

IT Connections

Rittal IT Solutions



Enclosures • Cooling • Monitoring and Security • Power • Kiosks

FRIEDHELM LOH GROUP





get
connected

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Product Overview

1

When IT Performance is Everything – Get Connected – IT Infrastructure Solutions from Rittal!

The IT industry is ever evolving. In today's demanding, mission-critical environments, no one has the expertise to protect and organize your vital IT equipment better than Rittal. As the world's leader in enclosure solutions, we ensure innovative and reliable products to help you avoid costly problems and failures.

Enclosures – It all starts with a diverse range of cabinets, racks and boxes for network and server applications. Whether our leading edge TS8 or our innovative TE 7000, Rittal has the cabinet solution, guaranteed to save you time and money.

Cooling – From passive air to liquid cooling, Rittal provides all the required components and systems for customized, reliable climate control.

Power – Fit for the future, Rittal's power system components reduce installation and operating costs, while increasing operational reliability.

Monitoring and Security – Because we know just how expensive data loss can be, Rittal provides the CMC-TC monitoring system to ensure complete IT security.

Kiosks – Rittal's Interactive Terminal System (ITS) Kiosks are perfect for any application that requires information and services faster and more conveniently, anywhere and at anytime.



In addition to a wide range of effective system accessories, such as Rittal's Manage-IT cable management system, customer service teams provide quick and knowledgeable technical information, tailored to your needs.

For important IT application decisions, go with the company that holds the experience, knowledge and leading-edge products you need for your application.

Get Connected! Go with Rittal!



Get Connected

IT Infrastructure Solutions from Rittal! Scalable. Flexible...



Enclosures

As the world's leading manufacturer of server and network cabinets, Rittal understands the broad range of IT Infrastructure requirements within enterprises. That's why Rittal offers a comprehensive product range with an unparalleled choice of accessories, guaranteeing custom configuration, comfortable growth and future safe systems.



Cooling

Heat is just one of the many factors severely affecting IT performance. Beat the heat with Rittal's scalable climate control solutions. From passive air to active liquid, Rittal's flexible cooling concepts are designed according to your requirements to effectively handle unwanted heat loads.



Monitoring and Security

The physical security of IT enclosures is one of the essential factors contributing to the high availability of your IT infrastructure. Environmental monitoring sensors, together with sophisticated access control solutions, provide reliable protection against external influences.

Get Connected

IT Infrastructure Solutions from Rittal! On Demand!

Power

The IT trends of today and tomorrow show increasing rack density as more and more blade servers are installed in standard cabinets, with overall rack power requirements rising as well. In anticipation of the changing needs of the IT industry, Rittal is not only well prepared to address the escalation of cabinet power demands, but able to do it while reducing installation and operating costs and increasing operational reliability.



Kiosks

One word, convenience! Deliver your company's product anywhere, anytime, while remaining competitive in your marketplace. From Internet connectivity to license renewal, communicate with customers wherever and whenever you please through Rittal Kiosk solutions.



Get Connected

Smart Applications!



Data Center

Built to house, support and run mission critical applications, the data center is the cornerstone of today's business. As more power is packed into each enclosure, heat levels rise at alarming and often unexpected rates. Left unaddressed, equipment failure quickly becomes unavoidable.

Rittal Applicable Products:

- TS8 server cabinets
- TS8 network cabinets
- TE 7000 server & network solutions
- Data racks
- Climate control products
- Rittal power solutions
- Full line of Rittal accessories



Wiring Closet

A secondary location, normally one per floor that will house the terminations for that floor. This room may also hold electronic equipment. Security, aesthetics, climate control and functionality are commonly considered in the selection process.

Rittal Applicable Products:

- TS8 network cabinets
- TE 7000 network cabinets
- Data racks
- QuickBox enclosures
- EL 3-part cabinets
- Climate control products
- Full line of Rittal accessories



Factory Floor

As more traditional networking applications find their way to the factory floor, there is a need for NEMA-rated enclosures (both freestanding and wallmount) to securely protect equipment. These enclosures can house termination gear as well as networking equipment.

Rittal Applicable Products:

- TS8 PC cabinets
- TS8 NEMA 12 network cabinets
- EL 3-part cabinets
- Climate control products
- Full line of Rittal accessories

Get Connected

Smart Applications!

Office Environment

There is often a need for networking equipment to be deployed in an office environment. This can be in addition to or as a replacement to the wiring closet. Aesthetics, security and functionality play major roles in the decision process.

Rittal Applicable Products:

- TS8 network cabinets
- TE 7000 network cabinets
- Data racks
- QuickBox enclosures
- EL 3-part cabinets
- Climate control products
- Full line of Rittal accessories



Warehouse

The warehouse is seeing more distributed processing with the increased deployment of more sophisticated inventory/package tracking systems. Physical protection, security and functionality are important considerations when choosing an enclosure.

Rittal Applicable Products:

- TS8 network cabinets
- TS8 PC cabinets
- TS8 NEMA 12 network enclosures
- QuickBox enclosures
- EL 3-part cabinets
- Climate control products
- Full line of Rittal accessories





Enclosures

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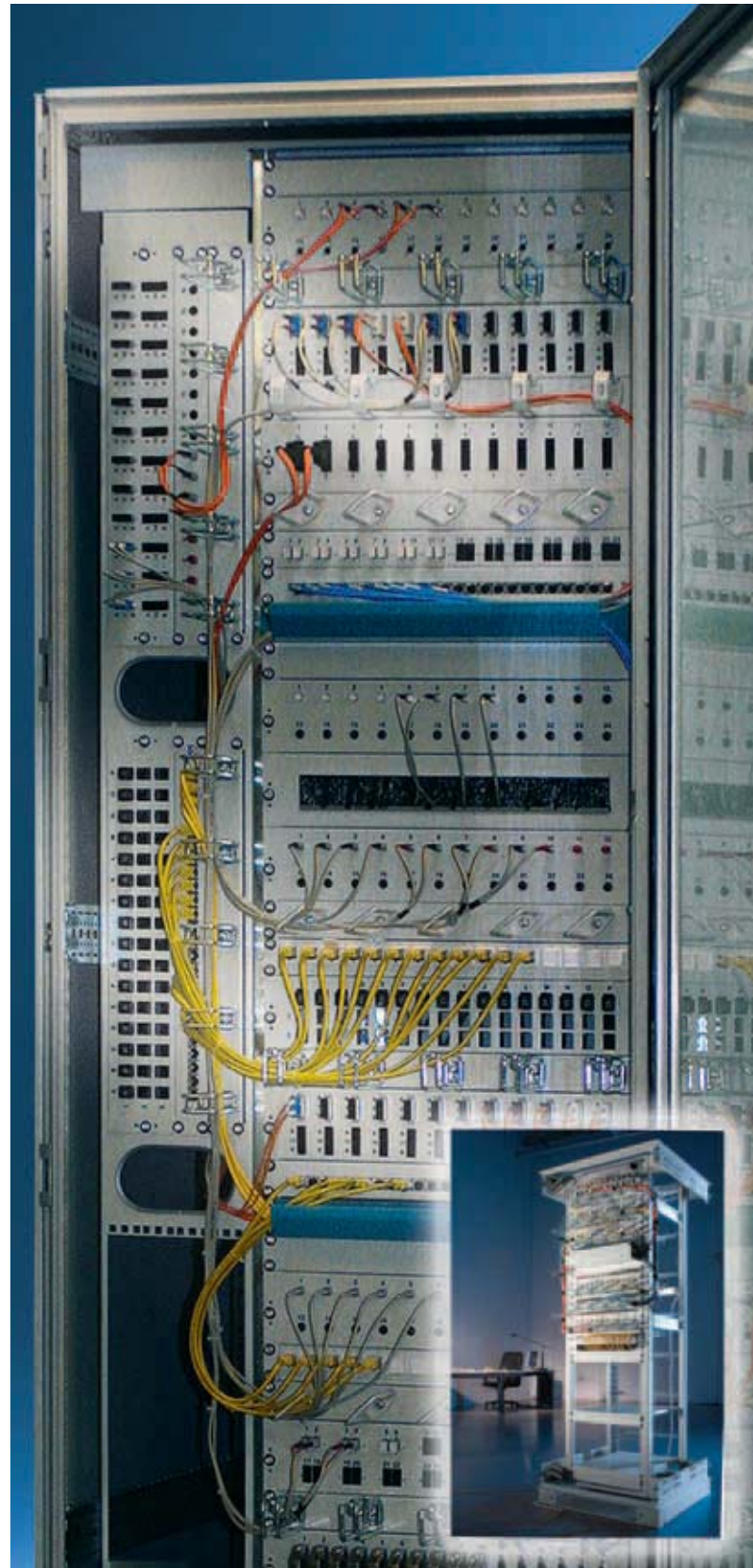
Enclosures

Get Connected – Today’s Solutions Prepared for Tomorrow’s Trends

Permanent IT availability and reliability are critical corporate issues in today’s IT climate. For this reason, it is important to ensure stable conditions for your complex server and software system architecture. While Rittal is known as a trendsetter in modern technology, we continue to learn from our experience in order to anticipate your needs today and into the future.

Our comprehensive range of products are based on more than 40 years of enclosure expertise, wide-ranging in energy management and the development of pioneering climate control concepts.

For this reason, Rittal’s enclosures offer the ideal platforms for merging all the relevant technologies into complete IT infrastructure solutions.





Enclosures

Designed specifically for the data center, the TS8 is a modern enclosure offering strength and stability for virtually any server environment. While intended for the data center, it is just as well suited as a stand-alone enclosure.

Rittal's patented 16-fold continuously welded frame, delivers 30% more dimensional stability, guaranteed to beat the competition on strength alone.

Attractive and Highly Functional

Rittal's TS8 server enclosure – A modern design that features the utmost in strength for virtually any server environment.

Design:

The TS8 server enclosure features modern, attractive aesthetics perfect for a highly functional server application.

Applications:

- Universal server enclosures
- Multiple vendor environments
- Storage equipment
- Termination equipment
- Network equipment

Environments:

- Data centers
- MDC/IDC
- Wiring closets
- Office environments
- Central offices
- Co-location and application environments

Features:

- Contemporary, sleek appearance
- Multiple vendor equipment compatibility
- Full line of accessories
- Family of sizes and styles
- Excellent heat dissipation
- Strong frame structure
- Highly functional and stylish, value packed and competitively priced

Specifications

Frame System – Multi-Fold Frame Design:

- Steel frame – strength and rigidity
- Torsion free structure
- Multiple internal surfaces and points for mounting
- Maximum internal volume for footprint
- External access to all installation points for doors, walls and baying
- Maximum load bearing capacity – 907 kg (2,000 lbs)
- Single or split rear doors

External Surfaces – Doors and Walls:

- Secure to external surfaces of frame
- Doors can be easily removed or reversed
- Sidewalls can be screwed on, locked in place or hinged to provide side door access
- Internal door hinge and lock points for maximum security
- Door stiffener to stabilize door and provide additional mounting surfaces
- Maximum perforated area meets or exceeds server manufacturer specifications for air flow
- Ground studs on all surfaces
- External surfaces do not affect load bearing capacity – same ratings with or without panels
- Available in RAL 7035 (light grey) or sand texture black
- Fully perforated front and split-rear door

Vertical Mounting Rails:

- Fully depth adjustable and maintain load capacity regardless of where the rails are positioned
- Floating installation system – vertical rails are not secured to frame members or lateral support channels; can be adjusted independently
- “Z” shaped, multi-fold profile – high load bearing capacity and multiple mounting surfaces
- 19" mounting capacity in 24" cabinets, 19" and 23" mounting capacity in 28", 32" cabinets
- U markings on front and rear surfaces of each rail

Key Accessories:

- Sidewalls
- Door Mount Server Fan Panel
- Baying Kits
- Toolless Shelves – 482.6 mm (19") Rack Mount
- Casters
- Cable Management Hardware – D Rings, Velcro Straps, Mounting Plates, Manage-IT
- Power Strips – 15, 20, 30 Amp; Vertical or Rack Mount
- CMC-TC – Enclosure Monitoring System
- Bolt Down Kits
- Toolless Blanking Panels

Full Rear Door, Without Sidewalls

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
42U	36"	80 x 24 x 36	RAL 7035 light grey	9969808
		80 x 24 x 36	Sand texture black	9969809
	40"	80 x 24 x 40	RAL 7035 light grey	9969810
		80 x 24 x 40	Sand texture black	9969811
		80 x 28 x 40	RAL 7035 light grey	9969812
		80 x 28 x 40	Sand texture black	9969813
	42"	80 x 24 x 42	RAL 7035 light grey	9969814
		80 x 24 x 42	Sand texture black	9969815

Enclosures

Server Enclosure Rittal TS8

Split Rear Doors, Without Sidewalls

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #	
24U	36"	48 x 24 x 36	RAL 7035 light grey	9969816	
		48 x 24 x 36	Sand texture black	9969817	
	40"	48 x 24 x 40	RAL 7035 light grey	9969830	
		48 x 24 x 40	Sand texture black	9969831	
	42"	48 x 24 x 42	RAL 7035 light grey	9969844	
		48 x 24 x 42	Sand texture black	9969845	
42U	36"	80 x 24 x 36	RAL 7035 light grey	9969818	
		80 x 24 x 36	Sand texture black	9969819	
		80 x 28 x 36	RAL 7035 light grey	9969820	
		80 x 28 x 36	Sand texture black	9969821	
		80 x 32 x 36	RAL 7035 light grey	9969822	
		80 x 32 x 36	Sand texture black	9969823	
	40"	80 x 24 x 40	RAL 7035 light grey	9969832	
		80 x 24 x 40	Sand texture black	9969833	
		80 x 28 x 40	RAL 7035 light grey	9969834	
		80 x 28 x 40	Sand texture black	9969835	
		80 x 32 x 40	RAL 7035 light grey	9969836	
		80 x 32 x 40	Sand texture black	9969837	
	42"	80 x 24 x 42	RAL 7035 light grey	9969846	
		80 x 24 x 42	Sand texture black	9969847	
		80 x 28 x 42	RAL 7035 light grey	9969848	
		80 x 28 x 42	Sand texture black	9969849	
		80 x 32 x 42	RAL 7035 light grey	9969850	
		80 x 32 x 42	Sand texture black	9969851	
	48"	80 x 24 x 48	RAL 7035 light grey	9969908	
		80 x 24 x 48	Sand texture black	9969909	
		80 x 32 x 48	RAL 7035 light grey	9969910	
		80 x 32 x 48	Sand texture black	9969911	
	47U	36"	88 x 24 x 36	RAL 7035 light grey	9969824
			88 x 24 x 36	Sand texture black	9969825
88 x 28 x 36			RAL 7035 light grey	9969826	
88 x 28 x 36			Sand texture black	9969827	
88 x 32 x 36			RAL 7035 light grey	9969828	
88 x 32 x 36			Sand texture black	9969829	
40"		88 x 24 x 40	RAL 7035 light grey	9969838	
		88 x 24 x 40	Sand texture black	9969839	
		88 x 28 x 40	RAL 7035 light grey	9969840	
		88 x 28 x 40	Sand texture black	9969841	
		88 x 32 x 40	RAL 7035 light grey	9969842	
		88 x 32 x 40	Sand texture black	9969843	
42"		88 x 24 x 42	RAL 7035 light grey	9969852	
		88 x 24 x 42	Sand texture black	9969853	
		88 x 28 x 42	RAL 7035 light grey	9969854	
		88 x 28 x 42	Sand texture black	9969855	
		88 x 32 x 42	RAL 7035 light grey	9969856	
		88 x 32 x 42	Sand texture black	9969857	
48"		88 x 24 x 48	RAL 7035 light grey	9969912	
		88 x 24 x 48	Sand texture black	9969913	
		88 x 32 x 48	RAL 7035 light grey	9969914	
		88 x 32 x 48	Sand texture black	9969915	

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Enclosures

Networking Rittal TS8



Networking TS8 Enclosure



NEMA 12 Networking TS8 Enclosure

Innovative Design and Enhanced Stability

Rittal's TS8 network enclosure – Ideal for showcase applications, this enclosure features natural ventilation with its perimeter perforated doors.

Design:

The TS8 network enclosure features a stylish design in a viewing door concept that is clearly part of the same family as the server enclosure.

Applications:

- Networking facilities
- Termination applications
- Hubs, routers, switches or other components
- Other equipment where high heat loads are not generated

Environments:

- Data centers
- MDC/IDC
- Wiring closets
- Office environments
- Central offices
- Co-location and application environments

Features:

- Contemporary appearance
- Multiple vendor equipment
- Full line of accessories
- Family of sizes and styles
- Good heat dissipation
- Strong frame structure
- Viewing door version of the server enclosure that is value priced

Specifications

Frame System – Multi-Fold Frame Design:

- Steel frame – strength and rigidity
- Torsion free structure
- Multiple internal surfaces and points for mounting
- Maximum internal volume for footprint
- External access to all installation points for doors, walls and baying
- Maximum load bearing capacity – 907 kg (2,000 lbs)

External Surfaces – Doors and Walls:

- Secure to external surfaces of frame
- Doors can be easily removed or reversed
- Sidewalls can be screwed on, locked in place or hinged to provide side door access
- Internal door hinge and lock points for maximum security
- Door stiffener to stabilize door and provide additional mounting surfaces
- Ground studs on all surfaces
- External surfaces do not affect load bearing capacity – same ratings with or without panels
- Available in RAL 7035 (light grey) or sand texture black
- Partially vented front view door, fully perforated split-rear door

Vertical Mounting Rails:

- Fully depth adjustable maintains load capacity regardless of where the rails are positioned
- Floating installation system – vertical rails are not secured to frame members or lateral support channels; can be adjusted independently
- “Z” shaped, multi-fold profile – high load bearing capacity and multiple mounting surfaces
- 19" mounting capacity in 24" cabinets, 19" or 23" mounting capacity in 32" cabinets
- U markings on inside and outside surfaces of each rail

Key Accessories:

- Sidewalls
- Door Mount Server Fan Panel
- Baying Kits
- Toolless Shelves – 482.6 mm (19") Rack Mount
- Casters
- Cable Management Hardware – D Rings, Velcro Straps, Mounting Plates, Manage-IT
- Power Strips – 15, 20, 30 Amp; Vertical or Rack Mount
- CMC-TC – Enclosure Monitoring System
- Bolt Down Kits
- Toolless Blanking Panels

Enclosures

Networking Rittal TS8

Vented Viewing Door, Vented Split Rear Doors, Without Sidewalls

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) with viewing door	Color	Part #
24U	24"	48 x 24 x 24	RAL 7035 light grey	9969874
		48 x 24 x 24	Sand texture black	9969875
	32"	48 x 24 x 32	RAL 7035 light grey	9969858
		48 x 24 x 32	Sand texture black	9969859
		48 x 32 x 32	RAL 7035 light grey	9969860
		48 x 32 x 32	Sand texture black	9969861
42U	32"	80 x 24 x 32	RAL 7035 light grey	9969862
		80 x 24 x 32	Sand texture black	9969863
		80 x 32 x 32	RAL 7035 light grey	9969864
		80 x 32 x 32	Sand texture black	9969865
47U	32"	88 x 24 x 32	RAL 7035 light grey	9969866
		88 x 24 x 32	Sand texture black	9969867
		88 x 32 x 32	RAL 7035 light grey	9969868
		88 x 32 x 32	Sand texture black	9969869

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NEMA 12, Viewing Door, Solid Rear Door, Without Sidewalls

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) with viewing door	Color	Part #
24U	24"	48 x 24 x 24	RAL 7035 light grey	9969876
		48 x 24 x 24	Sand texture black	9969877
		48 x 24 x 32	RAL 7035 light grey	9969884
		48 x 24 x 32	Sand texture black	9969885
	32"	48 x 32 x 32	RAL 7035 light grey	9969886
		48 x 32 x 32	Sand texture black	9969887
38U	24"	72 x 24 x 24	RAL 7035 light grey	9969878
		72 x 24 x 24	Sand texture black	9969879
		72 x 24 x 32	RAL 7035 light grey	9969888
		72 x 24 x 32	Sand texture black	9969889
	32"	72 x 32 x 32	RAL 7035 light grey	9969890
		72 x 32 x 32	Sand texture black	9969891
42U	24"	80 x 24 x 24	RAL 7035 light grey	9969880
		80 x 24 x 24	Sand texture black	9969881
		80 x 24 x 32	RAL 7035 light grey	9969892
		80 x 24 x 32	Sand texture black	9969893
	32"	80 x 32 x 32	RAL 7035 light grey	9969894
		80 x 32 x 32	Sand texture black	9969895
47U	24"	88 x 24 x 24	RAL 7035 light grey	9969882
		88 x 24 x 24	Sand texture black	9969883
		88 x 24 x 32	RAL 7035 light grey	9969896
		88 x 24 x 32	Sand texture black	9969897
	32"	88 x 32 x 32	RAL 7035 light grey	9969898
		88 x 32 x 32	Sand texture black	9969899

Enclosures

Networking Rittal TE 7000, Top Efficiency: The Global IT Enclosure



Simple, Fast and Cost-Effective

Features:

- Matching premium accessories for rapid installation in the delivered state
- No frame structure, optimum accessibility
- Simple removal and installation of doors and side panels
- Load capacity up to 400 kg (880 lbs) for the network enclosure and 635 kg (1400 lbs) for the server enclosure
- System roof for cable entry and active ventilation

Material:

Sheet steel

Surface Finish:

Mounting frame:
Electrophoretic dipcoat primed, RAL 7044/RAL 7035 light grey
Enclosure panels:
Powder coated, RAL 7035 light grey
RAL 9005 black

The Rittal TE 7000 is geared toward “network” tasks and is ready to use. This “enclosure without a frame” is perfect for quick, cost-effective cabling. Cut your costs without compromising protection.

The Rittal TE 7000 specializes in cutting time and costs. Two 482.6 mm (19”) attachment levels in the 482.6 mm (19”) multi-functional profile create a solid framework. Load capacity is 880 lbs for the network enclosure and 1400 lbs. for the server enclosure.

The benefits include optimum accessibility, maximum use of the interior space and super-fast assembly. The dimensions and attachment points are tailored to predetermined standard dimensions or complete

depth adjustability of the two 482.6 mm (19”) frames. Because it comes prepared, installation proceeds quickly. You will be amazed at what can be achieved in a short period of time.

There is also a matching range of accessories and system components for power supply, climate control and security. Concepts are tailored precisely to your requirements. Data protection and availability are an absolute must!

TE 7000 Network Enclosures

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) with sidewalls	Color	Part #
11U	24"	24 x 24 x 24	RAL 7035 light grey	7000390
	32"	24 x 24 x 32	RAL 7035 light grey	7000410
24U	24"	48 x 24 x 24	RAL 7035 light grey	7000430
		48 x 32 x 24	RAL 7035 light grey	7000450
	32"	48 x 24 x 32	RAL 7035 light grey	7000440
42U	24"	48 x 32 x 32	RAL 7035 light grey	7000460
		80 x 24 x 24	RAL 7035 light grey	7000500
	32"	80 x 24 x 24	RAL 9005 black	7000505
		80 x 24 x 32	RAL 7035 light grey	7000510
	24"	80 x 24 x 32	RAL 9005 black	7000515
		80 x 32 x 24	RAL 7035 light grey	7000520
		80 x 32 x 24	RAL 9005 black	7000525
		80 x 32 x 32	RAL 7035 light grey	7000530
32"	80 x 32 x 32	RAL 9005 black	7000535	
	47U	88 x 24 x 24	RAL 7035 light grey	7000560
		88 x 24 x 32	RAL 7035 light grey	7000570
	32"	88 x 32 x 24	RAL 7035 light grey	7000580
88 x 32 x 32		RAL 7035 light grey	7000590	

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) w/o sidewalls, including baying kit	Color	Part #
42U	24"	80 x 24 x 24	RAL 7035 light grey	7000502
	32"	80 x 32 x 32	RAL 7035 light grey	7000532
47U	24"	88 x 24 x 24	RAL 7035 light grey	7000562
	32"	88 x 32 x 32	RAL 7035 light grey	7000592

TE 7000 Server Enclosures

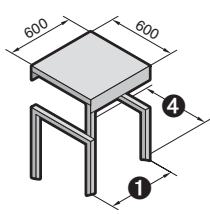
Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) w/o sidewalls, including baying kit	Color	Part #
42U	40"	80 x 24 x 40	RAL 7035 light grey	7000882
		80 x 24 x 40	RAL 9005 black	7000885
		80 x 32 x 40	RAL 7035 light grey	7000892
		80 x 32 x 40	RAL 9005 black	7000895

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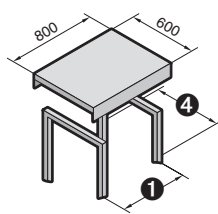
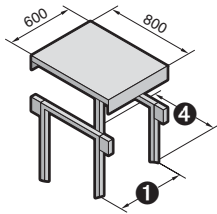


Enclosures

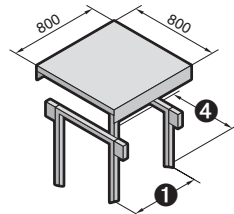
Networking Rittal TE 7000, Top Efficiency: The Global IT Enclosure



Example
600 x 600 mm (23.62 x 23.62")

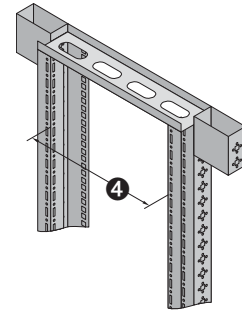
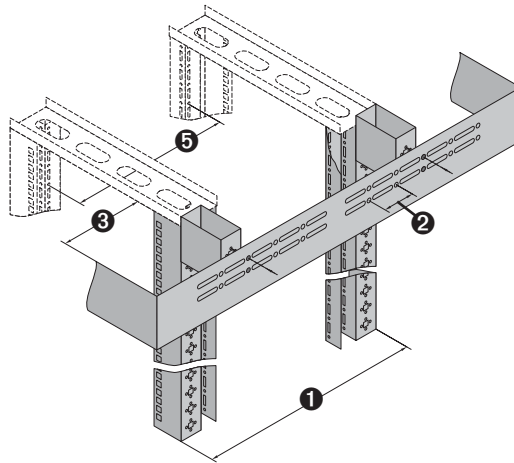
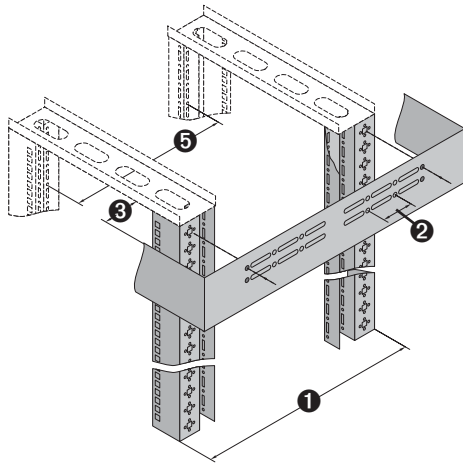


Example
800 x 800 mm (31.49 x 31.49")



Explanation of levels

- ❶ 495 mm (19.49") – the distance between the two 482.6 mm (19") frames in the delivered state for all enclosure formats.
- ❷ Pitch spacing 50 mm (1.97")
- ❸ Distance from door: 52.5 mm (2.07") with depth 600 mm (23.62"), 152.5 mm (6") with depth 800 mm (31.50")
- ❹ The attachment distance within a mounting frame at the rear horizontal, is equivalent to the frame attachment dimension of a 600 mm (23.62") wide TS8 (outer level, 525 mm 20.67")
- ❺ = ❶ 120 mm (4.72")



Quick Assembly in the Depth

❶ Ready to Install – with the Standard Spacing 495 mm (19.49")

The premium accessories are tailored to this fixed dimension when delivered for all enclosure formats. All installed equipment for the enclosure depth is mounted easily, quickly and precisely to the TS8 system holes. This is equivalent to the standard dimension of 400 mm (15.74") deep TS enclosure's inner level.

❷ Adjustable – on a 50 mm (1.97") Pitch Pattern

The distance between the two 482.6 mm (19") frames may be altered in increments of 50 mm (1.97") or 445 – 695 mm (17.52 – 27.36"). Quick replacement of the principal components is offered in the table below.

❸ Adjustable – Fully Individual

The distance between frames may be selected freely via the slot fastening. All key mounting components – punched sections with mounting flanges, installation kits, slide rails, component shelves – are also available in depth-adjustable format.

Quick Assembly in the Width

All components for the TS8 enclosure dimension W/D 600 mm (23.62") (outer level) fit into the width of the TE frame sections. Three rows of TS8 system holes offer suitable solutions for every task. The installation position in the enclosure depth corresponds to the TS8 inner level.

Quick Replacement							Page
Enclosure depth, mm (inches)	600 (23.64")						
	800 mm (31.49")						
Possible distances between the 482.6 mm (19") levels ❶	445 (17.52")	495 (19.49")	545 (21.46")	595 (23.43")	645 (25.39")	695 (27.36")	
Slide rail for TE, for attachment between the 482.6 mm (19") mounting frames, fixed length	–	7963410	–	7963510	–	7963610	36
482.6 mm (19") component shelf for static installation, for direct screw fastening without installation kit, 410 mm (16.14") deep, load capacity 66 lbs, static	–	7000620	–	–	–	–	41
482.6 mm (19") component shelf for static installation, 50 kg (110 lbs), 471 mm (18.54") wide, in conjunction with punched section with mounting flange, max. base depth	7164035	7164035	7165035	7165035	7166035	7166035	*
Punched section with mounting flange 17 x 73 mm (.66 x 2.87"), for mounting components, attachment in the enclosure depth between the 482.6 mm (19") mounting frames	8612140	8612040	8612150	8612050	8612160	8612060	37
C rail for cable clamping in the enclosure depth via cable clamps	7828040	7828040	7828050	7828050	7828060	7828060	*
Cable clamp rails, depth variable 425 – 725 mm (16.73 – 28.54"), for cable attachment in the enclosure depth via cable ties	7858160	7858160	7858160	7858160	7858160	7858160	*

* See Handbook 31

Enclosures

Specialty Enclosures Rittal TS8 – Seismic/Zone 4 Rated



TS8 Seismic/Zone 4 Rated Enclosures

With the explosion of high tech servers & networking equipment deployed all over the world, many companies are seeing equipment being exposed to more and more hostile environments. One of the more demanding environments is any place there is a chance for seismic activity. The areas that are most susceptible to seismic activity have been identified as "Zone 4." This family of enclosures has been independently tested to the seismic requirements of

NEBS GR-G3 Core with 454 kg (1000 lbs) of weight mounted on the 4 rails. Rittal now offers a stylish enclosure that has been built and tested to fully comply with these stringent requirements. These enclosures offer fully perforated front and rear doors for visibility, security and good air movement. In addition, front and rear server style angles are mounted off three sets of system chassis to provide solid, stable support for enclosure mounted networking equipment. If you have an application that demands a strong, stable enclosure, choose one of Rittal's new Zone 4 certified enclosures.

Zone 4, Full Rear Door

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) with viewing door	Color	Part #
42U	36"	80 x 24 x 36	RAL 7035 light grey	9969900
		80 x 24 x 36	Sand texture black	9969901
	40"	80 x 24 x 40	RAL 7035 light grey	9969902
		80 x 24 x 40	Sand texture black	9969903
		80 x 32 x 40	RAL 7035 light grey	9969904
		80 x 32 x 40	Sand texture black	9969905
	42"	80 x 24 x 42	RAL 7035 light grey	9969906
		80 x 24 x 42	Sand texture black	9969907

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Enclosures

Specialty Enclosures TS8 Co-Location and PC Enclosures



TS8 Co-Location Enclosures

This server enclosure has been specifically engineered for the co-location/web hosting market and is offered in versions with 2 and 4 bays. These multi-compartment enclosures are designed with fully perforated doors front and rear for maximum heat dissipation, 482.6 mm (19") server rails front and rear, in addition to separate, fully secured cable troughs in each compartment for data and power cabling. The enclosure offers the ability to bring in power and data cabling from the top or from the bottom.



Split Front Door



4 Compartments

Specifications:

- 42U and 47U
- Fully perforated front and rear doors
- Comfort handle with lock insert
- Standard product keyed alike, unique inserts available
- Cable entry roof with 4 round cable entry holes
- "L" shaped server rails, front and rear, infinite depth adjustment
- Partition wall installed
- Separate secure routings for data and power cables to each compartment
- Full width and depth divider plates installed between sections

Note: Enclosure does not come with additional captive nuts and screws

Rack Units	Quick Reference (Depth)	Number of Compartments	Dimensions H x W x D (inches)	Color	Part #
47U	36"	2	88 x 24 x 36	RAL 7035 light grey	7831450
		4	88 x 24 x 36	RAL 7035 light grey	7831460
2 x 21U	36"	2	88 x 24 x 36	RAL 9005 black	7831451
2 x 21U	36"	2 (split front doors)	88 x 24 x 36	RAL 7035 light grey	7831457
2 x 21U	36"	2 (split front doors)	88 x 24 x 36	RAL 9005 black	7831458
4 x 10U	36"	4	88 x 24 x 36	RAL 9005 black	7831461



TS8 PC Enclosures

The Rittal line of PC enclosures can be used for applications when the computer is needed on the factory floor. The functionality and industrial design of these enclosures provide superior ergonomics for optimum user-friendliness. Housing all your computer equipment, from the monitor, computer system, printer and keyboard to the mouse, becomes easy with Rittal's PC enclosure system. The design provides increased security coupled with NEMA 12 protection. In fact, even if one door is opened, the other compartments maintain their environmental integrity.

All models offer maximum strength and stability through the welded frame and corner piece design. What's more, this line of PC enclosures is based on the TS8 frame. Therefore, all TS8 accessories can be used with these enclosures to further expand and modify the enclosure to suit your specific needs.

