT rack
– Extinguisher gas should be able to enter the rack from the room

Activated via the Door Control Module (DCM) unit. One DCM activates one rack with 2 doors (front/rear door). The vent flaps integrated into the glazed door VX IT for ADO are kept closed by a system of magnets, and in an emergency situation are pressed open by the gas pressure damper system. We recommend the use of CMC III and access sensors.

Benefits:
– Stand-alone mode
– Independent power supply
– The integral temperature sensor ensures a high level of reliability, by making it independent from other systems and their power supplies
– The ADO system is not activated for normal access to the rack interior

Note:
The following doors may be connected:
– 2 glazed doors VX IT for ADO with integral vent flaps, Model No. depending on door variant
– For emergency ventilation, we recommend use of the DCM temperature sensor which creates fewer dependencies on other systems and their power supplies for superior reliability.

Activation in case of alarm:
– CMC III task
– DCM, temperature sensor including connection cable
– DCM, digital input

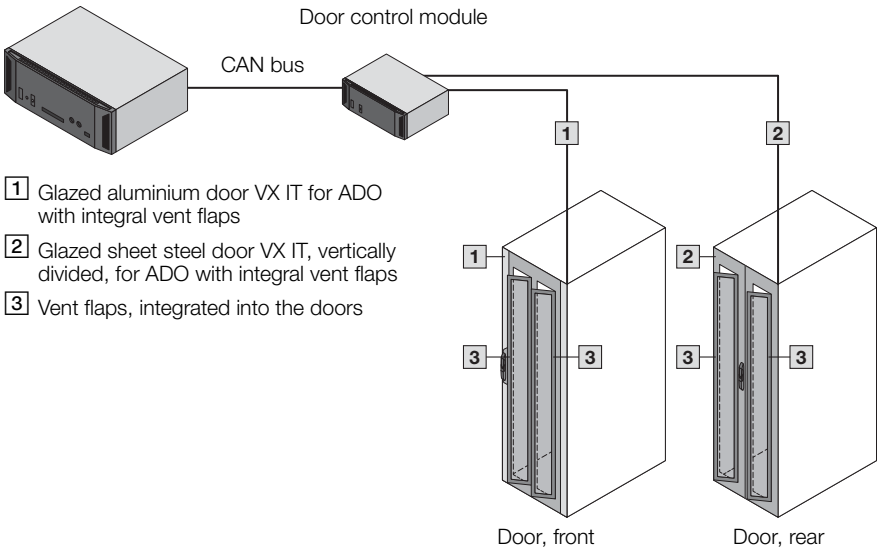
Activation for user access:
– The lock system for manual door access may be selected with standard VX IT doors, see page 919

Also required:
– Door control module DCM, see page 817
– Glazed door VX IT for ADO with integral vent flaps, see page 919

Accessories:
– CMC III Processing Unit/Compact, see page 804
– Combination lock/transponder reader for local function tests, see page 813
– Access sensor, see from page 807

System diagram CMC III Automatic Door Opening (ADO)
– Maximum of 16 door control modules per Processing Unit
– Maximum of 4 door control modules may be connected per Processing Unit Compact

CMC III
– Processing Unit
– Processing Unit Compact



1 Glazed aluminium door VX IT for ADO with integral vent flaps

2 Glazed sheet steel door VX IT, vertically divided, for ADO with integral vent flaps

3 Vent flaps, integrated into the doors

Door control module

Control unit for automatic opening of glazed doors VX IT for ADO with integral vent flaps. Designed for a rack with front and rear door. To fit CMC III system with CAN bus.

Material:
– Plastic

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

Supply includes:
– Basic system
– Temperature sensor including connection cable (supplied loose)
– Assembly parts for mounting on surfaces

Also required:
– Glazed doors VX IT for ADO with integral vent flaps, see page 919
– CMC III power pack, see page 818
– Mounting unit, 1 U, see page 819

Accessories:
– Redundant power pack, see page 818
– Coded lock/transponder reader, see page 813
– CMC III Processing Unit/Compact, see page 804
– CAN bus cable, see page 818

Model No.	7030.501
Packs of	1 pc(s).
Maximum no. of PU/PU Compact	16/4
1st rated voltage	24 V (DC) 7030.060 for door control module and glazed doors VX IT for ADO, redundant to 2nd rated voltage
2nd rated voltage	24 V (DC) 7030.060 for door control module and glazed doors VX IT for ADO
1 x temperature sensor input	Temperature sensor including connection cable (supplied loose)
3 x digital inputs	Alarm/front door flaps/rear door flaps
1 x input for reader units	Combination lock/transponder reader for local function testing of the vent flaps
2 x outputs for glazed doors VX IT for ADO with integral vent flaps	Magnet system with damper integrated into the door
2 x CAN bus CMC III	RJ45 for CAN bus cable

Glazed door VX IT

for Automatic Door Opening (ADO)

The doors for the Automatic Door Opening System replace the standard doors of the VX IT.

Further ordering information may be found in the chapter on system accessories, page 919

Packs of	Model No.
1 pc(s).	**7030.262**
1 pc(s).	**7030.263**
1 pc(s).	**7030.272**
1 pc(s).	**7030.273**
1 pc(s).	**7030.282**
1 pc(s).	**7030.283**

Accessories

CMC III power pack

for PU, PU Compact, LED light strip, door control module

The power pack is specifically tailored to the CMC III design and may be positioned in a mounting unit. As well as a special connector for the CMC III Processing Unit/Compact, there are also two further terminals available as 24 V outputs.

Technical specifications:
- Input voltage: 100 – 240 V / 50/60 Hz
- Output voltage: 24 V (DC)/2.5 A
- Length of 24 V (DC) connection cable: 0.6 m
- Input: IEC 320 connector C14

Dimensions:
- W x H x D:
  138 x 40 x 120 + 12 mm front frame

Material:
- Plastic

Surface finish:
- Front: Smooth
- Enclosure: Textured

Colour:
- Front: RAL 9005
- Enclosure: RAL 7035

Supply includes:
- Assembly parts for mounting on surfaces

Packs of	Model No.
1 pc(s).	**7030.060**

Also required:
- Connection cable, see page 819
- Mounting unit, 1 U, see page 819

Programming cable

For first-time commissioning of the Processing Unit (PU) or PU Compact. During initial start-up, the programming cable connects the CMC III Processing Unit/Compact to the USB interface of a PC. A driver for Windows systems is also included with the supply and must be installed on the PC.

Supply includes:
- CD with driver and system description

Packs of	Model No.
1 pc(s).	**7030.080**

CAN bus connection cable

For connecting the PU to the CAN bus sensors III, units III and control units III as a bus, also for cabling together.
Because it is available in different lengths, the CMC III system can be adapted to various applications and built to a custom design.

CMC III CAN bus connection cable	Length m	Packs of	Model No.
RJ45	0.5	1 pc(s).	**7030.090**
RJ45	1	1 pc(s).	**7030.091**
RJ45	1.5	1 pc(s).	**7030.092**
RJ45	2	1 pc(s).	**7030.093**
RJ45	3	1 pc(s).	**7030.480**
RJ45	4	1 pc(s).	**7030.490**
RJ45	5	1 pc(s).	**7030.094**
RJ45	10	1 pc(s).	**7030.095**

Connection cable/extension

For connecting to:
- CMC III power pack C14
- CMC III power unit C13/C14
- PDU C19

Technical specifications:
- PVC cable, 3-pole, with IEC 60 320 cable coupling (non-heating appliances) with contact protection CEE22
- Length: Minimum 1.8 m

Country version	Voltage (V)	Packs of	Model No.
D/F/B/C13	230	1 pc(s).	**7200.210**
IEC 320 device extension C13/C14	230/115	1 pc(s).	**7200.215**
Connection cable D/C19	230/115	1 pc(s).	**7200.216**
Connection cable C19/C20	230/115	1 pc(s).	**7200.217**

Connection/ extension cable RJ12

with RJ12 connector/jack

To extend cable connections to CMC-TC sensors and CMC III online comfort handle VX and to connect the CMC III access sensor 7030.128, either individually or in a row of sensors.

Length m	Packs of	Model No.
1	2 pc(s).	**7320.814**

Mounting unit, 1 U

For installing CMC III units in network and server racks. To accommodate up to three CMC III enclosures and for mounting in the 482.6 mm (19") section.

To accommodate:
- CMC III Processing Unit
- CMC III Processing Unit Compact
- CMC III control unit
- CMC III Wireless Unit
- CMC III power pack
- CMC III LTE unit
- CMC III door control module

Benefits:
- Fire protection: Self-extinguishing to UL 94-HB

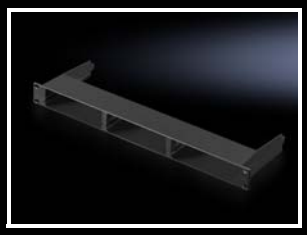
Packs of	Model No.
1 pc(s).	**7030.088**

Material:
- Plastic

Colour:
- RAL 9005

Supply includes:
- Mounting unit, 1 U
- 2 blanking covers
- Assembly parts

Accessories:
- Cable clamp strap 7030.087, see page 819



Cable clamp strap

For tool-free attachment to the rear of the CMC III 482.6 mm (19") mounting unit 7030.088. Enables tidy cable routing behind the built-in CMC III devices and can be used to attach cables for strain relief purposes. Cables are easily laid in a loop to allow the built-in CMC III devices to be removed from the mounting unit without the need for tools.

Applications:
- Cable management

Benefits:
- Cable support
- Fire protection: Self-extinguishing to UL 94-HB

Packs of	Model No.
1 pc(s).	**7030.087**

Material:
- Plastic

Colour:
- RAL 9005

Supply includes:
- Assembly parts

Accessories

Mounting unit

To accommodate one CMC III unit and for mounting on the enclosure frame.

To accommodate:
– CMC III Processing Unit
– CMC III Processing Unit Compact
– CMC III Control unit
– CMC III Wireless Unit
– CMC III Power pack
– CMC III LTE unit
– CMC III Door control module

Material:
– Sheet steel

Surface finish:
– Zinc-plated

Supply includes:
– Assembly parts

Packs of	Model No.
1 pc(s).	**7030.071**

CMC III LTE unit

For configuring a redundant transmission channel or, if there is no network infrastructure available, for alarm forwarding. The alarm signal is designed in text message format. Cover for LTE (4G), UMTS (3G) and GSM (2G) with automatic changeover function, see bands and frequencies. A standard, commercially available SIM card must be provided by the customer.

Material:
– Plastic

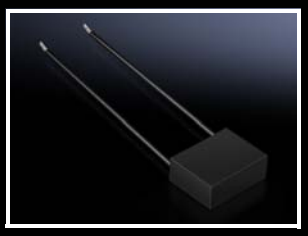
Colour:
– Front: RAL 9005
– Enclosure: RAL 7035

Supply includes:
– CMC III LTE unit
– RJ12 cable
– Aerial including magnetic base
– Assembly parts for mounting on surfaces

Packs of	Model No.
1 pc(s).	**7030.571**

Network support / bands and frequencies:
– 4G LTE band 1 (2100 MHz)
– 4G LTE band 3 (1800 MHz)
– 4G LTE band 8 (900 MHz)
– 4G LTE band 20 (800 MHz)
– 4G LTE band 28 (700 MHz)
– 3G UMTS band 1 (2100 MHz)
– 3G UMTS band 8 (900 MHz)
– 2G GSM (900 MHz)
– 2G GSM (1800 MHz)

Also required:
– CMC III Processing Unit/Compact, see page 804
– Mounting unit, 1 U, see page 819



Interference suppressor for fans

for CMC III

For connecting fans via the CMC III power unit 7030.050. The interference suppressor prevents excessive breaking currents. One interference suppressor is required for each fan.

Material:
– Plastic

Colour:
– RAL 9005

Supply includes:
– Assembly parts

Packs of	Model No.
1 pc(s).	**7030.051**

LED light strip

for CMC III

For colour status display within a network/server rack. If an error occurs, the light strip will change to the set colour.

Benefits:
- Stand-alone mode by connecting the RGB LED light strip directly to a 24 V (DC) power pack
- Easy to install with the integral magnetic attachment

Functional principle:
- Activation via CMC III
- Connection via three of the four relay connections on the CMC III I/O unit
- Connection via the alarm relay of the Processing Unit/Compact with colour change
- Connects directly to the CMC III power pack
- The three connection cables of the LED light strip activate the three basic colours red, green and blue. Activating two or three colours simultaneously will create the corresponding secondary colours. Links to sensor warnings or alarms are made via task links in the CMC III system.

