



RIMATRIX5
DRIVING IT-PERFORMANCE



Rittal IT Solutions

FRIEDHELM LOH GROUP



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RimatriX5 IT Solutions from Rittal



Whether in small businesses or major enterprises, the demands placed on the IT infrastructure are unrelenting. In today's 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, Rittal continuously delivers innovative and reliable products to ensure high-performance information technology. And with RimatriX5, Rittal provides peace of mind for the most important infrastructure issues facing data center and facility managers.

Enclosures –

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

Cooling –

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

Monitoring –

With system-wide monitoring, management and configuration software, preventive intervention and the shortest possible response time to critical issues is made possible.

Security –

For protection against the most common data and computer center threats, Rittal offers comprehensive security solutions including the CMC-TC monitoring system.

Power –

Fit for the future, Rittal's power management solutions bundle maximum availability, redundancy and scalability into a single system while reducing installation and operating costs.

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

For total IT solutions...go with Rittal!

Product Overview

RimatriX5 IT Enclosure Solutions

The long-term performance of an IT infrastructure is dependent on the coordinated interaction of individual components. With RimatriX5 server enclosures, integration of climate control, power and security solutions is simple. Innovative, modular designs maximize internal space and load bearing capacity while making the addition of new active devices and additional enclosures simple and cost effective.

TS8 Server Enclosures –

Designed specifically for the data center, the TS8 is a modern enclosure offering strength and stability for virtually any server environment. Its patented 16-fold continuously welded frame delivers 30% more dimensional stability, high load-carrying capacity and maximized internal volume.

- **Frame profile**

The symmetrical design ensures an absolute maximum of useful rack volume and permits scalable suite options for optimized space utilization in all planes.

- **Interior configuration**

Depth-adjustable 19" (482.6 mm) mounting angles permit configuration of complex server architectures. And with a load capacity of 3200 lb (1450 kg), there are virtually no restrictions for interior configurations of the rack.

- **Surface protection**

For optimum surface treatment and enhanced corrosion protection, Rittal uses the electrophoretic dipcoat priming process on all TS8 enclosures.

- **Passive ventilation**

The perforated front and rear doors offers a 64% ventilated surface in their punched plate sections for optimum airflow to the installed hardware components which meets or exceeds server manufacturer specifications.

TE 7000 Network Enclosures –

Ideal for network applications, this frameless enclosure is perfect for quick, cost-effective cabling. Its high-load capacity, versatile framework delivers optimum accessibility and maximum usable interior space.

- **Simple to install**

Accessories for power supply, security and climate control mount easily and quickly to reduce installation costs.

- **Maximum capability**

Load capacity up to 880 lb (400 kg) for the network enclosure and 1400 lb (635 kg) for the server enclosure.



Wallmount Enclosures –

For small networks or floor distributors, wallmount enclosures from Rittal come in numerous configurations to meet virtually any network equipment need. Available off-the-shelf, completely assembled, wallmount enclosures contain numerous cost-efficient, customer-oriented features like viewing doors, cooling fans and cable collecting rails.

Data Racks –

These torsion-resistant designs serve as mobile or stationary housings for monitors, servers, keyboards, printers and other network components.

Specialty Enclosures –

With a legacy of innovation, it is no surprise Rittal offers leading edge solutions for new and demanding market requirements. Rittal delivers proven solutions for critical applications, including:

- Co-location enclosures
- Liquid cooling enclosures

For more information contact Rittal.



Product Overview

RimatriX5 IT Cooling Solutions

Perhaps the most pressing issue in today's data center, management of heat and humidity, is paramount in maintaining a high-performing data infrastructure. Higher processing speeds and the implementation of high-density blade servers has led to enclosure heat densities of 20 kW and higher. RimatriX5 cooling solutions incorporate the industry's most comprehensive and advanced technologies to meet the requirements of the hottest running data centers. Highly adaptable and easily scaled, data centers can leverage an array of solutions that includes simple air cooling, heat exchangers or sophisticated liquid cooling modules that provide direct liquid cooling to heat sinks on processors.