Specifications:

- Fold-down/pull-out keyboard drawer for all standard keyboards
- Accommodates monitors up to 24"
- Vented monitor shelf
- Rear entry door
- Integrated mouse pad for fold-down/pull-out drawers
- Accepts TS accessories
- Keyboards up to 70 mm (2.76") high may be used
- Removable sidewalls and roof
- Lockable keyboard drawer

Fold-down Shelf Series

Quick Reference (Depth)	Dimensions H x W x D (inches)	Part #
25"	63 x 24 x 25	8366100
33"	63 x 24 x 33	8368100

Pull-out Drawer Series

Quick Reference (Depth)	Dimensions H x W x D (inches)	Part #
25"	63 x 24 x 25	8366000
33"	63 x 24 x 33	8368000

Drawer Series with Sheet Steel Front

Quick Reference (Depth)	Dimensions H x W x D (inches)	Part #
25"	63 x 24 x 25	8366400

Control Panel with Drawer Series

Quick Reference (Depth)	Dimensions H x W x D (inches)	Part #
25"	63 x 24 x 25	8366300

Fixed Console Series

Quick Reference (Depth)	Dimensions H x W x D (inches)	Part #
25"	63 x 24 x 25	8366200

Enclosures

Wallmount Enclosures QuickBox Enclosures



Your answer for small networks or floor distributors, in data rooms, office space or school facilities.

Rittal's QuickBox wallmount enclosures combine variety with flexibility and cost efficiency. With its depth-adjustable 482.6 mm (19") mounting rails, the QuickBox is the ideal solution for packaging network equipment or floor distributors. One enclosure, 12 models – that means 12 standard products instead of complicated custom fabrication. Choose from a large selection of sizes, with or without viewing door, that offer cost-efficient, customer-oriented solutions for the most diverse applications. The QuickBox is available off-the-shelf, completely assembled. In every respect the QuickBox is the optimum combination of the proven quality and flexibility of Rittal enclosures.

Specifications:

- Wallmount section with 482.6 mm (19") rails and brush inserts
- Housing cover with base
- Cover with vent slots and brush inserts
- Sheet steel or viewing door options
- Security locks on front door and two sides
- Cable collecting combination rails
- Front 482.6 mm (19") rails, infinitely depth adjustable
- RAL 7035 light grey

Design:

Wallmount panel for 482.6 mm (19") components. Cover has vent slots for ventilation through convection, and is able to support fans as well. Viewing door or sheet steel door with lock for access from front. Cable entry panels with brush insert and integrated cable collecting rail. The removable cover makes installation extremely easy.

Customers:

- Contractors and installers
- Educational environments
- Government institutions

Applications:

A smart solution for small networks or floor distributors, based on customers' needs. One of its outstanding features is the easy and unobstructed access to all components and wiring. QuickBox offers a complete solution ideal for educational applications.

- Termination equipment
- Networking equipment

Environments:

- Data rooms and office spaces
- Passive equipment
- School facilities

Features:

- Cost-efficient and secure
- One enclosure, 12 models
- Off-the-shelf, completely assembled
- Versatile 2-part design

Viewing Door Series

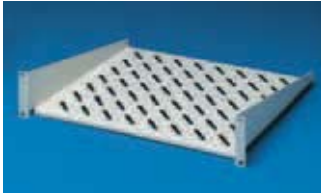
Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
6U	24"	14.25 x 24 x 24	RAL 7035 light grey	7502016
9U		20 x 24 x 24		7502026
12U		25 x 24 x 24		7502036
15U		30 x 24 x 24		7502046
18U		35.2 x 24 x 24		7502056
21U		40.5 x 24 x 24		7502066

Solid Sheet Steel Door Series

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
6U	24"	14.25 x 24 x 24	RAL 7035 light grey	7502116
9U		20 x 24 x 24		7502126
12U		25 x 24 x 24		7502136
15U		30 x 24 x 24		7502146
18U		35.2 x 24 x 24		7502156
21U		40.5 x 24 x 24		7502166

Enclosures

Wallmount Enclosures QuickBox Accessories



482.6 mm (19") Component Shelves – 2U

Material:
Sheet steel

Color:
RAL 7035 light grey

For Installation in Fixed Position or on Telescopic Slides

mm		inches		Part #
W	D	W	D	
390	250	15.35	9.84	7119250 (fixed)
390	300	15.35	11.81	7148035 (telescopic/fixed)
390	400	15.35	15.75	7119400 (fixed)

Vented Component Shelves with 482.6 mm (19") Rail Mounting

mm		inches		Part #
W	D	W	D	
400	300	16	12	7143035
400	400	16	16	7144035
400	500	16	20	7145035



Internal Enclosure Fan

This internal enclosure fan helps to avoid hot spots and supports the air direction of active enclosure climate control components. It is adjustable on two axes and can be fastened to the frame.

Specification:

Complete unit, ready for installation, with radial fan and swing bracket as well as installation materials

Air displacement (unimpeded air flow)	Rated voltage (Volt/Hz)	Part #
100 cfm	115/50/60	9965364



Combination Cable Collecting Rails

These rails make it possible to fasten cables with cable clamps or cable ties and allow bonding between the cable shield and ground bus.

Material:

Aluminum, zinc-coated, chromated

Includes:

Combination rail, installation hardware



For enclosure width	Length	Packs of	Part #
600 mm (23.60")	400 mm (15.70")	2	7502304

Enclosures

Wallmount Enclosures EL NEMA 12 3-Part Enclosures



An ideal solution for simple wallmount installations while assuring only authorized entry.

Rittal's wallmount network enclosures offer stability, accessibility and security to the networking specialist. All standard models feature usable panel heights from 6U to 21U, ensure safe packaging for sensitive components as well as protection from the environment and from unauthorized access. Double security is assured through separate locks on the center swing frame section and the front viewing door. Rittal's 3-part wallmount enclosures – a perfect combination of protection and versatility.

Specifications:

- Rear housing with removable top and bottom covers
- Two vertical system bars
- Cable collecting rail
- Center swing frame with lock and two adjustable 482.6 mm (19") rails
- Front viewing door with locking mini comfort handle
- RAL 7035 light grey and 7015 slate grey
- NEMA 12 protection

Design:

Wallmountable design with built-in swing frame for access to rear equipment. Secure and sturdy with NEMA 12 protection available. Roll-formed construction provides high stability and component protection.

Customers:

- Educational applications
- Office buildings and hospitals
- Small clusters of workstations

Applications:

Ideal for small networks or floor distribution in environments that require a high degree of security and a high industrial protection rating.

- Active components
- Networking and monitoring equipment
- Termination equipment

Environments:

- NEMA 12 environments
- Smaller networks
- Remote models
- Climate consideration
- Offices or factory environments

Features:

- Wallmountable design
- NEMA 12 protection
- Wide range of accessories
- Built-in swing frame
- Secure and sturdy

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
6U	19"	14 x 24 x 19	RAL 7035 light grey/ 7015 slate grey	7706135
9U		19 x 24 x 19		7709135
12U		24 x 24 x 19		7712135
15U		29 x 24 x 19		7715135
18U		35 x 24 x 19		7718135
21U		40 x 24 x 19		7721135

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
12U	24"	24 x 24 x 24	RAL 7035 light grey/ 7015 slate grey	9969580
15U		29 x 24 x 24		9969581
21U		40 x 24 x 24		9969582

Enclosures

Wallmount Enclosures EL Non-NEMA 3-Part Enclosures



Rittal's wallmount network enclosures offer stability, accessibility and security to the networking specialist. All standard models feature usable panel heights from 9U to 21U, ensure safe packaging for sensitive components as well as protection from the environment and from unauthorized access. Double security is assured through separate locks on the center swing frame section and the front viewing door.

Specifications:

- Rear housing with removable top and bottom covers
- Two vertical system bars
- Cable collecting rail
- Center swing frame with lock and two adjustable 482.6 mm (19") rails
- Front viewing door with locking mini comfort handle
- Two filters
- Ground bus
- RAL 7035 light grey and RAL 7015 slate grey

Design:

Wallmount section with cable entry gland panels. Hinged swing-out center section for easy access to components and wiring. Depth-variable 482.6 mm (19") mounting surface.

Customers:

- Educational applications
- Office buildings and hospitals
- Small clusters of workstations

Applications:

This wallmount is ideal for small networks or floor distribution in environments that require a high degree of security.

- Active components
- Networking and monitoring equipment
- Termination equipment

Environments:

- Offices, schools, and hospitals
- Factory floor applications

Features:

- Separate, swing-out center section for front and rear component access
- Wide range of accessories
- Sturdy design provides solid support for equipment

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (Inches)	Color	Part #
9U	19"	24 x 24 x 19	RAL 7035 light grey/ 7015 slate grey	7709735
15U		29 x 24 x 19		7715735
21U		40 x 24 x 19		7721735



Fan Expansion Kits

For retrofitting various fan units or to supplement the fan mounting plate and modular fan roof.

Technical Specifications:

Rated voltage: 115 or 230 V
 Rated current: 19/18 W for 50/60 Hz
 Air displacement (unimpeded air flow):
 85/100 cfm/ for 50/60 Hz
 Temperature range:
 -10°C to +55°C (14°F to 131°F)

Replacement Exhaust Filters:

These filters replace standard equipment mounted on the right and left sidewalls of center section.

Fan Expansion Kit

Voltage	Packs of	Part #
230 V fan	1 set	7980000
115 V fan	1 set	7980110

Replacement Exhaust Filters

Packs of	Part #
5 filters	3322700



Wallmounting Brackets

Utilize pre-drilled holes in rear wall. Version with 40 mm (1.58") stand-off allows cable routing behind the enclosure.

Material:

Steel, chromated

Wallmounting Brackets

Stand-off dimension A	Packs of	Part #
40 mm (1.58")	4	2503200
10 mm (0.39")	4	2508200



Component Shelves – 2U, 482.6 mm (19")

Can be installed:

- in enclosure between 482.6 mm (19") rails, and
- in swing frames with flange mounting, 482.6 mm (19")

Load Capacity:

25 kg (55 lbs) surface load, static

Material:

Sheet steel

Color:

RAL 7035 light grey

482.6 mm (19") Component Shelves – 2U

mm		inches		Part #
W	D	W	D	
390	300	15.35	11.8	7148035
390	400	15.35	16	7119400
390	250	15.35	9.8	7119250



Cable Entry Panel with Brush Insert

Multi-folded and welded, with foamed-on gasket and plastic brush insert for easy cable entry.

Cable Entry Panel with Brush Insert

Color	Part #
RAL 7035 light grey	7705035

Enclosures

Wallmount Enclosures EL 3-Part Accessories



C Rails

To accommodate large tensile forces, larger cables or cable sections via cable clamps, and for tidy cable routing inside the enclosure.

The cable clamp rails may be located directly on a 482.6 mm (19") mounting frame, horizontally at the rear or in the enclosure depth between two mounting frames. An additional screw fastening secures the unit.

If the rail is to be secured between two mounting frames, it is necessary to secure the two 482.6 mm (19") mounting frames at the corresponding distance from one another beforehand.

Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

4 C rails, including assembly parts

Accessories:

Cable clamps

For center part depth	Packs of	Part #
216 mm (8.50")	4	2238000
316 mm (12.44")	4	2239000
416 mm (16.38")	4	2237000



Slide Rails

For mounting between a front and a rear pair of mounting angles. The slide rail can be used to support heavy slide-in equipment.
H x W: 80 x 85 mm (3.1 x 3.3")

Load Capacity:

176 lbs

Material:

Sheet Steel, zinc-plated, passivated

Supply Includes:

2 slide rails, assembly parts

Possible Alternatives:

Depth-adjustable slide rails

For center part depth	Packs of	Part #
216 mm (8.50")	10	2240000
316 mm (12.44")	10	2250000
416 mm (16.38")	10	2260000



Mounting Angle Kits

These mounting angle kits allow you to integrate a second 482.6 mm (19") level into EL enclosures.

Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly parts

Rack Units	Part #
6	7705706
9	7705709
12	7705712
15	7705715
18	7705718
21	7705721

Enclosures

Wallmount Enclosures TE Wallbox



Material:

Sheet steel enclosure, viewing window, single-pane safety glass 0.11 oz (3 mm)

Surface Finish:

Primed, powder coated

Color:

RAL 7035 light grey

Supply Includes:

Wall-mounted enclosure with 482.6 mm (19") rails at the front

Features:

- One-piece 482.6 mm (19") wall-mounted enclosure, rigidly constructed
- With glazed or sheet steel door at the front, including security lock 3524 E
- Interchangeable door hinge
- Open rear panel provides space for cable entry
- 482.6 mm (19") mounting angles at the front, from inner edge of door adjustable in the depth from 25 to 110 mm (.98 – 4.33")
- Round openings on all sides for cable entry between several enclosures, or for access during installation and maintenance work, concealed by covers
- Three rectangular holes at the rear top and bottom, optionally for cable entry
- Vent slots at the side for passive ventilation

Innovative and Cost-Effective Packaging Solution

Glazed Door with 3 mm Safety Glass

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
6U	19"	14 x 24 x 19	RAL 7035 light grey	7000700
9U		19 x 24 x 19		7000710
12U		24 x 24 x 19		7000720
15U		29 x 24 x 19		7000730

Sheet Steel Door, Solid

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
6U	19"	14 x 24 x 19	RAL 7035 light grey	7000750
9U		19 x 24 x 19		7000760
12U		24 x 24 x 19		7000770
15U		29 x 24 x 19		7000780

Access Protection for TE Wallbox

Round metal cover for attaching from the inside of the enclosure, in exchange for standard plastic covers over the entry openings.

Packs of	Part #
2	7000910

Material:

Sheet steel

Color:

RAL 7035 light grey





Safe Housing – Where You Need It Most

Mobile or stationary, your monitors, servers, keyboards, printers and other network components can find safe housing in these Rittal Data Racks. A second 482.6 mm (19") mounting frame facilitates installation of component shelves, slide rails, or cable management solutions. Together the Rittal Data Rack, optional second mounting frame and our comprehensive accessory program offer smart solutions for a multitude of network applications.

Specifications:

- 482.6 mm (19") vertical frame
- Base with integrated feet
- Captive nuts and screws ordered separately
- RAL 7035 light grey frame highlighted with RAL 5018 teal trim
- Additional 482.6 mm (19") mounting frame includes installation hardware

Design:

Its torsion resistant frame of 14 ga/2 mm is welded together and has a high load capacity of 136 kg (300 lbs) frame. The 6-fold, roll formed, vertical frames are punched in front and back for mounting 482.6 mm (19") components and have additional installation holes on the sides.

Applications:

Open rack system for installation in distribution rooms, for flexible networks and for laboratory systems. Components installed on either one or two mounting surfaces are accessible from all sides.

- Network components
- Active components
- Passive equipment
- MIS applications
- Other 482.6 mm (19") rack mount applications

Environments:

- IDFs
- Data rooms
- Offices

Features:

- Installation holes on base, sides and rear
- Easy portability and access
- Stand alone or bayed together
- Base can be bolted to floor or mounted on twin wheel casters
- Second mounting frame available
- Torsion free frame



Stand alone or bayed together

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part #
31U	30"	59 x 22 x 30	RAL 7035 light grey w/ RAL 5018 teal trim	7391000
36U		68 x 22 x 30		7396000
40U		75 x 22 x 30		7400000
45U		84 x 22 x 30		7445000

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Baying Kit	39

Enclosures

System Accessories Get Connected – Accessorize!

With your applications in mind, Rittal provides a wealth of system accessories for infinite possibilities. We address your requirements with superior expertise.

Take a closer look!

This is your opportunity to become faster and to offer a better solution.

Get Connected!



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Enclosures

System Accessories Cable Management

NEW Manage-IT Cable management system for Rittal TS8 and TE 7000 Enclosures

Networking enclosures house more equipment now than ever before. The ever-increasing demand for reliable and efficient data transmission requires the highest level of uninterrupted system performance possible. Poor cable management may lead to damaged cables, performance degradation and costly downtime.

Proper cable management ensures optimum data transmission, cost savings, and cable protection. Rittal's Manage-IT cable manager is a simple, flexible and cost-effective way to organize your cables and patch cords.

- Integral cable retention keeps cable bundles in place
- Accommodates a variety of toolless cable management accessories to further separate, organize and protect cables
- Toolless cable managers mount anywhere within the vertical trough or enclosure frame for unsurpassed cable management options

TS **TE**

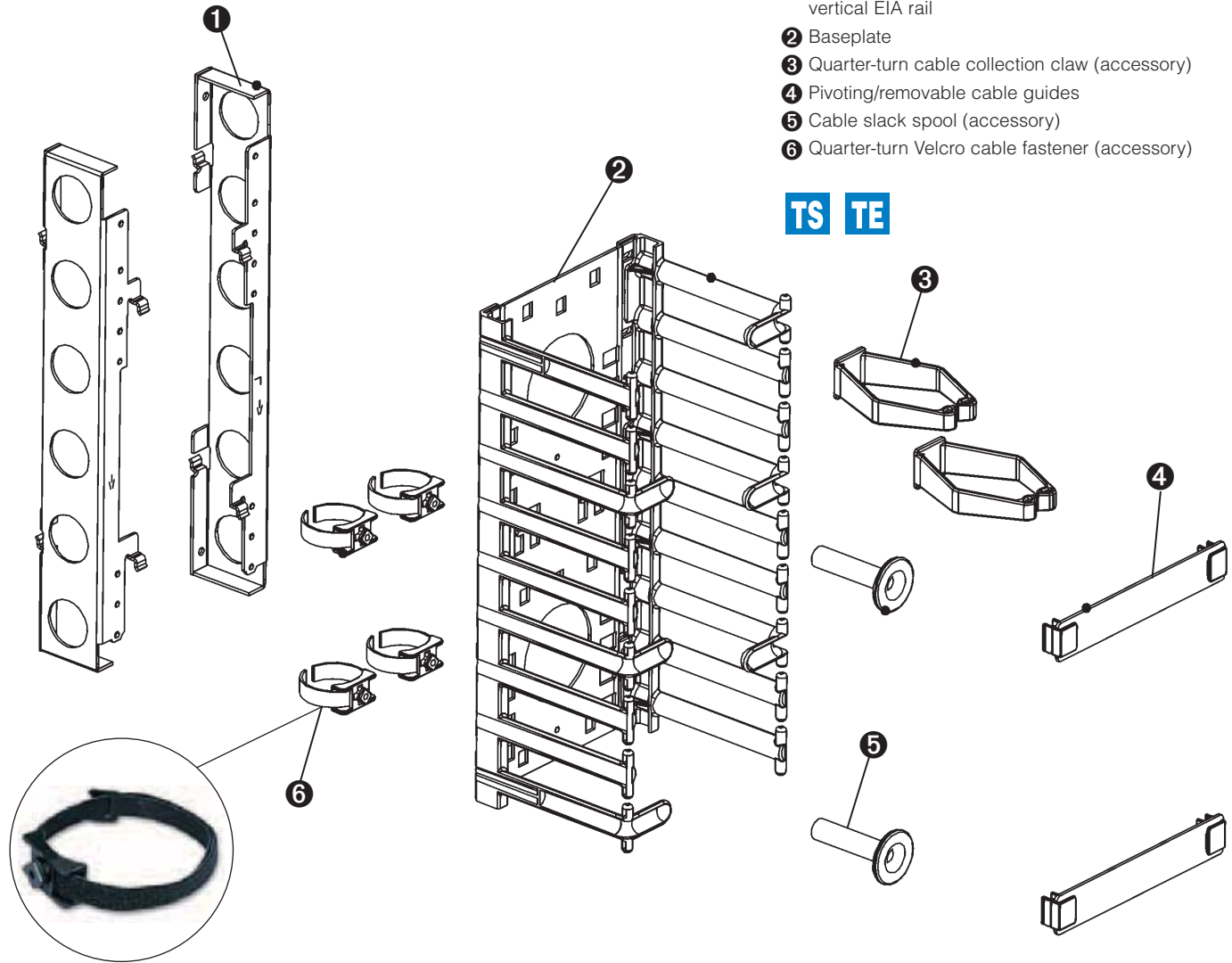
Product Features:

- Bend Radii compliant per ANSI/TIA/EIA, round edges prevent performance degradation and damaged cables
- Front and rear cable management capabilities allow separation of distribution cables and patch cords
- Easy assembly reduces installation time
- Modular 9U sections allow for custom configurations
- 1U cable guides align to enclosure RU spacing for ease of installation and maintenance
- Cover and retainers hinge left or right and can be removed for easy access
- Pass through ports for front/rear cable routing

Configuration:

- 19" x 2U and 1U horizontal enclosure mount manager with pivoting/removable cover
- 9U x 6" deep vertical manager kit. Available in three widths (3.5, 7.5 and 10"). Includes cable retainers
- Large pathways for greater capacity and flexibility when managing high-density patch cables
- Manager fingers align with RMU spacing of enclosure EIA rail
- Bend radius on all cable pathways provides added support for copper and fiber data cables
- Accommodates a variety of cable manager accessories for additional options and ultimate flexibility





NEW Manage-IT

Configuration:

- ❶ Mounting bracket securely latches onto vertical EIA rail
- ❷ Baseplate
- ❸ Quarter-turn cable collection claw (accessory)
- ❹ Pivoting/removable cable guides
- ❺ Cable slack spool (accessory)
- ❻ Quarter-turn Velcro cable fastener (accessory)

TS TE

For	Part #	Description
TS8	9969593	3.5" Wide x 9U Vertical Manager Kit for 600 mm (23.62") Suited Enclosures and 700-800 mm (27.56-31.50") Stand Alone Enclosures
	9969594	3.5" Wide x 9U Manager Cover
	9969595	7.5" Wide x 9U Vertical Manager Kit for 700 mm (27.56") Wide Suited Enclosures
	9969596	7.5" Wide x 9U Manager Cover
	9969698	10" Wide x 9U Vertical Manager Kit for 800 mm (31.50") Wide Suited Enclosures
	9969697	2U Enclosure Mount Manager with Hingable/Removable Cover
	9969599	Quarter-turn Velcro Cable Fastener (Accessory)
	9969600	Quarter-turn Cable Collection Claw (Accessory)
	9969601	Cable Slack Spool with M5.5 Mounting Screw (Accessory)
	TE	9969983
9969984		7.5" Wide x 9U Vertical Manager for 800 mm (31.50") Wide Suited Enclosures
TE	9969929	Cable Trough, Front to Back
TS	9969928	Quarter-turn Cable Manager for 600 mm (23.62") Suited Enclosures*
	9969927	Quarter-turn Cable Manager for 600 mm (23.62") Stand Alone Cabinets*

* This bracket is for use with the Velcro Cable Fastener or the Cable Collection Claw

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products



Cable Ties

Cable ties, for quick assembly. The super-fast solution for attaching cables to the enclosure profile or to the rear of the 482.6 mm (19") mounting frame. Simply clip into the round system punchings.

Length mm (inches)	Packs of	Part #
150 (5.90)	100	2597000

TS TE



Nylon Loop Fasteners

With the nylon loop fastener, secured sections of cable are easily released, allowing individual cables to be added or removed. Ideal for sensitive data cables (fiber-optic/Cu), as it avoids indentations on the cable sheathing. In addition, the nylon loop fastener may be screw-fastened to the round system punchings.

Color:
Black

Width mm (inches)	Length mm (inches)	Max. cable diameter mm (inches)	Packs of	Part #
16 (.63)	130 (5.11)	30 (1.18)	10	7072220
16 (.63)	200 (7.87)	50 (1.96)	10	7072230
16 (.63)	300 (11.81)	90 (3.54)	10	7072240

Also Required:

Screw 2486500 for screw-fastening to the round system punchings

TS TE



Cable Guide Rings

For flexible, system-compatible cable routing at the side of the 482.6 mm (19") mounting frame.

Material:
Sheet steel, zinc-plated, passivated

Includes:
10 cable guide rings, assembly parts

German Patent no. 3813002

Dimensions mm (inches)	Packs of	Part #
120 x 80 (4.72 x 3.14)	10	7111900
120 x 60 (4.72 x 2.36)	10	7111000
80 x 37 (3.14 x 1.45)	10	7112000

TS TE

TS Indicates its use with TS8 products **TE** Indicates its use with TE 7000 products



Cable Routing Across the 482.6 mm (19") Mounting Level

Different cable collecting rails available to provide orderly cable management in 19" systems:

C-Rails can be installed between all 19" mounting surfaces.

Cable Clamp Rails to which cables are fastened with cable ties, and can be installed between all 19" mounting surfaces.

Cable Clamp Straps for TS Mounting Angles

Cables are fastened with cable ties and have hooks on side that hang in 19" rails.

C-rails	Depth	Part #
19" mounting surface	-	7016100
Cable clamp rails	Depth	Part #
19" mounting surface	-	7016110
Cable clamp strap	Depth	Part #
TS mounting angles	100 mm (4")	7016130



482.6 mm (19") Cable Troughs

For cable collection

Depth:

85 mm (3.37")

Material:

Sheet steel

Color:

RAL 7035 light grey

U	Part #
1	7149135
3	7149035



482.6 mm (19") Cable Entry Panels

Available in 2U (with a 390 x 40 mm [15.35 x 1.58"] opening) or 1U (with a 390 x 20 mm [15.35 x 1.58"] opening). Has edge protector and brush insert to protect against dust.

Material:

Sheet steel

Color:

RAL 7035 light grey

U	Part #
1	7140535
2	7150535





Cable Management Rail

Provides spacious possibilities for cable ties, velcro strips and cable rings.

Easy installation – simply secure with screws to system chassis or enclosure frame.

Material:

Sheet steel

Color:

Black

Size:

1790 x 50 mm (70.47 x 1.97")

Packs of	Part #
2	9968219





Enclosure Lights

Rittal's new fluorescent lights are designed for quick and easy installation. The external terminal block means no need to disassemble the light to make electrical connections. Available in 15 or 18 watt rating, they can be used with or without the Rittal door switch (see below). Equipped with interference suppression capacitor or a RFI filter, they also come with or without a lamp shade or 115 V U.S. style receptacle.

Rating:

120 V, 60 Hz

Light Medium:

Cool white

Description	Installation length mm (inches)	Technical data (120 V 60 Hz)	Part #
With interference suppression capacitor and no receptacle	467 (18.39)	15 W	9968108
	620 (24.41)	18 W	9968109
With RFI filter, and no receptacle U.S. receptacle and lamp shade	467 (18.39)	15 W	9968111
	620 (24.41)	18 W	9968112

Includes:

Installation hardware

Connection Terminals:

L1, N, GND

On/off rocker switch

UL recognized for Canadian and U.S. requirements



Door Operating Switch

Switches the enclosure light on when the door is opened, and switches the air conditioner off to prevent condensation.

	PU	Part #
Door operating switch without power cord	1	4127000



System Accessories Roof/Base/Sidewall Configuration



Stabilizers for Server Enclosures

The pullout stabilizer is quickly and easily retrofitted to the base frame of a TS8 server enclosure and only extended when necessary. It may be used in combination with leveling feet and/or casters. The stabilizer cannot be used with gland plates or base/plinths.

Enclosure depth	Part #
900 mm (36")	7825200
1000 mm (40")	7825250



Load Capacity:

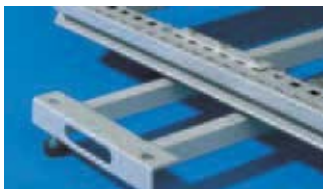
Up to a maximum of 150 kg (330 lbs) static load

Material:

Sheet steel, zinc-plated, passivated

Includes:

1 Stabilizer including assembly parts



Enclosures

System Accessories Roof/Base/Sidewall Configuration



Sidewalls

To finish individual racks or entire bayed suites of racks at the sides. The side walls are simply located and secured with the integral padlock. The super lightweight design means that it is easily handled by one person.

Material:
Sheet steel, powder coated

Color:
RAL 7035 (light grey)

For TE Height mm (inches)	For TE Depth mm (inches)	Packs of	Part #
2000 (80)	600 (24)	2	7000650
2000 (80)	800 (32)	2	7000652
2200 (88)	600 (24)	2	7000654
2200 (88)	800 (32)	2	7000656

Protection Category:
IP 20

Supply Includes:
Security lock 3524 E

TE



Sidewalls

Material:
Sheet steel, electrophoretic dipcoat-primed, powder-coated

Color:
RAL 7035 light grey, sand texture black

Includes:
2 side panels

Protection Category:
IP 55

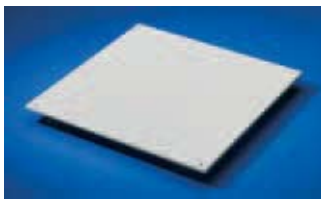
TS

To complete individual enclosures or bayed racks at the sides. The sidewalls are simply located and secured with the integral padlock. The beading increases the rigidity of the walls while adding a special design touch. The lightweight design allows for easy handling by one person.

Sidewalls

H x D mm (inches)	Color	Part #
1200 x 600 (48 x 24)	RAL 7035 light grey	8170235
1200 x 600 (48 x 24)	Sand texture black	9969948
1200 x 800 (48 x 32)	RAL 7035 light grey	8175235
1200 x 800 (48 x 32)	Sand texture black	9969949
1200 x 900 (48 x 32)	RAL 7035 light grey	9969950
1200 x 900 (48 x 32)	Sand texture black	9969951
1200 x 1000 (48 x 40)	RAL 7035 light grey	8176235
1200 x 1000 (48 x 40)	Sand texture black	9969952
1200 x 1050 (48 x 42)	RAL 7035 light grey	9969953
1200 x 1050 (48 x 42)	Sand texture black	9969954
1800 x 600 (72 x 24)	RAL 7035 light grey	8186235
1800 x 600 (72 x 24)	Sand texture black	9969918
1800 x 800 (72 x 32)	RAL 7035 light grey	8188235
1800 x 800 (72 x 32)	Sand texture black	9969919
2000 x 600 (80 x 24)	RAL 7035 light grey	8106235
2000 x 600 (80 x 24)	Sand texture black	9969920
2000 x 800 (80 x 32)	RAL 7035 light grey	8108235
2000 x 800 (80 x 32)	Sand texture black	9969916
2000 x 900 (80 x 36)	RAL 7035 light grey	8109235

2000 x 900 (80 x 36)	Sand texture black	9968597
2000 x 1000 (80 x 40)	RAL 7035 light grey	8100235
2000 x 1000 (80 x 40)	Sand texture black	9968596
2000 x 1050 (80 x 42)	RAL 7035 light grey	9969309
2000 x 1050 (80 x 42)	Sand texture black	9969351
2000 x 1200 (80 x 48)	RAL 7035 light grey	9969955
2000 x 1200 (80 x 48)	Sand texture black	9969956
2200 x 600 (88 x 24)	RAL 7035 light grey	8126235
2200 x 600 (88 x 24)	Sand texture black	9969917
2200 x 800 (88 x 32)	RAL 7035 light grey	8128235
2200 x 800 (88 x 32)	Sand texture black	9969352
2200 x 900 (88 x 36)	RAL 7035 light grey	9969311
2200 x 900 (88 x 36)	Sand texture black	9968595
2200 x 1000 (88 x 40)	RAL 7035 light grey	9968593
2200 x 1000 (88 x 40)	Sand texture black	9968594
2200 x 1050 (88 x 42)	RAL 7035 light grey	9969312
2200 x 1050 (88 x 42)	Sand texture black	9969355
2200 x 1200 (88 x 48)	RAL 7035 light grey	9969957
2200 x 1200 (88 x 48)	Sand texture black	9969958



Module Plates, Solid

to conceal the entire roof or base area. The module plate may be raised with spacers to support ventilation.

Material:
Sheet steel

Color:
RAL 7035 light grey

Width (B) mm (inches)	Depth (T) mm (inches)	Part #
450 (17.72)	450 (17.72)	7526770
450 (17.72)	650 (25.59)	7526780
650 (25.59)	450 (17.72)	7526780
650 (25.59)	650 (25.59)	7526820

Accessories:
Spacers, see Handbook 31

Note:
Configuration data on the next page

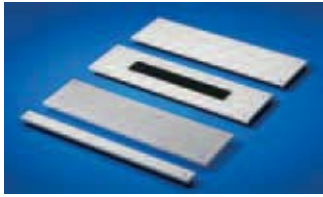
TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Enclosures

System Accessories Roof/Base/Sidewall Configuration



Module Plates

The module plates allow the roof or base area of the TE 7000, in exchange for the existing roof plate, to be varied as required. The module plates may be raised with spaces to support ventilation.

Material:
Sheet steel

Color:
RAL 7035 light grey, on request in RAL 9005 black
Includes:
Assembly parts

Note:
Configuration data below.

Version	Width mm (inches)	Depth mm (inches)	Part #
Solid	450 (17.72)	200 (7.87)	7526760
	650 (25.59)	200 (7.87)	7526800
With Brush Strips	450 (17.72)	200 (7.87)	7526850
	650 (25.59)	200 (7.87)	7526860
Vented	450 (17.72)	200 (7.87)	4526829
	650 (25.59)	200 (7.87)	4526834
Compensating Plate	450 (17.72)	50 (1.97)	7526750
	650 (25.59)	50 (1.97)	7526790

Also Required:
For a completely sealed roof/base assembly, compensating plate is required

Accessories:
Spacers, see Handbook 31

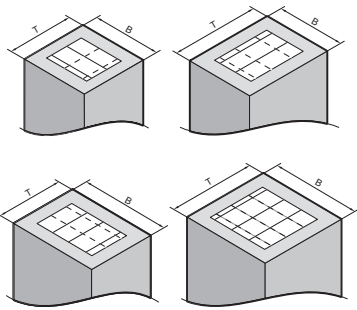
TE

Configuration

Roof/Base Frame for TE 7000 Enclosures

Enclosure dimensions mm (inches)	W(B)	600 (23.62)	600 (23.62)	800 (31.49)	800 (31.49)
	D(T)	600 (23.62)	800 (31.49)	600 (23.62)	800 (31.49)
Installation position/ enclosure		2 x module plates in the width or depth plus 1 x compensating plate in each case	3 x module plates in the width or 2 x module plates in the depth plus 1 x compensating plate in each case	2 x module plates in the width or 3 x module plates in the depth plus 1 x compensating plate in each case	3 x module plates in the width or depth plus 1 x compensating plate in each case

Enclosures



Toolless Blanking Panels

To place in unused or vacant rack space, to block off airflow. Installs without the need for additional hardware or tools.