Technical specifications:
- Rated voltage: 24 V (DC)
- Rated current: 1.1 A

Dimensions:
- W x H x D: 18 x 1830 x 24.2 mm

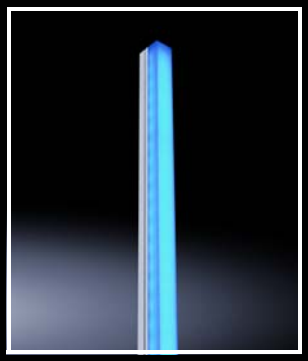
Material:
- Aluminium
- Plastic

Supply includes:
- LED light strip including magnetic attachment
- Connection cable 0.1 m
- Connection cable 2.4 m with four pre-assembled connectors for the CMC III I/O unit

Packs of	Model No.
1 pc(s).	**7030.950**

Also required:
- CMC III power pack, see page 818

Accessories:
- CMC III I/O unit, see page 806
- CMC III Processing Unit/Compact, see page 804



Monitor/keyboard unit, 1 U

with 17" TFT display and VGA/DVI connection
The unit is housed in a pull-out drawer. The monitor can be flipped up and the drawer latches into the end position. This means that the unit only requires 1 U in the 482.6 mm (19") rack.

Benefits:
– With digital and analog interfaces, VGA, DVI-D, PS/2, USB
– Simple one-person assembly

Main components:
– TFT monitor 17"
– Keyboard, German or English
– Touchpad

Supply includes:
– Monitor/keyboard unit
– VGA cable
– DVI cable
– 2 x PS/2 cable
– USB cable
– Earthing-pin mains cable
– Assembly parts

Technical design:
– 432 mm/17" TFT display
– Physical resolution: 1280 x 1024
– Format: 4 : 3
– Colours: 16.7 million colours
– Brightness approx. 350 cd/m^2 (typ.)
– Contrast ratio: approx. 1000 : 1
– Mains voltage: 100 – 240 V / 50/60 Hz
– Ambient temperature: +5 °C…+45 °C (operation)
– Max. power consumption in operation: 32 W
– Max. power consumption with closed monitor unit: < 1 W
– Rear connections: Mains voltage, VGA, DVI, PS/2, USB
– Lockable at the front
– Cables are safely routed in the energy chain

Width	Height U	Depth mm	Installation depth mm	Colour	Keyboard	Packs of	**Model No.**
482.6 mm/ 19"	1	680	680 – 850	RAL 7035	German	1 pc(s).	**9055.310**
					US English	1 pc(s).	**9055.312**
				RAL 9005	German	1 pc(s).	**9055.410**
					US English	1 pc(s).	**9055.412**

Fire alarm and extinguisher system

System accessories Page 877 **Network/server racks VX IT** Page 686 **Micro Data Center** Page 842

The active extinguisher system includes the smoke extraction system and the extinguisher unit. The smoke extraction system is identical to the smoke extraction system in the EFD III. The extinguishing process begins automatically when a main alarm is activated. For the extinguishing process, the tank is pressurised via a propellant cartridge. The extinguisher gas Novec™ 1230 evaporates at the extinguisher nozzle and is distributed in the server enclosure.

Benefits:
- Early fire detection
- Automatic extinguishing
- Innovative extinguisher Novec™ 1230: eco-friendly, non-critical for IT components, non-conductive
- 482.6 mm (19") rack mount with just 1 U
- Tested by VdS Schadenverhütung GmbH
- CAN bus interface to the CMC III monitoring system
- Floating relay outputs (pre-alarm/main alarm/ collective fault)

Material:
- Sheet steel

Colour:
- Enclosure: RAL 7035
- Front: RAL 9005

Protection category IP to IEC 60 529:
- IP 30

Note:
- This system is designed solely for use in closed, non-accessible enclosure systems with a maximum volume of 2.8 m^3.

DET-AC III master

Width mm	Packs of	482.6	Page
Height mm		44	
Depth mm		660	
Weight kg		21.5	
Model No.	1 pc(s).	**7338.121**	
Operating temperature range		+10 °C...+40 °C	
Storage temperature range without batteries		-20 °C...+65 °C	
Storage temperature range of batteries		-15 °C...+40 °C	
Ambient humidity (non-condensing) %		96	
Rated operating voltage V, ~, Hz		100 - 240, 1~, 50/60	
Emergency power supply		approx. 4 h	
Airflow monitoring		approx. ±10% of total airflow	
Interfaces		4 x/3 x relay outputs for alarms and faults (terminals/RJ12 jacks) 1 x/1 x input for door contact switch (terminal/RJ12 jack) 2 x CAN connections for master-slave networking 2 x connection (external alarm/manual triggering device) 1 x voltage output for DET-AC slave III (24 V DC max. 500 mA) 1 x USB 2 x CAN bus interfaces to CMC III (max. 16 on PU/4 on PU Compact)	
Sensors		Optical smoke detector (sensitivity: approx. 3.5%/m light obscuration) Optical smoke detector HS (sensitivity: approx. 0.25%/m light obscuration)	
Display		Plain-language display with 6 LEDs	
Technical specifications		Extinguisher is emitted via a propellant cartridge, with integral electrical activation unit Integral extinguisher monitoring (indication of >15% loss)	
Tank: Material/volume l		Aluminium / 2	
Extinguisher: Type/fill volume l		Novec™ 1230 / 1.8	
Also required			
CMC III access sensor	1 pc(s).	7030.128	808
CMC III CAN bus connection cable	1 pc(s).	7030.091	818
Sealing kit for VX IT and LCP	1 pc(s).	7338.135	826
Pipe kit	1 pc(s).	7338.130	826
Slide rail, 1 U, depth-variable	2 pc(s).	5302.035	1088

Early fire detection system

System accessories Page 877 **Network/server racks VX IT** Page 686 **Micro Data Center** Page 842

The EFD III early fire detection system includes the smoke extraction system in a 482.6 mm (19") subrack with just 1 U. An integral fan continuously extracts air from the area being protected via a system of pipes. The air drawn in passes two fire detectors. If smoke is detected, the highly sensitive detector will emit a pre-alarm, while the second detector will activate the main alarm. The fire detectors are permanently monitored for correct functioning by the evaluation and control electronics on the control card.

Benefits:
- Early fire detection
- 482.6 mm (19") rack mount with just 1 U
- Tested by VdS Schadenverhütung GmbH
- CAN bus interface to the CMC III monitoring system
- Floating relay outputs (pre-alarm/main alarm/ collective fault)

Material:
- Sheet steel

Colour:
- Enclosure: RAL 7035
- Front: RAL 9005

Protection category IP to IEC 60 529:
- IP 30

Note:
- This system is designed solely for use in closed, non-accessible enclosure systems.

EFD III

Width mm	Packs of	482.6	Page
Height mm		44	
Depth mm		490	
Weight kg		15.0	
Model No.	1 pc(s).	**7338.221**	
Operating temperature range		+10 °C...+40 °C	
Storage temperature range without batteries		-20 °C...+65 °C	
Storage temperature range of batteries		-15 °C...+40 °C	
Ambient humidity (non-condensing) %		96	
Rated operating voltage V, ~, Hz		100 - 240, 1~, 50/60	
Emergency power supply		approx. 4 h	
Airflow monitoring		approx. ±10% of total airflow	
Interfaces		4 x/3 x relay outputs for alarms and faults (terminals/RJ12 jacks) 1 x/1 x input for door contact switch (terminal/RJ12 jack) 2 x CAN connections for master-slave networking 3 x connection (external alarm/manual call point/tank and fill level) 1 x voltage output for DET-AC slave III (24 V DC max. 500 mA) 1 x USB 2 x CAN bus interfaces to CMC III (max. 16 on PU/4 on PU Compact)	
Sensors		Optical smoke detector (sensitivity: approx. 3.5%/m light obscuration) Optical smoke detector HS (sensitivity: approx. 0.25%/m light obscuration)	
Display		Plain-language display with 6 LEDs	
Also required			
CMC III CAN bus connection cable	1 pc(s).	7030.091	818
Pipe kit	1 pc(s).	7338.130	826
Slide rail, 1 U, depth-variable	2 pc(s).	5302.035	1088

Add-on unit

System accessories Page 877 **Network/server racks VX IT** Page 686 **Micro Data Center** Page 842

This add-on unit to the DET AC III Master includes an additional extinguisher unit. In addition to the DET-AC III unit, a DET-AC III slave unit is used for each additional bayed enclosure and supplies the extinguishing agent for that enclosure. Detection occurs via the DET-AC III master system, even when multiple enclosures are bayed together. If a main alarm is reported, the DET-AC III Master will activate extinguishing in all systems simultaneously.

Benefits:
- Innovative extinguisher Novec™ 1230: eco-friendly, non-critical for IT components, non-conductive
- 482.6 mm (19") rack mount with just 1 U
- Tested by VdS Schadenverhütung GmbH
- CAN bus interface to the CMC III monitoring system
- In conjunction with the DET-AC III Master, extinguishes up to five racks in an enclosure suite
- May be used in combination with EFD III
- Floating relay outputs (pre-alarm/main alarm/ collective fault)

Material:
- Sheet steel

Colour:
- Enclosure: RAL 7035
- Front: RAL 9005

Protection category IP to IEC 60 529:
- IP 30

Note:
- This system is designed solely for use in closed, non-accessible enclosure systems with a maximum volume of 2.8 m^3.

DET-AC III slave

Width mm	Packs of	482.6	Page
Height mm		44	
Depth mm		660	
Weight kg		19.1	
Model No.	1 pc(s).	**7338.321**	
Operating temperature range		+10 °C...+40 °C	
Storage temperature range without batteries		-20 °C...+65 °C	
Storage temperature range of batteries		-15 °C...+40 °C	
Ambient humidity (non-condensing) %		96	
Rated operating voltage V		24 (DC)	
Emergency power supply		approx. 4 h	
Interfaces		4 x/3 x relay outputs for alarms and faults (terminals/RJ12 jacks) 1 x/1 x input for door contact switch (terminal/RJ12 jack) 2 x CAN connections for master-slave networking 2 x connection (external alarm/manual triggering device) 1 x voltage output for DET-AC slave III (24 V DC max. 500 mA) 1 x USB 2 x CAN bus interfaces to CMC III (max. 16 on PU/4 on PU Compact)	
Technical specifications		Extinguisher is emitted via a propellant cartridge, with integral electrical activation unit Integral extinguisher monitoring (indication of >15% loss)	
Tank: Material/volume l		Aluminium / 2	
Extinguisher: Type/fill volume l		Novec™ 1230 / 1.8	
Also required			
CMC III access sensor	1 pc(s).	7030.128	808
Sealing kit for VX IT and LCP	1 pc(s).	7338.135	826
Pipe kit	1 pc(s).	7338.130	826
Slide rail, 1 U, depth-variable	2 pc(s).	5302.035	1088

Accessories

Pipe kit

for DET-AC III/EFD III

Non-adhesive plug-in system for connecting to the DET-AC III fire alarm and extinguisher system and the EFD III early fire detection system.

Functions:
– The system fans continuously draw air out of the protected area via this pipe system.

Technical specifications:
– Diameter of plastic pipe: 18 mm internal, 22 mm external

Colour:
– Black

Supply includes:
– 3 plastic pipes @ 1 m
– T-piece
– 2 connector pieces, straight
– 4 connection brackets, 90°
– 2 end caps
– Assembly parts

Packs of	Model No.
1 pc(s).	**7338.130**

Sealing kit for VX IT and LCP

in conjunction with DET-AC III master/slave

For closing openings in VX IT network/server racks and Liquid Cooling Packages when using a DET-AC III fire alarm and extinguisher system.

Applications:
– Closes 4 brush strips in the roof plate of the VX IT rack
– Closes 1 brush strip in the roof plate of the LCP
– Closes the opening in the base of the LCP CW/ LCP DX in the vicinity of the refrigerant/water lines

Benefits:
– Sealing of cable, hose and pipe glands in the roof and base section without impairing their function

Material:
– Polythene foam, self-adhesive on one side

Colour:
– Anthracite

Supply includes:
– 4 blanks to fit two VX IT roof plates
– 1 blank for an LCP

Packs of	Model No.
1 pc(s).	**7338.135**

IT Infrastructure Selector

All data centre product categories at a glance

Use it online at
www.rittal.com/it-configurator

RiZone

Data centre infrastructure management – RiZone

RiZone is Rittal's DCIM solution for easy, efficient monitoring and control of a data centre's physical infrastructure. It is designed to help improve the availability and efficiency of the data centre.
The high availability demands of data centre users necessitates a comprehensive security management system. This relies on the monitoring of all data centre components and parameters with relevance to security and availability. RiZone is tasked with implementing all messages, sensor values and actuators in the IT infrastructure and server environment into a plausible message chain to ensure transparent operation of the data centre. The formulaic correlation in RiZone Editor transforms individual warnings, data or signals into logical information and actions, to maintain the data centre's availability.

RiZone – Optimum monitoring of IT infrastructure components

- Incorporation of the physical IT infrastructure
- Automatic detection of Rittal components
- Simple configuration of power distribution systems
- Workflow editor for user-defined scenarios
- Enhanced security and reliability
- Improved energy efficiency
- Integration of SNMP-compatible third-party equipment

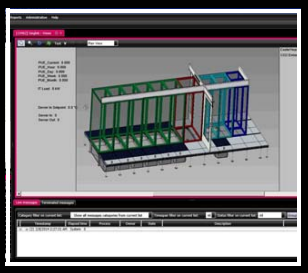
IT infrastructure in context

RiZone is the ideal solution for operating the entire IT infrastructure safely and efficiently. To this end, all processes are viewed in context and all components are perfectly coordinated with one another.