Liquid Cooling Package (LCP/LCP Plus) –

This high density cooling solution utilizes air/water heat exchangers providing uniform, effective and affordable cooling for servers and similar IT equipment. Key parameters and features include:

- Useful cooling per rack of 12 to 40 kW
- Fan air throughput up to 1412 cfm (2400 m³/h)
- Controller for optional SNMP CMC-TC for network monitoring

Rittal RimatriX5 solves the problem of climate control for high heat losses per rack with the Liquid Cooling Package (LCP) range. Extremely high heat loads are dissipated from the rack via the LCP air/water heat exchanger. Additionally, this system also allows temperature-neutral expansion of the data center.



Chiller Systems –

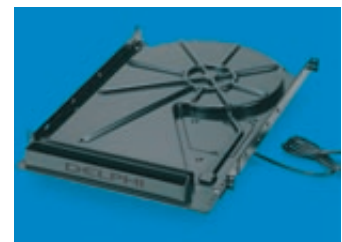
Rittal chiller system provides central chilling to support liquid cooling systems. Separation of the chilling and cooling processes permits temperature-neutral expansion of data centers.

Air Conditioners –

Wallmount and roofmount air conditioners from Rittal are highly dependable, flexible and easy to operate. These versatile systems incorporate microcontroller technology and can be integrated with remote monitoring systems for precision control. This broad range of ready-to-install systems can deliver cooling capacities up to 4 kW.

Fans and Blowers –

A broad range of fan systems is available to enhance airflow distribution in the rack utilizing ambient air for cooling hardware components. Under optimum conditions, fan systems are able to dissipate heat losses of up to 5 kW in a rack.



Product Overview

RimatriX5 IT Power Solutions

Miniaturization and the ever greater performance of hardware components place new demands on modern power management solutions for the data center. Ever-increasing data requirements and the introduction of new devices require scalability and quick implementation of power management systems. With RimatriX5, the need for redundancy, scalability and maximum availability are bundled into a single system. Together, these solutions help to reduce operating costs and boost the availability of the overall system.

The RimatriX5 power management and distribution product range is based on implementing plug-and-play expansion, with no need to interrupt current operations. Downtime is avoided and future operating costs are lowered.

Power Distribution Units (PDU)

Provide reliable and intelligent power distribution for equipment racks and other data center applications. A broad range of sophisticated solutions includes Switched, Smart and Metered PDUs that allow: local or remote monitoring; environmental monitoring; remote configuration; and SNMP alerts.

Single-Phase UPS Small Capacity Tower

The Small Capacity Tower provides pure sine wave output during battery operation for smooth, continuous power. Buck and Boost voltage regulation corrects incoming voltage fluctuations so they do not affect the performance of connected equipment.

Single-Phase UPS Line Interactive

The RimatriX5 Line Interactive UPS supplies clean, conditioned power to connected equipment and resolves the primary problems with incoming utility power – outages, sags, surges, brownouts and spike conditions. Providing more power to servers in less space, the Line Interactive UPS can be obtained in rackmount or tower installation configurations.

Single-Phase UPS Double Conversion

Unlike other commercially available technologies, this double-conversion on-line 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 an inverter to completely isolate the output power from all input anomalies.



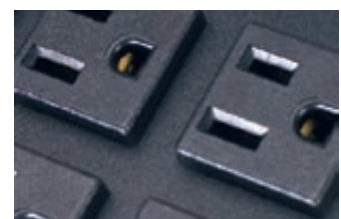
Data center and network operations center managers are under extreme pressure to reduce costs while dealing with other operational realities such as expanding power demands, increasing power costs and protecting mission critical applications with backup power. RimatriX5 uninterruptible power supplies (UPS) are offered in a vast array of designs to address all the needs of the ever-changing and growing data environment.