U	Packs of	Color	Part #
1	10	Sand Texture Black	9970116
3	5	Sand Texture Black	9970117

TS TE



Bolt Down Kits

For anchoring the enclosure at any position of the base frame, particularly in cases where the existing holes in the frame or base tray cannot be used due to the installed equipment or because the substructure prevents them from being used.

Material:
Sheet steel, zinc-plated, passivated

PU	Part #
4	8800210

Note:
Additional holes in the base are required for mounting

TS



For use in addition to clamping straps for stabilization when populated enclosures are screw-fastened through the base tray to the base/plinth or pallet for transportation purposes.

Material:
Sheet steel, zinc-plated, passivated

PU	Part #
4	8800830

Configuration:
Assembly hardware

TS

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Enclosures

System Accessories Roof/Base/Sidewall Configuration



Transport Casters

For easy transportation between two locations. The casters may additionally be screw-fastened to the leveling feet in the corner areas of the base frame.

Load Capacity:

660 lbs, static

Supply Includes:

1 set = 4 transport casters, assembly parts

Packs of	Part #
1 set	7000672

TE



Twin Casters

For TS8 Data Rack

Mounting Thread:

M12 x 20

Supply Includes:

1 set = 4 transport casters, assembly parts

Also Required:

For mounting on the TS base/plinth:
Base/plinth adapter for twin caster 8800290, see Handbook 31

TS



	Maximum Load Capacity per Caster (lbs)	Ground Clearance mm (inches)	Lock	Packs of	Color	Part #
①	88	50 (1.96)	4 w/out	1 set	black	4611000
②	165	85 (3.35)	2 with 2 w/out	1 set	black w/ grey surface	6148000
③	264	125 (4.92)	2 with 2 w/out	1 set	black	4634500 7495000



Caster Kit

Castors help simple movement on even floors. Easy to install. Kit includes hardware, left and right rigid casters and two swivel casters.

Load Capacity:

825 lbs

Kit includes	Part #
4 casters /1 wrench	9968751

TS



Leveling Feet

Compensate for uneven floors and can be mounted on enclosure or on base.

Length of Thread:

51 mm (2")

Load Capacity:

227 kg (500 lbs)

Type of Thread:

M12

For	Packs of	Part #
TS	4	9968385

TS

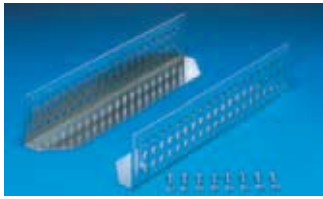
TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Heavy-Duty Support Rails (Telescopic Slides)

Designed to support components from underneath at 200 lbs.

Part #
9968837



Slide Rails

For mounting between a front and a rear pair of mounting angles. The slide rails can be used to support heavy 482.6 mm (19") components. H x W: 80 x 85 mm (3.1 x 3.3")

Load Capacity:

80 kg (176 lbs)

Material:

Sheet steel, zinc-plated, passivated

Includes:

2 slide rails, assembly parts

Length mm (inches)	482.6 mm (19") distance between levels mm (inches)	Packs of	Part #
324 (12.75)	395 (15.55)	2	7963310
424 (16.69)	495 (19.49) ¹⁾	2	7963410
524 (20.63)	595 (23.43)	2	7963510
624 (24.57)	695 (27.36)	2	7963610

1) Premium accessories: a direct fit for enclosures in their delivered state.

Possible Alternative:

Depth-variable slide rail, see below



Slide Rails, Depth-Variable, 1U

These slide rails facilitate flexible integration of 482.6 mm (19") components without loss of installation height in all enclosures with L-shaped mounting angles or 482.6 mm (19") mounting frames in enclosure series TS8 & TE and their server variants. Installation of the slide rail is independent from the chosen distance between levels, since the installation length may be flexibly adapted.

Material:

Sheet steel

Surface Finish:

Sheet steel, zinc-plated, passivated

Length mm (inches)	Load capacity	Contact surface W x D mm (inches)	Part #
390 x 600 (15.35 x 23.62)	80 kg (176 lbs)	50 x 330 (1.96 x 12.99)	7063878
590 x 930 (23.23 x 36.61)	80 kg (176 lbs)	50 x 525 (1.96 x 20.66)	7063880
590 x 930 (23.23 x 36.61)	150 kg (330 lbs)	50 x 525 (1.96 x 20.66)	7063884

Includes:

2 slide rails, including assembly parts



Assembly Screws M6 x 16 mm, M5 x 16 mm

For captive nuts, 482.6 mm (19") enclosure mount components and blanking panels. Plastic washers included.

Type	Packs of	Part #
Slotted screw M6	100	2093200
Phillips screw M6	100	2089000
Phillips screw M5	100	2099500



Torx Screws

For the round holes in the TS profile, installation rails and system chassis without mounting flanges.

Self-Tapping Screws

For the round holes in the TS profile, installation rails and punched sections without mounting flanges.

Drilling Screws

Mark, drill and tighten in a single move using electric or pneumatic tools.

For metal thickness: 8 - 3 mm (.32 - .12")
 Length: 16 mm (.63")
 Usable length: 9.50 mm (.37")
 Width across flats: 8 mm (.32")

Torx drive for optimum transmission of torques, an extended tool life and increased safety and reliability when tightening and loosening screw connections.

Type of screw	Dimensions	Packs of	Part #
Torx screws	M6 x 12 mm	300	2504500
Torx screws	BZ 5.5 x 13 mm	300	2486500

Self-Tapping Screws

Type of screw	Dimensions	Packs of	Part #
Hex screws	M5 x 10 mm	500	2504000
Posidrive raised countersunk screws	M5 x 12 mm	500	2488000
Pan head screws, posidrive	M5 x 12 mm	500	2489000
Self-tapping screws	-	300	2487000



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products



TS Punched Section with Mounting Flange 17 x 73 mm (.66 x 2.87")

For designing a flexible interior installation, or for accommodating additional components. The punched sections with mounting flanges may be attached directly onto a 482.6 mm (19") mounting frame horizontally at the rear or in the enclosure depth between two mounting frames. An additional screw fastening secures the unit.

Variable, with 5 rows of holes for universal skeleton structure or partial assembly.

Material:

Sheet steel, zinc-plated, passivated

Includes:

Assembly parts

German Patent no. 196 47 802

Note:

When selecting a distance between levels outside of the mounting attachment points, it is advisable to use the depth-variable punched section with mounting flange, see below.

For inner mounting level

Enclosure width/depth mm (inches)	Packs of	Part #
600 (24)	4	8612060
800 (32)	4	8612080
900 (36)	4	8612090
1000 (40)	4	8612000
1200 (48)	4	8612020

For outer mounting level ¹

Enclosure width/depth mm (inches)	Packs of	Part #
600 (24)	4	8612160
800 (32)	4	8612180
1000 (40)	4	8612100
1200 (48)	4	8612120

NOTE:

1) In conjunction with plug-in side panels, notched punched sections are required



TS Punched Section with Mounting Flange 17 x 73 mm (.66 x 2.87")

Depth-Variable for Mounting Frames

For designing flexible interior installation, and/or to accommodate additional built-in components. The punched sections with mounting flanges may be located in the enclosure depth between two mounting frames. An additional screw fastening secures the unit.

The depth variability of the rails allows for flexible adaptation of their length to the existing attachment distance between the two 482.6 mm (19") mounting frames. An additional punched section center piece may be slid flexibly along the rail in the depth and secured to slots. This facilitates flexible attachment at any point between the mounting frames in the enclosure depth.

482.6 mm (19") distance between levels mm (inches)	Packs of	Part #
420 – 590 (16.54 – 23.23)	2	7000676
650 – 820 (25.59 – 32.28)	2	7000678

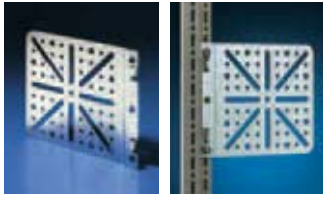
Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

2 variable punched sections with mounting flanges, including one movable center part in each case, including assembly parts





Mounting Plate (System Chassis)

Locatable

On the vertical TS enclosure section or TS punched section with mounting flange 17 x 73 mm (.66 x 2.87") on the inner and outer mounting level.

Material:

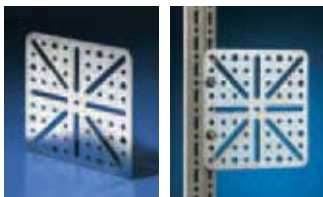
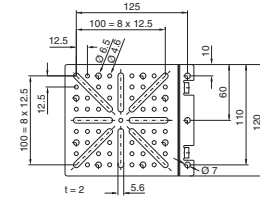
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part #
4	8612400

TS **TE**



Mounting Plate (System Chassis)

Screw-Fastened, Large

On all enclosures and mounting parts with system punchings on a 25 mm (.98") pitch pattern.

Material:

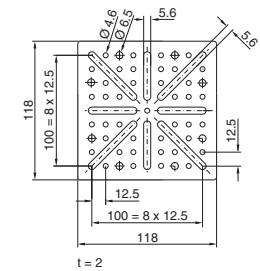
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part #
4	8612410

TS **TE**



Mounting Plate (System Chassis)

Screw-Fastened, Small

Material:

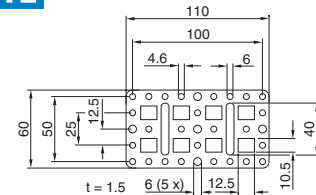
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part #
4	4532000

TS **TE**



Mounting Bracket (System Chassis)

Screw-fastened on all enclosures and mounting parts with system punchings on a 25 mm (.98") pitch pattern.

Material:

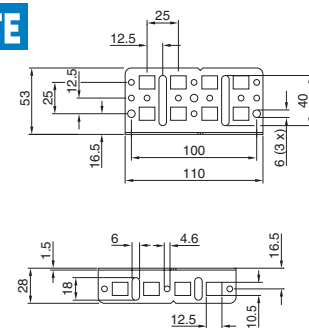
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part #
4	4597000

TS **TE**



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products



Baying Kit

For connecting individual enclosures into bayed suites at the sides. The enclosures are mounted between the base and roof frame.

Material:

Sheet steel, zinc-plated, passivated

Includes:

1 set of baying connectors

Packs of	Part #
1 kit	7000640



Baying Connectors, External

For mounting on the vertical enclosure sections. Simply position on the outside and screw. Fasten either from the inside or outside.

Material:

Sheet steel, zinc-plated, passivated or stainless steel 1.4301

Includes:

Assembly parts

Version	Packs of	Part #
Sheet steel	6	8800490
Stainless steel	6	8700000

German Patent No. 197 37 668



Baying Bracket

For additional stabilization or in cases where:

- mounting brackets
- swing frames
- busbar supports

prevent the installation of angular baying brackets.

Material:

Sheet steel, zinc-plated, passivated

Includes:

Assembly parts

Packs of	Part #
4	4582500

Accessories:

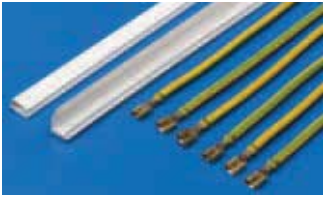
For mounting on vertical TS enclosure: Snap-on nut M8, 8800808, see Handbook 31



Indicates its use with TS8 products



Indicates its use with TE 7000 products



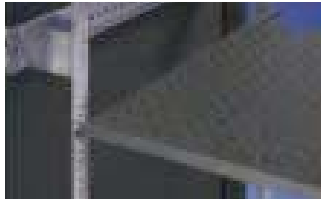
Complete Grounding Kits

For system-compatible grounding of all enclosure parts on the enclosure frame according to VDE. The ground conductors are pre-assembled, ready for connection with connectors and cut to the correct length.

Includes:
Assembly parts

Models	Packs of	Part #
TE	1 kit	7000675
TS	1 kit	7829150





Toolless Shelves For 482.6 mm (19") Rack Mounting

These 482.6 mm (19") enclosure mount shelves are designed for your ease – the toolless advantage allows quick and simple assembly.

Load Capacity:
68 kg (150 lbs)

Mounting	Color	Part #
Fixed	RAL 7035 light grey	9968421
Fixed	Cool black	9968422

TS



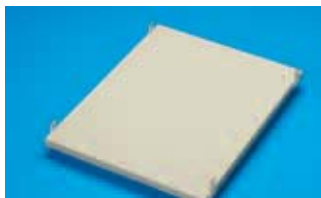
Heavy-Duty Toolless Shelves For 482.6 mm (19") Rack Mounting

These 482.6 mm (19") heavy duty enclosure mount shelves are designed for your ease. The toolless advantage allows quick and simple assembly.

Load Capacity:
113 kg (250 lbs)

Mounting	Color	Part #
Fixed	RAL 7035 light grey	9968556
Fixed	Cool black	9968557
Telescopic	RAL 7035 light grey	9968586
Telescopic	Cool black	9968587

TS



Component Shelf Static Installation for Mounting Frames

For fast integration of a component shelf and to accommodate a wide variety of built-in components. Combination with telescopic slides is not possible. The component shelf is attached directly to the front and rear 482.6 mm (19") mounting frame. To this end, it is first necessary to secure the 482.6 mm (19") mounting frames at the corresponding distance from one another.

Load Capacity:
59 kg (130 lbs), static

Material:
Sheet steel, spray-finished

Color:
RAL 7035 light grey

H x W x D mm	482.6 mm (19") distance between levels mm (inches)	Packs of	Part #
22 x 512 x 40	495 (19.49)	1	7000620

Includes:
1 component shelf, assembly parts

TE



Component Shelves 1/2U, Depth-Variable

These space-saving component shelves are screw-fastened to the front and rear 482.6 mm (19") attachment level. They are infinitely depth-adjustable and may be fitted independently from the enclosure. Combination with telescopic slides is not possible.

Load Capacity:
110 lbs surface load, static

Material:
Sheet steel

Surface Finish:
Spray-finished, RAL 7035 light grey

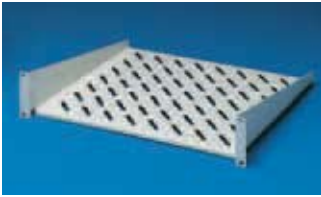
Distance between levels mm (inches)	Part #
400 – 600 (15.74 – 23.62)	7063710
600 – 900 (23.62 – 35.43)	7063720

Includes:
Component shelf, including assembly parts

TS

TE

TS Indicates its use with TS8 products **TE** Indicates its use with TE 7000 products



Component Shelves, 2U

Static Installation

If only one pair of 482.6 mm (19") mounting angles is available for mounting a component shelf, this variant offers a particularly cost-effective solution. Installation of telescopic slides is not possible.

Load Capacity:

55 lbs surface load, static

Material:

Sheet steel, spray-finished

Color:

RAL 7035 light grey

Also Required:

Screws, captive nuts

Component shelf depth mm (inches)	Part #
250 (10)	7119250
400 (16)	7119400



Component Shelf, 2U

Static Installation or Fully Extendable

Suitable for installation in all enclosures with only one 19" location point via flange mounting.

Load Capacity:

25 kg (55 lbs) surface load, static

Material:

Sheet steel, spray-finished

Color:

RAL 7035 light grey

Static Installation or Fully Extendable¹⁾

Width x depth mm (inches)	Part #
390 x 300 (15.35 x 12)	7148035

1) For fully extendable version, telescopic slides 7051000 should be ordered additionally.

Includes:

1 set = 1 component shelf, 2 installation brackets, assembly parts

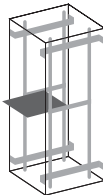
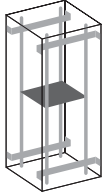
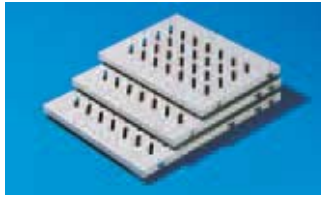
Accessories:

Telescopic slides



Enclosures

System Accessories Shelves



Component Shelves, 482.6 mm (19") Configuration

The component shelves may be inserted in network enclosures with two pairs of 482.6 mm (19") mounting angles.

The component shelves offer a number of location points depending on their depth, so that the distance between levels is completely variable in conjunction with the depth-variable installation kit. Each component shelf secured in this way can be retrospectively upgraded to full withdrawal using telescopic slides.

For this purpose, the telescopic slides are screw-fastened in place of the spacers.

Load Capacity:

50 kg (110 lbs) or 100 kg (220 lbs) surface load, static

Material:

Sheet steel

Color:

RAL 7035 light grey

Includes:

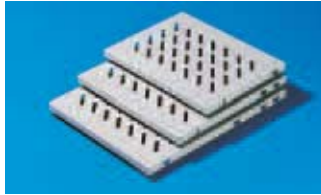
Component shelf including spacers for static installation

Also Required:

Depth-variable installation kit, see next page



Component shelf width mm (inches)	409 (16.10)				
Component shelf depth (T) mm (inches)	300 (11.81)	400 (15.74)	500 (19.68)	600 (23.62)	700 (27.55)
Part # 110 lbs Shelf	7143035	7144035	7145035	7145635	7145735
Part # 220 lbs Shelf	-	-	7063895	-	7063897
Handle for component shelf	3636010	3636010	3636010	3636010	3636010
Telescopic slides 50 kg (110 lbs)	7051000	7061000	7081000	7161000	7161700
Telescopic slides 100 kg (220 lbs)	-	-	7065000	-	7066700



Component Shelves (Without 482.6 mm [19"] Rail Mounting)

For installation in enclosures that do not have 482.6 mm (19") rails. Depth of shelf should not exceed enclosure depth minus (-) 100 mm (3.94").

Available in two versions:

Max. load capacity: 50 kg (110 lbs)

Max. load capacity: 100 kg (220 lbs)

Can be installed in two ways:

1. Permanently fixed, or
2. Fully extendable on optional telescopic slides.

Color:

RAL 7035 light grey**

Configuration:

- Component shelf including installation hardware***
- Sheet steel, 16/14 ga (2 mm [1.50"])
- Slotted to prevent heat build-up
- Can be mounted and adjusted in 25 mm (.98") increments
- Mounting holes for handle
- 100 kg (220 lbs) version is 45 mm (1.77") high

* Only for 800 mm (32") deep enclosures

** Use suffix .035 when ordering RAL 7035 light grey component shelves

*** Installation kits not included – 7796000 or 7798000 for standard shelves 4371000 or 4372000 for heavy-duty shelves



Vented Component Shelves for Fixed or Extendable Mounting on Enclosure Frame

Max. load For encl.	Shelf W x D		50 kg (110 lbs)	100 kg (220 lbs)
			Part #	Part #
Width	mm	inches		
600 mm (24")	471 x 400	18.54 x 15.75	7164000	7464000
	471 x 500	18.54 x 19.68	7165000	7465000
	471 x 600	18.54 x 23.62	7166000*	7466000*
800 mm (32")	671 x 400	26.42 x 15.75	7184000	7484000
	671 x 500	26.42 x 19.68	7185000	7485000
	671 x 600	26.42 x 23.62	7186000*	7486000*

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products



Telescopic Slides for Component Shelves

Sides are fully extendable, and can also be easily retrofitted to convert fixed shelf into sliding shelf.

Available in two versions:
max. load capacity: 50 kg (110 lbs)
max. load capacity: 100 kg (220 lbs)



Technical Description:

- Installation adjustable in 25 mm (.98") increments
- 2-stage extension

Material:

Sheet steel, zinc-coated, chromated

For shelf depth	Packs of	Part # max. load capacity	
		50 kg (110 lbs)	100 kg (220 lbs)
300 mm (12")	1 set	7051000	-
400 mm (16")	1 set	7061000	7064000
500 mm (20")	1 set	7081000	7065000
600 mm (24")	1 set	7161000	7066000



Handle for Component Shelves

Includes:

Installation hardware. All component shelves have mounting holes for handles.

Material:

Die-cast zinc

Packs of	Part #
2	3636010

Surface Finish:

Spray finished, silver grey



Hinged Cable Carriers

For component shelves on telescopic slides and for printer carriages. Prevents cables from sagging and kinking.

Includes:

Installation hardware

Material:

Sheet steel, zinc-coated, passivated

For enclosure mm (inches)	Part#
<600 (24)	7163500
>600 (24)	7163550



Installation Kits, Depth-Variable For 482.6 mm (19") Component Shelves

Infinitely adjustable to the spacing between the two pairs of 482.6 mm (19") mounting angles.

Suitable for all 482.6 mm (19") component shelves in 409 mm (16.10") width. May also be combined with telescopic slides.

Material:

Sheet steel

Surface Finish:

Zinc-plated, passivated

Includes:

1 set = 2 mounting rails, including assembly parts



Length mm (inches)	Load Capacity kg (lbs)	Part #
400 - 600 (15.75 - 23.62)	50 (110)	7063858
600 - 850 (23.62 - 33.46)	50 (110)	7063860
610 - 900 (24.01 - 35.43)	110 (220)	7063891¹⁾
710 - 1000 (27.95 - 39.37)	110 (220)	7063890

Packs of 1 set

1) Only in conjunction with 500 mm (19.68") deep component shelves

Accessories:

Component shelves, 482.6 mm (19"), see previous page. Telescopic slides, see above.





Cooling

Liquid Cooling

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(LCP) Solution Page 48

Power Cooling System (PCS)

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Fan Systems

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Air Conditioners

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Accessories

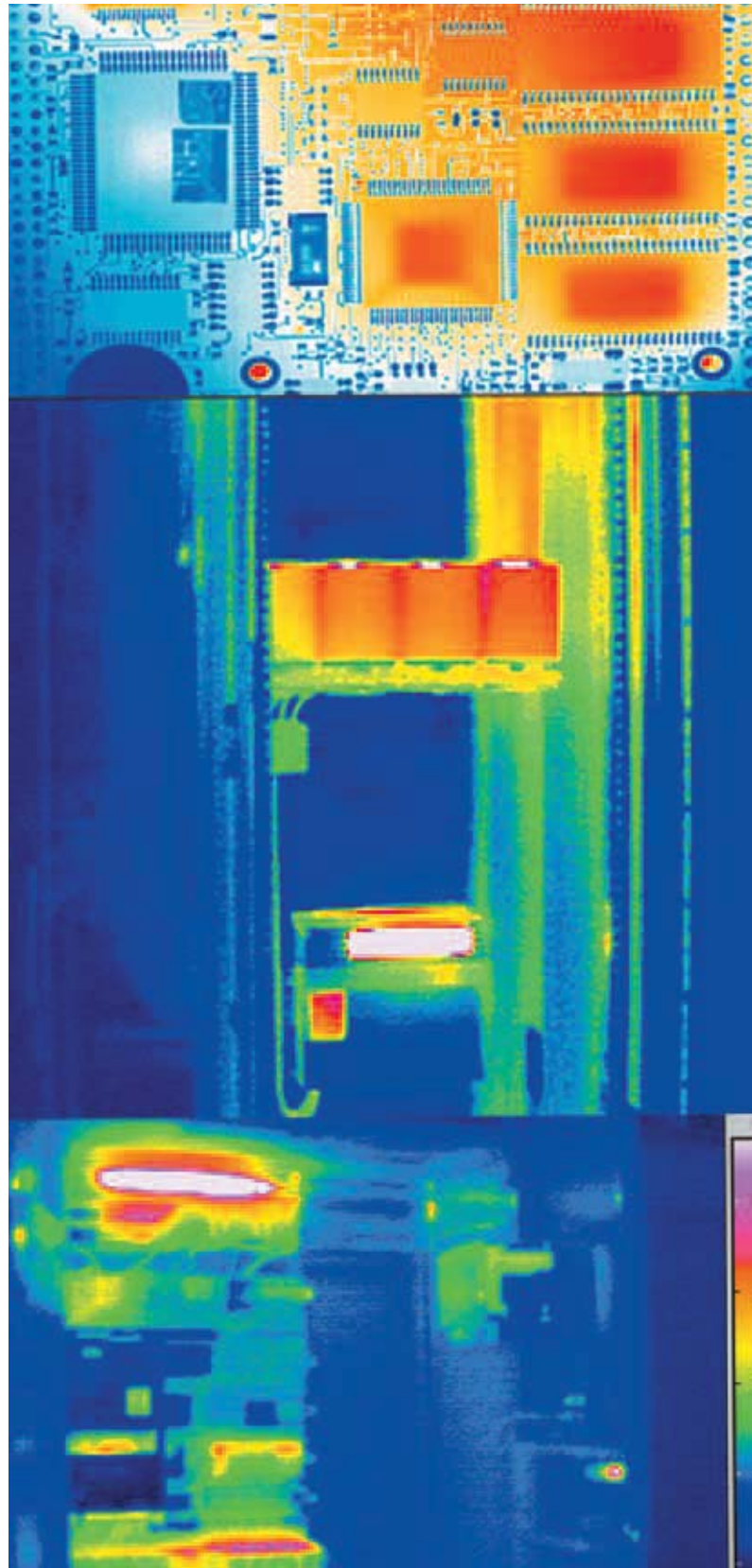
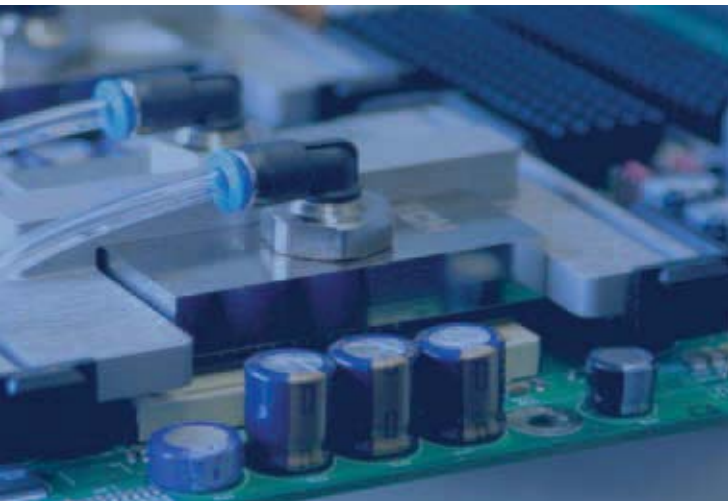
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Cooling

Get Connected and Beat the Heat – Rittal Customized, Climate Control Concepts!

Heat is just one of the many factors severely affecting IT performance. Beat the heat with Rittal’s scalable climate control solutions. From passive air to active liquid, Rittal’s flexible cooling concepts are designed according to your requirements, to effectively handle unwanted heat loads.

Software assisted planning and requirements calculation, together with modular, rack-compatible technology help to minimize investment costs, thereby offering a particularly future-safe solution, thanks to the high degree of flexibility.



Cooling

NEW Liquid Cooling Package (LCP) Solution



The Future is Here!

Cooling and heat removal, in the data center and at the enclosure level, have quickly become the most critical factors in data center design. Unmanaged heat removal may cause equipment damage or even failure, resulting in costly downtime. With the exponential increase in deployed servers, heat loads have almost quadrupled in the last seven years, leaving many facilities today unable to support such temperatures.

Developed to remove high levels of waste heat from server enclosures, the high density cooling solution from Rittal utilizes our new LCP air/water heat exchanger providing uniform, effective and affordable cooling for servers and similar IT equipment. The special horizontal airflow of the LCP represents an adaptation of this widespread cooling principle, providing cooled air uniformly throughout the complete height of the enclosure.

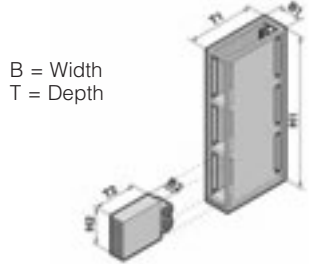
Modular, upgradeable and temperature neutral cooling concept.

- Up to 20 kW (1410 cfm) cooling output, with three cooling modules possible per equipment rack
- Controlled variable speed fan and water flow based on actual heat load generated in cabinet
- Constant temperature cold air provided at the front intake for optimized equipment use, hot air removed from rear

- Even air distribution along the entire height of the front 482.6 mm (19") mounting angles
- LCP bayed with one TS server rack and an option for a second TS server rack
- High energy efficiency in removing waste heat with no temperature impact in the room

Technical Specifications:

- RAL 7035 (light grey) textured paint
- Overall bayed dimensions - H = 2000 mm (80"), W = 900 mm (36") and D = 1000 mm (40")
- 482.6 mm (19") full height mounting angles front and rear, 2000 lbs loading, depth adjustable
- Ten 1/4 turn Velcro cable managers
- Set of PDS mounting brackets
- Air baffle to block air recirculation path outside 19" space between front 19" rails and TS frame
- LCP with three air/water heat exchanger cooling modules, 12-20 kW, up to 1410 cfm air throughput
- 3/4" Quick coupling connectors for input and return from cold water
- 3/8" Condensate drain hose
- LCP Controller ready for connection to optional SNMP CMC-TC for incorporation into network monitoring¹⁾
- Package of captive nuts, screws and leveling feet

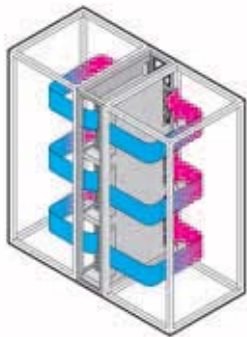


B = Width
T = Depth

Part #	Enclosure + 1 module		Individual module	
	3301230	3301210	3301250	3301240
Rated operating voltage V, Hz	230, 50/60	120, 50/60	230, 50/60	120, 50/60
Dimensions mm (inches)	H	2000 (79)	550 (22)	
	W	300 (12)	250 (10)	
	D	1000 (40)	950 (35)	
Useful cooling full configuration				
15°C (59°F) Water, 15 l/min (4 gpm), 20°C (68°F) Air	12000 W/40697 BTU	10500 W/35610 BTU	4000 W/13565 BTU	3500 W/11870 BTU
6°C (43°F) Water, 15 l/min (4 gpm), 20°C (68°F) Air	20000 W/68300 BTU	18375 W/62315 BTU	6600 W/22530 BTU	6125 W/20770 BTU

Rated current max.	1.8 A /module	
Pre-fuse T	5.0 A	
Cooling medium	Water (specifications may be found in the manual)	
Water inlet temperature	> 1°C+ +30°C (>34°F to 86°F)	
Permissible operating pressure p. max.	29 - 73 psi (2-5 bar)	
Temperature range	+5°C to +40°C (+34 to 104°F)	
Protection category to EN 60 529/10.91	IP 30 (protection against solid objects 2.5 mm in diameter)	-
Duty cycle	100%	
Type of connection	Current: Connection cable with grounding-pin plug: Water: 3/4" quick-release fastener	
Weight	max. 160 kg (352 lbs)	approx. 25 kg (55 lbs)
Color	RAL 7035 light grey	
Air throughput of fans	max. 2100/2400 m³/h (1412 cfm)	700/800 m³/h (471 cfm)
Noise pressure	Free field on reflective floor, distance 1 m, 58 dB(A)	
Temperature control	Electronically controlled magnetic valve and 4-way fan control	

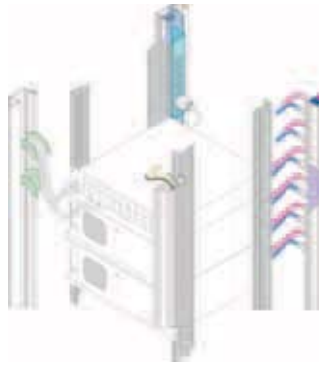
¹⁾ Flow, leakage, inlet/return, intake/exhaust temperature.
The general remarks on air/water heat exchangers (available on the Internet) apply.



Part #	Description
On request	LCP equipment enclosure w/ TS suite hardware and sidewall
7320100	CMC Processor for SNMP communication
7320440	1U Shelf for CMC
7320470	Connection cable from LCP to CMC Processor
7857416	3kVA UPS, 2U, 208/240 V AC, C20, 1xC19, 9xC13
9970824	19" 4 post mounting kit for 3kVA UPS
7857417	6kVA UPS, 3U, 208/240 V AC, 10" cord with L6-30P, 4xC19, 4xC13
9970825	19" 4 post mounting kit for 6kVA UPS

Part #	Description
9970822	SNMP card for UPS
9970750	Vertical Power strip 30A, 6' L6-30, 24xC13, Amp Display
9970730	1U Power strip 30A, 6' L6-30, 12xC13, Amp Display
9970800	20A ATS for dual power circuit supply to LCP, 2xC20, 8xC13
9970811	6' C19 to L6-20P Power Cord
7200215	6'C13 to C14 Power Cord
9970016	1U Blank panel, toolless
9970017	3U Blank panel, toolless
9969973	1U Console drawer with 15" TFT

* Cold water chillers and water/water HX available upon request
* SNMP monitored or controllable power strips available upon request



Rack Cooling Circuit Distributor

Water Cooling

High performance for CPUs, power packs and disk drives by directly cooling the area where heat is generated. The distributor pipes for the inlet and return lines for targeted, safe liquid cooling may be integrated into all standard rack systems.

They are linked to an external, central recooling unit which also controls the inlet temperature. The drip-free, quick-release coupling ensures an extremely high level of operational reliability. Monitoring of the system functions is performed by the tried-and-trusted Rittal CMC-TC module.

There are 2 complete basic packages available for retrofitting for different enclosure heights.

For enclosure height		Part #	
mm (inches)	U	Package 1	Package 2
1200 (48)	24	3301810	–
2000 (80)	42	–	3301820

Includes:

Package 1

Water infeed:

Connection system, non-return valve and 10 m hose 1/2", small parts, filter, vent valve.

Water distribution:

Cooling circuit distributor for 20 CPU cooling circuits, vent valve, 40 bulkhead couplings, 50 m distributor hose, 6 mm.

Package 2

Water infeed:

Connection system, non-return valve and 10 m hose 1/2", small parts, filter, vent valve.