Prevention and reliability
- Identify hot spots in servers early on
- Continuously monitor individual electricity phases, avoid overloads and safeguard availability
- Set optimum climate control parameters

Trends and resource planning
- Identify bottlenecks in the physical supply early on
- Transparently plan extensions to the infrastructure

Functionality and efficiency
- Monitor PUE (power usage effectiveness) values
- Optimise energy efficiency in all areas



DCIM – Data Centre Infrastructure Management

RiZone – Perfect support of IT infrastructure components

Optional support of Rittal components – from server enclosures to power supply and climate control, through to security and monitoring technology – during integration and in the operational phase, with coordinated sensors and control systems.

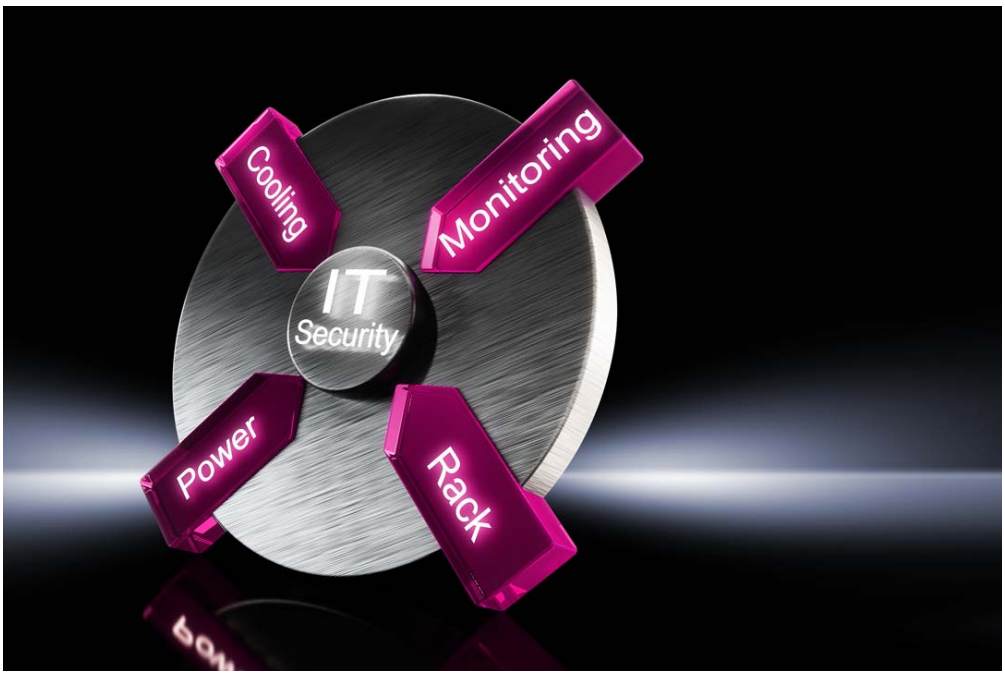
- The physical data centre infrastructure (OT devices) is incorporated into a data centre infrastructure management system.
- RiZone supports SNMP V1/V2C and SNMP V3
- Simple configuration
- Automatic detection of Rittal components
- Workflow editor for user-defined scenarios (what happens if ...)
- Enhanced security and reliability thanks to logical representation of the operating concept in RiZone
- Energy optimisation in the data centre
- Integration of SNMP-compatible third-party equipment

- **Autodiscovery**
  Detection of all SNMP-compatible IT infrastructure components
- **Database**
  In-house SQL database or link to external MS-SQL and Oracle databases
- **Capacity management**
  - Monitoring of data centre capacity utilisation
  - Redundancy monitoring of the climate control and power supply
  - Determination of optimum server installation positions
  - Optimisation of capacity utilisation and data centre availability
- **Off-line project planning**
  - Pre-configuration of RiZone projects
  - Supports Rittal CMC III components as well as RiMatrix S
  - Components are easily replaced using drag and drop
- **Central access control**
  - Central administration of acess data and PINs
  - One-time PIN function
  - Emergency PIN function
  - 2-way authorisation
- **User administration**
  - Granular user administration within RiZone
  - Support directory services
- **Open Virtualization Format (OVF)**
  - The virtual RiZone appliance is supplied in the industry standard OVF
- **Active Directory**
  - The RiZone server may be a member of a directory service
  - RiZone users may be a member of a directory service
- **CMC III access control**
  - Central administration of access control by RiZone
  - Administration of transponder cards
  - Centralised administration of access data
  - Import function

RiZone plus Rittal components creates a system solution with maximum energy efficiency.

Note:
- RiZone Appliance Standard
- RiZone IP node licence

see page 831



Rizone Appliance Standard

RiZone is supplied as a software appliance.

The software appliance is available as a virtual server in Open Virtualization Format (OVF) which is easily used on existing hardware in the data centre.

RiZone installer
- RiZone is installed on a client server
- The software is installed by a Rittal engineer on a Windows server 2012R2 or 2016

Note:
- RiZone supports the protocols SNMP V1/V2C and SNMP V3 for monitoring infrastructure components (OT devices) in a data centre. RiZone is manufacturer-neutral and suitable for use in a heterogeneous landscape of OT devices.
- Available to download at www.rittal.com/software

Also required:
- RiZone IP node licence according to the number of IP nodes available

Standard version	Model No.		
Software appliance[1)]	Hard drive + Windows	RiZone software	RiZone graphics tool
	7990.103	**7990.203**	**7990.303**
Installer	**–**	**7990.402**	**7990.502**

[1)] All Model Nos. on the same line belong together, and must always be ordered together

RiZone Appliance IP node licence

The flexible RiZone licence model allows optimum adaptation to any project size, while at the same time being capable of growing with the data centre.

The volume licences for the IP nodes are graduated with 25 and 100 nodes and may be adapted precisely to the size of the data centre. One node licence is required for each active component or other SNMP-compatible component to be covered.

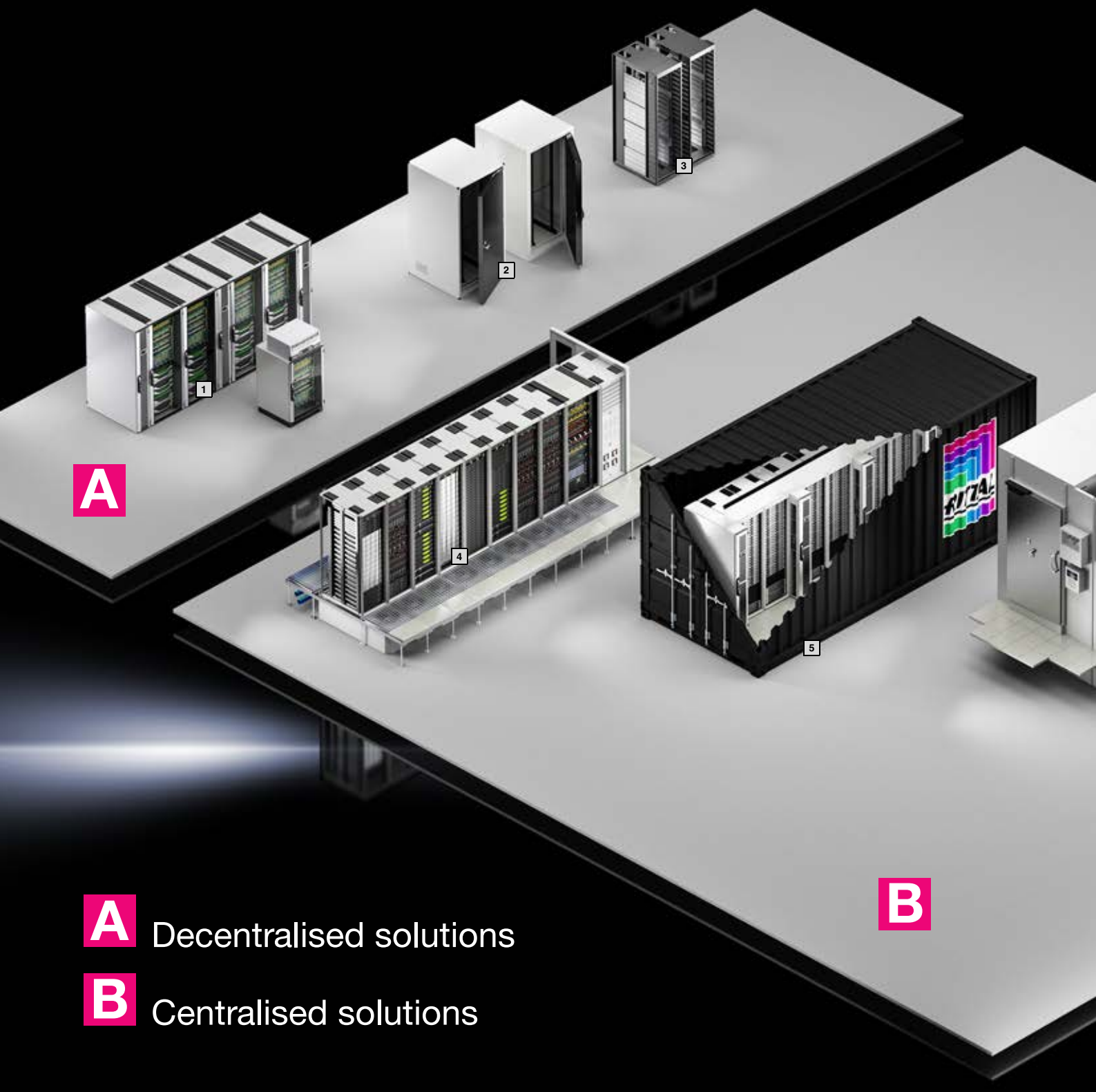
For no. of IP nodes[1)]	Console licences included	Model No.	
		RiZone software	RiZone graphics tool
25	4	**7990.206**	**7990.306**
100	8	**7990.208**	**7990.308**

[1)] All Model Nos. on the same line belong together, and must always be ordered together

Note:
- Download available at www.rittal.com/software

Rittal – The System.

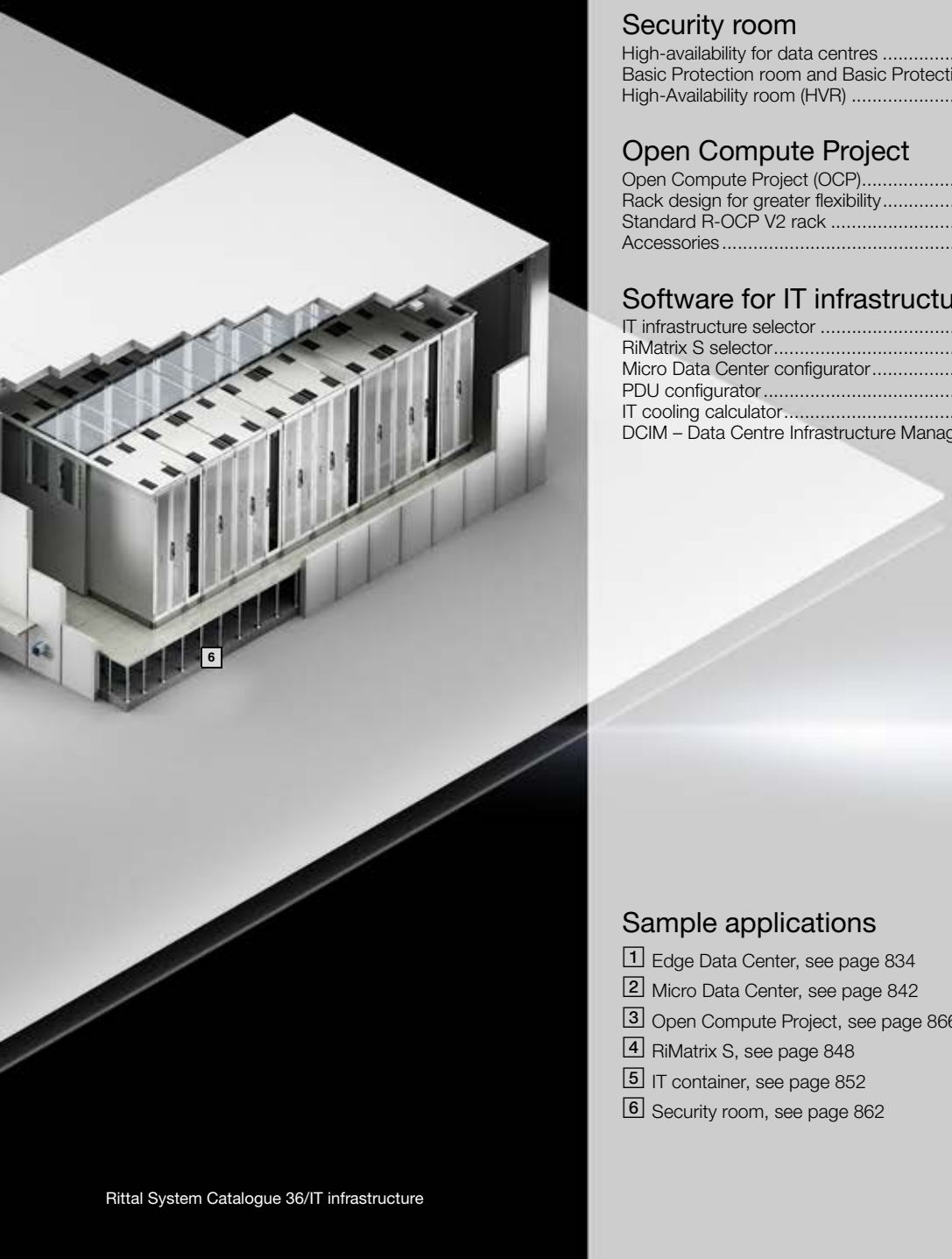
Faster – better – everywhere.