3-Phase RimatriX Modular UPS

Designed specifically for high-density computing environments, the RimatriX Modular UPS delivers efficient, reliable power in only 6U of rack space. This power UPS solution can be configured to deliver higher density than competitive modular solutions while dissipating one-third of the heat.

Advanced Battery Management

RimatriX5 UPS solutions incorporate Advanced Battery Management (ABM). 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. It also provides up to 60 days notice of the end of useful battery service life.



RimatriX5 IT Monitoring and Security Solutions

The fail-safe security of the IT infrastructure is essential and assumed in today's business environment. Whether environmental or access concerns, security solutions must be comprehensive and easily integrated into monitoring systems. RimatriX5 security solutions provide a broad range of solutions capable of protecting servers and network devices from heat, fire, humidity, vibration and numerous other environmental factors that can impact performance or destroy the device. Access control modules incorporate leading edge door control and video modules to secure data environments from unauthorized personnel and visitors.

CMC-TC –

The CMC-TC (Computer Multi-Top Concept) is a complete security management system for protection against unauthorized access, vandalism and environmental factors such as heat, humidity, smoke and vibration. Fault and alarm messages can be sent to defined service or security management systems. Its modular concept permits tailoring to individual requirements while automatic sensor detection enables plug-and-play expansion.

Climate Control –

Constant low temperatures are a prerequisite for long service life. Rittal monitoring and control systems monitor inside rack temperature and make corresponding adjustments to climate systems to ensure reliable dissipation of heat loads.

Access Control –

In today's environment of right-sized staffing and remote monitoring, access control is a critical factor in corporate security. Rittal control systems enable door access control with numerical codes, magnetic cards, transponder technologies, smart cards and biometric systems.

Video –

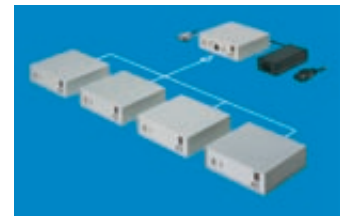
Compact cameras with integrated network connections enable distribution and management of video data via the Internet or through centrally installed software.

Monitoring and Remote Management

At-a-Glance –

Monitoring and controlling enclosure temperature. Documenting the status of the UPS backup. Monitoring fan speed and performance. Scanning multiple rooms through video surveillance modules. Monitoring and managing data centers requires a comprehensive solution that provides simple interaction and ease of control. RimatriX5 monitoring and remote management solutions deliver a unique combination of configuration software and management software that allows clear evaluation of numerous parameters to allow preventive intervention and crisis management to ensure uptime and control costs.

- Power supply monitoring including UPS
- Climate control
- Early fire detection
- Fire alarm and extinguisher systems
- Access control and monitoring
- Room monitoring
- Alarm sequence concepts
- Water warning
- Video monitoring
- Remote monitoring and maintenance services



Enclosures

RimatriX5 IT Solutions from Rittal

RIMATRIX5
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RimatriX5 IT Solutions from Rittal

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.

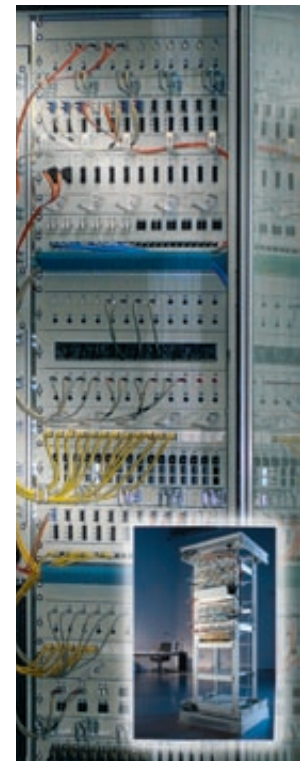
Our comprehensive range of products are based on more than 40 years of enclosure expertise, wide-ranging in energy management and the development of pioneering climate control concepts.