Water distribution:

Cooling circuit distributor for 40 CPU cooling circuits, vent valve, 80 bulkhead couplings, 100 m distributor hose, 6 mm.

Also Required:

Recooling system

Accessories:

Distributor accessories, see next page



Blade Cooling Circuit Distributor Kit

Our liquid cooling for server racks serves as a basis for this solution. The large number of drip-free taps to the individual computers is now replaced by the connection of horizontal liquid sub-distributors, where the drip-free connectors for connection of the Powerblade are located.

Five units are possible with 7U per server and 1 per 482.6 mm (19") distributor. The individual 482.6 mm (19") distributors are connected to the rising main with drip-free connectors, so that the system is modular and scalable.

Includes:

- 1 vertical rising main with 5 taps,
- 1 482.6 mm (19") cooling circuit distributor with 10 inlet and return connections,
- 1 connection hose (inlet and return) from the 482.6 mm (19") cooling circuit distributor to the vertical rising main,
- 1 connection hose (inlet and return) from the vertical rising main to the recooler

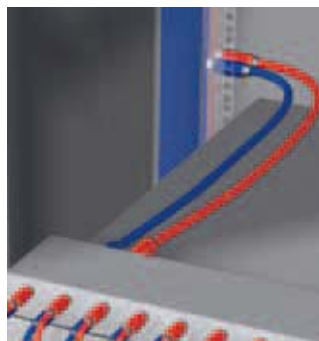
Packs of	Part #
1	3301280

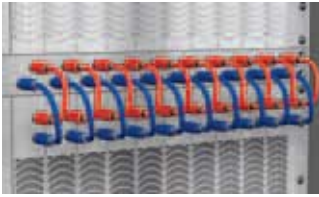
Also Required:

Recooling system

Accessories:

482.6 mm (19") distributor, distributor accessories, see next page





19" Cooling Circuit Distributor

For installation in the 482.6 mm (19") level with drip-free connections for 10 servers and a main connection to the vertical rising main; 0.5 m hose in each case for the inlet and return.

Accessories:

Distributor accessories, see below.

Packs of	Part #
1	3301270

Cooling Distributor Accessories

Description	Packs of	Part #
Heat sink	1	3301000
Connector for heat sink	6 mm	3301010
	4 mm	3301020
Retaining clamps	Athlon	3301030
	Opteron	3301040
	Xeon	3301050
	P 4	3301060
Connection system for hose (sold by the meter)	4 mm	3301070
	6 mm	3301080
Screw-in coupling G 1/8" with seal	10	3301090
Screw-in connector G 1/8" with seal	10	3301130
Bulkhead coupling, 6 mm	10	3301140
Bulkhead connector, 6 mm	10	3301150
Connector sleeve, 6 mm	10	3301160
Connector grommet, 6 mm	10	3301170
Straight screw-in connector G 1/8", 6 mm	10	3301180
Sealing bung, 6 mm	10	3301190
Y-adapter, 6 to 2 x 4 mm	10	3301700
<i>Water distribution:</i> 2 x rising main 24U for TS8, vent valve, screw-in connector 1/2", screw-in coupling 1/2"	1	3301710
<i>Water distribution:</i> 2 x rising main 42U for TS8, vent valve, screw-in connector 1/2", screw-in coupling 1/2"	1	3301720
<i>Water infeed:</i> 2 x connector grommet 1/2", 2 x connector sleeve 1/2", hose 10 mm (1/2"), non-return valve 1/2", dirt trap (with 2 x 1/2" connector sleeve), screw-in connector 1/2" (on the cooling unit), screw-in coupling 1/2" (on the cooling unit), 6 x hose clamps 1/2"	1	3301730
Monitoring at the connection to the CMC: Temperature sensor + clamping screw fastening	1	3301740
Accessories/work materials	Hose cutter	3301750
	Thermo-lubricant	3301760
	Teflon sealing tape	3301770
	Sealing bung 1/4"	3301780

NEW Rittal Enclosure Blower



New Rittal Enclosure Blower

Assist airflow in your cabinets with the NEW Rittal Enclosure Blower and be confident that your equipment will run cooler. The Enclosure Blower features a durable, lightweight polymer housing and fits in the bottom of server cabinets where it draws cool air from beneath the floor and boosts delivery of the coldest available air directly to server fronts. This unique blower is the suggested solution for solid or partially vented front doors with rails set back a minimum of four inches to establish the column of air to raise to the top of the cabinet.

Benefits:

- Filter up to 80% efficient for 2 micron particles, providing clean cool air to your servers
- Improves air distribution reducing cabinet hotspots up to 15°F, extending server life and minimizing downtime
- Requires only 2U of mounting space
- Fits any EIA-310 compliant cabinet
- 5 year life
- Adjustable attachment brackets installs easily
- UL listed
- Optional filter assembly provides cleaner air



1



2

Rittal's Enclosure Blower filters up to 80% efficiency for 2 micron particles providing clean cool air to your servers. Filter assembly features durable construction with simple hand tool assembly. The replaceable filters install without tools.

Dual Power Transfer Switch

Rittal's dual power transfer switch is designed to provide continuous 115 V AC power for the enclosure blower and other single corded fans and motor-driven devices. Capable of automatically switching a 5A load during a power failure on one input circuit, the dual power transfer switch can power other single corded fans and motor-driven devices commonly deployed in data centers. With 5A re-settable circuit breakers, the dual power transfer switch can easily handle the largest fans currently used in data and server cabinets. Two different colored 6' long power cords help ensure that power cable routing won't be a problem.

The dual power transfer switch can be mounted in the vertical zero RMU space inside the cabinet or on standard 19" rails with an optional 1U panel (not included).

While the switchover speed from the utility supply to battery/generator backup is more than fast enough for fans and other motor-driven devices, the dual power relay is not intended for use with digital equipment such as computers or equipment requiring a constant, uninterrupted source of power.



3

Technical Specifications:

- 115 V AC 5A max, 50/60 Hz
- Power cord 6ft each, 5-15 plug
- Re-settable circuit breaker for each power cord
- 482.6 mm (19") rack mount with 1U panel (not included)
- Maintains output power from two separate power sources
- 1.25" H x 9.5" W x 2" D

Part #	Description	Weight
9969639	Enclosure blower w/attachment brackets 115 V AC, 0.65 Amp, 6'6" cord, 5-15 plug, 250 cfm	20 lbs shipped 14 lbs installed
9969640	1 Filter assembly	2 lbs
9969641	2 Replacement filters, 12 per box	5 lbs
9969658	3 Dual power transfer switch	5 lbs



NEW Split Rear Door Fan

With today's high heat loads inside server enclosures, it is critical to use thermal management techniques with optimized enclosure ventilation. Having vented front and rear doors and a vented roof, Rittal's server cabinets provide such ventilation. Rittal's split rear door fan takes advantage of the front to rear airflow of most servers and allows the user to position the fan assembly in the most critical location within the cabinet. Two high pressure fans, 105 cfm each, feature a shallow depth chassis design and

provide the ability to exhaust hot air out the rear of the enclosure at a dramatically higher rate than traditional roof mount fan trays. The result is cooler operating equipment, even with very high enclosure heat loads.

Configuration:

- 2 fans per assembly (210 cfm total)
- Includes 10' cord/plug, mounting hardware
- Can be used for venting through roof by installing system bars/dual brackets (not included)

TS

Volts	Total CFM	Cabinet Width inches	Color	Part #
115	210	24"	RAL 7035 (light grey)	9969936
			Sand texture black	9969937
		28"	RAL 7035 (light grey)	9969940
			Sand texture black	9969941
		32"	RAL 7035 (light grey)	9969944
			Sand texture black	9969945
230	210	24"	RAL 7035 (light grey)	9969938
			Sand texture black	9969939
		28"	RAL 7035 (light grey)	9969942
			Sand texture black	9969943
		32"	RAL 7035 (light grey)	9969946
			Sand texture black	9969947



Roof Fan

Mounts easily into any enclosure roof. Requires round cutout.

Material:

Fan housing of black painted sheet steel with chrome plated finger guards.

Configuration:

Fan assembly; 10' power cord with plug; grounding strap; installation hardware, 2 finger guards.

TS TE

Protection rating	Noise level	Rated current	Air displacement	Dimensions in mm			Rated voltage* V/Hz	Part #
				H	W	D		
NEMA 1	50 dBa	0.4 A	500 cfm	120	120	40	115/60	9964163

*230 V available



TE Roof Fan

For active ventilation of the TE 7000, a ventilation opening may be removed from the front of the standard roof plate and fitted with the fan module. The fan unit is pre-wired and ready for connection. It has 2 fans, 1 thermostat and a connection cable including IEC320 C14 connector. An additional fan may optionally be integrated via an integral terminal block.

Technical Specifications of Thermostat:

Rated operating voltage: 115 V or 230 V (210 cfm)
Temperature range: +5°C to +55°C (40°F to 131°F)

Accessories:

Fan expansion kit, see following page.

TE

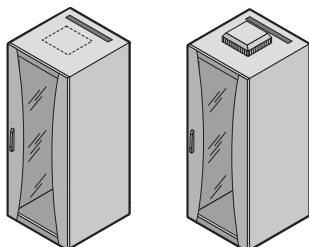
Includes:

Fan unit, assembly parts, 2 fans, thermostat and connection cable

Technical Specifications for One Fan:

See fan expansion kit to the right

For enclosures W x D mm (inches)	Number of prewired fans	Rated operating voltage	Color	Part #
All sizes	2	115 V	RAL 7035	7000920
			RAL 9005	7000915
		230 V	RAL 7035	7000670





Fan Expansion Kit

For retrofitting various fan units or to supplement the fan mounting plate and fan roof, modular.

Technical Specifications 7980000:

Rated operating voltage: 230 V
 Power consumption: 15/14 W at 50/60 Hz
 Air displacement (unimpeded air flow): 160/180 m³/h, 50/60 Hz
 Noise level (unimpeded air flow): 37 dB(A)
 Temperature range: -10°C to +55°C (14°F to 131°F)

Technical Specifications 7980100:

Rated operating voltage: 230 V
 Power consumption: 14/12 W at 50/60 Hz
 Air displacement (unimpeded air flow): 108/120 m³/h, 50/60 Hz (64/71 cfm)
 Noise level (unimpeded air flow): 34 dB (A)
 Temperature range: -20°C to +70°C (-4°F to -94°F)

Technical Specifications 7980148:

Rated operating voltage: 48 V DC
 Power consumption: 7.7 W
 Air throughput (unimpeded air flow): 184 m³/h (108 cfm)
 Noise level (unimpeded air flow): 42 dB(A)
 Temperature range: -20°C to +70°C (-40°F to 158°F)

Dimensions (mm)	Packs of	Part #
119 x 119 x 38	1 set	7980000
119 x 119 x 25	1 set	7980100
119 x 119 x 25	1 set	7980148

Supply Includes:

Fan, including assembly parts and connection cable (0.61 m)

* For 115 V, inquire (**7980110**)



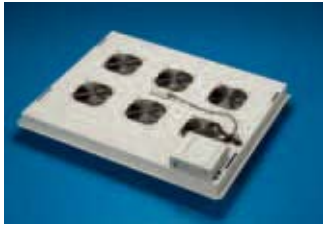
TS8 Air Baffle System

The system has an air inlet nozzle in the base frame. Cold air is drawn in from below and is routed into the double-walled door. The cold air is then distributed inside the rack with special covers. Fifteen covers are supplied with every door.

Color:

RAL 7035 (light grey)

	Packs of	Part #
TS8 sheet steel door, double-walled H 2000 mm (78.74") x W 600 mm (23.62")	1	7766520
TS8 sheet steel door, double-walled H 2200 mm (86.61") x W 600 mm (23.62")	1	7766522
Air inlet W 600 mm (23.62")	1	7766500



DC Fan Mounting Plate

Exceptionally low-noise thanks to FCS speed control, fully fitted

Suitable for TS8 enclosures with a raised roof (> 20 mm) or TS8 roof plate, vented. The fan mounting plate may be used as an alternative to fan mounting plate 7988035. It is installed from above. A cable entry is prepared in the rear section of the plate.

Benefits:

- Exceptionally low-noise due to speed control
- All fans are monitored individually for failure
- High air throughput due to DC technology (unimpeded air flow 6 x 165 m³/h = 990 m³/h)
- EMC-compatible due to DC fan
- Temperature monitoring and control
- High level of safety due to low 24 V DC power pack
- Visual and acoustic alarm messages, plus relay alarm output
- Freely selectable installation location for the FCS control unit (included with the supply of the fan mounting plate, in 482.6 mm (19") with 7320440 or on the frame with 7320450)
- Suitable for international use, with a wide range power pack 100 – 240 V AC and IEC 320 socket
- Fully pre-configured
- Network-compatible via CMC-TC processing unit 7320100 (all relevant data such as temperature, etc. is displayed in the web browser, or alarms are sent in the form of an SNMP trap)

For enclosures Width mm (in)	For enclosures Depth mm (in)	Number of DC fans	Part #
800 (32)	800 (32) 900 (36) 1000 (40) 1050 (42) 1200 (48)	6	7858488

Technical Specifications:

Power pack rated voltage 100 – 240 V AC, 50/60 Hz
 Power pack rated current: max. 1.5 A
 Power pack secondary range: 24 V DC, 3 A
 Temperature range: +5°C to +40°C
 Total air throughput (unimpeded air flow):
 6 x 165 m³/h = 990 m³/h (584 cfm)

Protection Category:

IP 40

Technical Specifications for One Fan:

Rated voltage: 24 V DC
 Rated current: max. 0.28 A
 Rated output: max. 6.72 W
 Air throughput (unimpeded air flow): 165 m³/h (97 cfm)
 Speed: 2650 rpm
 Noise level: up to 41.0 dB(A)
 at maximum speed activation

Also Required:

Connection cable 230/115 V
 Example, US version, Part # 7200214

Accessories:

1U mounting unit, Part # 7320440
 Mounting module, Part # 7320450

TS



Server Fan Assembly

With today's high heat loads inside server enclosures, it is critical to use thermal management techniques which optimize enclosure ventilation. Having vented front and rear doors and a vented roof, Rittal's server cabinets provide such ventilation. Rittal's server fan assembly takes advantage of the front-to-rear airflow of most servers and allows the user to position the fan assembly in the most critical location within the cabinet.

The powerful 220 cfm high pressure fans feature a shallow depth chassis design and provide the ability to exhaust hot air out the rear of the enclosure at a dramatically higher rate than traditional roof mount fan trays. The result is cooler operating equipment, even with very high enclosure heat loads.

Configuration:

- 2 fans per assembly (440 cfm total)
- Includes 10' cord/plug, mounting hardware
- Optional fan expansion to total of four fans (220 cfm per fan)

TS TE*

* TE server cabinets only

Cabinet width	Part #		Height mm (in)	Width mm (in)	Depth mm (in)	cfm ²⁾ mm ³⁾ (in)	Voltage	Current	Noise
	RAL 7035 (light grey)	Cool black							
24	9968490	9968493	298 (11.73)	495 (19.49)	65 (2.56)	440	115/50/60	0.72A	59 dB(A)
28	9968491	9968494	298 (11.73)	595 (23.43)	65 (2.56)	440	115/50/60	0.72A	59 dB(A)
32	9968492	9968495	298 (11.73)	695 (27.36)	65 (2.56)	440	115/50/60	0.72A	59 dB(A)

1) Depth of extension from enclosure door into enclosure.

2) Free air delivery

Cooling

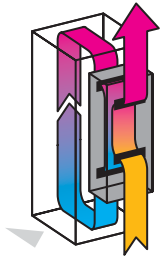
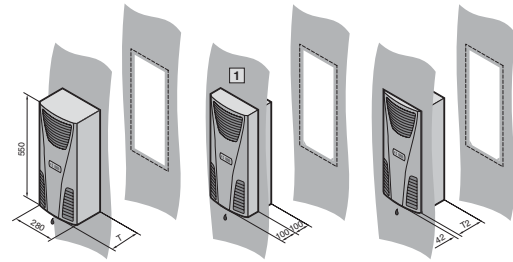
Wall-Mounted Air Conditioners



Air Conditioners

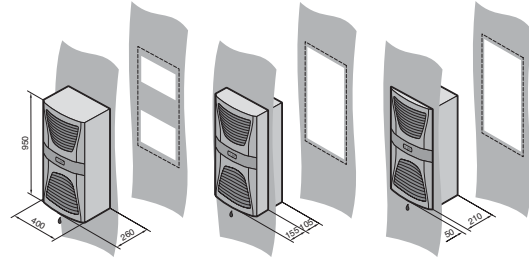
Mini Air Conditioners

Especially developed for small enclosures but can also be used in large enclosures with low heat dissipating requirements. They are available in compact roof-mount and powerful wallmount versions.



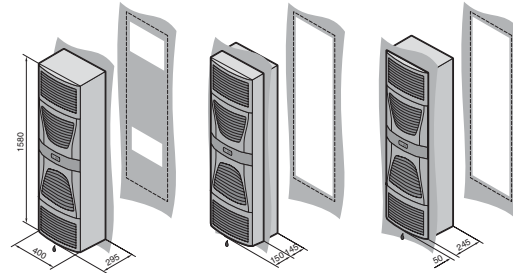
Medium Range Air Conditioners

These medium capacity Rittal air conditioners are used worldwide and stand out through high dependability, flexible installation options, optimum ease of operation and high safety standards.



Full Sized Air Conditioners

Today's design requires that equal attention be given to functionality, ergonomics and aesthetics. Rittal's multi-functional wallmount air conditioners fully meet these requirements through their user friendliness, microcontroller technology and ease of installation.



Configuration:

Fully wired ready for connection, including drilling template, eyebolt and assembly parts

Performance Diagrams:

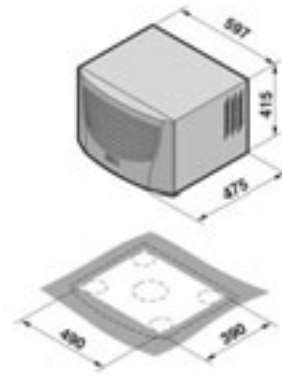
Available on the internet, log onto www.rittal-corp.com

Voltage V, Hz	Dimensions H x W x D mm (inches)	Useful cooling capacity Q _k 3168 in W (BTU)	Current	Part #
115, 60	550 x 280 x 200 (21.65 x 11.02 x 7.87)	610 (2083) 350 (1195)	5.7 A	Mini air conditioner 3303110
115, 50/60	950 x 400 x 260 (37.40 x 15.75 x 10.24)	1000/1060 (3415/3620) 790/840 (2698/2869)	9.5/10 A	Medium range air conditioner 3304110
115, 50/60	950 x 400 x 260 (37.40 x 15.75 x 10.24)	1000/1060 (3415/3620) 790/840 (2698/2869)	9.5/10 A	Medium range air conditioner 3304510
115, 50/60	950 x 400 x 260 (37.40 x 15.75 x 10.24)	1500/1510 (5123/5157) 1230/1250 (4201/4269)	11.0 A/12.5 A	Medium range air conditioner 3305110
115, 50/60	950 x 400 x 260 (37.40 x 15.75 x 10.24)	1500/1510 (5123/5157) 1230/1250 (4201/4269)	11.0 A/12.5 A	Medium range air conditioner 3305510
115, 50/60	1580 x 400 x 290 (62.20 x 15.75 x 11.42)	2500/2750 (8537/9392) 1600/1750 (5464/5977)	16.0 A/21.0 A	Full sized air conditioner 3329110
115, 50/60	1580 x 400 x 290 (62.20 x 15.75 x 11.42)	2500/2750 (8537/9392) 1600/1750 (5464/5977)	16.0 A/21.0 A	Full sized air conditioner 3329510

Note: Part numbers that end in 110 include basic controller. Part numbers that end on 510 include comfort controller and can interface with the CMC for SNMP monitoring and control

Cooling

Roof-Mounted Air Conditioners Useful cooling capacity 1080/1200 W (3688/4098 BTU)



Includes:

Fully wired ready for connection, including drilling template and assembly parts.

Note:

Integration of the air conditioners with comfort controller into superordinate remote monitoring systems can be achieved by means of an optional interface board **Part # 3124200** (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 with mounting cutout.

Optionally Available:

Automatic electric condensate evaporation.

Performance Diagrams:

Available on the Internet, log onto www.rittal-corp.com

Property Rights:

German registered design no. 402 02 324
German registered design no. 402 02 325

Part # with Basic Controller, RAL 7035 (light grey)	3383100	3383110	3384140	–	–
Part # with Comfort Controller, RAL 7035 (light grey)	3383500	3383510	3383540	3273500 ¹⁾	3273515 ^{1) 3)}
Rated operating voltage V, Hz	230, 50/60	115, 50/60	400, 2-, 50/60	230, 50/60	115, 50/60
Dimensions mm (inches)	H x W x D 415 x 597 x 475 (16.3 x 23.5 x 18.7)				
Useful cooling output Q _k to DIN 3168 in W (BTU)	L 35 L 35 L 35 L 50	1000/1080 (3415/3688) 760/820 (2496/2800)		1100/1200 (3756/4098) 850/870 (2903/2971)	

To order air conditioners with integrated condensate evaporators, add XX1 to the part #, i.e. 3383XX1

Rated current max.		4.3 A/4.5 A	8.3 A/8.7 A	2.4 A/2.4 A	5.2 A/5.4 A	11.0 A/11.5 A
Start-up current		15.5 A/15.5 A	25.3 A/24.3 A	8.0 A/8.8 A	15.5 A/16.5 A	32.0 A/35.0 A
Pre-fuse T		10.0 A/10.0 A	16.0 A/16.0 A	10.0 A/10.0 A	10.0 A/10.0 A	20.0 A/20.0 A
Power consumption P _{el} to DIN 3168	L 35 L 50 L 35 L 50	550 W/650 W 660 W/750 W	580 W/660 W 670 W/755 W		890 W/910 W 960 W/1100 W	920 W/940 W 990 W/1140 W
Refrigeration factor $\lambda = Q_k/P_{el}$	L 35 L 35	1.8			1.2	
Refrigerant		R134a, 500 g (17.6 oz)			R134a, 700 g (24.7 oz)	
Permissible operating pressure p. max.		25 bar (363 psi)				
Temperature and setting range		+20°C to +55°C (68°F to 131°F)				
Protection category to EN 60 529/10.91	External circuit Internal circuit	IP 34 (NEMA 2) IP 54 (NEMA 12)			IP 54 (NEMA 12) ⁴⁾	
Duty cycle		100 %				
Type of connection		Plug-type connector terminals				
Weight in kg (lb)		40 (88.2)	46 (101.4)	46 (101.4)	42 (92.6)	47 (103.6)
Air throughput of fans	Internal circuit External circuit	1760 m ³ /h (1036 cfm) 440 m ³ /h (259 cfm)				
Temperature control		Basic or comfort controller – factory setting +35°C (95°F)				

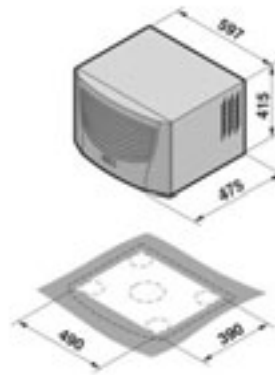
Accessories	Packs of	Part #	Part #
Filter mats	3	3286500	3286100
Metal filters	1	3286510	3286210
Quick-change frame	1	3286800	–
Door-operated switch	1	4127000	4127000
SK bus system for comfort controller	1	3124100	3124100
RiDiag II including cables for comfort controller	1	3159100	3159100
Interface card for comfort controller	1	3124200	3124200
Air-ducting system	1	3286870	3286870
Cover stoppers for interior air outlet	2	3286880	3286980
Condensate hose	1	3301612	3301612

¹⁾ Especially for office applications, low noise level.

³⁾ Delivery times on request. ⁴⁾ In order to avoid increased condensation, we recommend enclosures with a protection category of at least IP 54 (NEMA 3).
Special voltages available on request. We reserve the right to make technical modifications.

Cooling

Roof-Mounted Air Conditioners Useful cooling capacity 1500/2000 W (5120/6830 BTU)



Includes:

Fully wired ready for connection, including drilling template and assembly parts.

Note:

Integration of the air conditioners with comfort controller into superordinate remote monitoring systems can be achieved by means of an optional interface board **part # 3124200** (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 with mounting cutout.

Optionally Available:

Automatic electric condensate evaporation.

Performance Diagrams:

Available on the Internet, log onto www.rittal-corp.com

Property Rights:

German registered design no. 402 02 324
German registered design no. 402 02 325

Part # with Basic Controller, RAL 7035 (light grey)	3384100	3384110	3384140	3385100	3385110	3385140
Part # with Comfort Controller, RAL 7035 (light grey)	3384500	3384510	3384540	3385500	3385510	3385540
Rated operating voltage V, Hz	230, 50/60	115, 50/60	400, 2~, 50/60	230, 50/60	115, 50/60	400, 2~, 50/60
Dimensions mm (inches)	H x W x D	415 x 597 x 475 (16.3 x 23.5 x 18.7)			145 x 597 x 475 (16.3 x 23.5 x 18.7)	
Useful cooling output Q _k to DIN 3168 in W (BTU)	L 35 L 35 L 35 L 50	1500 /1520 (5123/5191) 1100 /1210 (1100/1210)			2000/2130 (6830/7274) 1570/1670 (5362/5703)	

To order air conditioners with integrated condensate evaporators, add XX1 to the part #, i.e. 3385XX1

Rated current max.		5.7 A/6.8 A	12.5 A/14.1 A	3.4 A/4.0 A	5.7 A/6.6 A	13.0 A/14.2 A	3.3 A/3.8 A
Start-up current		16.6 A/17.1 A	30.7 A/29.1 A	9.8 A/9.6 A	16.8 A/18.4 A	36.0 A/32.0 A	10.0 A/12.0 A
Pre-fuse T		10.0 A/10.0 A	20.0 A/20.0 A	10.0 A/10.0 A	10.0 A/10.0 A	20.0 A/20.0 A	10.0 A/10.0 A
Power consumption P _{el} to DIN 3168	L 35 L 50 L 35 L 50	815 W/930 W 950 W/1090 W	850 W/950 W 1000 W/1150 W		1000 W/1175 W 1100 W/1310 W	1050 W/1250 W 1160 W/1380 W	
Refrigeration factor 3 = Q _k /P _{el}	L 35 L 35	1.8			2.0		
Refrigerant		R134a, 500 g (17.6 oz)			R134a, 950 g (33.5 oz)		
Permissible operating pressure p. max.		25 bar (363 psi)					
Temperature and setting range		+20°C to +55°C (68°F to 131°F)					
Protection category to EN 60 529/10.91	External circuit Internal circuit	IP 34 (NEMA 2) IP 54 (NEMA 12)					
Duty cycle		100%					
Type of connection		Plug-type connector terminals					
Weight in kg (lb)		41 (90.3)	47 (103.6)	47 (103.6)	42 (92.6)	48 (105.8)	48 (105.8)
Air throughput of fans	Internal circuit External circuit	1760 m ³ /h (1036 cfm)			1820 m ³ /h (1071 cfm)		
Temperature control		Basic or Comfort controller – factory setting +35°C (95°F)					

Accessories	Packs of	Part #
Filter mats	3	3286500
Metal filters	1	3286510
Quick-change frame	1	3286800
Door-operated switch	1	4127000
SK bus system for Comfort Controller	1	3124100
RiDiag II including cables for Comfort Controller	1	3159100
CMC Interface card for Comfort Controller	1	3124200
Air-ducting system	1	3286870
Cover stoppers for interior air outlet	2	3286880
Condensate hose	1	3301612

Special voltages available on request. We reserve the right to make technical modifications.



Interface Board

For TopTherm Cooling Units with Comfort Controller for connecting to the CMC-TC monitoring system Processing Unit II (PU II).

The interface board is an extension for TopTherm cooling units with a comfort controller. In this way it is possible to monitor a master/slave combination of up to 10 cooling units. Control is achieved by standardized interfaces: RS 232 (DB9) or RS 485, one PLC interface (DB9). RS 422 (RJ 45 jack) is the connection to the Rittal CMC-TC. Remote space monitoring by TCP-IP, graphical interfaces for operation, evaluation and control, documentation, connection to additional sensors for access control, monitoring is therefore possible.

Packs of	Part #
1	3124200

The extension card is built into a 1U plastic housing. A voltage supply of 24 V DC is needed. This may be supplied from the CMC-TC by a wide-range power pack (Part # 7320425) 100 to 240 V AC, 50/60 Hz or externally by a Kycon connector.

Supply Includes:

Interface board integrated into a plastic box
H X W x D (mm): 44 (1U) x 136 x 129



Digital Enclosure Internal Temperature Display and Thermostat

For installing on the enclosure door or wall and in a cooling unit or heat exchanger.

Technical Specifications:

- Small size
- Depth: 100 mm (3.93")
- The 3-digit 7-segment display is 13 mm (.51") high and clearly legible
- Can be switched from °C/°F
- The display can be used in a temperature range from +5°C to +70°C (40°F to 158°F)
- With 1.5 m long temperature sensor cable
- Two relay outputs as normally closed contact and normally open contact (maximum contact load 230 V, 6 A)
- Freely selectable switching range
- The freely adjustable setpoint values can be changed via the membrane keyboard at the front
Setting range: +5°C to +55°C (40°F to 131°F)
- Display and switching accuracy +/- 2 K (3F)
- Mounting cutout 68 x 33 mm (2.68 x 1.3")
- The minimum and maximum recorded temperatures are stored until reset

Installation on the Enclosure Door or Wall and in a Cooling Unit or Heat Exchanger	
Rated operating voltage	Part #
230 V AC	3114100
115 V AC	3114115 ¹⁾
24 V DC	3114024 ¹⁾
Integrated into a Patch Panel 1U	
Color	Part #
RAL 7035	7109035

¹⁾ Delivery times available on request.
Special requirements available on request.



Speed Control

Temperature dependent speed control for Rittal fan and filter units and air/air heat exchangers with a rated operating voltage of 230 V AC for noise reduction and to save energy in part-load operation

Technical Specifications:

- For mounting on a 35 mm support rail DIN EN 50 022
- Dimensions (H x W x D): 57 x 94 x 180 mm (2.24 x 3.70 x 7.09")
- Rated operating voltage: 230 V AC/115 V AC
- Setting range: +20°C to +55°C (68°F to 131°F)
- Phase cross-over with microcontroller
- Maximum fan output 250 W or 1.2 A at 230 V AC
- Maximum fan output 100 W or 1.2 A at 115 V AC

Supply Includes:

Speed control built into a PK enclosure 9512100, temperature sensor length 1.80 m (5.90')

Rated operating voltage	Part #
230 V AC	3120000
115 V AC	3120115 ¹⁾

¹⁾ Delivery times available on request.

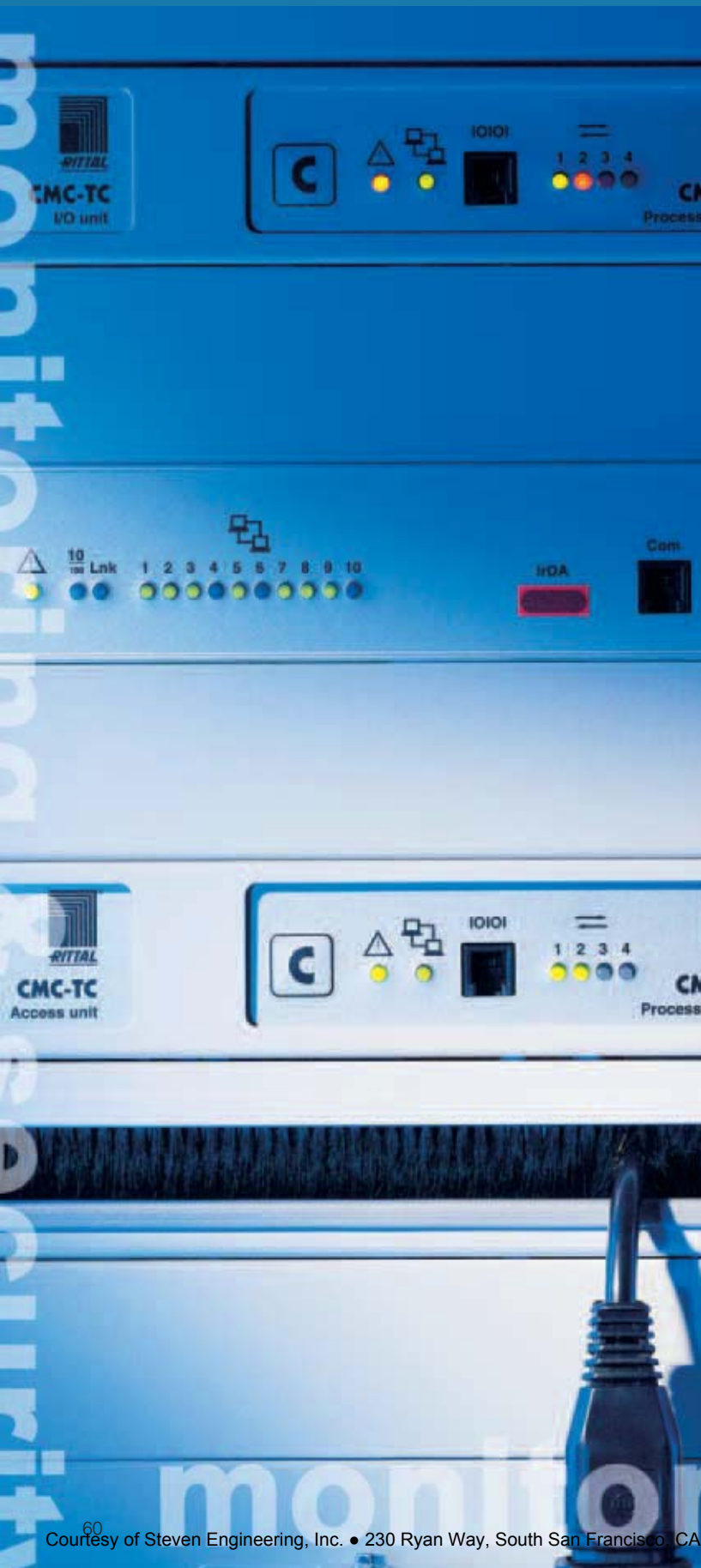
Accessories

	Part #
Mounting adapter	7526964



Mounting Adapter





Monitoring and Security

The Basic System

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Cable and Mounting

Accessories	Pages 70-72
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Internal Security

Accessories	Pages 73-78
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Access Systems	Pages 79-83
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Monitoring of Climate

Control Units	Page 84
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Remote Monitoring Software	Page 85
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Control Console

Drawer, Optional KVM	Pages 86-87
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Monitoring and Security

Get Connected – More IT Protection

The physical security of your IT enclosures is one of the essential factors contributing to the high availability of a whole IT infrastructure. Temperature, smoke and vibration sensors, together with sophisticated access control solutions, provide reliable protection against external influences.