A Decentralised solutions

B Centralised solutions

IT solutions



Sample applications

1 Edge Data Center, see page 834
2 Micro Data Center, see page 842
3 Open Compute Project, see page 866
4 RiMatrix S, see page 848
5 IT container, see page 852
6 Security room, see page 862

Edge Data Center

The ideal solution for your applications

Edge & cloud solutions – for successful digitalization

- Industry 4.0, mobile streaming and self-driving cars all demand the fastest response times, top-level security, and availability. Rittal edge solutions deliver just that. They allow you to securely store, process and share large quantities of data in real time, wherever it is needed.
- Edge computing can significantly reduce storage and transmission costs, because large volumes of data can be pre-processed with only relevant data subsequently being transferred to a cloud or IT infrastructure. In this way, an edge data centre ensures minimal latency combined with maximum reliability and security.

Flexibility and reliability

- Edge data centres are always based around the local application. They must offer all the features of a “conventional” data centre, such as security and availability, since the availability of a production line depends on all its components, from the robot through to the edge data centre.
- Redundancy and fail-safe operation are key: The concept of continuous power & cooling ensures that the IT remains available for a defined period of time following a power failure so that the systems can be made safe.
- Fully redundant edge solutions can also be used to protect highly sensitive applications.

Scalability and physical protection

- Edge data centres are found across all industries in a wide range of application scenarios. The ability to adapt flexibly to the current situation is vital, as are standardised modular solutions enabling the fast assembly of large-scale edge topologies.
- Container solutions and outdoor enclosures facilitate siting outdoors, while micro data centres and security rooms provide bespoke protection in buildings when edge data centres must be protected from physical threats. Of course, the physical protective shield can be tailored precisely to keep pace with your growth plans.

Edge Data Center

With efficient plug & play solutions and innovative cooling technology

In industrial operations, building management, the logistics chain and logistics centres, the market for applications with edge data centres is continuously expanding. The emphasis here is on efficiency and reliability. Rittal's innovative cooling units in the Blue e+ series with integral heatpipe herald a new dimension in efficiency, particularly for edge data centres at the lower end of the output range.

Your benefits at a glance:

- Interfaces to all sensors, machines and devices
- Low latency in critical applications
- Capture and analysis of unstructured data to avoid unnecessary transmission to the cloud
- Interface to other edge data centres and to superimposed services in the cloud
- Efficient plug & play cooling solution with no installation work required

Example of a rear door-mounted cooling unit application:

- Cooling of IT equipment with standalone enclosure solutions
- Plug & play cooling solution with no installation work
- Rack-based cooling solution combined with 482.6 mm (19″) rack extinguisher systems
- For use in industrial environments

IT Infrastructure	Product description	Packs of	Model No.
IT rack	Network/server enclosure VX IT, IP 55	1	5309.136
IT power	PDU metered, 24 x C13/4 x C19, 1~, 16 A	2	7979.215
IT cooling	Wall-mounted-mounted cooling unit Blue e+ IT, up to 3 kW	1	3312.810
	Air duct for wall-mounted cooling unit Blue e+ IT	1	3312.820
IT monitoring	IoT interface	1	3124.300
	Temperature/humidity sensor	1	7030.111
	Access sensor	2	7030.120
IT security	Fire alarm and extinguisher system DET-AC III	1	7338.121
IT accessories	IT LED system light, 600 lm	1	7859.000

All the variants shown are sample configurations. Individually adaptable.

Example of a roof-mounted cooling unit application:

This edge solution is perfect for production and IoT sensor data capture, and for managing all types of data.

IT Infrastructure	Product description	Packs of	Model No.
IT rack	Network/server enclosure VX IT, IP 55	1	5,303.134
IT power	PDU metered, 12 x C13/1 x C19, 1~, 16 A	2	7979.210
IT cooling	Roof-mounted cooling unit Blue e+ IT, 1.6 kW	1	3312.800
IT monitoring	IoT interface	1	3124.300
	Temperature/humidity sensor	1	7030.111
	Access sensor	2	7030.120
IT security	Smoke detector	1	7030.400
IT accessories	IT LED system light, 600 lm	1	7859.000

All the variants shown are sample configurations. Individually adaptable.

Edge Data Center

Reliable and redundant with split cooling solutions

Edge data centres can handle a wide variety of tasks, not just data capture and condition monitoring. With critical processes, such as controlling traffic flows or monitoring production processes, it is particularly vital for an edge data centre to reflect the availability of the application. Scalable redundancy is the key here.

Example of an integrated cooling unit application:

IT infrastructures comprising just one or two IT racks must still offer the same features as a large data centre. This begins with a reliable power supply and cooling, and extends through to monitoring. Smaller edge data centres are ideally suited for distributed installation across various locations for processing data in real time (for example, traffic monitoring and control).

The coolant-based cooling units are designed as split solutions. Depending on the cooling output, the heat exchanger is either built into the server rack or bayed to the server rack. Heat is emitted direct outside of the building.

IT Infrastructure	Product description	Packs of	Model No.
IT rack	Network/server enclosure VX IT, IP 55	2	5309.190
IT power	PDU metered, 24 x C13/4 x C19, 1~, 32 A	4	7979.216
IT cooling	LCU DX, redundant, 6.5 kW	2	3311.493
IT monitoring	CMC III monitoring system	1	7030.000
IT security	Fire alarm and extinguisher system DET-AC III	1	7338.121
IT accessories	IT LED system light, 600 lm	2	7859.000
	CAT 6, Network Cable Organizer	4	7044.110

All the variants shown are sample configurations. Individually adaptable.

Example of a rack-based suite cooling application:

Smart cities, interconnected vehicles and streaming services bring with them the challenge of continuous availability of safety-relevant data. This calls for data centres with a maximum degree of fail-safeness. Edge data centres are the answer, being exceptionally energy-efficient with a small footprint.

IT Infrastructure	Product description	Packs of	Model No.
IT rack	Network/server rack VX IT, IP 55	4	5309.136
IT power	PDU metered, 24 x C13/6 x C19, 3~, 16 A	8	7979.236
IT cooling	LCP Rack DX, 12 kW	3	3313.420
	Condenser unit for LCP DX	3	3311.360
IT monitoring	CMC III monitoring system	1	7030.000
	Automatic door opening (ADO)	1	7030.262
	Access sensor	2	7030.120
IT security	Fire alarm and extinguisher system DET-AC III	1	7338.121
	Add-on unit DET-AC III	3	7338.321
IT accessories	IT LED system light, 600 lm	1	7859.000

All the variants shown are sample configurations. Individually adaptable.

Edge Data Center

The modular concept in a security safe or container

Data such as personal patient data is highly sensitive and must be protected from theft, while production data must be protected from physical threats such as dust, fire and splashed water. The Micro Data Center provides the perfect housing for edge data centres. The numerous options available, coupled with the opportunity of baying, permit a high degree of flexibility at the point of use.

Continuously growing data volumes are having a major impact on IT infrastructure. Demand for CPU and storage capacity is increasing at the same pace, which means that more and more servers and storage systems are needed, while the floorspace available for IT infrastructure has barely changed. Rittal's data centres in containers offer the perfect solution, because the standardised RiMatrix Data Cubes are installed in a short time and the concept is individually tailored to your requirements.

Benefits of Rittal container solutions:

- Customised container solutions on a platform basis
- Predefined modules are individually compiled to create a container data centre
- Pre-assembled container solutions can be up and running in next to no time.
- Project planning by Rittal
- Turnkey delivery of a field-tested solution complete with comprehensive documentation.

If there is no suitable space available in the office building, factory hall or institution, it may be possible to site the edge data centre outdoors. The modular container from Rittal is the ideal platform for combining predefined solutions of server, power and cooling containers. Numerous options and a choice of redundancy classes mean that solutions are precisely aligned with customer requirements.

Application examples for Rittal container solutions:

- Lack of space, because more IT hardware is needed as data volumes grow
- Influence of IoT and Industry 4.0: Data exchange between the machines and data centre must be guaranteed
- With edge data centres, the computing performance is provided locally, data volumes are reduced, and pressure on the main company data centre is relieved

IT Infrastructure	Product description	Packs of	Model No.
Container	RiMatrix Data Center Container all-in-one, max. IT output 35 kW	1	RDC-AIO 35/ 3-M-II
IT rack	Server rack	3	5310.009
	Network rack	1	5311.009
IT power	Low voltage distribution	1	7857.009
	UPS, modular, 40 + 20 kW	1	DPA UPScale ST TS 8
	PDU metered, 24 x C13/6 x C19, 3~, 16 A	4 x 2	7979.236
IT cooling	LCP Inline DX, 12 kW	5	3313.430

All the variants shown are sample configurations. Individually adaptable.

Example of a security safe application:

With its modular layout and option of dismantling and reassembly at any time, your edge data centre expands to accommodate your growing requirements. The security safe provides complete protection from physical threats and ensures the requisite fail-safeness for automated production in Industry 4.0 environments.

IT Infrastructure	Product description	Packs of	Model No.
IT rack	Micro Data Center Level E	1	7999.009
IT power	PDU metered, 24 x C13/4 x C19, 1~, 32 A	2	7979.216
IT cooling	LCU DX, redundant, 6.5 kW	1	3311.493
IT monitoring	CMC III monitoring system Compact	1	7030.010
IT security	Fire alarm and extinguisher system DET-AC III	1	7338.121
IT accessories	IT LED system light, 600 lm	1	7859.000
	CAT 6, Network Cable Organizer	2	7044.110

All the variants shown are sample configurations. Individually adaptable.

Micro Data Center

High availability in a security safe

Optimum protection from physical threats

- Data such as personal patient data can be highly sensitive and must be protected from theft, while production data must be protected from physical threats such as dust, fire and splashed water.
- The Micro Data Center provides the perfect housing for data centres. The numerous options available, coupled with the opportunities for baying, make it an extremely flexible solution.
- With its modular layout and option of dismantling and reassembly at any time, your data centre can expand as your requirements grow. The security safe offers complete protection from physical threats in even the smallest space.

Options for adapting to your needs

- The Micro Data Center is available in two variants – Level B (solid basic protection) and Level E (maximum protection).
- Level E MDCs are also bayable and can be fitted around your current installed IT racks even while operational.
- There are a range of climate control options available, with varying dissipated thermal loads and redundancies. For example, cooling in a security safe may be designed as fully redundant.
- A fire alarm and extinguisher system protects your valuable IT components from threats inside the safe.

Simple configuration of tested system solutions

- With the Rittal Micro Data Center, your security safe solution can be tailored to your exact application.
- System-tested quality means that the entire solution has been tested for fire protection, intruder protection, smoke protection and water/dust-tightness in accordance with the specified standards.
- Testing has been carried out by accredited institutes and confirmed with test reports.

Micro Data Center Level E

System accessories Page 877

Applications:
- A high level of protection against potential physical threats for IT components
- Targeted configuration components transform the safe into a complete Micro Data Center

Benefits:
- As well as facilitating installation in poorly accessible sites, the modular design also makes it possible to retrospectively enclose existing IT structures.
- Extendibility, dismantling and re-assembly mean targeted, future-safe investments
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports

Protection standards:
- Fire protection category F 90 to DIN 4102 Part 2
- Compliance with limit values ΔT < 50 K, rel. humidity < 85% over 30 minutes
- Burglary resistance RC 2, optionally RC 3, tool attack analogous to DIN EN 1630/ 2011-09 and optionally WK 4, tool attack analogous to DIN V ENV 1630/ 1999-04/WK 4
- Smoke protection based on DIN 18 095-2: 1991-03

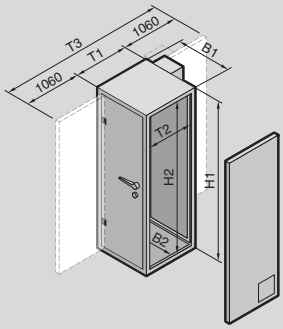
Material:
- Sheet steel, coated

Colour:
- Enclosure and service door: RAL 7035
- Operator door: RAL 9005

Protection category IP to IEC 60 529:
- IP 56

Supply includes:
- Micro Data Center with operator door and service door
- Cable entry in both side elements
- Both doors with key lock

Optional:
- Choice of door hinges
- Bifold doors
- Different cable entry systems and different positions
- Cable entry in the top/base unit
- Different lock variants
- Supporting structure

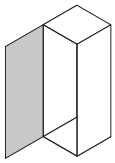
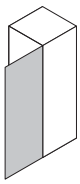
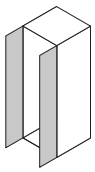


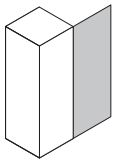
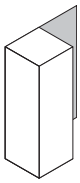
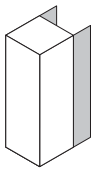
Note:
- The Micro Data Center is configured on a project-specific basis

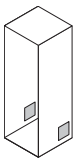
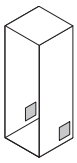
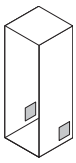
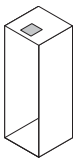
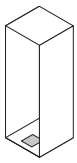
U		42	47	42	47	Page
External dimensions mm	Width (B1)	1100	1100	1100	1100	
	Height (H1)	2210	2410	2210	2410	
	Depth (T1)	1200	1200	1400	1400	
	Depth (T3)	3320	3320	3520	3520	
Internal dimensions mm	Width (B2)	920	920	920	920	
	Height (H2)	2030	2230	2030	2230	
	Depth (T2)	1000	1000	1200	1200	
Model No.		**7999.009**	**7999.009**	**7999.009**	**7999.009**	
Empty weight excluding cooling unit and excluding rack approx. kg		660	700	730	800	
Accessories						
Fire alarm and extinguisher system DET-AC/EFD III		see page	see page	see page	see page	823
CMC III monitoring system		see page	see page	see page	see page	800
PSM – Modular Power Distribution Unit		see page	see page	see page	see page	744
PDU – Power Distribution Unit		see page	see page	see page	see page	732
LCU – Liquid Cooling Unit		see page	see page	see page	see page	768

Standard protection from:

Level E, options

Operator door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□

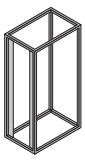
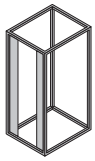
Service door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□

Cable entry	Soft duct[1] in both side elements	Hard duct[2] in both side elements	Cable box[3] in both side elements	Hard duct[2] in top element	Hard duct[2] in base element
					
	■	□	□	□	□

[1] Size of soft duct: approx. 267 x 165 mm
For fire protection reasons, the duct may be configured up to a max. of 60% with a maximum cable diameter of 15 mm and a maximum conduit diameter of 18 mm.
[2] Size of hard duct: 2 panels each 120 x 120 mm
Cables up to a diameter of 15 mm may be routed through the hard duct.
[3] Size of cable box: Field 1 approx. 210 x 44, field 2 approx. 210 x 25 mm
Cables up to a diameter of 15 mm and hoses up to a diameter of 44 mm may be routed through the cable box.
No conduits may be routed through the cable box.
Other positions are also possible.

Locks	Key lock with 2 keys	Electronic combination lock[1]	Electronic combination lock for activation via an access control system supplied by the customer
	■	□	□

[1] First code, second code and double code allocation possible. Key-based opening for inspection purposes supported.

VX IT rack with air baffle plates								
Width mm	600				800			
Height mm	2000	2200	2000	2200	2000	2200	2000	2200
Depth mm	1000	1000	1200	1200	1000	1000	1200	1200
	□	□	□	□	□	□	□	□

Supporting structure	Steel supporting structure to compensate for the raised floor height when siting the security safe on the bare floor. The height of the supporting structure is selectable between 100 mm and 1000 mm.	Steel supporting structure to compensate for the raised floor height when siting the security safe on the bare floor. The supporting structure has a fire-proof covering. The height of the supporting structure is selectable between 100 mm and 1000 mm.
	□	□

■ Included with the supply □ Optional

Micro Data Center Level B

System accessories Page 877

Applications:
- Basic protection against potential physical threats for IT components.
- Targeted configuration components transform the safe into a complete Micro Data Center.

Benefits:
- Modular layout for installation in hard-to-access locations
- Lower weight than the Level E Micro Data Center
- Tested security – testing has been carried out by accredited institutes and confirmed with test reports

Protection standards:
- Fire protection – fire resistance class EI 90/F 90 to DIN EN 1363-1: 1999 based on DIN 4102-2: 1997
- Burglar resistance RC 2 Tool attack analogous to DIN EN 1630/2011-09/RC 2
- Smoke protection based on DIN EN 1634-3: 2005-01

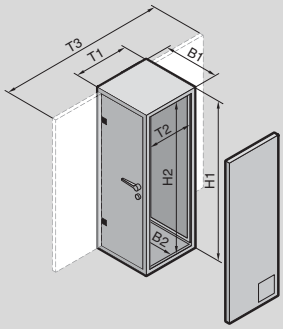
Material:
- Sheet steel, coated

Colour:
- Enclosure and service door: RAL 7035
- Operator door: RAL 9005

Protection category IP to IEC 60 529:
- IP 56

Supply includes:
- Security safe with integral VX frame
- 482.6 mm (19") mounting angles, standard, front and rear
- Adjusted air baffle plates
- Every side element is prepared for one cable entry at the bottom and one cable entry at the top
- Operator and service door with swing-lever handle and profile half-cylinder

Optional:
- Choice of door hinges
- Bifold doors
- Different cable entry systems and different positions
- Different lock variants
- Supporting structure with fire protection



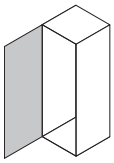
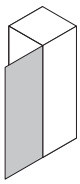
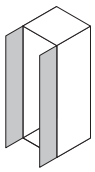
Note:
- The Micro Data Center is configured on a project-specific basis

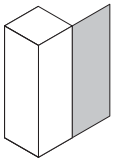
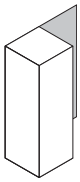
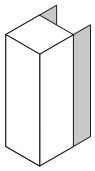
U		42	47	42	47	Page
External dimensions mm	Width (B1)	1115	1115	1115	1115	
	Height (H1)	2205	2405	2205	2405	
	Depth (T1)	1377	1377	1577	1577	
	Depth (T3)	3274	3274	3474	3474	
Internal dimensions mm	Width (B2)	905	905	905	905	
	Height (H2)	2000	2200	2000	2200	
	Depth (T2)	1060	1060	1260	1260	
Model No.		**7999.709**	**7999.709**	**7999.709**	**7999.709**	
Empty weight excluding cooling unit approx. kg		595	630	660	700	
Accessories						
Fire alarm and extinguisher system DET-AC/EFD III		see page	see page	see page	see page	823
CMC III monitoring system		see page	see page	see page	see page	800
PSM – Modular Power Distribution Unit		see page	see page	see page	see page	744
PDU – Power Distribution Unit		see page	see page	see page	see page	732
LCU – Liquid Cooling Unit		see page	see page	see page	see page	768

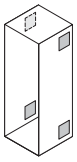
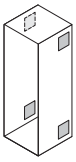
Standard protection from:

Fire · Extinguishing water · Corrosive gases · Vandalism · Unauthorised access · Dust · Theft/burglary

Level B, options

Operator door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□

Service door	L/h DIN door hinge	R/h DIN door hinge	Bifold door
			
	■	□	□

Cable entry	Soft duct[1] in both side elements	Cable box[2] in both side elements
		
	■	□

[1] Size of soft duct: approx. 267 x 165 mm
For fire protection reasons, the duct may be configured up to a max. of 60% with a maximum cable diameter of 15 mm and a maximum conduit diameter of 18 mm.
[2] Size of cable box: Field 1 approx. 210 x 44, field 2 approx. 210 x 25 mm. Cables up to a diameter of 15 mm and hoses up to a diameter of 44 mm may be routed through the cable box. No conduits may be routed through the cable box.

Locks	Swing lever handle with interchangeable profile half-cylinder	Swing lever handle with electronic lock for external activation	Swing lever handle with electronic lock with combination code
	■	□	□

Supporting structure	Steel supporting structure to compensate for the raised floor height when siting the security safe on the bare floor. The supporting structure has a fire-proof covering. The height of the supporting structure is selectable between 100 mm and 1000 mm.		
	□	□	□

■ Included with the supply □ Optional

RiMatrix S

The standardised data centre

IT infrastructure – Fully operational

The RiMatrix S standardised data centre is suitable for all architectures, be it main data centres, small data centres in distributed locations, or edge data centres located outdoors. The local conditions are of secondary importance, because RiMatrix S can be used both in existing properties and in container data centres.
The significantly reduced planning times are key, because these highly efficient modules are fully pre-planned, including existing data sheets, implementation diagrams and documentation.
In the longer term, another benefit of this system-tested solution is a significant reduction in your electricity bills, with detailed calculations possible even at the planning phase.

Save time when planning

- Easily select your required modules with just one Model No.
- Complete documentation available at the planning phase
- Short delivery times and fast commissioning
- Pre-assembled modules for the installation of IT equipment, ready to use immediately
- Simplified final certification of the finished data centre

Efficient technology

- Unique, efficient cooling solution
- Space-saving climate control in the raised floor
- n+1 redundancy in the power supply and cooling
- Complete low-voltage distribution system and PDUs pre-installed in the racks, UPS built into selected modules
- Optional packages for comprehensive PUE (power usage effectiveness) monitoring using a prefabricated DCIM solution are available
- Documented low PUE (power usage effectiveness) of between 1.5 and 1.15
- Documented system test of the entire data centre module

Scalability from the edge to the cloud

- Standardised modules for simplified worldwide delivery
- Simple, uniform connection to supply infrastructures
- Different modules with outputs ranging from 10 kW to 450 kW (scalable)
- For use in existing premises in a simple protective cover or robust container structure

RiMatrix S at a glance

Standard room

The standardised data centre is assembled at your premises within the context of hot aisle/cold aisle containment.

Benefits:
– Aisle containment is a combination of door and roof components which allow consistent separation of the hot and cold air

Supply includes:
– Advice and ROI calculation
– Delivery and integration into the customer infrastructure
– Commissioning and handover
– Documentation, training, instruction
– Hotline and service/service agreements
– Precise-fit aisle containment

	Single 6	Double 6	Single 9	Double 9
Model No.	**7998.106**	**7998.107**	**7998.406**	**7998.407**
Exterior dimensions, width mm	2807	4839	2807	4839
Exterior dimensions, height mm	2750	2750	2750	2750
Exterior dimensions, depth mm	7067	7070	7067	7070
Interior dimensions, width mm	2750	4774	2750	4774
Interior dimensions, height mm	2722	2722	2722	2722
Interior dimensions, depth mm	7000	7000	7000	7000
Fire protection	–	–	–	–
Burglar resistance	–	–	–	–
Acrid gas-tightness	–	–	–	–
Dust- and water-tightness	IP 20	IP 20	IP 20	IP 20
Basic EMC protection	–	–	–	–
Early fire detection	■	■	■	■
Room extinguisher system	optional	optional	optional	optional
Humidification and dehumidification system	optional	optional	optional	optional
Server rack (600 x 2000 x 1200 mm)	6	12	8	16
Combined network/server rack (800 x 2000 x 1200 mm)	1	2	1	2
Uninterruptible power supply	60 kW + 20 kW n+1 redundant	2 x (60 kW + 20 kW) n+1 redundant	–	–
Low-voltage main distribution board (NSHV)	1	2	1	2
PDU basic	14	28	18	36
Climate control (ZUCS)	60 kW + 10 kW n+1 redundant	120 kW + 20 kW n+2 redundant	90 kW + 10 kW n+1 redundant	180 kW + 20 kW n+2 redundant
Efficiency package	**7998.905**	**7998.906**	**7998.907**	**7998.908**

RiMatrix S at a glance

Security room

The standardised data centre at your premises is equipped with an additional security room (room-within-a-room) to provide additional protection from fire, water and smoke.

Material:
- Element core made from thermally effective insulating material
- Robust, encapsulated sheet steel cassette panels
- Innovative connection system using patented profile technology
- Use of temperature- and humidity-resistant seals
- Optional use of overpressure control dampers
- Dismantling and reassembly are possible at any time

Supply includes:
- Advice and ROI calculation
- Delivery and integration into the customer infrastructure
- Commissioning and handover
- Documentation, training, instruction
- Hotline and service/service agreements

Container

The standardised data centre is implemented in a container solution and can due to the robust sheet steel container construction be sited outdoors if required.