And this is exactly how the Rittal CMC-TC works, at all the relevant points within your company. Computer Multi Control-Top Concept – The tailor-made complete system with modules for your IT security. A guarantee of maximum availability, enhanced productivity and complete transparency.

Use the Rittal CMC-TC to ensure comprehensive IT security, process optimization of your production and pioneering building management (SNMP protocol). Rittal CMC-TC – Security management has never been so individual, easy and cost-effective.

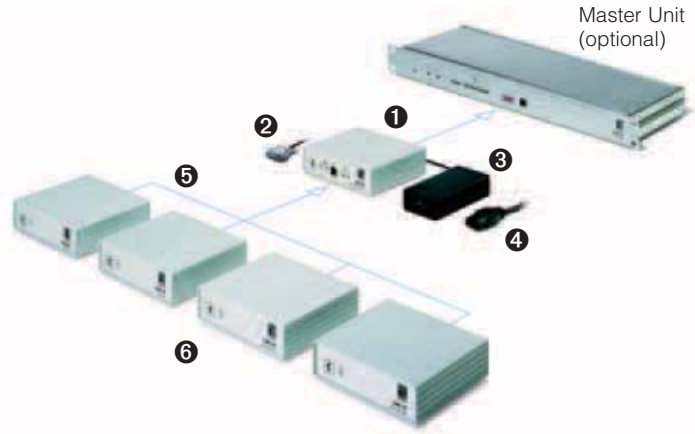


Monitoring and Security

The Basic System

The processing unit (PU) is the basis of any CMC-TC application. Connectivity is offered by the network interface (10BaseT, TCP/IP, SNMP) which connects directly into the user network or to the CMC-TC master. The following products are required for each CMC-TC application:

- 1 **Processing Unit (PU)** (7320100)
- 2 **Programming Cable** (7200221)
- 3 **Power Pack** 100 – 240 V 50 – 60 Hz (7320425) or power pack 48 V DC (7320435)
- 4 **Cable for Power pack**, country-specific (7200210 – 215)
- 5 **Connection Cable, Sensor Unit** (7320470 / 472 / 475 / 481 / 485)
- 6 **Up to Four Sensor Units, But at Least One** (7320210 / 220 / 230 / 810)



Connection Tables

Required Accessories	Power Pack 24 V DC	Connection Cable	Programming Cable	Connection Cable, Sensor Unit	Mounting Unit Mounting Module	Interference Suppression Capacitor
Part #	7320425 7320435	7200210 7200211 7200213 7200214 7200215	7200221	7320470 7320472 7320475 7320481 7320485	7320440 7320450	7200490
	Page 70	Page 70	Page 71	Page 71	Page 72	Page 78
7320000 Master unit (optional)		•	•			
7320100 Processing unit	•	•	•		◦	
7320210 I/O unit (sensor unit)				•	◦	
7320220 Access unit (sensor unit)				•	◦	
7320230 Climate unit (sensor unit)		•		•	◦	◦
7320810 Fan control system (sensor unit)	•			•	◦	
7320600/7320610 Voltage monitor with IEC jack		•				
7320700 Electromagnetic Ergoform-S handle for FR, PS, TC and TE						
7320730 Universal latch						
7320750 Smartcard reader						
7320760 Magnetic card reader						
7320770 Coded lock						
7200630 CMC socket strip						
7200520 Voltage expansion unit		• max. 2 x		• max. 1 x		
2372000 CMC alarm signal lamp						

Required Accessories	Adapter for Reader Units	Connection Cable RJ 10/12	Extension Cable RJ 10/12	Locking Bar PS/FR	Attachment for Universal Lock	Digital Sensor Input Module
Part #	7200344 7200345 7200346 7200347	7200420 7200430	7200440 7200450 7320814	7200371 7200372	720061X	7320580
	Page 83	Page 71	Page 71	Page 79	Page 82	Page 76
7320000 Master						
7320100 Processing unit						
7320210 I/O unit			RJ 12 ◦ 1)			
7320220 Access unit			RJ 12 ◦ 1)			
7320230 Climate unit			RJ 12 ◦ 1)			
7320810 Fan control system (sensor unit)			◦			
7320600 / 7320610 Voltage monitor with IEC jack						
7320700 Electromagnetic Ergoform-S handle for FR, PS, TC and TE				•		
7320730 Universal latch					◦	
7320750 Smartcard reader	•					
7320760 Magnetic card reader	•					
7320770 Coded lock	•					
7200630 CMC socket strip		RJ 10 •	RJ 10 ◦			•
7200520 Voltage expansion unit						
2372000 CMC alarm signal lamp		RJ 12 •	RJ 12 ◦			

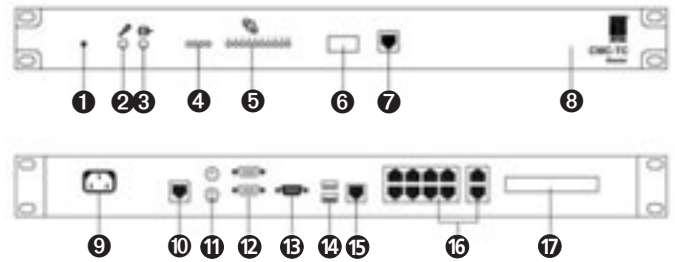
◦ = Optional accessories

• = Required accessories

1) = In conjunction with CMC-TC accessories (sensors/actuators/handles/readers) type RJ 12

Monitoring and Security

Master Unit



Property Rights:
German registered design
no. 402 02 444

The master system may be connected between the processing unit and the user network. There are ten 10BaseT network inputs available for the processing units (PU). The PUs transmit all monitoring-related data and messages to the master system via TCP/IP, SNMP. The master has a 10BaseT/100BaseT network interface for the user network. All monitoring data is provided in a separate MIB via TCP/IP, SNMP. The system may optionally be configured remotely, via the integral web server, or directly, via a local console. Basic settings can also be implemented serially via RS 232 or Telnet. A Telnet routing function to the individual processing units is also pre-installed. This provides the user with a clear central monitoring facility. For example, up to 160 temperature sensors may be accessed or up to 80 enclosure doors may be monitored and activated via one IP address. Combined applications are also

possible, and may be compiled individually from processing units and sensor units. Further functional scope for the CMC-TC master is available on request in the form of a software update. Images may be archived on the hard drive via an optional web camera. USB web camera available on request.

Benefits:

- Centralized administration
- Network connection 10/100BaseT
- Central web server for configuration
- Local administration via PS2/ VGA console
- Logging function for alarm messages
- Link for USB camera
- Free function selection for monitoring
- Ideal for large data centers
- Web access via SSL 3.0 128-bit encryption
- Remote administration via SSH

Part #	7320000
W x D mm	1U x 200
Network interface	Ethernet to IEEE 802.3 via 10BaseT/100BaseT, 10/100 Mbit/s
Protocols	TCP/IP, SNMP V1.0, TELNET, SSH, TFTP, HTTPS

Rated voltage	100 – 240 V AC, 50/60 Hz
Ports for processing unit	10 jacks RJ 45, shielded, 10BaseT, TCP/IP, SNMP
Serial interfaces	RJ 10 jack RS 232 menu program, 2 D-SUB 9 jacks RS 232
USB	Standard 1.1 for Rittal web cameras
Infrared interface ¹⁾	IrDA 1.0 (SIR) on the front
PCMCIA ¹⁾	2 x type I/II or 1x type III for applications with Rittal modem
Relay output module	Change-over contact, max. load capacity 24 V DC, 1 A
Time function	Real-time clock
Temperature application range	+5°C to +40°C (41°F to 104°F)
Humidity application range	5 % to 95 % relative humidity, non-condensing
IP protection category	IP 40 to EN 60 529

- 1 Key**
Offset system reset key with contact hazard protection
- 2 Input for Microphone¹⁾**
3.5 mm jack socket
- 3 Output for Speaker¹⁾**
3.5 mm jack socket
- 4 Status LEDs**
LED 1 Alarm – Alarm system message
LED 2 indicate 10/100 Mbit/s, network interface to user network
LED 3 Link/Activity, network interface to user network
- 5 LEDs**
For the 10 network inputs of the processing units 7320100
- 6 IrDA¹⁾**
Infrared interface
- 7 RJ 10**
RS 232 interface for CMC-TC menu program
- 8 Audio Alarm**
There is an audio alarm signaling device integrated into the master
- 9 Power Supply**
The IEC jack supplies the system with power, connection cables 7200210 to 215
- 10 Alarm Relays**
RJ 12 socket with changeover contact
- 11 Keyboard/Mouse**
PS2 jacks for keyboard and mouse
- 12 RS 232¹⁾**
Two serial D-SUB 9 interfaces
- 13 VGA Interface HD15**
Connection for monitor or Rittal SSC
- 14 USB Interfaces**
Standard 1.1, for applications with Rittal camera
- 15 Ethernet 10/100BaseT**
RJ 45 socket network interface to user network
Ethernet 10BaseT/100BaseT, IEEE 802.3 (10/100 Mbit/s), TCP/IP
- 16 Ethernet 10BaseT (internal)**
Ten RJ 45 jacks, network inputs for the processing units 7320100 Ethernet 10BaseT, IEEE 802.3 (10/100 Mbit/s), TCP/IP
- 17 PCMCIA**
Two PCMCIA ports for applications with the Rittal modem

¹⁾ These functions are prepared for specific customer application, on request.

Also Required:

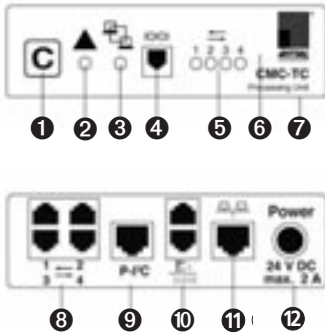
For Connections Tables, see page 62



Camera available on request.

Monitoring and Security

Processing Unit (PU)



Monitoring System Processing Unit

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

Benefits:

- Selectable monitoring functions
- Sensor/actuator ports extendible
- TCP/IP SNMP network connection
- Integral web server for configuration
- Automatic menu generation
- Simple installation based on the plug & play system
- Alarm continues to record even in the event of a network failure
- Built-in real-time clock
- May be used via power pack for 115/230 V AC or 48 V DC
- Choice of mounting on the enclosure frame or 482.6 mm (19") mounting angles
- The protocol for the master/ slave system is TCP/IP SNMP
- May be used for large data centers or small individual applications

Interface to the Customer:

The PU can be incorporated directly into the user network via 10BaseT. The PU can also be linked to the master 7320000 via this interface (TCP/IP, SNMP).

Interface to the Sensors Actuators:

The PU provides 4 open ports for sensor units. The sensor units determine the function of the PU. There is a choice of 4 different sensor units (I/O, access, climate, FCS etc.) with varying functions. In this way, the monitoring functions may be flexibility combined.

Fast, Easy Programming and Installation:

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

Power Supply:

Power is supplied centrally via a power pack in the PU. The connected sensor units and all connected sensors are supplied with power in this way. There is a choice of two input voltages (AC power pack 7320425 and DC power pack 7320435).

1 Control Key

The C key is for sensor/ actuator identification, set-up of the system and acknowledgement

2 Alarm LED

The LED signals alarms or configuration changes

3 Link/Traffic LED

The LED signals the status of the network interface 10BaseT

4 RS 232 Interface RJ 10

For programming via the serial PC interface

5 LEDs Channels of the Sensor Units

The LEDs indicate the status of the attached sensor units

6 Audio Alarm

There is an audio alarm signaling device integrated into the PU

7 Mounting Attachment

For attachment with nylon tape, individual bracket 7320450 or 1U mounting units 7320440

8 Inputs for Sensor Unit RJ 45

Up to 4 sensor units may be connected to the PU via the 4 inputs. The sensor units determine the function of the PU. There is a choice of 4 sensor units and specific device connections such as LCP, PSM and SK.

- I/O unit 7320210
- Access unit 7320220
- Climate unit 7320230
- FCS 7320810

Connection cable 7320470/472/475/481/485
Other connection cables available upon request

9 Power-1°C Bus RJ 45

Up to 2 voltage extension units 7200520 may be connected via the power 1°C bus. Up to three AC voltages may be monitored with every extension unit. Connection cable 7320470/472/475/481/485

10 Alarm Relay RJ 12/ RS 232 RJ 12

The upper RJ 12 jack provides a change-over contact from the PU alarm relay.
Connection cable 7200430
The lower RJ 12 jack provides one serial device interface (display unit/GSM module/ISDN unit).

11 Ethernet 10BaseT RJ 45

Integral Ethernet interface to IEEE 802.3 via 10BaseT half duplex 10 Mbit/s

12 Power Supply

The rated voltage for the PU is 24 V DC. There is a choice of power packs with varying primary voltages. AC power pack 7320425

Part #	7320100
H x W x D mm	44 (1U) x 136 x 129
Network interface	Ethernet to IEEE 802.3 via 10 BaseT half-duplex 10/100 Mbit/s
Protocols	TCP/IP, SNMP V1.0, TELNET, FTP, HTTP

Rated voltage	24 V DC
Serial interface	RS 232
Ports for sensor units	4 jacks RJ 45, shielded
Bus system	Power 1°C for extension unit voltage AC 7200520
Alarm relay output	Change-over contact max. 24 V DC 1 A
Audio display	Piezo signal generator
Time function	Real-time clock
Temperature application range	+5°C to +45°C
Humidity application range	5 % to 95 % relative humidity, non-condensing
IP protection category	IP 40 to EN 60 529



Monitoring and Security

Sensor Units



1



2



3

Four Sensor Units

I/O Unit:

The alarm and measurement module

Access Unit:

For controlling door systems

Climate Unit:

For fan control and monitoring

Fan Control System FCS for variable speed DC fans

Benefits:

- Choice of functions thanks to 4 sensor units (active PSM, RTT I/O unit, RLCP on request)
- Open to customer-specific sensors/actuators
- Automatic sensor detection
- Simple installation based on the plug & play system
- No additional power pack required
- Choice of mounting on the enclosure frame or 482.6 mm (19") mounting angles
- I/O unit: Freely selectable sensors/actuators
- Access unit: Personalized access detection
- Climate unit: Fan control with airflow monitoring

- 1 Interface for the sensor unit and processing unit connection. Used for data communication and power supply. Cable 7320470/472/475/481/485.
- 2 Just one press of the button, and the system automatically reconfigures itself.
- 3 Up to 3 modules may be integrated into the 1U mounting unit: Part #: 7320440.

Technical Specifications:

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

Technical Specifications:

H x W x D: 44 mm (1U) x 136 mm x 129 mm
 Temperature application range:
 +5°C to +45°C (41°F to 113°F)
 Humidity application range:
 5% to 95% relative humidity,
 non-condensing

Protection Category:

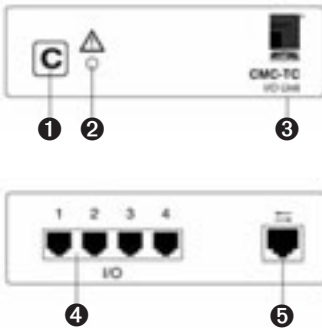
IP 40 to EN 60 529



CMC-TC Sensor Unit: I/O Unit

This sensor unit allows alarm and status messages and measurements to be forwarded or remote actions to be executed via relay output modules. The I/O unit has 4 universal inputs/outputs.

The sensors/actuators listed can be operated here. The interface to the user network is via the PU (processing unit), which is always required to operate the system.



- 1 **Control Key** for detection/set-up of the sensors/actuators
- 2 **Alarm LED** signals alarms or configuration changes
- 3 **Mounting Fixture** for 7320440 or 7320450
- 4 **RJ 12, 4 Inputs for Sensors/Actuators**
- 5 **RJ 45, Connection** to PU 7320100 via connection cable 7320470/472/475/481/485
 (The unit is also supplied with power via this connection.)

Sensor unit I/O unit	Part #
4 universal inputs or outputs	7320210

Also Required:

Sensors/Actuators	Max.	Part #	Page
Temperature sensor	4	7320500	73
Humidity sensor	4	7320510	73
Analog sensor input module "4 – 20 mA"	4	7320520	74
Access sensor ¹⁾	4 x 5	7320530	74
Vibration sensor	4	7320540	73
Airflow monitor	4	7320550	75
Smoke alarm	4	7320560	75
Motion sensor	4	7320570	77
Digital input module	4	7320580	76
Digital relay output module	4	7320590	77
Voltage monitor	4	7320600	75
Voltage monitor with switch output	2	7320610	76
Voltage monitor 48 V DC	4	7320620	76
Water leak sensor	4	7320630	74

1) Up to a maximum of 5 sensors may be connected in series



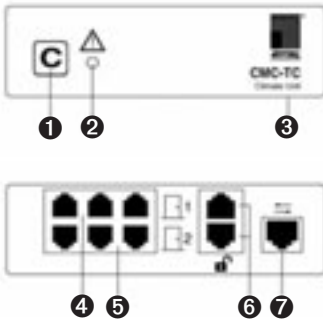
Monitoring and Security

Sensor Units



CMC-TC Sensor Unit: Access Unit

With this sensor unit, one or two door zones may be released for access via the network, or a personalized opening via a code (e.g., smartcard reader) may be initiated. The system also monitors the status of the door, handle or latch. Authorized access codes can be set up via http or file download. The sensors/actuators/readers listed below can be operated here. In order to operate the unit, at least one access sensor and at least one latch (e.g., handle) per door system must always be used per zone.



- 1 **Control Key** for detection/set-up of the sensors/actuators
- 2 **Alarm LED** signals alarms or configuration changes
- 3 **Mounting Fixture** for 7320440 or 7320450
- 4 **Inputs for Access Sensor, Handles**
Latch system 1 (see table)
- 5 **Inputs for Access Sensor, Handles**
Latch system 2 (see table)
- 6 **1°C Bus for Reader Units** Door system 1 and 2 (see table)
- 7 **RJ 45 Connection** to PU 7320100 via connection cable 7320470/472/475/481/485
(The unit is also supplied with power via this connection.)

Sensor unit access unit	Part #
Control of 2 door systems	7320220

Also Required:

Sensors/Actuators	Max.	Part #	Page
Access sensor ¹⁾	2 x 5	7320530	74
Digital input module	2	7320580	76

Latch/Reader

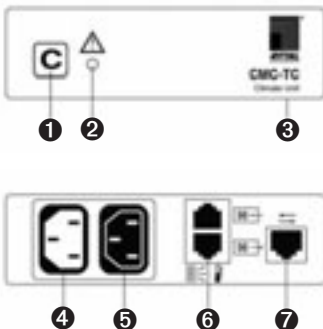
Latch/Reader	Max.	Part #	Page
Electromagnetic Ergoform-S lock	2	7320700	79
Electromagnetic Ergoform-S	2	7320710	79
Comfort handle for TS8 master key	2	7320721	79
Universal lock	2	7320730	82
Room door output module	2	7320740	78
Universal handle	2	7320950	81
Smartcard reader for door release	2	7320750	83
Magnetic card reader for door release	2	7320760	83
Coded lock for door release	2	7320770	83

1) Up to a maximum of 5 sensors may be connected in series



CMC-TC Sensor Unit: Climate Unit

A temperature control circuit is installed with this sensor unit. Temperature setpoints are set via the PU, and these are compared with the actual temperature. Depending on the evaluation, the fan system is activated. The function of the fans can also be monitored with an airflow sensor. Monitoring is only active while the fan is operational. Other sensors may optionally be connected to the unit. In order to operate the unit as a temperature fan control circuit, at least one temperature sensor must always be used.



- 1 **Control Key** for detection/set-up of the sensors/actuators
- 2 **Alarm LED** signals alarms or configuration changes
- 3 **Mounting Fixture** for 7320440 or 7320450
- 4 **Input for Fan Supply** 115/230 V AC, cable 7200210 – 215
- 5 **Output to Fan** with cable 7200215
- 6 **RJ 12, 2 Inputs for Sensors** (see table)
- 7 **RJ 45 Connection** to PU 7320100 via connection cable 7320470/472/475/481/485
(The unit is also supplied with power via this connection.)

Sensor unit climate unit	Part #
Control of a fan system	7320230

Also Required:

Sensors	Max.	Part #	Page
Temperature sensor	2	7320500	73
Access sensor ¹⁾	2 x 5	7320530	74
Airflow monitor	2	7320550	75
Smoke alarm	2	7320560	75
Motion sensor	2	7320570	77
Digital input module	2	7320580	76
Voltage monitor	2	7320600	75
Voltage monitor 48 V DC	2	7320620	76

1) Up to a maximum of 5 sensors may be connected in series



Monitoring and Security

Fan Control System (FCS)



Benefits:

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



Product Properties	Part # 7320810
Fan speed monitoring	•
Pre-selectable speed	•
Non-temperature dependent speed	•
Speed increase in the event of a fan failure	•
Collective fault signal	•
Floating change-over contact	•
LAN connection via PU	•
LAN via I/O unit + PU	
Configurable via LAN	•
Alarm output	Beeper, LED, relay, RJ 45 output for PU

FCS Example:

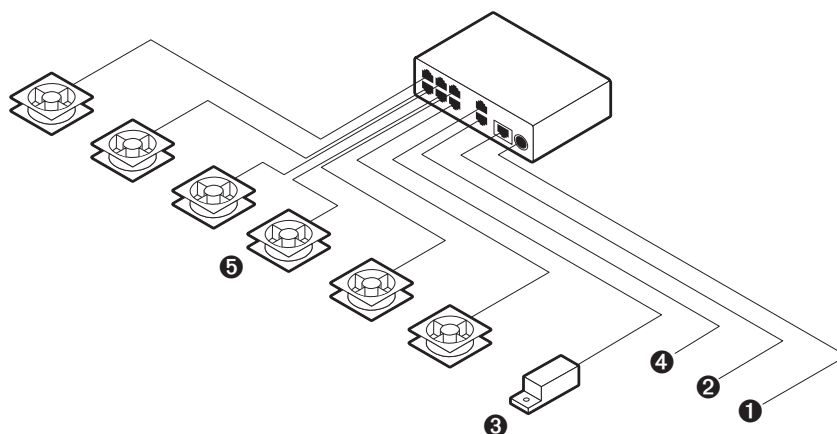
Control System with Fan Regulation and Monitoring

Description	Required Packs	Part #
Fan alarm system FCS	1	7320810
CMC-TC power pack 24 V input 100-230 V AC	1	7320425
CMC-TC temperature sensor	1	7320500
Fan 24 V DC (packs of 2) with speed monitoring	3	7320812
RJ 12 extension for DC fan, 1 m (packs of 2)	3	7320814
CMC connection cable D 230 V AC	1	7200210

FCS	To fit processing unit	Part #
Without fan	•	7320810

CMC-TC Sensor Unit: Fan Control System (FCS) Speed-Controlled Fan System

The Fan Control System regulates and controls the speed of up to 6 fans 7320812, 24 V DC. This helps to save electricity, reduce the noise level of the fans and extend the service life of the fans. The failure of one or more fans is detected and notified in the form of a collective fault signal via LED display, beeper and integral alarm relay (floating change-over contact). Temperature-based control using an external temperature sensor 7320500. The temperature setpoint is set via a switch on the front. The system may also optionally be set and monitored via the network (Web/SNMP). It is connected directly to the CMC-TC (processing unit) 7320100.



Functions:

- Speed-regulated rpm control
- Fan speed monitoring
- Optional connection via Web/SNMP
- Redundant fan control; the air throughput of all fans is automatically increased in the event of a system failure
- Plug & play installation via RJ 12 connector system
- 482.6 mm (19") mounting is possible via 7320440

Note:

Supplied pre-configured on request:
The FCS system may be fitted in all Rittal fan roofs/doors.

1 Supply with 24 V/48 V DC Via

- Supply connection cable direct 7320813
- CMC 24 V power pack 100 – 230 V AC (input) 7320425
- CMC-24 V power pack 48 V DC (input) 7320435. When operating with 48 V DC, fans with 48 V DC must also be used

2 RJ 45 Jack for connecting to the processing unit 7320100 (optional)

3 CMC-TC Temperature Sensor 7320500

4 Alarm Relay Output 48 V DC, 1 A (floating change-over contact)

5 Fan with Speed Monitoring 7320812 (24 V DC). 48 V DC fans may optionally be used



Fan 24 V DC

With Speed Monitoring

Fan with integral speed monitoring with RJ 12 connector/connection cable 0.6 m for connecting to FCS 7320810.

Technical Specifications:

Rated voltage: 24 V DC
Rated current: 0.28 A (max.)
Rated output: 6.72 W (max.)
Air throughput (unimpeded air flow):
165 m³/h (95 cfm)
Speed: 2650 rpm
Noise level: 41 dB(A)

Packs of	Part #
2	7320812

Note:

Fan variant with 48 V DC available on request.



RJ 12 Extension

For 24 V DC Fan, 1 m

The DC fans 7320812 are equipped with a 0.6 m connection cable. If this length is not sufficient to connect to the FCS, the cable may be extended by 1 m using the RJ 12 coupling included in the set.

Technical Specifications:

Coupling: RJ 12 jacks 6/6 at both ends
Connection cable: Length 1 m, RJ 12 connector 6/6 on both sides
Temperature range: +5°C to +45°C (41°F to 131°F)

Fan extension	Packs of	Part #
1 m	2	7320814



Supply Connection Cable

For FCS

If the customer has access to 24 V or 48 V DC, the FCS/FAS system may be supplied with power (max. 48 V DC) via the supply connection cable. No power packs are then required for the application.

Length: 2 m

Packs of	Part #
1	7320813

Monitoring and Security

Additional Units

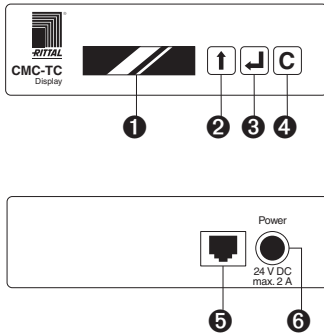


CMC-TC Display Unit

For the local representation of CMC alarm and status messages on the rack.

The CMC-TC display unit is designed for connection to processing unit 7320100. It is comprised of 2 lines each with 20 characters. The character height is 3 mm (.125"). The display is illuminated in order to ensure legibility even in poor light conditions. It is mounted in the 1U component support 7320440 or with the individual mounting unit 7320450. Power supply via the processing unit.

The display is also ideal for use as a service tool for commissioning.



- 1 **LCD Display** illuminates 2 x 20 characters
- 2 **“Change”** for selection
- 3 **“Enter”** to confirm
- 4 **“Clear”** to delete/acknowledge
- 5 **RJ 12 Jack for Connecting** to the serial interface of the PU
- 6 The GSM Unit may optionally be supplied with **24 V DC**, 150 mA via this input. For applications with the PU, this is not necessary

CMC-TC display unit	Part #
Alarm text display	7320490

Technical Specifications:

- Plug & play installation via RJ 12 connector
- 2 x 20 characters
- Character height 3 mm (.125")
- Illuminated

Includes:

CMC-TC display module, connection cable for connection to the processing unit, operating instructions, assembly parts.

Note:

Only one device, either “Display”, “ISDN Unit” or “GSM Unit”, may be connected to each PU.

Also Required:

Components	Part #
Processing unit	7320100

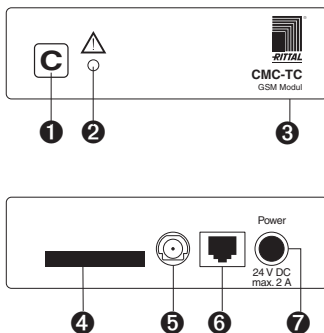


CMC-TC GSM Unit

In order to configure a redundant transmission channel or if there is no network infrastructure available, this unit may be used for alarm forwarding. The alarm signal is designed in SMS format. The GSM unit is linked to the processing unit 7320100 via a serial interface. Power supply is also linked to the processing unit via the connection cable. The only other item needed to operate the module is a SIM card. This may either be a “data only” card or a conventional SIM card. The GSM unit operates in the 900/1800 MHz frequency range – in other words, either D or E network cards may be used. Up to four target call numbers may be set and allocated to the various events. To activate CMC-TC switch outputs, an SMS message may be sent to the modem via any commercially available mobile phone. The antenna included with the supply has a connection cable of 2.8 m. Voltage is supplied via the processing unit.

Other functions, when offered by the provider:

- Voice mail



- 1 **“Clear”** to acknowledge
- 2 **Alarm LED**
- 3 **Mounting Fixture** for 7320440 or 7320450
- 4 **SIM Card Rack Mount**
- 5 **Antenna System**
- 6 **RJ 12 Jack for Connecting** to the serial interface of the PU
- 7 The GSM unit may optionally be supplied with **24 V DC**, 500 mA via this input. For applications with the PU, this is not necessary

GSM unit	Part #
SMS function	7320820

A commercially available SIM card for D or E networks must be provided by the customer.

Note:

Only one device, either “GSM Unit,” “ISDN Unit” or “Display,” may be connected to each PU.

Also Required:

Components	Part #
Processing unit	7320100

Monitoring and Security

Cable and Mounting Accessories



Power Pack for PU, FCS

A 24 V DC power pack is required to supply the processing and fan control units with power.

There are two variants available:

- The 100 – 240 V AC power pack requires an IEC connection cable to supply the voltage.
- An alternative power pack is designed for the telecommunications sector (48 V battery voltages) and is connected at the input end via a terminal block.

Both power packs include an output cable, 1.65 m long.

Technical Specifications 7320425:

Rated voltage: 100 – 240 V AC, 50/60 Hz
 Rated current: max. 1.5 A
 Secondary range: 24 V DC, 3 A

Technical Specifications 7320435:

Rated voltage: 20 – 72 V DC
 Rated current: max. 2.5 A
 Secondary range: 24 V DC, 1.3 A

Primary input voltage	Output voltage	Part #
100 – 240 V AC/ 50/60 Hz	24 V DC	7320425
48 V DC	24 V DC	7320435

Also Required:

Connection cable for 7320425 power pack – see below



Connection Cable/Extension

The cable is used to connect to:

- CMC-TC master
- 24 V power pack for PU
- Climate unit (connected fan)
- Voltage monitor
- Voltage expansion unit
- Active fan unit for TE

Technical Specifications:

PVC cable, 3 pole, with IEC cable coupling (non-heating appliances) with contact protection CEE22.

Country version	Voltage	Part #
D/F/B	230	7200210
GB	230	7200211
CH	230	7200213
USA/CDN	115	7200214
IEC 320 extension	230/115	7200215

Includes:

1 connection cable, length 2.5 m

Monitoring and Security

Cable and Mounting Accessories



Programming Cable

The interface cable is used to configure the network parameters in the processing unit and the master unit. The RJ 10 connector is connected to the front jack of the PU/master, while the 9-pole SUB-D connector is connected to a serial PC interface.

Packs of	Part #
1	7200221



Connection Cable RJ 45

This cable is responsible for data exchange and power supply to a sensor unit via the processing unit. There is an RJ 45 connector at each end of the shielded cable.

Length m	Packs of	Part #
0.5	4	7320470
2.0	4	7320472
5.0	4	7320475
10.0	1	7320481
15.0	1	7320485



Connection Cable RJ 10, RJ 12

With the RJ 12 connection cable, the alarm relay output of the processing unit may be used for individual alarm lights/indicators. The RJ 10 connection cable facilitates connection to the CMC socket strip in conjunction with the digital input module. The cable is equipped with an RJ 10/12 connector at one end. The other end is open.

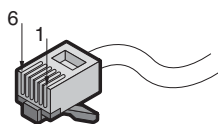
Connector	Length m	Packs of	Part #
RJ 10	5	4	7200420
RJ 12	5	4	7200430



Extension Cable RJ 10, RJ 12

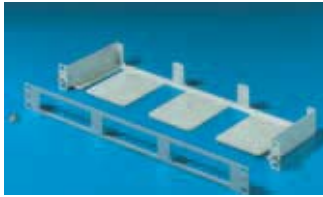
The cable is used to extend the sensor supply cables (RJ 12) and individual actuator cables. The cable is equipped with an RJ 10/12 connector at one end. There is an RJ 10/12 jack at the other end.

Connector/jack	Length m	Packs of	Part #
RJ 10	5	4	7200440
RJ 12	5	4	7200450
FCS RJ 12	1	2	7320814



Monitoring and Security

Cable and Mounting Accessories



Mounting Unit 1U

The mounting unit can accommodate up to 3 sensor units or processing units in the 482.6 mm (19") attachment level. Cable clamp straps 7610000 or 7611000 can be used for cable clamping.

Material:

Sheet steel, spray-finished

Color:

RAL 7035



Packs of	Part #
1	7320440

Description	Part #
Cable clamp straps without cable screen contact	7610000
Cable clamp straps with spring clips for contacting cable screen	7611000



Mounting Module

The mounting module accommodates individual sensor units or processing units for mounting on the frame section.

Material:

Sheet steel, spray-finished

Color:

RAL 7035



Packs of	Part #
1	7320450

Monitoring and Security

Internal Security Accessories



Temperature Sensor

The sensor assumes the function of a temperature monitor and contains an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to a sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used. The sensor can also control a fan on the climate unit or fan control system (FCS).