Supply includes:
- Robust sheet steel container with reinforced frame structure for optimum weight distribution
- Housed interior wall structure with thermal insulating materials
- Advice and ROI calculation
- Delivery and integration into the customer infrastructure
- Documentation, training, instruction
- Hotline and service/service agreements

Single 6	Double 6	Single 9	Double 9	Single 6	Single 9
7998.306	**7998.307**	**7998.606**	**7998.607**	**7998.206**	**7998.506**
2950	4976	2950	4976	3000	3000
2800	2800	2800	2800	3000	3000
7420	7420	7420	7420	7250	7250
2750	4776	2750	4776	2750	2750
2700	2700	2700	2700	2700	2700
7220	7220	7220	7220	7000	7000
EI 90 according to EN 1363/F 90 based on DIN 4102	EI 90 according to EN 1363/F 90 based on DIN 4102	EI 90 according to EN 1363/F 90 based on DIN 4102	EI 90 according to EN 1363/F 90 based on DIN 4102	–	–
RC III	RC III	RC III	RC III	RC II	RC II
■	■	■	■	–	–
IP 56	IP 56	IP 56	IP 56	IP 55	IP 55
■	■	■	■	■	■
■	■	■	■	■	■
optional	optional	optional	optional	optional	optional
optional	optional	optional	optional	optional	optional
6	12	8	16	6	8
1	2	1	2	1	1
60 kW + 20 kW n+1 redundant	2 x (60 kW + 20 kW) n+1 redundant	–	–	60 kW + 20 kW n+1 redundant	–
1	2	1	2	1	1
14	28	18	36	14	18
60 kW + 10 kW n+1 redundant	120 kW + 20 kW n+2 redundant	90 kW + 10 kW n+1 redundant	180 kW + 20 kW n+2 redundant	60 kW + 10 kW n+1 redundant	90 kW + 10 kW n+1 redundant
7998.905	7998.906	7998.907	7998.908	7998.905	7998.907

Data centre container

The modular concept for complete IT infrastructures

IT technology plus matching infrastructure equals a complete system

Growing data volumes and escalating requirements are creating ever more problems with space. Modular containers suitable for outdoor siting offer a possible solution and are highly scalable. Thanks to the container structure, a data centre can be planned with minimal effort and extended in the future. RiMatrix Data Cubes are a modular system from Rittal which provide the ideal basis for suitable projects and include server, power and cooling modules. There is also an all-in-one (AIO) variant available as a plug & play solution, in which the server zone and technical room are accommodated together in a single module.

A scalable, modular system

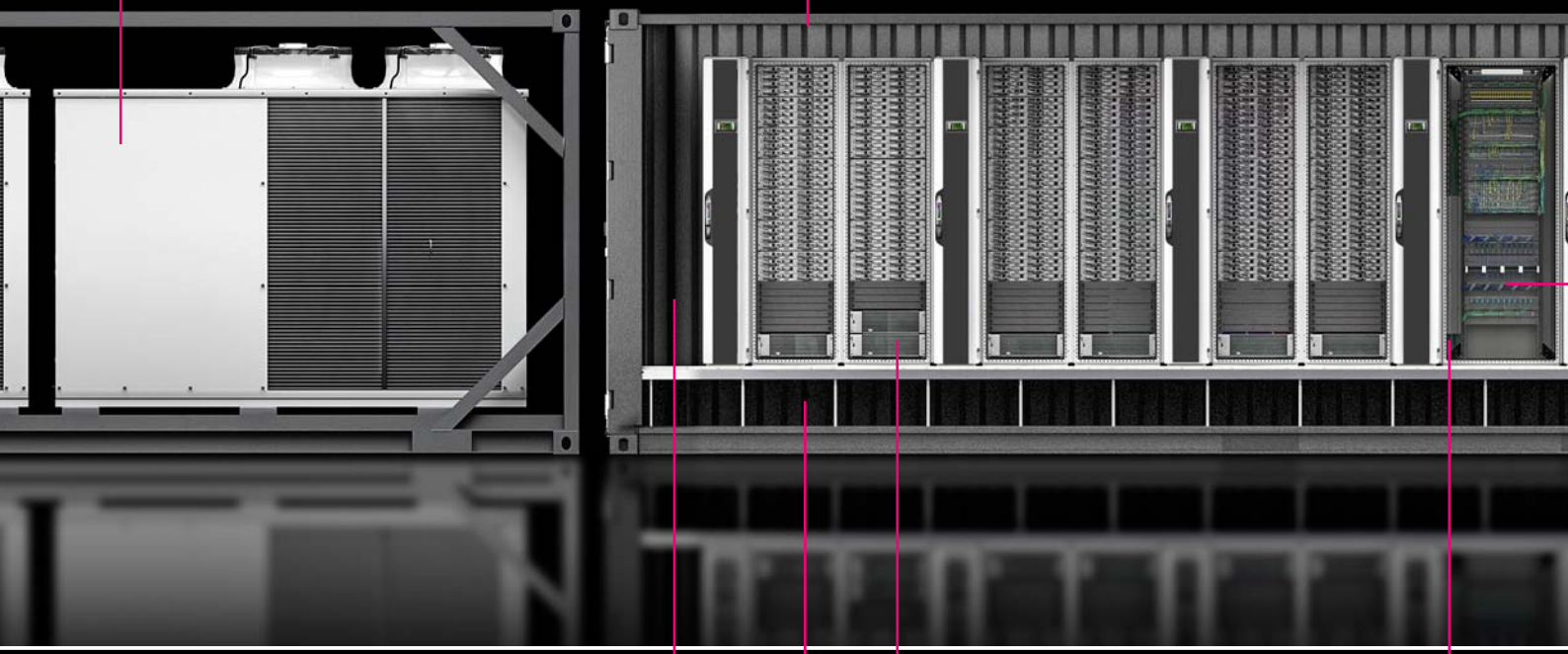
- This flexible solution accommodates the specific requirements of individual applications
- Simple selection options help to streamline planning, with detailed planning of individual assemblies specifically for the application in each container
- Standardised components with tested and certified safety.
- Industrial production of the entire container is very fast, with installation and cabling of the IT hardware on request
- Suitable for outdoor siting
- Reduced installation phase thanks to the plug & play principle
- High level of scalability
- Mobile and future-proof

Efficiency and service

- Low CO_2 emissions: Modern IT cooling units from Rittal support high levels of efficiency in containers compared with conventional data centres
- Continuous advice and planning from the Rittal data centre experts
- Servicing and preventive maintenance help to safeguard the longevity and maximum availability of your infrastructure

RiMatrix Data Cube Cooling:
Efficient recooling systems in the container frame, ready to connect and system-tested with redundant chillers, free-cooling mode or additional free cooler and network functions

RiMatrix Data Cube IT:
Ready-to-connect IT infrastructure in a robust container shell, as standardised IT modules in a range of output categories for SME, Cloud and Edge applications.



Robust container cover:
For siting outdoors, standardised dimensions for reduced planning effort

Network racks:
Pre-configured type VX IT for installing network technology and structured cabling, with two PDUs for redundant power supply

Modular raised floor:
In a range of application-specific heights

Server racks:
Pre-configured type VX IT for server installation, with cable guide rails and two PDUs for redundant power supply in the server exhaust air zone

RiMatrix Data Cube

Modules with maximum scalability

From individual all-in-one containers through to large container parks, Rittal offers the maximum possible scalability with its comprehensive portfolio of solutions. For larger applications, uninterruptible power supply and cooling modules in the same container pitch pattern are added to the RiMatrix Data Cubes.
For the conventional components of rack, power, cooling and monitoring, Rittal and its strategic partners Innovo Cloud and Lefdal also offer "IT as a Service", together with a location – the Lefdal Mine Datacenter in Norway – which can save up to 40 percent energy costs annually compared with a data centre in Germany.

RiMatrix Data Cube Power:
Modular UPS systems with redundancy to supply one or more IT modules

Individual equipment:
All containers are equipped with the necessary infrastructure (lighting, service sockets, structured cabling etc.)

Low-voltage distributor:
Complete distributor system with connection point for the main supply and the outgoing feeders from all PDUs

IT cooling:
Cold water or coolant-based systems for energy-efficient cooling of the entire server inlet air zone, speed-controlled and with redundancy

RiMatrix Data Cube IT

Design			RDC IT 50/10-L-III	RDC IT 60/12-L-II	
Maximum total IT output in kW			50	60	
Maximum IT output per rack in kW			5	5	
Redundancy of cooling system			2n	n+1	
Redundancy of power supply			2n	2n	
Cooling concept			LCP systems are positioned between the racks, and depending on the variant, are either flush with or set forward from the enclosure suite. These systems cool the entire cold aisle in front of the servers and have a redundant design in the container variants. The variants with a second set of cold water pipelines also support n+n redundancies.		
Power concept			The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply to which one or two UPS-buffered supply lines may be connected. A RiMatrix Data Cube Power with integral UPS may also be used to supply the containers. The container peripherals are supplied via an additional C-line.		
Racks	Server rack W x H x D mm	600 x 2000 x 1200	10	12	
	Network rack W x H x D mm	800 x 2000 x 1200	1	1	
	Technical rack W x H x D mm	600 x 2000 x 600	–	–	
		600 x 2000 x 1200	1	1	
Current	Low-voltage distributor		1	1	
	UPS, modular		–	–	
	PDU		11 x 2	13 x 2	
Cooling	Quantity		6 x LCP CW	4 x LCP CW	
	Pipe systems		2 set(s)	1 set(s)	
Container size L x W x H mm (external dimensions)			12192 (40 ft.) x 3000 x 3000	12192 (40 ft.) x 3000 x 3000	

	RDC IT 90/8-M-I	RDC IT 100/10-L-II	RDC IT 100/10-L-III
	90	100	100
	10	10	10
	n+1	n+1	2n
	2n	2n	2n
	Use of the zero-U-space cooling system (ZUCS) optimises use of the interior space by positioning the cooling units underneath the racks in the raised floor. Efficient EC fans ensure a constant server inlet air temperature in the shielded cold aisle. This system provides a redundancy of n+1.	LCP systems are positioned between the racks, and depending on the variant, are either flush with or set forward from the enclosure suite. These systems cool the entire cold aisle in front of the servers and have a redundant design in the container variants. The variants with a second set of cold water pipelines also support n+n redundancies.	
	The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply to which one or two UPS-buffered supply lines may be connected. A RiMatrix Data Cube Power with integral UPS may also be used to supply the containers.	The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply to which one or two UPS-buffered supply lines may be connected. A RiMatrix Data Cube Power with integral UPS may also be used to supply the containers. The container peripherals are supplied via an additional C-line.	
	8	10	10
	1	1	1
	1	–	–
	–	1	1
	1	1	1
	–	–	–
	9 x 2	11 x 2	11 x 2
	9 x ZUCS	6 x LCP CW	6 x LCP CW
	1 set(s)	1 set(s)	2 set(s)
	7250 x 3000 x 3000	12192 (40 ft.) x 3000 x 3000	12192 (40 ft.) x 3000 x 3000

RiMatrix Data Cube IT

Design			**RDC IT 200/10-L-II**	
Maximum total IT output in kW			200	
Maximum IT output per rack in kW			20	
Redundancy of cooling system			n+1	
Redundancy of power supply			2n	
Blob arrangement			–	
Cooling concept			Energy-efficient LCP systems with a cold water supply are used as cooling systems, and can each produce a cooling output of up to 55 kW. These systems are positioned in the row between the server racks and can easily be set forward into the cold aisle. This brings the cold air directly in front of the servers for cooling without deflection losses.	
Power concept			The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply to which one or two UPS-buffered supply lines may be connected. A RiMatrix Data Cube Power with integral UPS may also be used to supply the high-performance containers. The container peripherals are supplied via an additional C-line.	
Racks	Server rack W x H x D mm	600 x 2000 x 800	–	
		600 x 2000 x 1200	10	
	Network rack W x H x D mm	800 x 2000 x 800	–	
		800 x 2000 x 1200	1	
	Technical rack W x H x D mm	600 x 2000 x 1200	1	
Current	Low-voltage distributor		1	
	UPS, modular		–	
	PDU		11 x 2	
Cooling	Quantity		6 x LCP CW	
	Pipe systems		1 set(s)	
Container size L x W x H mm (external dimensions)			12192 (40 ft.) x 3000 x 3000	

	RDC IT 200/10-L-I	RDC IT 200/10-ISO L-I
	200	200
	20	20
	n+1	n+1
	2n	2n
	The racks and cooling systems are arranged so that two racks form a unit with one LCP. An additional LCP in the suite ensures redundancy. All racks are cooled evenly and energy-efficiently via the shared cold aisle, even with varying loads.	
	Energy-efficient LCP systems with a cold water supply are used as cooling systems, and can each produce a cooling output of up to 55 kW. These systems are positioned in the row between the server racks and can easily be set forward into the cold aisle. This brings the cold air directly in front of the servers for cooling without deflection losses.	
	The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply to which one or two UPS-buffered supply lines may be connected. A RiMatrix Data Cube Power with integral UPS may also be used to supply the high-performance containers. The container peripherals are supplied via an additional C-line.	
	–	10
	10	–
	–	1
	1	–
	–	–
	1	1
	–	–
	11 x 2	11 x 2
	7 x LCP CW	7 x LCP CW
	1 set(s)	1 set(s)
	12192 (40 ft.) x 3000 x 3000	12192 (40 ft.) x 2438 x 2896 (ISO High Cube)

RiMatrix Data Cube All-in-One

Design			**RDC AIO 35/3-M-II**	**RDC AIO 45/8-L-II**	
Maximum total IT output in kW			35	45	
Maximum IT output per rack in kW		Server rack	10	5	
		Network rack	5	5	
Redundancy of cooling system			n+1	n+1	
Redundancy of power supply			2n	2n	
Cooling concept			LCP systems are positioned between the racks, and depending on the variant, are either flush with or set forward from the enclosure suite. These systems cool the entire cold aisle in front of the servers and have a redundant design in the container variants. Coolant-based DX systems may also be used in the AIO variants, which are linked to the relevant external unit. These may also be optionally secured directly to the outer container sleeve.		
Power concept			The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply; the integral modular UPS is positioned directly at the infeed to the B-line. The container peripherals are supplied via an additional C-line.		
Racks	Server rack W x H x D mm	600 x 2000 x 1200	3	8	
	Network rack W x H x D mm	800 x 2000 x 1200	1	1	
	Technical rack W x H x D mm	600 x 2000 x 600	–	–	
		600 x 2000 x 1200	–	–	
Current	Low-voltage distributor		1	1	
	UPS, modular		40 + 20 kW	60 + 20 kW	
	PDU		4 x 2	9 x 2	
Cooling	Quantity		5 x LCP DX	6 x LCP DX	
	Pipe systems		Single	Single	
Container size L x W x H mm (external dimensions)			7250 x 3000 x 3000	12192 (40 ft.) x 3000 x 3000	

	RDC AIO 60/6-M-I	RDC AIO 90/8-L-II	RDC AIO 180/16-L-II	RDC AIO 180/16-L-III
	60	90	180	180
	10	10	10	10
	–	5	5	5
	n+1	n+1	n+1	2n
	2n	2n	2n	2n
	Use of the zero-U-space cooling system (ZUCS) optimises use of the interior space by positioning the cooling units underneath the racks in the raised floor. Efficient EC fans ensure a constant server inlet air temperature in the shielded cold aisle. This system provides a redundancy of n+1.	LCP systems are positioned between the racks, and depending on the variant, are either flush with or set forward from the enclosure suite. These systems cool the entire cold aisle in front of the servers and have a redundant design in the container variants. The variants with a second set of cold water pipelines also support n+n redundancies.		
	The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. A UPS is already integrated into the RDC-AIO 60/6-M-II.	The container main power supply is split among individual outgoing feeders to the PDUs in the individual enclosures via a low-voltage distributor. Each enclosure has an A supply and a B supply, thereby achieving n+1 redundancy. The main distributor offers separate connections for the A and B supply; the integral modular UPS is positioned directly at the infeed to the B-line. The container peripherals are supplied via an additional C-line.		
	6	8	2 x 8	2 x 8
	1	1	2 x 1	2 x 1
	1	–	–	–
	–	–	–	–
	1	1	2 x 1	2 x 1
	60 + 20 kW	100 + 20 kW	2 x (100 + 20 kW)	2 x (100 + 20 kW)
	7 x 2	9 x 2	2 x (9 x 2)	2 x (9 x 2)
	6 x ZUCS for server zone 1 x ZUCS for UPS zone	6 x LCP CW	2 x (6 x LCP CW)	2 x (6 x LCP CW)
	1 set(s)	1 set(s)	2 x 1 set(s)	2 x 2 set(s)
	7250 x 3000 x 3000	12192 (40 ft.) x 3000 x 3000	12192 (40 ft.) x 3000 x 3000	12192 (40 ft.) x 3000 x 3000

Security room

High availability for data centres

Customised protection from physical threats

- Innovative services provided by regional governments and banks, for example, demand the highest standards of security for storing sensitive citizen data and protecting it from manipulation.
- This data must be protected from physical threats such as fire, smoke, corrosive gases, dust and water, as well as unauthorised access.
- Security rooms are a room-within-a-room solution, in other words, a security room is constructed from base, wall and ceiling elements in an existing building and can be flexibly adapted to suit the local conditions, especially if changes cannot be made to the building's structure.

Adaptation to the building infrastructure and operational IT requirements

- The basic protection room/basic protection Plus room provides a high-quality, system-tested solution. The basic protection room is an optimum, modular room-within-a-room solution for protecting IT components and creating technical rooms. The flexible modular system allows it to be extended whilst operational.
- The high-availability room offers maximum physical protection for data centres. The system was certified by ECB (European Certification Body GmbH) to ECB·S regulations. The modular concept offers the same benefits as a basic protection room, but with a higher level of protection.

Tested system solutions

- System-tested quality means that the entire solution has been tested for fire protection, intruder protection, smoke protection and water-/dust-tightness in accordance with the specified standards.
- System testing covers the entire structure, comprising the cell structure and built-in modules such as doors, cable shields and ventilation units.
- Testing is carried out by accredited institutes and documented in test reports.

Basic Protection room and Basic Protection Plus room (GSR)

IT power Page 722 **IT cooling** Page 756 **IT monitoring** Page 798

Your benefits with GSR, GSR Plus and HVR
- System-tested protection
- Multi-functional risk coverage
- Dust- and noise-reduced installation
- Dismantling and reassembly plus extendibility = investment security
- Adaptation of the different room systems

With HVR only:
- System-tested high-availability protection
- ECB·S certification
- Independent quality monitoring

High security requirements
The Basic Protection room provides a system-tested solution for protecting infrastructure components such as extinguisher systems, uninterruptible power supplies and cooling.
The Basic Protection Plus room also offers solid basic protection for IT in addition to protection of infrastructure components.

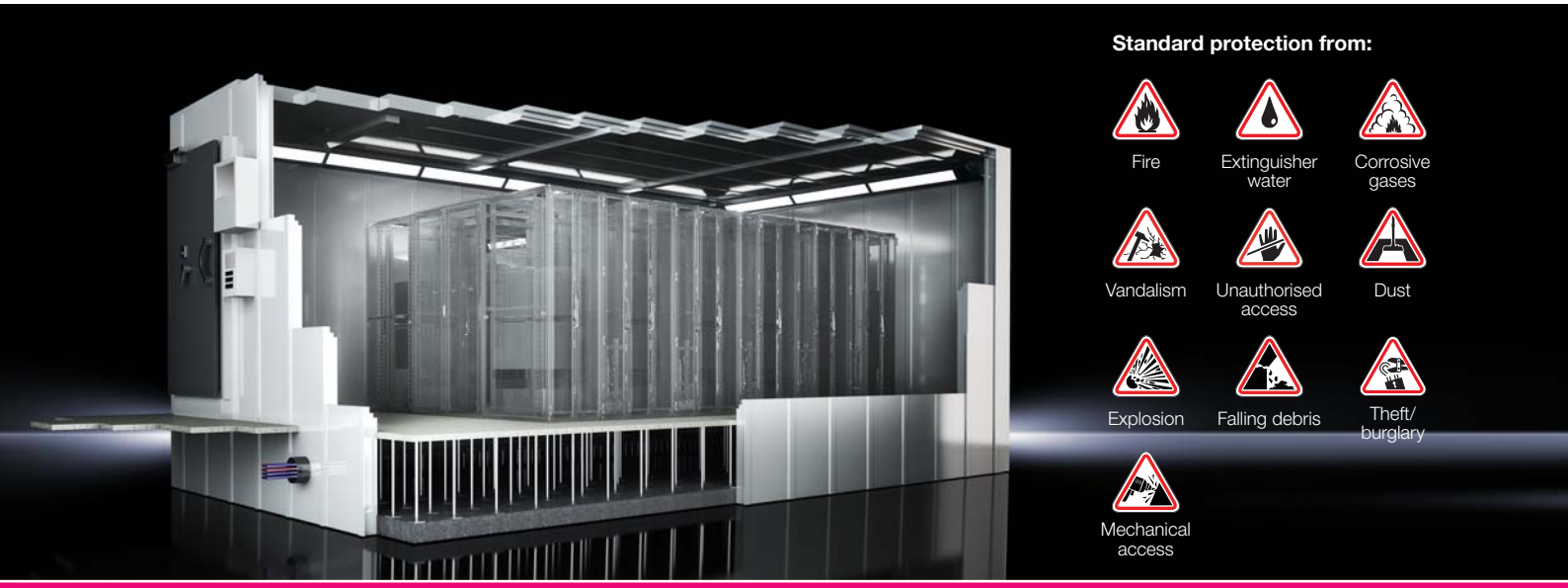
Structure of the Basic Protection room
- Element core made from thermally effective insulating material
- Robust, encapsulated sheet steel cassette panels
- Innovative connection system using patented profile technology
- Use of temperature- and humidity-resistant seals

Criterion	Standard	
System testing	System testing	
Fire protection	ECB·S certification to EN 1047-2, 50 K temperature increase and 85% rel. humidity up to 24 hours (post-heating period), 60 minutes flame impingement time	
	50 K temperature increase and 85% rel. humidity without post-heating period, flame impingement time 30 minutes	
	F 120 to DIN 4102; EI 120 (wall) to EN 1363 (component-tested)	
	F 90 to DIN 4102	
	EI 90 to EN 1363	
Corrosive combustion gases	Acrid gas-tightness based on DIN 18 095	
Falling debris	Impact test 200 kg from a drop height of 1.5 m with impact energy of 3,000 Nm	
Water	Protection category IP X6 to IEC 60 529	
	Protection from standing water	
Dust	Protection category IP 5X to IEC 60 529	
Unauthorised access	Resistance class RC4, tool attack analogous to DIN/EN 1630, door system only	
	Resistance class RC3, tool attack analogous to DIN/EN 1630	
	Resistance class RC2, tool attack analogous to DIN/EN 1630	
Explosion	Detonation test	
EMC	Shield attenuation levels of up to 60 dB in the frequency range from 30 MHz to 3 GHz	

System-tested structures are tested as a complete unit, comprising the cell structure and built-in modules such as doors, cable shields or ventilation units.
By contrast, generic component testing only refers to individual parts.

Conventional construction methods refer to room structures made of plasterboard, concrete and other standard construction materials which do not offer sufficient protection for data centre applications. Conventional construction methods are generally unsuitable for use as a fire wall and are only component-tested.

High-Availability room (HVR)



IT power Page 722 **IT cooling** Page 756 **IT monitoring** Page 798

Maximum security
The High-Availability room offers maximum physical protection for data centres and IT system locations. The system was certified by ECB (European Certification Body GmbH) to ECB·S regulations. This certification confirms that the High-Availability room meets the requirements of EN 1047-2 without restriction. Moreover, the construction of the security room is subject to continuous quality monitoring by an independent agent.

Structure of the High-Availability room
- Complex 4-layer element core made of thermally effective insulation substances
- Robust, encapsulated sheet steel cassette panels
- ECB·S tested, multiple lock, panic release
- Patented connection system
- Fireproof floor elements
- Use of extremely temperature- and humidity-resistant seals

	Basic Protection room	Basic Protection Plus room	High-Availability room
	■	■	■
	–	–	■
	–	■	■
	–	–	■
	■	■	■
	■	■	–
	■	■	■
	■	■	■
	■	■	■
	–	–	■
	■	■	■
	–	–	■
	–	□	■
	■	■	■
	–	–	■
	□	□	□

■ Standard □ Option

Open Compute Project (OCP)

Big data is a subject which is shaking up many areas of industry, commerce and trade. It is not only that data volumes are increasing exponentially. Also important is that efficient and fast data processing will in future be more and more decisive for business success.
The OCP community came together to find solutions to this challenge. The prime objective of the Open Compute Project (OCP) is to reduce the investment and operating costs, energy consumption and environmental impact of data centres by way of innovative, fully standardised IT architectures. To this end, the OCP provides an open platform for the sharing of ideas and know-how, as a vehicle for the definition of ground-breaking standards for the data centre of the future.

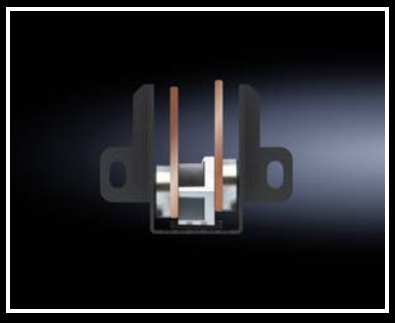
IT infrastructure – Architectures for the future
As a leading manufacturer of IT infrastructures, Rittal is proud to be a member of the OCP community. Expertise in the standardization of data centre architectures, in particular, has established Rittal's reputation as a strong partner when it comes to demanding OCP-related tasks.
As well as building application-specific racks, Rittal has also extended its standard portfolio to include the Open Compute Project segment. This means that Rittal can now handle customer-specific enquiries as well as requests for standardised racks based on the latest OCP design. As well as the rack itself, Rittal also offers a comprehensive range of accessories, a special power supply unit, and a cooling system tailored to innovative OCP architecture, reinforcing Rittal's image as an operational technology (OT) portfolio provider to the OCP segment.

bel POWER SOLUTIONS & PROTECTION
a bel group

In a joint collaboration with Bel Power Solutions & Protection, Rittal provides power supplies for OCP racks. These innovative and efficient power distributors are a key element of any OCP architecture. Substantial power savings can be made by transforming the power centrally and distributing it via the busbars that typify an OCP system.