Packs of	Part #
1	7320500

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	•

Technical Specifications:

Type: NTC
 Resistance: 10 kOhm at 25°C (77°F)
 Tolerance: ±2°C (3°F)
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 on both sides
 Temperature application range: +5°C to +45°C
 (41°F to 113°F)



Humidity Sensor

The sensor measures relative air humidity and converts it into a frequency signal. It contains an ID so that it is automatically detected and set up by the CMC-TC system. Power supply and data evaluation is performed by the I/O sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320510

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Technical Specifications:

Sensor: With humidity/frequency converter
 (50 kHz at 76% rel. humidity)
 Sensor measurement range: Relative humidity
 10...90% rel. humidity ± 3% (at 20°C [68°F])
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends
 Temperature application range:
 +5°C to +45°C (41°F to 113°F)



Vibration Sensor

The sensor contains a position-insensitive alarm contact and an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to the I/O sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used. The sensitivity of the sensor may be set using the PU software.

Packs of	Part #
1	7320540

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Technical Specifications:

Mercury-free contact, position-insensitive
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends



Access Sensor

The access sensors monitor doors, side panels or windows in the network enclosure. The magnet is secured to the moving part (e.g., door), while the reed contact is fastened to the immobile part (enclosure frame). The permanent magnet holds the reed contact in a closed position. When the door is opened or the side panel removed, the reed contact drops off and opens the circuit. This triggers an alarm in the CMC-TC. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. It is connected to a sensor unit via the connection cable supplied loose. Up to five access sensors may be connected in series to one monitoring line, if necessary in conjunction with extension cable RJ 12. The jumper plug forms the end.

Packs of	Part #
1	7320530

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•	•	•	

Technical Specifications:

2 magnets
(mounted on the moving part, directly adjacent)
2 sensors with reed contact
(mounting on the enclosure frame)
Connection 1: RJ 12 jack, 6-pole
(connection to the sensor unit)
Connection 2: RJ 12 socket, 6-pole
(series connection with other access sensors,
or finished with the jumper plug)
2 jumper plugs RJ 12 at the end
2 connection cables: Length 2 m,
RJ 12 connector 6/6 at both ends



Water Sensor

The leakage sensor is equipped with an optical sensor head. If this sensor head becomes wet with moisture, it reports a leakage alarm. The sensor head may be mounted towards the floor. If water collects there and comes into contact with the sensor head, the alarm is triggered. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320630

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Technical Specifications:

Monitoring: Visual
Connection: RJ 12 jack, 6-pole
Connection cable: Length 2 m,
RJ 12 connector 6/6 at both ends
Temperature range: +5°C to +45°C (41°F to 113°F)

Protection Category:

IP 40



Analog Sensor Input Module

The input module facilitates the connection of individual external analog sensors (4 – 20 mA) to the I/O sensor unit. As an adapter, it performs the function of identification, so that an external sensor is automatically identified and set up by the CMC-TC system. Sensors with 4 – 20 mA signal output and 24 V DC operating voltage (max. 50 mA) may be connected. The CMC-TC makes its internal voltage source available. It is connected to a sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320520

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Technical Specifications:

Analog input: 4 – 20 mA at 24 V DC
Maximum current output of the module: 50 mA
Sensors without GND may also be used.
Connection: RJ 12 jack, 6-pole
Connection cable: Length 2 m,
RJ 12 connector 6/6 at both ends
Sensor connection: Pull-off clamping strip, 3-pole

Monitoring and Security

Internal Security Accessories



Smoke Alarm

The smoke alarm is based on an opto-electronic smoke particle evaluation within a measurement chamber. The alarm contains an ID so that it is automatically detected and set up by the CMC-TC system. Power supply and alarm relay to the sensor unit occurs via the supplied connection cable. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320560

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Technical Specifications:

Alarm type: Combustion product alarm (smoke)
 Sensor/transmitter:
 Silicon PIN photodiode/GaAs infr. LED
 Measurement frequency: Once every ten seconds
 Power consumption: max. 61 mA
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends
 Dimensions (alarm with base/plinth):
 H = 50 mm (1.97"), D = 100 mm (3.94")
 Temperature application range:
 +5°C to +45°C (41°F to 113°F)



Airflow Monitor

The airflow monitor determines whether the fan is achieving its full operating capacity. Damage, dirty filter mats or jammed fan blades are promptly detected and reported by the sensor. The sensor contains an ID so that it is automatically detected and set up by the CMC-TC system. Its switch point is adjustable. Power supply and data exchange to the sensor unit occurs via the attached connection cable. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320550

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Technical Specifications:

Connection: RJ 12 jack, 6-pole on the cable
 Connection cable: Length 2 m
 Temperature application range:
 +5°C to +45°C (41°F to 113°F)

Note: The sensor can be operated with temperature controlled fan via the climate unit sensor unit.

Accessories:

Connection cable RJ 12
 See Connections Table, page 62



Voltage Monitor

The voltage monitor picks off a mains voltage to be monitored via the mains cable, and reports its status to a sensor unit: Voltage ON or voltage OFF. The monitor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit. If required, extension cable RJ 12 may be used.

Packs of	Part #
1	7320600

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Technical Specifications:

Monitored rated voltage: 230 V AC 50/60 Hz
 Connections: IEC connector, RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends
 Temperature application range: +5°C to +45°C
 (41°F to 113°F)
 Protection category: IP 40

Also Required:

See Connections Table, page 62



Voltage Monitor with IEC Switch Output

This sensor is used in conjunction with the CMC-TC to monitor voltage limits. The limits may be set via the WEB interface or SNMP. As an additional option, this voltage may also be switched on and off via the module, in order to reboot connected equipment via Ethernet. It is connected via standard, commercially available IEC320 connectors as the input signal, and an IEC320 socket is used to connect the equipment.

Technical Specifications:

- Plug & play installation via IEC320 connector
- The switching operation may be initiated in a time or event-based manner or via SNMP or WEB
- The maximum and minimum limits of voltage measurement are freely selectable
- Measurement range 100 – 250 V AC, 50/60 Hz
- Max. switching load 250 V AC and 8 A at power factor = 1
- Tolerance: $\pm 5\%$ at 20-30°C (68°F to 86°F)

Packs of	Part #
1	7320610

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Note:

The system has two functions.
Each function occupies one input of the I/O unit.
1st function: Voltage measurement
2nd function: Relay switching

Optionally Available:

IEC connection cable 7200214, US version,
IEC extension cable 7200215 for connecting the equipment and high voltage input

Also Required:

See Connections Table, page 62



Voltage Monitor 48 V DC

The voltage monitor picks off the mains voltage to be monitored via the 3-pole jack, and reports its status to a sensor unit: Voltage ON or voltage OFF. The monitor contains an ID so that it is automatically detected and set up by the CMC-TC system. The connection cable, supplied loose, should be used for connection to the sensor unit. If required, extension cable RJ 12 may be used.

Technical Specifications:

Monitored rated voltage: 48 V DC
(12 – 60 Volt DC/12 – 25 Volt AC 50/60 Hz)
Connections: 3-pole connector, RJ 12 jack, 6-pole
Connection cable: Length 2 m,
RJ 12 connector 6/6 at both ends
Temperature application range: +5°C to +45°C
Protection category: IP 40

Packs of	Part #
1	7320620

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Protection Category:

IP 40



Digital Sensor Input Module

The input module facilitates the connection of individual external digital sensors to a sensor unit. As an adapter, it performs the function of identification, so that an external sensor is automatically identified and set up by the CMC-TC system. External sensors or detectors must have a floating contact (normally-closed or normally open), because the module makes its internal voltage source available. It is connected to a sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used. In conjunction with the access unit, any given door release system (e.g., transponder) with a floating relay contact may be connected via the input module.

Packs of	Part #
1	7320580

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•	•	•	

Technical Specifications:

Floating external sensor contact: Voltage min.
24 V DC load capacity
Current: min. 10 mA load capacity
Connection: RJ 12 jack, 6-pole
Connection cable: Length 2 m,
RJ 12 connector 6/6 at both ends
Sensor connection: Pull-off clamping strip, 3-pole



CMC-TC Motion Detector

The motion detector may be used in network enclosures or in rooms. Any changes to the enclosure, such as opening a door or side panel, are indicated. The motion detector can also detect presence in the room or in front of the data cabinet.

The alarm contains an ID so that it is automatically detected and set up by the CMC-TC system. Power supply and data exchange to the sensor unit is via the connection cable, supplied loose.

Packs of	Part #
2	7320570

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Technical Specifications:

Alarm type: Infrared (IR) detector
 Range: max. 7 m
 Power consumption: max. 30 mA/24 V DC
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends
 Dimensions: W x H x D: 59 x 102 x 32 mm
 (4.02 x 2.32 x 1.26")



CMC-TC Extension Unit

The CMC-TC extension unit picks off three independently monitored mains voltages via network cables and forwards the measurements to the processing unit. It is linked to the PU via the RJ 45 connection cable on the P-1°C port (sep. accessory). Up to two extension units may be connected in series to one PU. A separate power pack is not required. Alarm limits may be preset for all voltages.

Maximum number per PU	Packs of	Part #
2	1	7200520

Technical Specifications:

Voltage inputs: 3 x 100 – 230 V AC, IEC connector
 Interface: I°C, P-I°C, max. cable length 2 m
 Temperature application range:
 +5°C to +45°C (41°F to 113°F)

Protection Category:

IP 40



Digital Relay Output Module

The output module allows individual, external low voltage actuators to be switched via a changeover contact. As an intermediate relay, it performs the function of identification and isolation, so that an actuator is automatically identified and set up by the CMC-TC system.

It is connected to the I/O sensor unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used. At the output end, the module contains a pull-off terminal strip for assignment with actuator cables. Power supply to the actuator must be provided externally. The output relay may be switched remotely via SNMP or HTTP. Alternatively, alarm links can also be created with alarm inputs.

Packs of	Part #
1	7320590

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•			

Technical Specifications:

Condition of the actuator: cosPhi = 1
 Max. load of the switch contact: 1 A, 30 V DC and 0.5 A, 48 V AC
 Max. switching voltage: 48 V AC; 48 V DC
 Max. switched current: 1 A
 Max. switching load: 30 W, 62.5 VA
 Min. switched current: 1 mA at 5 V DC
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 2 m,
 RJ 12 connector 6/6 at both ends
 Sensor connection: Pull-off clamping strip, 3-pole



CMC-TC Alarm Signal Lamp

The alarm signal lamp serves as a collective fault signal for all alarms in the CMC-TC.

Example: Temperature exceeded, fan defect, smoke alarm etc. The CMC-TC provides a user-friendly menu allowing the operator to select which message will affect the CMC-TC alarm relay. The alarm signal lamp is activated via the alarm relay.

The lamp may be attached to the network enclosure or any other desired position, e.g., in the corridor. The RJ 12 connection cable is required for connection to the PU.

Item	Part #
LED steady light component 24 V DC, red	2372000
Connection component	2368010

To fit PU:

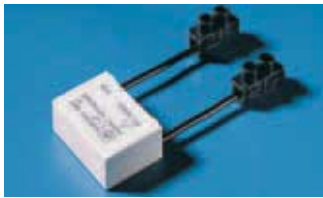
Processing unit	FCS	RLCP	SK
•	•	•	•

Technical Specifications:

Rated operating voltage: 24 V DC
Rated current: 60 mA

Also Required:

See Connections Table, page 62



Interference Suppression Capacitors for Fans

The capacitors are used for the interference suppression of fans with self-starting shaded pole motors.

One capacitor should be connected directly parallel to the mains voltage for each fan unit. The capacitors are equipped with a terminal, which means that they are easily fitted to the fan cable.

Design	Packs of	Part #
100 IF	20	7200490

Technical Specifications:

Dielectric strength: 275 V AC
Capacity: 100 nF
Type: X2



Room Door Output Module

The room door output module allows external door opener systems to be switched via a change-over contact. As an intermediate relay, it performs the function of identification and isolation, so that a door opener is automatically identified and set up by the CMC-TC system.

It is connected to the access unit via the connection cable supplied loose. If required, extension cable RJ 12 may be used. At the output end, the module contains a pull-off terminal strip for assignment with the actuator cables. Power supply to the door opener must be provided externally.

Packs of	Part #
1	7320740

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
	•		

Technical Specifications:

Condition of the actuator: $\cos\Phi = 1$
Max. load of the switch contact:
1 A, 30 V DC and 0.5 A, 48 V AC
Max. switching voltage: 48 V AC; 48 V DC
Max. switched current: 1 A
Max. switching load: 30 W; 62.5 VA
Min. switched current: 1 mA at 5 V DC
Connection: RJ 12 jack, 6-pole
Connection cable: Length 2 m,
RJ 12 connector 6/6 at both ends
Sensor connection: Pull-off clamping strip, 3-pole

Note: For each output module, one access sensor 7320530 is always needed for access control



Comfort Handle for TS8 Unit with Master Key Function

The TS8 handle 7320721 includes the master key function. This means that the handle can always be opened with a key, the master key, independently of the control system. A semi-cylinder is supplied loose, but a semi-cylinder 40 or 45 mm overall length to DIN 18 254 may also be used.

The handle assumes the function of door locking and lever handle monitoring. An access sensor (7320530) must be connected to the corresponding door for each handle. If the lever handle is closed, the locking mechanism integrated into the handle latches automatically.

The handle may be released via the CMC-TC system in the network or via optional add-on systems, such as smartcard readers, etc. The handle is locked in a de-energized manner (without electrical connection). The pushbutton may be depressed following electrical release and then opens the lever automatically.

Opening via the key is always super-ordinate, i.e., the enclosure may always be opened with the key in the case of electrical locking and in the event of a power failure (emergency opening).

Handle system	Part #
TS 8 comfort handle master key	7320721
TS 8 comfort handle, power fail open, no key function	7320720 ¹⁾

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
	•		

1) Special order, extended leadtime, minimum order quantity

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 100 mA
 Connection cable: Length 3 m, RJ 12 connector
 Connection cable: Length 2 m, RJ 12/RJ 12 connector
 Coupling for extension: RJ 12/RJ 12 jack
 Temperature application range: +5°C to +40°C (41°F to 113°F)

Protection Category:

IP 40

Also Required:

See Connections Table, page 62



Handle Systems with Electromagnetic Lock

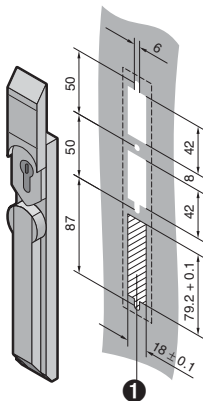
The lock unit consists of a Rittal handle system whose handle is electromagnetically locked. It contains an identifier so that it is automatically detected and set up by the CMC-TC system.

Power supply and data exchange to the access unit is via the attached connection cable. An access sensor (7320530) is always required for door monitoring. With the door closed and the handle locked home, latching is activated by energizing the lock magnet. The CMC-TC enables the handle to be pulled out by deactivating the lock magnet, thereby allowing the door to be opened. This deactivation can be initiated via an access unit such as a smartcard reader, magnetic card reader, coded lock and/or network management systems. The handle system also comprises handle monitoring. The CMC-TC reports an alarm if the handle is not pushed in and locked home after closing the door. The pushbutton insert supplied can also be exchanged for lock inserts.

Note:

When using the Ergoform-S handle, an additional hole is required.

- 1 Additional hole for electronic lock (PS/FR/QR/VR/TC/TE)



Handle system	Part #
Ergoform-S handle for FR, PS, TC, VR, TE	7320700

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
	•		

Note:

For PS and FR glazed doors, the locking bars listed below are required:

Locking Bars

Design	Part #
Lower door locking bar for 2000 mm (78.74") high PS enclosures	7200371
Lower door locking bar for 2000 mm (78.74") high FR enclosures	7200372
Lower door locking bar for TE enclosures	Available on request

Other sizes available on request.

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 100 mA
 Connection cable: Length 3 m, RJ 12 connector
 Connection cable: Length 2 m, RJ 12/RJ 12 connector
 Coupling for extension: RJ 12/RJ 12 jack
 Temperature application range: +5°C to +40°C (41°F to 113°F)

Protection Category:

IP 40

Also Required:

See Connections Table, page 62

Monitoring and Security

Access Systems



Comfort Handle

For lock inserts

Prepared for the installation of lock inserts, safety and push-button inserts.

Length:

295 mm (11.61")

Color	Part #
RAL 7035 (light grey)	8611020
Brown	8611250

TS



Lock and Push-Button Inserts

For installation in the comfort handles for lock inserts

Design	Part #
Security lock insert no. 3524 E	8611180*
Pushbutton inserts	8611190
Pushbutton and lock inserts, lock no. 12321; no other lock is possible	8611200

* 2 keys included

TS



Ergoform Handles

Prepared for the installation of semi-cylinders with a total length of 40 or 45 mm (1.6 or 1.8") (to DIN 18 254) and all 27 mm (1.1") lock inserts.

Design	Part #
Brown	2451000
RAL 7035 (light grey)	2435000

TE



Lock and Push-Button Inserts

For installation in:

- Comfort handle for semi-cylinder, see above
- Ergoform handles, see above
- CM hinged handle

Design	Part #
Security lock insert no. 3524 E	2467000*
Pushbutton inserts	2468000
Pushbutton and lock inserts, lock no. 2123 E; no other lock is possible	2469000*

* 2 keys included

TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products



Handle System for Universal Installation

with Electromagnetic Lock for the CMC-TC Monitoring System

The universal handle is equipped with a pitch pattern of mounting holes which will fit many existing door systems. This handle is ideal for retrofitting to projects with varying enclosure types and variants. The new handle may be connected to the CMC-TC system via plug & play.

Additionally, an access sensor (7320530) should always be used to enable polling of the door status. The handle is equipped with a connection cable and an RJ 12 connector, which may be plugged into the access unit 7320.220 of the CMC-TC system. The handle is equipped with a pushbutton insert which may be depressed when the electromagnetic lock is released.

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 100 mA
 Connection cable: Length 5 m, RJ 12 connector

Note:

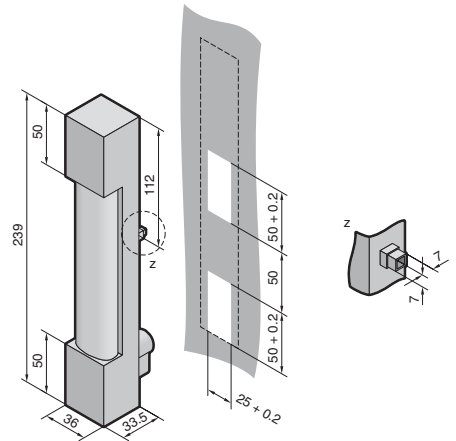
The handle only fits into the cutout shown in the drawing. For other hole patterns, additional adapters and/or machining of the door are needed. Solutions provided on request.

	Type	Part #
Electromagnetic handle	CMC-TC	7320950¹⁾

1) Special order, extended delivery times

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
	•		



TS8 Transponder Handle

with Integral Transponder Release System from Simons & Voss

The electromagnetic TS8 transponder handle may be retrofitted in the doors of TS8 enclosures. The handle is equipped with an integral radio transponder solution. The transponder receiver with battery is integrated into the handle housing. Apart from the transponder transmitter, no additional accessories, such as additional electronics, cables, power pack, etc., are required. The handle is easily exchanged without the need for wiring. If battery servicing is required, this is indicated acoustically.

The handle is supplied in the zero state, so that it may be opened with any transponder transmitter.

Use with hand-held transmitter:

The transponder transmitter is actuated from the handle, as a result of which the latter is unlatched for a specified time window and may be opened by pressing the pushbutton.

Use with the CMC-TC transmitter:

The transponder transmitter is linked to the CMC-TC system via the room door output 7320740 and the access unit. The transmitter is placed in the enclosure frame, near the handle. In this way, the door may be released via the CMC-TC system. Additionally, an access sensor (7320530) should always be used to enable polling of the door status.

Use of the programmable transponder:

The programmable transponder allows the individual transponder transmitters to be allocated to individual handles. Matrix programming is supported.

	Type	Part #
Electromagnetic handle	Transponder, stand alone application	7320960¹⁾
Transponder transmitter	Hand held transmitter	7320961¹⁾
Transponder transmitter	CMC-TC transmitter	7320962¹⁾
Programmable transponder	Programming	7320963¹⁾

1) Special order, extended delivery times

Benefits:

- No cables on the handle, because the electronics and battery are integrated into the handle
- Several users may be set for one handle
- Plug & play installation both mechanical and electrical
- Individual control of the transponders and the set-up of each transponder is possible for up to 3 locking systems
- With additional overlay to automatically block the old transponder in the event of reprogramming
- Counterfeit-proof data communication is achieved via radio using crypto-codes
- The "challenge response procedure" ensures protection against surveillance
- The standard interface means that connections to other access and monitoring systems are not a problem

The lock and organization system is graded in the highest category with respect to unlocking protection to BSI 7500.

Systems with extra electronics and access control from Simons & Voss available on request.





Universal Lock Unit

The security lock consists of a base unit and a lock catch. The base unit is attached to the enclosure frame. The lock catch is attached to the door.

A mechanical setting allows you to choose between two states: at zero current when open, or at zero current when closed. In order to identify the operating mode used, one of the two identifier modules (supplied loose) should be used, so that it is automatically identified and set up by the CMC-TC system. Power supply and data exchange is via the access unit, using the identifier modules and connection cables supplied loose. If required, extension cable RJ 12 may be used. An access sensor (7320530) is always required for door monitoring.

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: 140 mA
 Temperature application range: +10°C to +40°C (50°F to 104°F)

Includes:

- 1 base unit with connection cable 0.1 m, RJ 12 connector
- 1 lock catch
- 2 identifier modules with RJ 12 jack, 6-pole (connection to access unit), RJ 12 jack, 6-pole (connection to universal lock)
- 1 connection cable for identifier modules, 2 m, RJ 12/RJ 12 connector without mounting kit.

Lock Unit	Part #
Packs of 1 set	7320730

To fit sensor unit:

I/O unit	Access unit	Climate unit
	•	

Installation Kit	Part #
PS steel door	7200611
PS aluminum glazed door	7200612
FR sheet steel door ¹⁾	7200613
FR glazed door ¹⁾	7200614
TS steel door	7200615
TS glazed door	7200616
VR enclosure	7200617

¹⁾ attachment to 600 mm wide FR enclosures is only possible with recessed mounting of the 482.6 mm (19") or metric attachment levels

Note:

Attachment kits for the various different enclosure types and enclosure doors can be taken from the table



Access Systems Legic Transponder

With the CMC-TC system, Rittal offers an access system for racks and IT rooms. One form of access control is release with Legic transponder technology. The popular Legic system is often used in IT applications. With the Legic-Rittal transponder, the same transponder cards may be used. The contactless system has many advantages (low wear, positioning, etc.).

The transponder system may be linked to the serial interface of the Processing Unit II (PU II). In this way, the access units with the doors may be activated. The 24 V DC power is supplied directly via the serial PU II connection. Code allocation is implemented via a table which may be loaded onto the PU II via FTP.

The system may be flush-mounted in rooms, or on an enclosure. An integral LED provides the status display.

To fit PU II.

Transponder	On request

Technical Specifications:

Rated voltage: 24 V DC
 Interface: RS232
 Transmission system: Legic transponder
 Carrier frequency: 13.56 MHz
 Protection category: IP 44
 Temperature range: -10°C to +55°C (14°F to 131°F)
 Humidity: max. 90% without condensation

Monitoring and Security

Access Systems



Smartcard Reader/Magnetic Card Reader/Coded Lock

The door handle is released to authorized persons who have identified themselves with a smartcard/magnetic card/combination code. Smartcard readers/magnetic readers/coded locks are installed above the enclosure handle and can also function as a central unit for releasing several doors.

The entire access procedure can also be registered with the CMC-TC where there is network connection.

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 20 mA
 Interface: I²C bus
 Smartcard type: I²C chip
 Magnetic card type: Magnetic stripe cards with data on track 2. The reader system is designed for both high and low magnetized cards.

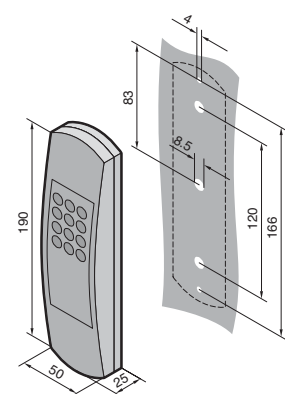
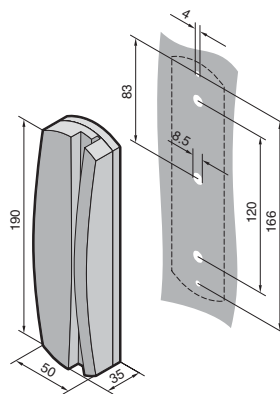
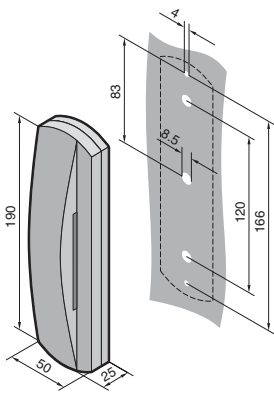
Note:

Smartcard readers/magnetic card readers/coded locks may only be used in conjunction with the CMC-TC and an electric lock. Three cards are supplied with the smartcard reader/magnetic card reader. Each card contains a four-digit code, which is different on all three cards. All cards are access-authorized. The code may be input directly on the coded lock. Authorized codes may be set in the CMC-TC via WEB. The input code is transmitted to the CMC-TC and, where applicable, to the network management system, via the I²C bus. A mounting adapter for a TS8 aluminum glazed door is supplied loose with every reader.

Read system	Part #
Smartcard reader	7320750
Magnetic card reader	7320760
Coded lock	7320770

To fit sensor unit:

I/O unit	Access unit	Climate unit
	•	



Adapter for Reader Units

The adapters are used to install the reader units. They are screw-fastened between the design section of the door frame and the reader unit. No adapter is required for shallow attachment levels. For TS8 aluminum glazed doors, an adapter is supplied loose with every reader unit. One adapter is required for each reader unit.

Glazed door Enclosure type	Packs of	Part #
VR	10	7200344
PC	10	7200345
PS	10	7200346
TS design	10	7200347

Type PC: For PC glazed doors
 Type VR: For VR glazed doors and VR sheet steel doors
 Type PS: For PS aluminum glazed door

Monitoring and Security

For Climate Control Units



Monitoring of Climate Control Units

The "Monitoring of climate control units" kit provides all the modules required for Monitoring Rittal TopTherm cooling units with comfort control. Temperatures, messages, alarms, etc. may be displayed directly on the Web interface in the intranet or Internet. Trap alarms are sent automatically to incorporated SNMP network management systems. SMS text messages are optionally possible via the Rittal GSM module.

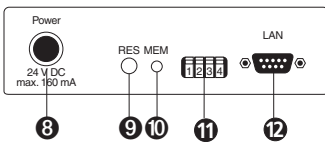
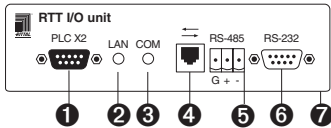
Benefits:

- All data for the climate control units via the WEB browser
- Setpoints may be set via WEB, SNMP, Telnet, RS232
- Automatic alarm messages over the network via SNMP
- SMS text messages via GSM (optional)

Extensions/configuration:

The processing unit PU II has 4 channels for 4 interface cards climate control unit RTT-I/O unit. An RTT-I/O unit is supplied with the set. Three RTT-I/O unit may optionally be added. Each RTT-I/O unit is capable of monitoring one master TopTherm cooling unit, each with 9 slave climate control units. The set allows you to monitor up to 10 cooling units, and with extensions up to a maximum of 40 cooling units. The sensor units of the CMC-TC monitoring system may also be connected instead of the interface card. This facilitates additional monitoring of smoke, humidity, air flow, enclosure access, etc.

- 1 **PLC X2 Opto-Coupler Alarm** outputs for PLC
- 2 **LAN LED Internal** communication
- 3 **COM LED Status** of serial interfaces
- 4 **RJ 45** for connecting to processing unit 7320100
- 5 **RS-485 Interface**
- 6 **RS-232** for set-up with a serial PC interface (e.g., Hyperterm)
- 7 **Mounting Fixture** for 7320440 or 7320450
- 8 The unit may optionally be supplied with **24 V DC, 160 mA** via this input. For applications with the PU, this is not necessary
- 9 **RES Reset Key**
- 10 **MEM EEPROM Fault**
- 11 **Changeover Switch** Serial interface
- 12 **LAN Connection** to the master cooling unit with comfort control



Monitoring of climate control unit	Part #
Set	7320120

Accessories

Description	Part #	Page
Programming cable for setting up the PU	7200221	71
CMC-TC 1U mounting unit	7320440	72
Interface card RTT-I/O unit (maximum of 3 additional cards)	3124200	-
Connection cable GB 230 V AC	7200211	70
Connection cable CH 230 V AC	7200213	70
Connection cable USA/CDN 230/115 V AC	7200214	70
IEC 320 extension 230/115 V AC	7200215	70
GSM unit	7230820	69

Functions/settings:

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

Warnings/alarms:

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

Includes:

Processing unit PU II with firmware/software for applications with climate control units, Interface card, climate control unit RTT-I/O unit (3124200) Power pack 24 V DC, input 100 – 240 V AC (7320425), Connection cable D with IEC320 connector (7200210), Cat5 connection cable, 2 m, for connecting the RTT-I/O unit to the processing unit PU, Data cable RS232, 2 m, for connecting the RTT-I/O unit to the RTT climate control unit with comfort control.

Monitoring and Security

Remote Monitoring Software



CMC-TC Manager

The new CMC-TC manager allows all Rittal SNMP agents to be managed in a single software package.

- CMC II (7200100)
- PCU Web sockets (7200000)
- CMC-TC processing unit (7320100)

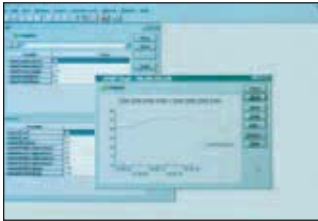
The graphical interface provides the relevant information about the system and offers the option of configuring the systems via SNMP. Java Runtime Environment JRE 1.5 (or higher version) should be installed on the corresponding PC system. Java may be downloaded from the Internet at www.sun.com. The various products (PCU, CMC II, CMC-TC) may be sorted on the basis of type or location. All alarm messages enter the built-in trap receiver, and can be recorded with the logging function. The alarm messages can be forwarded directly using the e-mail function. The search function is used to distinguish and automatically list the SNMP agents.

Benefits:

- Open to operating systems via Java (Windows/ Linux)
- Graphical information and operator interface for:
 - CMC II
 - Web socket strip PCU
 - CMC-TC/processing unit
 - HP CMC
- Full integration of the management information base (MIB) of Rittal systems
- Trap receiver with logging function
- E-mails sent in the event of trap alarm messages
- System search function
- User-oriented system listing according to locations

Note:

The software is available free of charge from the Internet. www.rittal.com, www.cmc-tc.com



Network Management Systems

By using SNMP network management systems such as HP Open View or Novell Manage Wise, it is possible to incorporate and address the CMC-TC system via SNMP. The required MIB is included with the supply.

The MIB is easily incorporated by simply copying. The standard MIB-II (RFC 1213) is also supported. It is included with the supply of the NMS. The private MIB contains all the required system variables, and is easily linked to the functions of the software HP Open View, Novell Manage Wise, etc.

Note:

The MIB is also available to download on the Internet at www.rittal.com, www.cmc-tc.com and is included with the supply of every CMC-TC system



CMC-TC Configurator

The CMC-TC Configurator automatically compiles all the modules and accessories required for a CMC-TC project. The user simply enters the monitoring requirements and the ambient conditions. The result is a list containing all the item numbers required for the project. In this way a project can be compiled quickly and effectively. The prerequisite for working with this software is MS Excel, Version 97 or above.

Note:

The CMC-TC Configurator is available for free downloading on the Internet at www.rittal.com, www.cmc-tc.com

Monitoring and Security

Control Console Drawer, Optional KVM



Control Console

The KVM Control Console is an ideal solution to optimize your space efficiency. It allows you to control your systems with only a 1U device and control up to eight platforms. You can also easily expand the connections up to 512 systems with the combination of KVM switch boxes. Its TFT LCD display and industrial level keyboard/trackball provide the user-friendliest and most reliable environment for network administrators.

Features:

- Industrial grade keyboard with trackball
- OSD (On Screen Display) function
- High bright TFT LCD display
- 1U compact design
- Built-In power supply
- 8 port KVM switch with DB-25 pin connector (optional)
- Controls up to 512 systems by cascading

Material

Heavy-duty steel

Dimension

15" – (44 mm H x 440 mm W x 492 mm D)
17" – (44 mm H x 440 mm W x 550 mm D)

Gross Weight

18kg (40 lbs)

Color

Black

Keyboard

PS/2 84 keys keyboard with 15 mm trackball supporting US, UK English, German, Belgium, Switch, Spanish, French, Italian, Norwegian, Portugal, Finnish and Swedish

LCD

15" or 17" TFT LCD panel display with built in back light protection function

Brightness

200 nits brightness

Description	Part #
1U 15" LCD Panel Drawer w/ Cherry K/B, 8 port KVM Switch, Black	9969549
1U 17" LCD Panel Drawer w/ Cherry K/B, 8 port KVM Switch, Black	9969562
15" LCD Panel Drawer w/ Cherry K/B, without KVM	9969973
17" LCD Panel Drawer w/ Cherry K/B, without KVM	9969972

Note: Touchpad and touch screen pointing device options available on request

Optional Peripherals

Description	Part #
connecting cable with VGA, PS/2 keyboard and mouse connectors at platform side, 1.8 m	9969550
connecting cable with VGA, PS/2 keyboard and mouse connectors at platform side, 1.8 m	9969561

KVM Switch (optional)

8 x 25pin D type female connectors for 8-platform connection (VGA, PS/2 keyboard and PS/2 mouse male connectors at the platform side) Port selection through front panel switches, hot keys, or On Screen Display Cascading up to 512 systems

Security Lock

Front access lock for system security

Drawer Design

Full extension high load rating slide rail. Total drawer travel distance: 385 mm (15.16")

Power Supply

Industrial level

Monitoring and Security

Control Console Drawer, Optional KVM



Rittal SSC View 8 Economy KVM Switch

This compact, analog KVM switch is 19" rack mounted to function as an 8-way switch.

The switch may be mounted behind other equipment, without need for an additional U space. The SSC has a password-protected OSD menu, but server selection may also be made via hotkeys. Additionally, the SSC view 8 is also cascadable with the SSC multi series as a slave if more than 8 servers are administered.

In this way, the Rittal SSC switching system is able to grow flexibly in line with requirements. The processor-controlled keyboard and mouse emulation, separately for each channel, ensures error-free booting and reliable changeovers between connected servers from a wide range of different manufacturers. This is the major difference which sets it apart from many other inexpensive switching solutions currently available on the market.

Packs of	Part #
1	7552000

Technical Specifications:

No. of channels: 8
Functions: Open user, password protection, Allocation of computer names, AutoScan
Keyboard/mouse connections: PS/2 in each case (lockable)
Video connections: VGA, HD15
Power supply: 12 V DC (via external power pack)
Max. video resolution (for 85 Hz): 1280 x 1024
Video bandwidth: 200 MHz
Certification: CE
Dimensions: H x W x D, 1U x 325 mm x 90 mm

Material:

Sheet steel (enclosure)

Color:

RAL 9006 white aluminum (enclosure)

Also Required:

CPU cable, see below



CPU Cable

Combination connection cable between SSC view 8 and the individual servers, each with 2 HD 15 connectors for video, plus lockable PS/2 connectors at both ends for the keyboard and mouse, color-coded.

Cable Length	Part #
2 m	7552120
4 m	7552140

power



Power

Power Distribution Rack (PDR) Page 90

Power Distribution Module (PDM) . . Page 90

Power System Module (PSM) . . . Pages 91-93

Control PSM 8 Outlet Page 92

Monitor PSM Page 92

Power System Module

with Individual Fuse Page 93

PSM Plug-In Module Page 93

Overvoltage Protection Page 93

Connection Cables

Three-Phase Connection Cable Page 94

Single-Phase Connection Cable Page 94

Single-Phase UPS

Connection Cable Page 94

PDS Pages 95-98

UPS, Single Phase Pages 99-102

Get Connected – Performance: Today and Tomorrow

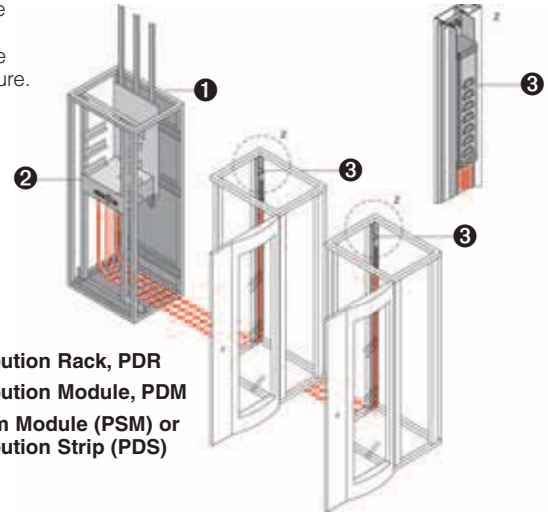
The IT trends of today and tomorrow show rack density increasing as more and more servers are installed in standard cabinets. In correlation to this recent IT trend, overall rack power requirements are rising as well. In anticipation to the changing needs of the IT industry, Rittal is not only well prepared to address the escalation of cabinet power demands, but Rittal is able to do it while reducing installation and operation costs and increasing operational reliability.

The power management product range for power distribution in the data center is based on the consistent implementation of plug-&-play expansion – with no need to interrupt current operations. Downtimes are avoided and future operating costs are decreased.



PDR, PDM and PSM

Permanent IT availability is undoubtedly a crucial issue. For this reason, you need to ensure a highly available and reliable power supply to your complex server and software system architecture. Create the framework conditions to ensure that all business processes operate on schedule with exceptionally high-level security parameters for the physical IT infrastructure.



- ❶ Power Distribution Rack, PDR
- ❷ Power Distribution Module, PDM
- ❸ Power System Module (PSM) or Power Distribution Strip (PDS)

❶ Power Distribution Rack (PDR)

- Power Distribution Rack to accommodate a maximum of 8 PDMs
- Height 1.20 m (48") for 4 PDMs and 2 m (79") height for 8 PDMs
- PDM may be retrofitted while operational
- A maximum of 32 racks may be connected to the sub-distributor
- Fully shock-hazard-protected
- Main switch disconnect
- Low-voltage distribution up to 250 A

1) Depending on the standards of the local power supply company

Note: Observe the standards of the local power supply companies

Material:
Sheet steel

Surface Finish:

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

Includes:

Enclosure frame with doors (without tubular door frame), rear panel, side panels and roof plate, levelling feet including base/plinth adapter, grounding of all enclosure panels, busbars shock-hazard-protected, main switch integrated. Extended delivery times

Also Required:

Power Distribution Module, PDM (below)

Power Distribution Rack PDR		Packs of	❶	❶
Possible number of PDM modules			4	8
Dimensions in mm	H		1200	2000
	W		800	800
	D		500	500
Part #		1	7857311	7857301
Accessories				
Base/plinth components, front and rear	Height 100 mm (3.94")	1 set	8601800	8601800
	Height 200 mm (7.87")	1 set	8602800	8602800
Base/plinth trim, side	Height 100 mm (3.94")	1 set	8601050	8601050
	Height 200 mm (1.87")	1 set	8602050	8602050



❷ Power Distribution Module (PDM)

- 482.6 mm (19") Power Distribution Module mechanically locked in the rack
- Scalable
- Including master switch, optional RC circuit breaker
- 4 fused 3-phase circuits to the rack
- 3 x 120 V/20 A per circuit
- Connected load 120/208 V AC 3PH, max. 80 A

Includes:

Module 482.6 mm (19"), 3U

Accessory:

PDM Plug & Play Connection Cable

Description	Part #	
	20 A	30 A
3 m PSM	7857131	-
5 m PSM	7857151	-
8 m PSM	7857181	-
9 m PSM	7857191	-
3 m L21	9970828	9970832
5 m L21	9970829	9970833
8 m L21	9970830	9970834
9 m L21	9970831	9970835

Design	Part #
PDM 482.6 mm (19"), 4 outlets, 20A circuits	7857322
PDM 482.6 mm (19") 4 outlets, custom	7857350
PDM 482.6 mm (19") 3 outlets, 30A circuits	7857355



③ Power System Module (PSM)



The ever growing power requirements of modern IT infrastructures demand advanced solutions for power distribution inside the racks, leading to the requirement for additional sockets. The new "intelligent power distribution system" from Rittal significantly reduces cabling and assembly work, leading to a reduction in costs. The modular system facilitates basic configuration of the racks, thanks to a vertical support rail with 3-phase infeed. The various modules to supply the active components may be snap-fitted into the support rail. This can even be done while the system is operational, because the support section is shock hazard protected. The various modules, grounding pins, IEC320, etc. may be inserted into the support rail in any combination.

This is easily achieved, even by non-electricians, thanks to the shock hazard protected plug & play system.

Technical Specifications/Benefits:

- 3-phase construction with a maximum current of 3 x 20 A
- A redundant three-phase infeed with 3 x 20 A may also be added
- The redundant circuit is completely separate from the 3 phases of the support rail
- Each plug-in module picks off a phase on the support rail, either from infeed A or from the second infeed B, depending on the direction of module

- Modules may be retrofitted while the system is operational
- All plug-in modules are equipped with an integral miniature circuit-breaker, so that only the affected module is deactivated in the event of a short circuit. The other modules remain operational
- Overvoltage protection may be integrated into the supply line
- Support rail may be integrated into the vertical frame section of the Power System Rack without additional equipment. The vertical support rail allows the slots to be used flexibly across the entire enclosure height, and configured in a redundant manner via separate power infeed to the individual modules

Includes:

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

Also Required:

Connection cable and plug-in modules, see table.

Possible Alternative:

Monitor Power System Module (PSM)

Busbar				
For enclosure height mm (inches)	Number of modules	Part #		
		WYE type		DELTA type
1200 (48)	4	7856010		7856050¹⁾
2000 (80)	7	7856020	7856051	7856060¹⁾
Mounting kit				
For enclosure height 1200/2000 mm (48/80")	For static installation	7856011		
	Hinged, for open 482.6 mm (19") level	7856012		
1) Delivery times available on request.				
Plug-in modules				
Plug-in module	Number of outlets	Without overcurrent protection		With overcurrent protection
IEC320	6	7856080¹⁾		7856052
IEC320	4	-		7856220²⁾
D/NL/A	4	7856100¹⁾		7856090¹⁾
F/B	4	7856120¹⁾		7856110¹⁾
USA	4	7856140¹⁾		7856130
UK	3	7856160¹⁾		7856150¹⁾
CH	4	7856190¹⁾		7856180¹⁾
1) Extended delivery times. Other modules available on request. 2) With individual overcurrent fusing				
Overvoltage protection				
With adapter connector		7856170		
Monitor Power System Module (PSM), 4-way		7856200		

Power System Module (PSM)



Control Power System Module (PSM) 8 Outlet

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

Operate the module without CMC-TC:

For operation of the module, power pack 7201210 and a connection cable (see page 70) are needed. Up to two or three modules may be operated in one PSM rail (1200/2000 mm) with one power pack.

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

Operate the module with CMC-TC:

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

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

Recommended accessory list CMC-TC:

- 7320100 CMC-TC Processing Unit II
- 7320425 CMC-TC power pack 24 V, input 100 – 230 V AC
- 7320440 CMC-TC 1 U mounting unit
- 7320472 CMC-TC connection cable sensor unit 2 m
- 7200210 CMC-TC connection cable D 230 V AC (depending on country version)
- 7200221 CMC-TC programming cable

Design	Part #
8-way	7856201

Description of functions:

- 2-digit local LED 7-segment current display on the module. Legibility is independent from the installation position
- Measuring and monitoring of the current per module. Min./max. limits may be set. Measurement range 0 – 16 A
- Alarm indication via a flashing 7-segment display
- Monitoring of the thermo-fuse
- Modules may be combined via the bus system, thereby enabling selective activation
- In conjunction with the CMC-TC, the 8 individual current outlets of the modules may be activated and deactivated individually via HTTP and SNMP
- Remote administration of the power supply, editing and monitoring of remote limits, SNMP trap messages in case of alarm
- 8 IEC320 C13 outlets per module
- User administration (from 2006)

Material:

Aluminium chassis with plastic cover

Supply Includes:

- 1 module (max. 10 A per outlet),
- 20 A thermal miniature circuit-breaker,
- 1 bus cable,
- 1 infeed cable 24 V DC,
- 1 adapter for power pack 24 V DC

Also Required:

A separate power pack (100 – 240 V AC/24 V DC) is required for stand-alone operation without CMC-TC (7201210) and the relevant connection cables, see page 70



Monitor Power System Module (PSM)

New monitor plug-in module for the busbar system PSM. The module has 4 x IEC320 C13 sockets and an integral miniature circuit-breaker.

The following active functions are also included:

- 2-digit local LED 7-segment current display on the module. Legibility is independent from the installation position
- Measuring and monitoring of the current per module. Min./max. limits may be set. Measurement range 0 – 16 A
- Alarm indication via a flashing 7-segment display
- Monitoring of the overload fuse
- Modules may be combined via the bus system, expanding monitored modules. The 4 jacks are activated and deactivated together. A special software is required for operating unit 7320100 together with the PSM (see www.cmc-tc.com). The free channels of PU can be switched with up to 4 monitor PSM systems in each case. The PSM does not require any separate power pack in conjunction with PU
- In conjunction with the CMC-TC, the modules may be activated and deactivated via HTTP and SNMP

Design	Packs of	Part #
Entire active module with quadruple fuse to IEC 320	1	7856200

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

Material:

Aluminium chassis with plastic cover

Includes:

- 1 module (max. 10 A per outlet),
- 20 A miniature circuit-breaker, integrated,
- 1 bus cable,
- 1 infeed cable 24 V DC,
- 1 adapter for power pack 24 V DC

Also Required:

Separate power pack (7201210) for stand-alone operation without CMC-TC and the relevant connection cables, see page 70

Power System Module (PSM)



PSM with Individual Fuse

- 4 sockets IEC320 C13
- Each socket has an integral 10 A miniature circuit-breaker
- Easily reset

Material:

Aluminum chassis with plastic cover

Includes:

1 module max. 20 A per module,
10 A miniature circuit-breaker per outlet,
4 outlets

Design	Packs of	Part #
Sockets fused individually, 4 X IEC 320 outlets	1	7856220



PSM Plug-In Module IEC320 C19

4-way

The plug-in module for the busbar system PSM has 4 current outlets with IEC320 C19 slots. A PSM busbar is required to operate the module. A maximum of 4 modules may be inserted into a 1200 mm long PSM bar, and a maximum of 7 modules into a 2000 mm long PSM rail.

Design	Part #
4-way	7856053



Overvoltage Protection

Is connected upstream of the busbar.

Overvoltage	Part #
With adapter connector	7856170



Three-Phase Connection Cable

3 m, fully wired ready for connection with adapter and mains connector in two variants:

- EU: IEC309 connector
- US1: L15-30P NEMA connector
- US2: L21-20P

Connection Cable	Part #
EU Type	7856025
US1	7856055¹⁾
US2	On request

1) Extended delivery times



Single-Phase Connection Cable

It is now also possible to operate the PSM system as a single-phase system:

- CEE connector 230 V, 2P+E 16 A
- Cable length 3 m
- US: L6-20P

Packs of	Part #
1	7856026
US	On request

Includes:

PVC cable, 3-pole; connection cable, length 3 m; contact protection CEE22



Single-Phase UPS Connection Cable

For connecting to an existing UPS:

- IEC320 C14 connector (non-heating appliances)
- Cable length 3 m

Packs of	Part #
1	7856027

Includes:

PVC cable, 3-pole; connection cable, length 3 m; IEC cable coupling

Power Distribution Strips (PDS)

Metered, Smart, Switched and Basic

Blade servers and high density computing power requirements continue to increase, creating heat proliferation and more challenges for managing the IT environment. To maintain their competitive advantage, data center managers need SNMP-based solutions that monitor, track and manage servers, IT equipment and the equipment cabinet infrastructure that houses them. Introducing Rittal's newest family of power distribution strips!



Metered PDS

Metered PDS products provide reliable power distribution for all the devices in your equipment cabinet, from 5,000 to 20,000 Watts per cabinet. Single-phase 110-120 V or 208-240 V power distribution with 20 and 30-amp options. Three-phase 208 V; 20 and 30-amp power distribution options. Local input current monitoring allows the installation engineer to verify the aggregate load on the circuit or phase.

Metered PDU

Description	Amps	Part #	
Horizontal 120 V AC			
10x5-20R, C20P, 1U, amp display*	20	9970723	
10x5-20R, 6' cord, L5-30P, 1U, amp display	30	9970726	
Horizontal 208/230 V AC			
12xC13R, C20P, 1U, amp display*	20	9970728	
12xC13R, 6' cord, L6-30P, 1U, amp display	30	9970730	
4xC19R, 6' cord, L6-30P, 1U, amp display	30	9970732	
Horizontal Dual Input 120 V AC			
4x5-20R, 6' cord, 2xL5-30P, 1U, amp display	30	9970780	
16x5-20R, 2xC20, 2U, amp display*	20	9970801	
16x5-20R, 2xL5-30P, 6' cord, 2U, amp display	30	9970802	
Horizontal Dual Input 208/230 V AC			
4xC19R, 2xC20P, 1U, amp display*	20	9970779	
4xC19R, 6' cord, 2xL6-30P, 1U, amp display	30	9970781	
12xC19R, 208 V AC, 6' cord, 2xL21-20P, 1U, amp display, 3 Phase	20/phase	9970784	
16xC13R, 2xC20, 2U, amp display*	20	9970805	
16xC13R, 6' cord, 2xL6-30P, 2U, amp display	30	9970806	
8xC19R, 6' cord, 2xL6-30P, 2U, amp display	30	9970809	
Vertical 120 V AC 1.75" W x 2.25" D			
12x5-20R, C20P, 0U, amp display*	32" L	20	9970741
12x5-20R, 6' cord, L5-30P, 0U, amp display	32" L	30	9970742
24x5-20R, C20P, 0U, amp display*	56" L	20	9970747
24x5-20R, 6' cord, L5-30P, 0U, amp display	56" L	30	9970748
Vertical Dual Input 120 V AC 3.5" W x 2.25" D			
24x5-20R, 6' cord, 2xC20P, 0U, amp display*	32" L	20	9970787
24x5-20R, 6' cord, 2xL5-30P, 0U, amp display	32" L	30	9970788
48x5-20R, 6' cord, 2xL5-30P, 0U, amp display	56" L	30	9970789
Vertical 208/230 V AC 1.75" W x 2.25" D			
12xC13R, C20P, 0U, amp display*	32" L	20	9970743
12xC13R, 6' cord, L6-30P, 0U, amp display	32" L	30	9970745
24xC13R, C20P, 0U, amp display*	56" L	20	9970749
24xC13R, 6' cord, L6-30P, 0U, amp display	56" L	30	9970750
18xC13R, 6xC19R, 30A/phase, 6' cord, L15-30P, 0U, amp display, 3 Phase	60" L	30/phase	9970756
Vertical Dual Input 208/230 V AC 3.5" W x 2.25" D			
24xC13R, 2xC20P, 0U, amp display*	32" L	20	9970791
24xC13R, 6' cord, 2xL6-30P, 0U, amp display	32" L	30	9970792
48xC13R, 6' cord, 2xC20P, 0U, amp display*	56" L	20	9970793
48xC13R, 6' cord, 2xL6-30P, 0U, amp display	56" L	30	9970794
Automatic Transfer Switch			
8xC13R, 120/208 V AC, 2xC20P, 1U	20	9970800	

* Must choose power cord from table on page 98

Note:

Other PDS configurations are available on request

Power Distribution Strips (PDS)

Smart PDS

The Smart PDS products provide reliable power distribution combined with remote power and environmental monitoring. Use the network interface to view power, temperature and humidity levels via a Web browser, or receive SNMP-based alarms when conditions exceed defined thresholds.

Smart PDU

Description	Amps	Part #	
Horizontal 120 V AC			
8x5-20R, 20A, C20P, 1U, amp display, serial & IP*	20	9970724	
8x5-20R, 6' cord, L5-30P, 1U, amp display, serial & IP	30	9970727	
Horizontal 208/230 V AC			
8xC13R, 20A, C20P, 1U, amp display, serial & IP*	20	9970729	
8xC13R, 6' cord, L6-30P, 1U, amp display, serial & IP	30	9970731	
Horizontal Dual Input 120 V AC			
16x5-20R, 20A, 2xC20, 2U, amp display, serial & IP*	20	9970803	
16x5-20R, 6' cord, 2xL5-30P, 2U, amp display, serial & IP	30	9970804	
Horizontal Dual Input 208/230 V AC			
12xC19R, 20A, 2xC20P, 2U, amp display, serial*	20	9970782	
12xC19R, 6' cord, 2xL6-30P, 2U, amp display, serial & IP	30	9970783	
12xC19R, 6' cord, 2xL21-20P, 2U, amp display, serial & IP	20/phase	9970785	
12xC19R, 30A/phase, 6' cord, 2xL21-30P, 2U, amp display, serial & IP	30/phase	9970786	
16xC13R, 20A, 2xC20, 2U, amp display, serial & IP*	20	9970807	
16xC13R, 6' cord, 2xL6-30P, 2U, amp display, serial & IP	30	9970808	
8xC19R, 6' cord, 2xL6-30P, 2U, amp display, serial & IP	30	9970810	
Vertical 120 V AC 1.75" W x 2.25" D			
21x5-20R, 208 V AC, 6' cord, L21-20P, 0U, amp display, serial & IP	46" L	20/phase	9970752
24x5-20R, 208 V AC, 6' cord, L21-20P, 0U, amp display, serial & IP	67" L	20/phase	9970754
24x5-20R, 30A/phase, 6' cord, L21-30P, 0U, amp display, serial & IP	67" L	30/phase	9970757
Vertical 208/230 V AC 1.75" W x 2.25" D			
12xC13R, 20A, C20P, 0U, amp display, serial & IP*	46" L	20	9970744
12xC13R, 6' cord, L6-30P, 0U, amp display, serial & IP	46" L	30	9970746
24xC13R, 6' cord, L6-30P, 0U, amp display, serial & IP	67" L	30	9970751
21xC13R, 6' cord, L15-20P, 0U, amp display, serial & IP	46" L	20/phase	9970753
24xC13R, 6' cord, L15-20P, 0U, amp display, serial & IP	67" L	20/phase	9970755
24xC13R, 30A/phase, 6' cord, L15-30P, 0U, amp display, serial & IP	67" L	30/phase	9970758
Vertical Dual Input 120 V AC 3.5" W x 2.25" D			
48x5-20R, 6' cord, 2xL5-30P, 0U, amp display, serial & IP	53" L	30	9970790
Vertical Dual Input 208/230 V AC 3.5" W x 2.25" D			
48xC13R, 6' cord, 2xL21-30P, 0U, amp display, serial & IP	53" L	30/phase	9970795
48xC13R, 6x5-20R, 6' cord, 2xL21-30P, 0U, amp display, serial & IP	53" L	30/phase	9970796
84xC13R, 6' cord, 2xL6-30P, 0U, amp display, serial & IP	67" L	30	9970797
84xC13R, 6' cord, 2xL21-20P, amp display, serial & IP	67" L	20/phase	9970798
84xC13R, 30/phase, 6' cord, 2xL21-30P, 19", amp display, serial & IP	67" L	30/phase	9970799
Environmental Option			
Temp/Humidity Sensor, 3 m cable			9970815

* See Power Cords table for all 20 amp single phase models

Power Distribution Strips (PDS)



Switched PDS

Flagship PDS with remote monitoring and management, including reboot commands for connected servers and network equipment.

The Switched PDS products provide complete lights-out management of a data center or remote branch office. The Switched PDS's combine remote configuration and management with power distribution and power and environmental monitoring. Reboot a single or dual-power server with one command. Receive SNMP alerts when power or environmental conditions exceed thresholds. Assign users specific access rights to designated outlets or groups. Only the Switched PDS products provide the flexibility needed for all data centers and remote sites, including power requirements for high-amp, high-voltage; UL 60950-1 branch circuit protection; SSL & SSH security; and SNMP-based input current monitoring.



Switched PDU

Description	Amps	Part #	
Horizontal 120 V AC			
8x5-20R, C20P, 1U, amp display, serial & IP*		20	9970733
8x5-20R, C20P, 1U, amp display, serial**		20	9970734
8x5-20R, 6' cord, L5-30P, 1U, amp display, serial & IP		30	9970735
8x5-20R, 6' cord, L5-30P, 1U, amp display, serial**		30	9970736
Horizontal 208/230 V AC			
8xC13R, C20P, 1U, amp display, serial & IP*		20	9970737
8xC13R, C20P, 1U, amp display, serial**		20	9970738
8xC13R, 6' cord, L6-30P, 1U rack mount, serial & IP		30	9970739
8xC13R, 6' cord, L6-30P, 1U rack mount, serial**		30	9970740
Vertical 120 V AC 1.75" W x 2.25" D x 46" L			
16x5-20R, C20P, 0U, amp display, serial & IP*		20	9970759
16x5-20R, C20P, 0U, amp display, serial**		20	9970760
16x5-20R, 6' cord, L5-30P, 0U, amp display, serial & IP		30	9970761
16x5-20R, 6' cord, L5-30P, 0U, amp display, serial**		30	9970762
Vertical 208/230 V AC 1.75" W x 2.25" D			
16xC13, C20P, 0U, amp display, serial & IP*	46" L	20	9970763
16xC13, C20P, 0U, amp display, serial**	46" L	20	9970764
16xC13, 6' cord, L6-30P, 0U, amp display, serial & IP	46" L	30	9970765
16xC13, 6' cord, L6-30P, 0U, amp display, serial**	46" L	30	9970766
24xC13, C20P, 0U, amp display, serial & IP*	67" L	20	9970767
24xC13, C20P, 0U, amp display, serial**	67" L	20	9970768
24xC13, 6' cord, L6-30P, 0U, amp display, serial & IP	67" L	30	9970769
24xC13, 6' cord, L6-30P, 0U, amp display, serial**	67" L	30	9970770
Vertical 208 V AC 1.75" W x 2.25" D x 67" L			
24xC13R, 6' cord, L21-20P, 0U, amp display, serial & IP		20/phase	9970771
24xC13R, 6' cord, L21-20P, 0U, amp display, serial**		20/phase	9970772
24xC13R, 6' cord, L15-20P, 0U, amp display, serial & IP		20/phase	9970773
24xC13R, 6' cord, L15-20P, 0U, amp display, serial**		20/phase	9970774
24xC13R, 6' cord, L21-30P, 0U, amp display, serial & IP		30/phase	9970775
24xC13R, 6' cord, L21-30P, 0U, amp display, serial**		30/phase	9970776
24xC13R, 6' cord, L15-30P, 0U, amp display, serial & IP		30/phase	9970777
24xC13R, 6' cord, L15-30P, 0U, amp display, serial**		30/phase	9970778
Environmental Option			
Temp/Humidity Sensor, 3 m cable		9970815	

* See Power Cords table for all 20 amp single phase models
 ** All serial models connect to IP unit for remote communication

Note:

All vertical strips are 1.75" W and 2.25" D

Power Distribution Strips (PDS)



230 V AC, 750 Va



120 V AC, 750 Va



120 V AC, 500 Va

Basic PDS

These basic power solutions provide both NEMA and IEC320 outlets for server, network, Telco and AV applications. These high-density power solutions for 120 V and 208/240 V AC applications come with front or/and rear facing outlets on rack mount or front, side or rear facing outlets for vertical mounting applications. The PDS units meet the latest UL requirements for data centers.

Basic PDS

Description	Amps	Part #	
Horizontal 120 V AC			
9x5-20R, 15' cord, 5-20P, 1U	20	9970700	
9x5-20R, 15' cord, L5-30P, 1U	30	9970702	
16x5-20R, 15' cord, L5-30P, 1U	30	9970706	
Horizontal 208/230 V AC			
10xC13R, 15' L6-30P, 1U	30	9970704	
6xC19R, 10' L6-30P, 1U	30	9970705	
20xC13R, 15' L6-30P, 1U	30	9970708	
Vertical 120 V AC 2.1" W x 1.3" D x 60" L			
12x5-20R, 15' cord, 5-20P	60" L	20	9970701
Vertical 208/230 V AC 2.4" W x 2" D			
10xC13R, 15' L6-20P	18" L	20	9970703
16xC13R, 15' L6-20P	30" L	20	9970707
24xC13R, 10' L6-20P	48" L	20	9970713
Horizontal Dual Input Cord 208/230 V AC			
2X12xC13R, 10' 2xL6-30P, 2U	30	9970719	
Vertical Dual Input Cord 208/230 V AC 2.4" W x 2" D x 68" L			
2X22xC13R, 10' 2xL6-20P	20	9970720	
See Power Cords table for C20 single phase input models			

Power Cord

Description	Part #
Power Cords for 20 Amp Models	
4.5 m C19/L6-20P	9970811
2.5 m, C19/L5-20P	9970812
2.5 m, C1 /5-20P	9970813
3 m, C19/5-15P	9970814
Equipment Power Cord	
2 m, C13/C14, pk. of 8	9970816

Note:

Other power cord options available on request



Uninterruptible Power System (UPS)



Small Capacity Tower

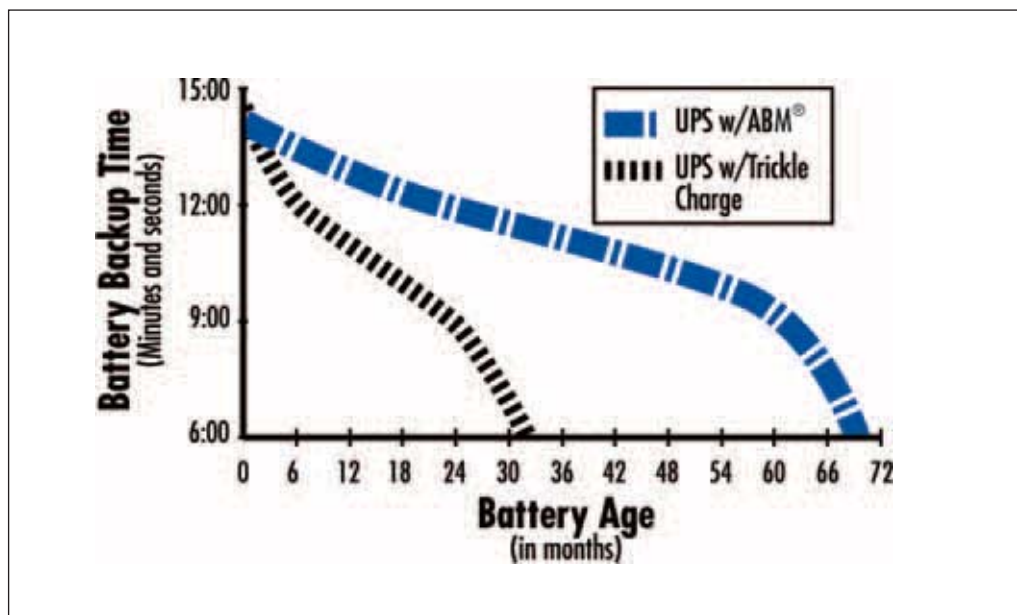
Advanced Battery Management (ABM), which can double battery service life, optimizes recharge time for quick recovery after power outages, and provides advanced warning of the end of useful battery life (see Battery Chart). The batteries are hot-swappable, allowing you to replace them without ever having to power down the connected load and thus extending the service life of your UPS. The Small Capacity Tower UPS provides pure sine wave output during battery operation. It corrects incoming voltage fluctuations so that they do not affect the performance of the connected equipment. A CD contains power management software, which features extensive control and monitoring capabilities and incorporated user friendly features including software selection and installation. The CD includes LaneSafe network shutdown software

Power Rating: 500-1400 VA
Input/Output: 110/120 V AC
Voltage: 220/230/240 V AC
Frequency: 50/60 Hz auto-sensing
Configuration: Tower

Benefits:

- Native USB and serial communications ports
- Advanced Battery Management (ABM) technology doubles battery service life
- Pure sine wave output delivers smooth, continuous power
- Buck and Boost voltage regulation corrects incoming voltage fluctuations
- Enhanced battery recharge time quickly prepares UPS for the next power outage
- Network Transient Protector isolates equipment from "back door" power surges traveling through network and phone lines
- Hot-swappable batteries simplified service and extend service life of UPS
- Included power management software ensures data integrity
- 2-Year Limited Warranty (US and Canada)

Most UPS manufacturers in the market today offer batteries that are constantly "trickle-charged" – a process that degrades the battery's internal chemical composition, reducing potential battery service life by as much as 50 percent. In contrast, ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that doubles the useful service life of UPS batteries while optimizing battery recharge time. The Rittal UPS provides up to 60 days' notice of the end of useful battery service life, to allow ample time to hot-swap batteries without ever having to shut down connected equipment.



Uninterruptible Power System (UPS)



Line Interactive

Rittal's UPS resolves the five primary problems with incoming utility power – outages, sags, surges, brownouts and over-voltage conditions – and supplies clean, conditioned power to all connected equipment. It also offers varying degrees of protection from other problems, such as line noise, frequency variation, harmonics and switching transients.

Benefits:

- Provides more real wattage in less space with a 0.9 power factor – protecting more equipment and leaving more room for expansion
- Two-in-one form factor (1000-3000 VA) and rackmount (6000 VA) products
- Offers the choice of rackmount and tower installation – space saving 2U packaging for 1000-3000 VA, 3U for 6000 VA models – including batteries
- Increases battery life through micro-processor-controlled Advanced Battery Management (ABM) technology
- Enables prioritized shutdown of non-essential equipment during outages to maximize backup time for critical devices
- Increases uptime with hot swappable batteries and electronics, without interrupting power to connected systems (6000 VA models)
- Complete suite of power management software
- Provides a two-year limited warranty

Power to More Servers in Less Space

1000-3000 VA range only occupy 2U (available in gray or black).

Up to 6000 VA of UPS power is packed into 3U of rack space.

The 6000 VA models power 30 percent more servers in 40 percent less space compared to the leading competitive offering.

The 0.9 power factor delivers more real output, powers more servers than another UPS of equivalent VA rating.

Line-Interactive Design Shields Systems from Silent Threats

The line-interactive UPS regulates voltage by boosting input utility voltage up or moderating it down as necessary before allowing it to pass to the protected equipment.

If input voltage varies as much as 20 percent over nominal voltage or 30 percent under – which can easily happen when running on generator power – the UPS accepts this inconsistent voltage and delivers clean, consistent output.

Data based on tests performed by an independent battery manufacturer.

ABM technology uses sophisticated sensing circuitry and an innovative three-stage charging technique that increases the useful service life of UPS batteries while optimizing battery recharge time.

It provides up to 60 days notice of the end of useful battery service life, to allow ample time to hot-swap batteries without ever having to shut down connected equipment.



Add Battery Modules for Even More Backup Capacity

Up to four Extended Battery Modules can be added to provide additional battery backup capacity as necessary. Batteries are hot-swappable and can be replaced at any time without interrupting UPS operation and load protection.

Extended Battery Modules are available in two forms: 2U and 3U rackmount modules, designed to install in tandem with the UPS for a clean look that enhances the appearance of the data center while saving precious space.