48 V DC/36 kW

48 V DC/15 kW



12 V DC/6.6 – 13.2 kW

Open Compute Project (OCP)

Rack design for greater flexibility

Tried-and-tested rack design

- Complies with Open Rack Standards 1.2 and 2.0
- Stable, firmly linked frame structure on castors
- Prepared to accommodate special OCP hardware with a system width of 21″ at the front
- Highly efficient power distribution by connecting the hardware directly to the busbar integrated into the rack
- UL listed, CE compliant
- Variants available for both system voltages 12 V DC and 48 V DC
- Potential output range of a rack based on OCP: 13.2 kW – 40 kW

More flexibility

- Doors available with a broad selection of lock options for keys, magnetic cards or numerical codes
- One-piece side panel for the end of row (EOR) rack
- Modular configuration of busbars

Variable interior

- Height units in the Open Compute Design with a variable OpenU pitch pattern (OU) from 1 OU (48 mm) to 3 OU
- Preconfigured slide rails for direct installation of servers, height-adjustable on the OpenU (OU) pitch pattern
- 21″/19″ adaptor for the additional integration of 482.6 mm (19″) components optionally available
- Standard 1 U 482.6 mm (19″) adaptor for tool-free installation of 19″ hardware
- Special 482.6 mm (19″) EIA brackets in various heights to accommodate multiple 19″ devices

Standard R-OCP V2 rack

OCP rack, 41 OpenU (OU), for use in energy-efficient IT architectures based on the principles of the Open Compute Project. Depending on the variant, with split 12 V DC busbar fitted at the rear, or without busbar for individual configuration. Depending on accessories and the use of power packs, one (single) or two (dual) power zones may be used in the rack.

Benefits:
- Complies with Open Rack Standards 1.2 and 2.0
- Stable, firmly linked frame structure on castors
- Height units in the Open Compute Design with a variable OpenU pitch pattern (OU) of between 1 OU (48 mm) and 3 OU
- Pre-assembled slide rails for direct installation of servers, height-adjustable on the OpenU (OU) pitch pattern
- Prepared to accommodate special OCP hardware with a system width of 21" at the front
- Highly efficient power distribution by connecting the hardware directly to the 12 V DC busbar integrated into the rack
- 21"/19" adaptor for the additional integration of 482.6 mm (19") components optionally available
- Matching OCP power packs (power shelves) and batteries (back-up units) for central power supply and protection optionally available in the rack
- Extendible up to a maximum of 3 busbars

Material:
- Frame: Sheet steel

Colour:
- RAL 9005

Supply includes:
- Firmly linked frame structure, with fitted castors, without doors, without side panels
- 2 pairs of slide rails, 3 OU, pre-assembled
- 16 pairs of slide rails, 2 OU, pre-assembled

Please observe the product-specific scope of supply.

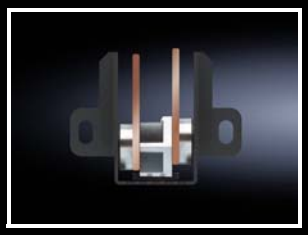
Standards:
- Open Rack Standard V2

Approvals:
- UL

Units OU	Packs of	41	41	Page
Width mm		600	600	
Height mm		2246	2246	
Depth mm		1068	1068	
Design		OCP V2 rack, deep, without busbar, for individual configuration	OCP V2 rack, deep, incl. preconfigured 12 V DC busbar with 2 power zones	
Load capacity		15,000 N	15,000 N	
Colour		RAL 9005	RAL 9005	
Power consumption min./max. kW		–	6.6 / 13.2	
Model No.	1 pc(s).	**7100.200**	**7100.221**	
Product-specific scope of supply				
1 x OCP busbar 12 V DC		–	■	
Also required				
OCP busbar	1 pc(s).	7100.312	–	871
Accessories				
OCP busbar	1 pc(s).	–	7100.312	871
OCP adaptor	2 pc(s).	7100.401	7100.401	871
OCP V2 side panel	2 pc(s).	7100.501	7100.501	871
OCP PDU		see page	see page	872

OCP busbar

Design	Output range	Packs of	**Model No.**
12 V DC	6.6 - 13.2 kW	1 pc(s).	**7100.312**



OCP busbar 12 V DC for power distribution in a standard R-OCP V2 rack. The busbar is fitted at the rear and is used to supply power to the hardware in the rack. The hardware and busbar make contact via a clip connection at the rear of the hardware.

Benefits:
– Multiple 12 V DC busbars may be combined
– Simple configuration of two to one power zone
– Greater energy efficiency with silver-plated contact area

Material:
– Copper, zinc-plated, silver-plated

Supply includes:
– Assembly parts

OCP V2 side panel

Height mm	Depth mm	Packs of	**Model No.**
2246	1068	2 pc(s).	**7100.501**

OCP V2 side panel, 1-piece, for finishing off a rack suite with standard R-OCP V2 racks.

Material:
– Sheet steel

Colour:
– RAL 9005

Supply includes:
– Assembly parts

OCP adaptor

U OU	Packs of	**Model No.**
1	2 pc(s).	**7100.401**

21"/19"
Adaptor for installing 482.6 mm (19") components in the 21" OCP rack system. The adaptor is screw-fastened to the enclosure frame.

Material:
– Sheet steel

Supply includes:
– Assembly parts

Accessories

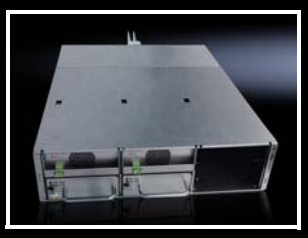
OCP PDU

The OCP PDU installed on the rack is needed to supply power to the OCP power shelves. The OCP PDU distributes power from the data centre to the power shelves fitted in the rack.

Material:
– Enclosure: Sheet steel

Supply includes:
– Connection cable

Input voltage	Infeeds	Phases per infeed	Output voltage	Number of outputs	Rated voltage A	Type of electrical connection	Overvoltage protection	To fit Model No.	Packs of	**Model No.**
240 / 415 V AC	1	3~	240 / 415 V AC	2	32	IEC 60 309	■	7100.200/ 7100.221	1 pc(s).	**7100.911**
277 / 480 V AC	2	3~	277 / 480 V AC	2	20	L22-20P	■	7100.200/ 7100.221	1 pc(s).	**7100.912**
277 / 480 V AC	1	3~	277 / 480 V AC	2	30	L22-30P	■	7100.200/ 7100.221	1 pc(s).	**7100.913**
48 V DC	2	–	48 V DC	2	250	–	–	7100.200/ 7100.221	1 pc(s).	**7100.914**
200 / 415 V AC	1	3~	54.5 V DC	3	–	–	–	7100.200	1 pc(s).	**7100.915**



OCP Power Shelf

The power shelf connects the power supply to the busbar of the OCP rack, while at the same time functioning as a rack-mounted frame for the power supply units and the battery back-up units. Depending on the variant, a built-in controller is pre-fitted for monitoring the power supply.

Also required:
– OCP PDU, see page 872
– OCP Power Supply Unit, see page 873

Accessories:
– OCP Battery Back-up Unit, see page 873
– OCP Power Supply Unit, see page 873

Design	Number of slots	Redundancy	Output voltage	Active power kW	Number of outputs	Height OU	Product-specific scope of supply	To fit Model No.	Packs of	**Model No.**
Shelf type: AC-DC	3 x PSU / 3 x UPS	2+1	12 V DC	6.6	1	3	–	7100.221	1 pc(s).	**7100.921**
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	12 V DC	18	3	1	Built-in controller	7100.200	1 pc(s).	**7100.922**
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	12 V DC	18	1	1	Built-in controller	7100.221	1 pc(s).	**7100.923**
Shelf type: AC/DC-DC	6 x PSU	3+3 / 5+1	48 V DC	24	1	1	Built-in controller	7100.200	1 pc(s).	**7100.924**
Shelf type: DC-DC	6 x PSU	3+3 / 5+1	12 V DC	15	1	1	Built-in controller	7100.221	1 pc(s).	**7100.925**
Blanking cover	–	–	–	–	–	1	–	7100.921	1 pc(s).	**7100.961**
Blanking cover	–	–	–	–	–	1	–	7100.921	1 pc(s).	**7100.962**

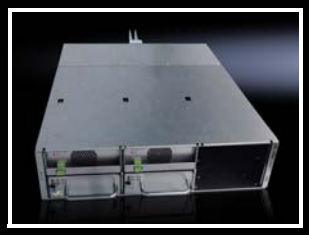
OCP Power Supply Unit

The power supply unit (PSU) is a power pack which centrally transforms the current or voltage in an OCP rack. The PSUs operate in parallel mode. A power shelf is needed for installation of the power supply units. Depending on the power shelf, up to 6 PSUs may be installed.

Benefits:
– May be connected with the system operational
– Parallel operation with active load distribution

Design	Input voltage	Output voltage	Active power kW	Power pack	To fit Model No.	Packs of	**Model No.**
Power Module PM	200 - 277 V AC	12.6 V DC	3.3	AC - DC	7100.921	1 pc(s).	**7100.931**
Power Module PM	90 - 300 V AC / 240 - 400 V DC	12.3 V DC	3	AC/DC - DC	7100.922/ 7100.923	1 pc(s).	**7100.932**
Power Module PM	90 - 300 V AC / 192 - 400 V DC	12.3 V DC	3.6	AC/DC - DC	7100.922/ 7100.923	1 pc(s).	**7100.933**
Power Module PM	200 - 277 V AC / 192 - 400 V DC	48 V DC	4	AC/DC - DC	7100.924	1 pc(s).	**7100.934**
Power Module PM	40 - 72 V DC	12,5 V DC	3	DC - DC	7100.925	1 pc(s).	**7100.935**
Blanking cover	–	–	–	–	7100.922/ 7100.923	1 pc(s).	**7100.963**

OCP Battery Back-up Unit



The battery back-up unit is an internal UPS in OCP architecture housed inside the rack, to ensure a controlled shutdown of the hardware and data backup in the event of a power failure.

Benefits:
– May be connected with the system operational
– Parallel operation with active load distribution

Design	Input voltage	Active power kW	To fit Model No.	Packs of	**Model No.**
Lithium ion battery back-up unit	52.5 V DC	3.6	7100.921	1 pc(s).	**7100.951**

Configurators/Tools/CAD data

IT Infrastructure

Security, availability and efficiency are crucial to the productive operation of a data centre. This calls for a comprehensive approach which addresses all the relevant requirements as well as the peripheral conditions in order to devise a suitable solution. As well as personalised advice, Rittal can also provide you with a comprehensive range of tools for selecting, configuring and monitoring all relevant parameters.

IT infrastructure selector

The selector supports you as partner, system integrator, system engineer or end customer in selecting the right IT products for your specific application.

Selector for:
- VX IT network/server enclosures
- Power Distribution Unit
- Liquid Cooling Package DX/CW
- Monitoring system CMC III
- Monitor/keyboard unit
- Fire alarm and extinguisher system DET-AC III

Benefits:
- All product segments in the data centre at a glance: Network/server racks, solutions for IT cooling, IT power and IT monitoring
- For added value, suitable accessories are suggested in every segment.
- The result is an individual IT infrastructure, ready for you to request a quote from Rittal.

Note:
- Use it online at www.rittal.com/it-configurator

RiMatrix S selector

Your selector for standardised data centres for SMEs, branch concepts and flexible cloud applications. Your solution is configured on the basis of standardised data centre modules.

Benefits:
- RiMatrix S at a glance
- Explanation of the option packages
- Efficiency calculation for your location
- As the outcome, you can save your compiled RiMatrix S solution as a PDF file.

Note:
- Use it online at www.rittal.com/configurators
- Download for free from the Google Play Store or App Store

Android app

iPhone app

Micro Data Center configurator

Configuration of your security safe, including a range of configuration components.

Benefits:
- Your complete micro data centre in just a few steps
- Individual selection of configuration components
- When you have finished, you can request a quote for your current configuration

Note:
- Configure online at www.rittal.com/mdc-configurator

Configurators/Tools/CAD data

PDU configurator

Customise PDUs from the Rittal standard portfolio to suit your specific requirements. Assisted by the Rittal Configuration System (RiCS), you can then visualise your configured solution directly during the selection process.

The modular concept:
- Adapt existing standard PDUs (built to order), delivery time up to 14 days
- Use a modular system comprised of individual system modules
- Wide range of accessories
- Additional modules, e.g. for overvoltage protection and for measuring differential current

Benefits:
- List and visualise your configuration
- Delivery times are shown transparently
- Get direct pricing information when you log into the online shop

Note:
- Use it online at www.rittal.com/configurators

IT cooling calculator

Simple selection of water-based Liquid Cooling Packages (LCP) for rack and suite cooling for your IT infrastructure.

Benefits:
- Calculation of the cooling output of LCPs
- Consideration of the various physical parameters
- Save your finished calculation as a PDF file

Note:
- Configure online at www.rittal.com/it-cc

DCIM – Data Centre Infrastructure Management

RiZone – Perfect support of IT infrastructure components
- Customer-focused and cost-efficient
- Optimum monitoring of IT infrastructure components
- The physical data centre infrastructure (OT devices) is incorporated into a data centre infrastructure management system.
- RiZone supports SNMP V1/V2C and SNMP V3
- Simple configuration
- Automatic detection of Rittal components
- Workflow editor for user-defined scenarios
- Enhanced security and reliability
- Enhanced energy efficiency
- Integration of SNMP-compatible third-party equipment

Note:
- Detailed product description, see page 830

Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

You can find the contact details of all
Rittal companies throughout the world here.

www.rittal.com/contact

XWW00114EN2005

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

FRIEDHELM LOH GROUP