Load Segments Feature Maximizes Battery Backup for Critical Systems

Independently control "Load Segments," which are groups of receptacles on the rear panel of the UPS. During a power outage, you can shut down power to non-critical devices (Load Segment 2), thereby extending battery backup time available for critical devices (Load Segment 1).

When the Load Segments feature is used with WEB/SNMP (Simple Network Management Protocol) connectivity cards, users can remotely re-boot locked-up network equipment.

Power Management Software Unifies and Centralizes UPS Management

Every UPS comes with a CD that includes multimedia demonstrations, product data sheets and the following power management software: Free LanSafe power management software for network shutdown.

Powerware LanSafe power management software gives you control and visibility over all your UPS systems, using an intuitive, graphical interface and SNMP.

Using management software, you can securely monitor UPS and battery performance over your LAN or the Web, establish prioritized shutdown of network devices and client/server applications, test all networked UPS systems from one node, analyze trends and network conditions and stay informed of potential power problems by pages and email.

Easily Service the UPS without Interrupting Power to Protected Systems

LEDs on the front panel of the UPS indicate the presence of alarm conditions, battery utilization, bad or low batteries, site wiring faults and incoming utility power, as well as current load levels relative to UPS capacity.

With simple access through the front panels, users can install new battery and electronics modules without ever powering down connected servers or

Uninterruptible Power System (UPS)



Unify the Management of UPS Functions and Connections

The Double Conversion UPS comes complete with the Software Suite CD, including SNMP-compatible LanSafe™ power management software to provide control and visibility over multiple UPSs. From a central vantage point, you can perform all requisite management processes for power protection, such as establishing a prioritized shutdown of network devices and client/server applications, testing all networked UPSs from one node, analyzing trends and network conditions, and staying informed of power problems via email broadcasts to mobile phones or pagers.

Double Conversion

Today's stressed electrical power distribution grids present unique challenges for information technology (IT) users. Power voltages to IT equipment can vary substantially from their specified value. Electricity from local utilities is typically plagued with surges, sags, electrical noise, harmonics, load fluctuations, and other interferences. These anomalies can corrupt data, cause process interruptions, and damage or destroy connected equipment.

The Double Conversion UPS is constantly conditioning and controlling AC output during normal operating conditions. Unlike other commercially-available technologies, a double-conversion online design assures that in the event of a utility power failure, there is zero delay transferring to backup power. The double-conversion architecture incorporates both a rectifier and inverter to completely isolate the output power from all input anomalies. Only a true online system such as the Double Conversion UPS protects connected equipment from all nine of the most common power problems: outages, sags, surges, spikes, brownouts, line noise, frequency variation, switching transients, and harmonic distortion.

Features:

- Protects mission-critical applications from downtime, data loss and corruption, and process interruption by providing continuous, clean power
- Secures connected equipment from damage or degradation caused by power anomalies
- Increases battery life through Advanced Battery Management (ABM) technology, resulting in more uptime and fewer battery replacements
- Offers Load Segments (on 700-3000 VA units) that enable shutdown of non-essential equipment during power outages to extend backup power time for critical systems
- Delivers deployment flexibility while conserving valuable rack space, by offering rackmount or tower installation choices
- Ensures data and system integrity with a complete power management software suite
- Provides a two-year limited warranty and the industry's most extensive investment protection



removing the unit from the rack.

The key is an integral automatic bypass feature (available on VA-3000/6000 VA models) that allows the UPS to continuously provide power to critical equipment while you're working on the systems. Even if you pull out the electronics, the UPS keeps doing its job.

Connectivity Options Offer Maximum Flexibility

Connectivity options are available to suit nearly any communication requirement. The standard unit is equipped with RS-232 serial communications port and a built in USB port (6000 VA models) to interface with power management software.

ConnectUPS Web/SNMP Interface Card enables direct control and monitoring in SNMP-based networks, plus the ability to monitor UPS status and meters through a Web browser (includes built-in switch hub).

Other options available on request:

- Multi-server Card enables up to six serially connected devices of mixed operating systems to be independently managed and controlled by a single UPS
- Relay Interface Card provides dry-contact interface between the UPS and any relay-connected device, including the IBM eServer iSeries (AS/400) and a variety of industrial applications
- Environmental Monitoring Probe (EMP) works with the ConnectUPS Web/SNMP card, remotely monitoring temperature, humidity and the status of two contacts/sensors, such as smoke detector and open-door detector. (See Power Part Number table, page 102)



Design and Connectivity Options Offer Maximum Flexibility

Up to 3000 VA of UPS power is packed into only two units (2U) of rack space; only three or five units (3U/5U) for the 6000 VA models. The standard chassis (available in gray or black) can be deployed as a tower unit or in a rack.

Optional rack kits are available for all models. The standard unit is equipped with an RS-232 serial communications port. You can customize your UPS by adding X-Slot™ interface options for other types of communications.

Power Part Numbers

Description	Battery Run Time 100/50%	EBM Runtime 100%	Input Power	Output Rec	Other Connections	Weight (lbs)	Part #
Small Capacity Tower 120 V AC 7.9" H x 5.9" H x 10.6/13.2" Deep (both 120/208 V AC models)							
500Va, 120 V AC, Tower	5	N/A	5-15P	4x 5-15R	USB, DB9, 2x RJ45	17	9970817
750Va, 120 V AC, 19", Tower	6	N/A	5-15P	4x 5-15R	USB, DB9, 2x RJ45	27	9970818
Small Capacity Tower 208/230 V AC							
500Va, 230 V AC, Tower	5	N/A	C14	4x C13	USB, DB9, 2x RJ45	17	9970819
750Va, 230 V AC, Tower	6	N/A	C14	4x C13	USB, DB9, 2x RJ45	27	9970820
Line Interactive 120 V AC 19.4"/19.4"/24.5" Deep							
1kVA, 120 V AC, 19", 2U Line Interactive*	7/19	33, 58, 82, 105	5-15P	6x 5-15R	DB9, 2x RJ45	65	7857411
1.5kVA, 120 V AC, 19", 2U Line Interactive *	5/13	23, 49, 73, 96	5-15P	6x 5-15R	DB9, 2x RJ45	65	7857412
3kVA, 120 V AC, 19", 2U Line Interactive, *	5/15	25, 49, 69, 90	L5-30P	1x L5-30R, 6x 5-15	DB9, 2x RJ45	90	7857413
Line Interactive 208/230 V AC 19.4"/19.4"/24.5"/26" Deep							
1kVA, 230 V AC, 19", 2U Line Interactive*	7/19	33, 58, 82, 105	C14	6x C13	DB9, 2x RJ45	65	7857414
1.5kVA, 230 V AC, 19", 2U Line Interactive*	5/13	23, 49, 73, 96	C14	6x C13	DB9, 2x RJ45	65	7857415
3kVA, 230 V AC, 19", 2U Line Interactive*#	5/15	25, 49, 69, 90	C20	1x C19, 9x C13	DB9, 2x RJ45	90	7857416
6kVA, 230 V AC, 19", 3U Line Interactive**	5/15	19, 36, 53, 71	HW	HW, 4x C19, 4x C13	SNMP Exp Card	165	7857417
Line Interactive Extended Battery Runtime Modules 19.4"/24.5"/24.75" Deep							
Ebm, 1 - 1.5kVA, 19", 2U Line Interactive						65	7857418
Ebm, 3kVA, 19", 2U Line Interactive						125	7857419
Ebm, 6kVA, 19", 3U Line Interactive						170	7857470
Double Conversion Online 120 V AC 19.4"/19.4"/24" Deep							
1kVA, 120 V AC, 19", 2U Double Conversion*	16	61, 115, 174, 237	5-15P	6x 5-15R	DB9	35	7857471
1.5kVA, 120 V AC, 19", 2U Double Conversion*	8	37, 70, 106, 144	5-15P	6x 5-15R	DB9	50	7857472
3kVA, 120 V AC, 19", 2U Double Conversion*	5	25, 38, 54, 70	L5-30	L5-30R, 2x 5-15R, 2x 5-20R	DB9	85	7857473
Double Conversion Online 208/230 V AC 19.4"/19.4"/24"/25" Deep							
1kVA, 230 V AC, 19", 2U Double Conversion*	16/46	61, 115, 174, 237	C14	6x C13	DB9	42	9970821
1.5kVA, 230 V AC, 19", 2U Double Conversion*	8/25	37, 70, 106, 144	C14	6x C13	DB9	35	7857474
3kVA, 230 V AC, 19", 2U Double Conversion *#	5/13	25, 38, 54, 70	C20	1x C19, 9x C13	DB9	50	7857475
6kVA, 230 V AC, 19", 5U Double Conversion ***	10/34	30, 52, 76, 102	L6-30P	L6-30R	USB, DB9	85	7857476
Line Interactive Extended Battery Runtime Modules 19.4"/24"/24.75" Deep							
Ebm, 1 - 1.5kVA, 19", 2U Double Conversion						65	7857477
Ebm, 3kVA, 19", 2U Double Conversion						95	7857478
Ebm, 6kVA, 19", 3U Double Conversion						170	7857479
Connectivity Option Cards							
Snmp Card						5	9970822
Relay Card						5	9970823
Optional Mounting Hardware							
*4 Post 19" Mntg 1-3kVA						10	9970824
**4 Post 19" Mntg 6kVA Line Interactive						15	9970825
***4 Post 19" Mntg 6kVA Double Conversion						15	9970826
External Temp/Humidity Probe (requires SNMP Exp Card)						5	9970827

Ref Power Cord for C20 Input Connection, see page 98

All Units include LANSafe shutdown software and serial cable

All units 1kVA and larger split the outlets into two independently controlled load segments.



Kiosks

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Keyboards	Page 113

Get Connected – Communicate: Anytime or Anywhere

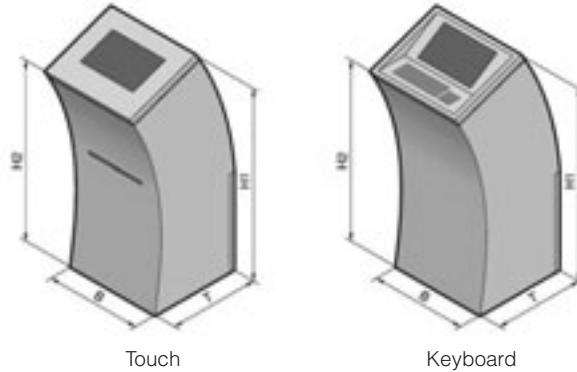
One word, convenience! Deliver your company's product anytime, anywhere, while remaining competitive in your marketplace.

Rittal Interactive Terminal System (ITS) Kiosks are present everywhere, enabling the general public, visitors, consumers and employees to retrieve information and services faster and more conveniently. Rittal Kiosks are found at train stations, in shopping malls and pedestrian zones, in front of and inside government offices and in companies. They can provide Internet access for people on the move or they can act as work and information terminals in hotels and organizations. They are easy to operate, easy to service and update and are low maintenance.

They are protected against climatic and physical influences, including vandalism. They also meet the highest aesthetic and ergonomic demands. Rittal Kiosks are always at your service, 24 hours a day, 365 days a year.



ITS Arc-Line II



B = Width
T = Depth

Modern communication and technology with a new look. The Arc-Line now with TFT technology and with significantly more space for the installation of additional hardware. Thanks to the modified dimensions, the familiar ITS standard keyboards may be installed in the lid.

Components with 482.6 mm (19") mounting dimensions may be integrated in the interior. All Arc-Line Classic models now have a protection category of NEMA 12. Additional installation of a sound system is possible, subject to compliance with the protection category.

Material:

Basic:
Sheet steel, spray-finished
Classic:
Stainless steel, brushed

Color:

Basic: RAL 9007

Protection Category:

Basic: NEMA 12
Classic: NEMA 12

ITS Arc-Line II	Basic				Classic			
	Rear Door		Front Door		Rear Door		Front Door	
17" TFT display	•	•	•	•	•	•	•	•
Contact sensor (touchscreen) including controller	•	–	•	–	•	–	•	–
Keyboard recess for the insertion of ITS keyboards	–	•	–	•	–	•	–	•
Basic electrical equipment with cabling and power pack for display and sound system (100-260 V 50/60 Hz)	•	•	•	•	•	•	•	•
Concealed paper slot	•	•	•	•	–	–	–	–
Door	Hinged, rear		Hinged, front		Hinged, rear		Hinged, front	
Material	Sheet steel		Sheet steel		Stainless steel		Stainless steel	
Surface Finish	Spray-finished in RAL 9007 (fine texture)		Spray-finished in RAL 9007 (fine texture)		Brushed		Brushed	
Dimensions of terminal enclosure approximately H1 x W x D mm (inches)	1180 x 550 x 700 (46.46 x 21.65 x 27.56)		1180 x 550 x 700 (46.46 x 21.65 x 27.56)		1180 x 550 x 700 (46.46 x 21.65 x 27.56)		1180 x 550 x 700 (46.46 x 21.65 x 27.56)	
H2 approx mm (inches)	940 (37.01)		940 (37.01)		940 (37.01)		940 (37.01)	
Part #	9012100	9012110	9012200	9012210	9012300	9012310	9012400	9012410

Accessories

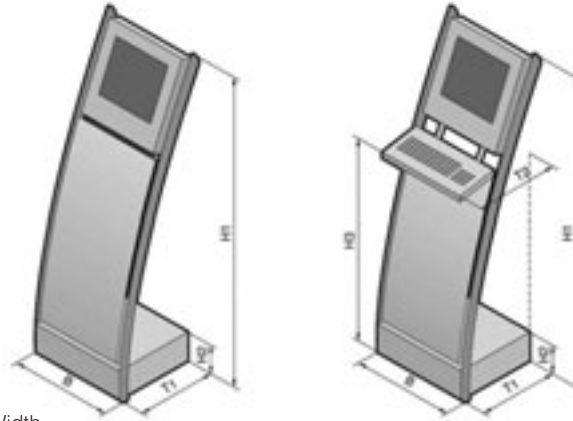
Sound system including 2 speakers, installed	X	X	X	X	X	X	X	X
Long-stroke keyboard with trackball, RAL 9005 black	US English ¹⁾	X	X	X	–	–	–	–
Adapter plate for internal mounting of the long-stroke keyboard, stainless steel		X	X	X	–	–	–	–
Service keyboard with trackball for touch systems	US English	X	–	X	–	X	–	–
Stainless steel keyboard with trackball, NEMA 4	US English ¹⁾	–	X	–	X	–	–	X
Component shelf for mounting on the 482.6 mm (19") level, 400 mm (15.75") deep		7119400	7119400	7119400	7119400	7119400	7119400	7119400
ITS PC system		X	X	X	X	X	X	X

1) Other language variants available on request.

Other accessories: Thermo-printers, DSL/cable modems, card readers, coin checkers, etc. available upon request.

Kiosks

ITS Opti-Line II



B = Width
T = Depth

Creation of the Opti-Line II offers fresh vision and appeal. Stainless steel and aluminum, simplicity and elegance, function and aesthetics – these are all timeless attributes for successful communication.

This is stylish packaging at its best. A keyboard support with new lines, more modularity and a consistent design. A successful innovation from the legendary Opti-Line generation.

This is a modular system that meets all requirements, combining a flexible range of choices for keyboard variants and PC systems, depending on the intended application.

Material:

Display enclosure:
Sheet steel/plastic, RAL 9007, spray-finished, smooth

Pedestal tubes:
Stainless steel V2A, brushed

PC case:
Sheet steel, RAL 9007, spray-finished

Keyboard support:
Aluminium, anodized

Protection Category:

NEMA 1

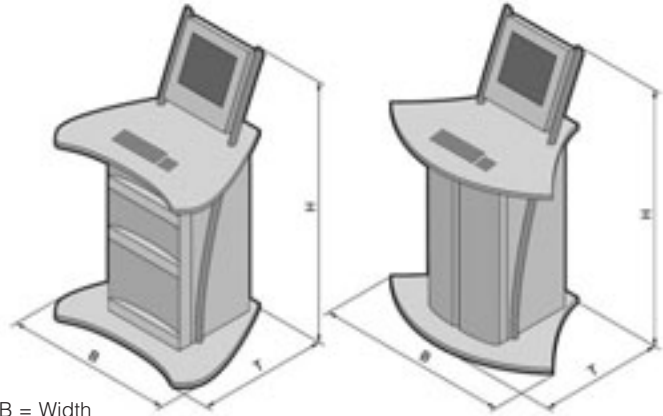
ITS Opti-Line II	Touchscreen		Prepared for Keyboard	
	15"	17"	15"	17"
TFT display or touchscreen	15"	17"	15"	17"
Basic electrical equipment with cabling and power pack for display and sound system (100 - 260 V 50/60 Hz)	•	•	•	•
Dimensions of terminal enclosure approximately H1 x W x D mm (inches)	1500 x 560 x 510 (59.06 x 22.05 x 20.08)	1500 x 560 x 510 (59.06 x 22.05 x 20.08)	1500 x 560 x 580 (59.06 x 22.05 x 22.83)	1500 x 560 x 580 (59.06 x 22.05 x 22.83)
H2 approx mm (inches)	140 (5.51)	140 (5.51)	140 (5.51)	140 (5.51)
H2 approx mm (inches)	965 (37.99)	965 (37.99)	965 (37.99)	965(37.99)
T2 approx mm (inches)	580 (22.83)	580 (22.83)	580 (22.83)	580 (22.83)
Part #	9006505	9006705	9006605	9006805

Accessories					
Sound system including 2 speakers, installed		X	X	X	X
Long-stroke keyboard with trackball, RAL 9005	US English ¹⁾	–	–	X	X
Adapter plate for internal mounting of the long-stroke keyboard, stainless steel		–	–	X	X
Service keyboard with trackball for touch systems	US English	X	X	–	–
Stainless steel keyboard with trackball, NEMA 4	US English ¹⁾	–	–	X	X
ITS PC system		X	X	X	X
WLAN upgrade kit IEEE 802.11 type 1 (USB)		X	X	X	X

1) Other language variants available on request.

Other accessories: Thermo-printers, DSL/cable modems, card readers, coin checkers, etc. available upon request.

ITS Opti-Desk



B = Width
T = Depth

The Opti-Desk was designed as a stylish free-standing PC workstation for the office environment and for use in the administrative sector. The generous worktop offers plenty of workspace, and its successful design blends harmoniously into any environment where effective information and presentations are needed.

The PC hardware is housed in the lockable bottom cabinet, where other equipment such as printers, scanners, etc. may also be integrated on additional built-in component shelves. Several workstations may be bayed in groups via optional worktops.

Material:

Display enclosure:
Sheet steel, spray-finished
Stainless steel
Worktop: MDF

Color:

Body: RAL 9006
Front: RAL 9006
Display enclosure: RAL 9007
Worktop: RAL 9007
Design components: RAL 9005

Protection Category:

NEMA 1

ITS Opti-Desk	Worktop Curved Inwards		Worktop Curved Outwards	
	15"	17"	15"	17"
TFT display				
Basic electrical equipment with cabling and power pack for display and sound system (100 - 260 V 50/60 Hz)	•	•	•	•
Component shelf mounted in the bottom cupboard	•	•	•	•
Base plates with slides	•	•	•	•
Dimensions with worktop approximately H x W x D mm (inches)	1500 x 1000 x 800 (59.06 x 22.05 x 31.50)	1500 x 1000 x 800 (59.06 x 22.05 x 31.50)	1500 x 1000 x 800 (59.06 x 22.05 x 31.50)	1500 x 1000 x 800 (59.06 x 22.05 x 31.50)
Dimensions of bottom cupboard with front door only approximately H x W x D mm (inches)	1000 x 435 x 530 (39.37 x 17.13 x 20.87)	1000 x 435 x 530 (39.37 x 17.13 x 20.87)	1000 x 435 x 530 (39.37 x 17.13 x 20.87)	1000 x 435 x 530 (39.37 x 17.13 x 20.87)
Part #	9021250	9021270	9021255	9021275

Accessories

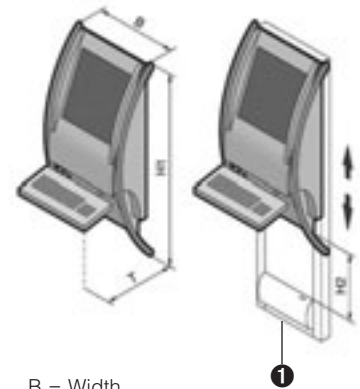
Sound system including 2 speakers, installed	X	X	X	X
Long-stroke keyboard with trackball, RAL 9005	US English ¹⁾ X	X	X	X
Adapter plate for long-stroke keyboard with trackball, stainless steel	X	X	X	X
Stainless steel keyboard with trackball, NEMA 4	US English ¹⁾ X	X	X	X
Component shelf for bottom cupboard	9021600	9021600	9021600	9021600
Set of casters (2 with locks) to exchange for levelling feet	9021650	9021650	9021650	9021650
ITS PC system	X	X	X	X
WLAN upgrade kit IEEE 802.11 type 1 (USB)	X	X	X	X

¹⁾ Other language variants available on request.

Further accessories such as touchscreen DSL/cable modem, card reader, coin checker, webcam, etc. available on request.

Kiosks

ITS Opti-Wall



This new compact kiosk for wall mounting was developed on the basis of the successful Opti-Line design. This wall-mounted kiosk, designed for indoor applications, is sure to impress, not only with its refined design, but also because of what's inside. Despite the minimal dimensions of this kiosk, there are a range of different configuration variants available. You decide which accessories you require for

your specific application. There is a choice of PC performance, specifically tailored to your application. In order to make it easier for children and wheelchair users to use, the accessories for the Opti-Wall include an electric height adjustment for each user's requirements via the keys.

Material:

Sheet steel, spray-finished
Stainless steel

Color:

RAL 9007 (display enclosure)
RAL 9006 (basic enclosure)

Protection Category:

NEMA 1

1 Opti-Wall with electrical height adjuster Part # 9020500

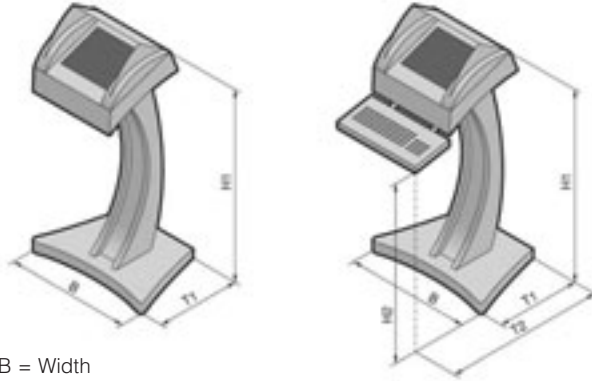
ITS Opti-Wall	Touchscreen		Prepared for Keyboard	
	15"	17"	15"	17"
TFT display or touchscreen	15"	17"	15"	17"
Basic electrical equipment with cabling and power pack for display and sound system (100-260 V 50/60 Hz)	•	•	•	•
Dimensions of terminal enclosure approximately H1 x W X D mm (inches)	1000 x 560 x 200 (39.37 x 22.05 x 7.87)	1000 x 560 x 200 (39.37 x 22.05 x 7.87)	1000 x 560 x 400 (39.37 x 22.05 x 15.75)	560 x 1000 x 400 (39.37 x 22.05 x 15.75)
Part #	9020150	9020170	9020250	9020270

Accessories				
Sound system including 2 speakers, installed	X	X	X	X
Long-stroke keyboard with trackball, RAL 9005 US English ¹⁾	-	-	X	X
Adapter plate for long-stroke keyboard, stainless steel (required for the installation of 9004300/310)	-	-	X	X
Service keyboard with trackball for touch systems US English	X	X	-	-
Stainless steel keyboard with trackball, NEMA 4 US English ¹⁾	-	-	X	X
Electric height adjuster for Opti-Wall kiosk, H2 350 mm	9020500	9020500	9020500	9020500
ITS PC system	X	X	X	X
WLAN upgrade kit IEEE 802.11 type 1 (USB)	X	X	X	X

1) Other language variants available on request.
Further accessories such as DSL/cable modem, webcam, etc. available upon request.

Kiosks

ITS Alpha-Line



B = Width
T = Depth

The kiosk for the future. Here, communication becomes an experience. Two ambitious objectives are united in a single kiosk: the traditional and the mundane have given way to lightness and design. Rounded shapes add rhythm and style, ensuring a powerful impact from any perspective. Eye-catching and out-of-the-ordinary.

Suitable for the installation of compact and powerful PC systems, as well as your choice of keyboard. Navigate your way into the future with a touchscreen or keyboard.

Material:

Monitor housing:
Sheet steel, RAL 9007, spray-finished, smooth

Pedestal:
MDF, RAL 9007, spray-finished, with stainless steel trim

Base plate:
MDF, spray-finished silver-grey

Keyboard support:
Aluminium, anodized

Protection Category:

NEMA 1

ITS Alpha-Line	Touchscreen	Prepared for Keyboard
TFT Display	15"	15"
Basic electrical equipment with cabling and power pack for display and sounds system (100 - 260 V 50/60 Hz)	•	•
Dimensions including base plate and viewing guard approximately H x W x D mm (inches)	1300 x 580 x 540 (51.18 x 22.83 x 21.26)	1300 x 580 x 540 (51.18 x 22.83 x 21.26)
H2 approx. mm (inches)	1010 (39.76)	1010 (39.76)
D2 approx. mm (inches)	620 (24.41)	620 (24.41)
Part #	9007105	9007205

Accessories

Sound system including 2 speakers, installed	X	X
Long-stroke keyboard with trackball, RAL 9005 US English ¹⁾	-	X
Adapter plate for long-stroke keyboard with trackball, stainless steel	-	X
Service keyboard with trackball for touch systems US English	X	-
Stainless steel keyboard with trackball, NEMA 4 US English ¹⁾	-	X
ITS PC system	X	X
WLAN upgrade kit IEEE 802.11 type 1 (USB)	X	X

1) Other language variants available upon request.

Kiosks

ITS Out-Line Wall



B = Width
T = Depth

The new Out-Line Wall is a further development of the Opti-Wall kiosk for outdoor use +5° to +40°C (41°F to 104°F). Despite the minimal dimensions of this kiosk, there are a range of different configuration variants available.

Optionally, an outdoor-compatible sound system with protection category NEMA 12 may be integrated. Climate control kits, consisting of a heater and fan-and-filter units, are also available. In addition to the accessories listed below, other variants are also possible, together with various color variants for customer-specific complete systems.

Color:
RAL 9007

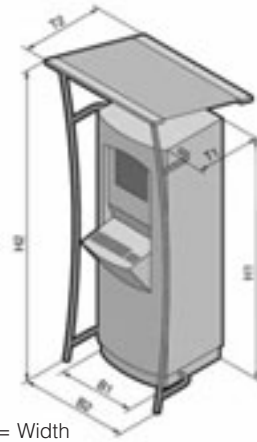
Various spray-finishes, including anti-graffiti spray-finish, available upon request.

Protection Category:
NEMA 3

ITS Out-Line Wall with protection category NEMA 3	Touchscreen		Prepared for Keyboard	
	15"	17"	15"	17"
TFT display (high bright for outdoor applications) or touchscreen				
Basic electrical equipment with cabling and power pack for display and sound system (100 - 260 V, 50/60 Hz)	•	•	•	•
Wall bracket	•	•	•	•
Dimensions of enclosure body approximately H1 x W1 x D mm (inches)	1100 x 480 x 305 (43.31 x 18.90 x 12.01)	1100 x 480 x 305 (43.31 x 18.90 x 12.01)	1100 x 480 x 365 (43.31 x 18.90 x 14.37)	1100 x 480 x 365 (43.31 x 18.90 x 14.37)
Enclosure dimensions including all projecting parts approximately H2 x W2 x D mm (inches)	1360 x 600 x 305 (53.54 x 23.62 x 12.01)	1360 x 600 x 305 (53.54 x 23.62 x 12.01)	1360 x 600 x 365 (53.54 x 23.62 x 14.37)	1360 x 600 x 365 (53.54 x 23.62 x 14.37)
Part #	9023150	9023170	9023250	9023270

Accessories				
Sound system including 2 speakers, installed NEMA 12		X	X	X
Service keyboard with trackball for touch systems	US English	X	X	-
Stainless steel keyboard with trackball, NEMA 4	US English ¹⁾	-	-	X
ITS PC system		X	X	X
Climate control kit for Out-Line Wall	Type 1 (mains voltage: 115 V, 50/60 Hz)	9010331	9010331	9010331
	Type 2 (mains voltage: 230 V, 50/60 Hz)	9010332	9010332	9010332

1) Other language variants available upon request.



B = Width
T = Depth

This outdoor kiosk was designed for multimedia in an outdoor setting. Based on Rittal's expertise in the outdoor sector, this twin-walled aluminum kiosk offers a high level of security in terms of protection from a wide variety of climatic and physical conditions, including protection against vandalism.

Inside, the enclosure may be configured with other components from the Rittal range of accessories, such as component shelves, etc. Special displays suitable for outdoor use with high levels of light intensity are used in complete systems.

Material:

Aluminum, spray-finished

Tubes:

Stainless steel

Color:

RAL 9007

Various spray-finishes, including anti-graffiti spray-finish, available upon request.

Protection Category:

NEMA 3

ITS Out-Line Pro	Touchscreen		Prepared for Keyboard	
	15"	17"	15"	17"
TFT Display (high bright for outdoor applications) or touchscreen				
Basic electrical equipment with cabling and power pack for display and sound system (100 - 260 V 50/60 Hz)	•	•	•	•
Base/Plinth with stabilisers, may be screw fastened to the ground	•	•	•	•
Dimensions of terminal enclosure approximately H1 x W1 x D1 mm (inches)	2000 x 650 x 500 (78.74 x 25.59 x 19.69)	2000 x 650 x 500 (78.74 x 25.59 x 19.69)	2000 x 650 x 500 (78.74 x 25.59 x 19.69)	2000 x 650 x 500 (78.74 x 25.59 x 19.69)
Dimensions of terminal including roof approximately H2 x W2 x D2 mm (inches)	2400 x 1000 x 1000 (94.49 x 39.37 x 39.37)	2400 x 1000 x 1000 (94.49 x 39.37 x 39.37)	2400 x 1000 x 1000 (94.49 x 39.37 x 39.37)	2400 x 1000 x 1000 (94.49 x 39.37 x 39.37)
Part #	9022150	9022170	9022250	9022270

Accessories

Sound system including 2 speakers, installed NEMA 12	X	X	X	X
Service keyboard with trackball for touch systems US English	X	X	-	-
Stainless steel keyboard with trackball, NEMA 4 US English ¹⁾	-	-	X	X
ITS PC system	X	X	X	X
WLAN upgrade kit IEEE 802.11, type 2 (PCI card with external outdoor aerial for the PC system "Pro" and "Basic")	X	X	X	X
Climate control kit for Type 1 (mains voltage: 115 V, 50/60 Hz)	9010331	9010331	9010331	9010331
Out-Line Pro Type 2 (mains voltage: 230 V, 50/60 Hz)	9010332	9010332	9010332	9010332

1) Other language variants available on request.



Long-Stroke Keyboard with Trackball

Super-slimline, compact long-stroke keyboard (83/84 keys) with top-quality 16 mm trackball.

Available in two different colors and several country specific layouts.

For independent installation in the keyboard supports or keyboard recesses, an adapter plate is additionally required.

Mechanical Specifications:

Key buttons in an 18 mm pitch pattern
Trackball: Ø 16 mm
Weight: 720 g
Storage temperature: -20°C to +60°C (-4°F to 140°F)
Operating temperature: 0°C to +50°C (32°F to 122°F)
Dimensions H x W x D: 138.5 x 370 x 20 mm (5.45 x 14.57 x 0.79")

Electrical Specifications:

Connections: PS/2 for keyboard and trackball
Operating voltage: 5 V DC type 18 mA

USB version available on request.

Language ¹⁾	Part #	
	RAL 9005 (black)	RAL 7032 (beige)
German	9004300	9004320
US English	9004310	9004330
French	9004303	9004323
Spanish	9004304	9004324

1) Other language variants available upon request

	Part #
Adapter plate in brushed stainless steel	9003160
Adapter plate, sheet steel, RAL 9005 (black)	9003170

Material:

Plastic

Protection Category:

NEMA 1



Stainless Steel Keyboard with Trackball

The stainless-steel full-stroke keys are laser-engraved and protected against being twisted out or snapped off. The keyboard conforms to CE requirements.

Mechanical Specifications:

Actuator travel: 3.5 mm
Actuator force: 0.56 N, tactile
Service life: > 10 million actuations
Storage temperature: -40°C to +70°C (-40°F to 158°F)
Operating temperature: -20°C to +60°C (-4°F to 140°F)
Dimensions H x W x D: 155 x 432 x 34 mm (R = 10 mm) (6.10 x 17.01 x 1.34")

Electrical Specifications:

Connections: PS/2 for keyboard and trackball
Operating voltage: 5 V DC, max. 50 mA

USB version available on request.

Language ¹⁾	Part #
German	9004220
US English	9004222
French	9004223
Spanish	9004224

1) Other language variants available on request

Protection Category:

Keyboard and trackball
NEMA 4 idle
NEMA 12 in motion



Service Keyboard with Trackball

Compact keyboard with integral trackball for mobile on-site service use with ITS kiosks. This keyboard makes maintenance work and software installation easier for terminal systems with a touchscreen which do not have their own keyboard. This keyboard is not essential for operation of the terminals, but in many terminals it may remain inside the enclosure, thanks to the minimal dimensions. This keyboard additionally has small multimedia keys.

Mechanical Specifications:

Actuator travel: 2.2 mm
Trackball: Ø 19 mm
Service life: 1 million actuations
Operating temperature: 0°C to +50°C (32°F to 122°F)
Dimensions H x W x D: 152 x 316 x 21 mm (5.98 x 12.44 x 0.83 inches)

Language ¹⁾	Part #
German	9010910
US English	9010912
French	9010913
Spanish	9010914

1) Other language variants available upon request

Electrical Specifications:

Connections: PS/2 for keyboard and trackball

USB version available on request.

Material:

Plastic

Protection Category:

NEMA 1

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