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



Enclosures

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Server Rittal TS8



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 – 3200 lbs (1451.5 kg)
- 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 airflow
- 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 – 19" (482.6 mm) Rackmount
- Casters
- Cable Management Hardware – D Rings, Velcro Straps, Mounting Plates, Manage-IT
- Power Strips – 15, 20, 30 Amp; Vertical or Rackmount
- 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 No.
42U	36"	80 x 24 x 36	RAL 7035 light grey	9969.808
		80 x 24 x 36	Sand texture black	9969.809
	40"	80 x 24 x 40	RAL 7035 light grey	9969.810
		80 x 24 x 40	Sand texture black	9969.811
		80 x 28 x 40	RAL 7035 light grey	9969.812
		80 x 28 x 40	Sand texture black	9969.813
	42"	80 x 24 x 42	RAL 7035 light grey	9969.814
		80 x 24 x 42	Sand texture black	9969.815

Server Rittal TS8

Split Rear Doors, Without Sidewalls

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.	
24U	36"	48 x 24 x 36	RAL 7035 light grey	9969.816	
		48 x 24 x 36	Sand texture black	9969.817	
	40"	48 x 24 x 40	RAL 7035 light grey	9969.830	
		48 x 24 x 40	Sand texture black	9969.831	
	42"	48 x 24 x 42	RAL 7035 light grey	9969.844	
		48 x 24 x 42	Sand texture black	9969.845	
42U	36"	80 x 24 x 36	RAL 7035 light grey	9969.818	
		80 x 24 x 36	Sand texture black	9969.819	
		80 x 28 x 36	RAL 7035 light grey	9969.820	
		80 x 28 x 36	Sand texture black	9969.821	
		80 x 32 x 36	RAL 7035 light grey	9969.822	
	40"	80 x 32 x 36	Sand texture black	9969.823	
		80 x 24 x 40	RAL 7035 light grey	9969.832	
		80 x 24 x 40	Sand texture black	9969.833	
		80 x 28 x 40	RAL 7035 light grey	9969.834	
		80 x 28 x 40	Sand texture black	9969.835	
	42"	80 x 32 x 40	RAL 7035 light grey	9969.836	
		80 x 32 x 40	Sand texture black	9969.837	
		80 x 24 x 42	RAL 7035 light grey	9969.846	
		80 x 24 x 42	Sand texture black	9969.847	
		80 x 28 x 42	RAL 7035 light grey	9969.848	
	48"	80 x 28 x 42	Sand texture black	9969.849	
		80 x 32 x 42	RAL 7035 light grey	9969.850	
		80 x 32 x 42	Sand texture black	9969.851	
		80 x 24 x 48	RAL 7035 light grey	9969.908	
		80 x 24 x 48	Sand texture black	9969.909	
	47U	36"	88 x 32 x 48	RAL 7035 light grey	9969.910
			88 x 32 x 48	Sand texture black	9969.911
			88 x 24 x 36	RAL 7035 light grey	9969.824
			88 x 24 x 36	Sand texture black	9969.825
88 x 28 x 36			RAL 7035 light grey	9969.826	
88 x 28 x 36			Sand texture black	9969.827	
40"		88 x 32 x 36	RAL 7035 light grey	9969.828	
		88 x 32 x 36	Sand texture black	9969.829	
		88 x 24 x 40	RAL 7035 light grey	9969.838	
		88 x 24 x 40	Sand texture black	9969.839	
		88 x 28 x 40	RAL 7035 light grey	9969.840	
		88 x 28 x 40	Sand texture black	9969.841	
42"		88 x 32 x 40	RAL 7035 light grey	9969.842	
		88 x 32 x 40	Sand texture black	9969.843	
		88 x 24 x 42	RAL 7035 light grey	9969.852	
		88 x 24 x 42	Sand texture black	9969.853	
		88 x 28 x 42	RAL 7035 light grey	9969.854	
		88 x 28 x 42	Sand texture black	9969.855	
48"		88 x 32 x 42	RAL 7035 light grey	9969.856	
		88 x 32 x 42	Sand texture black	9969.857	
		88 x 24 x 48	RAL 7035 light grey	9969.912	
		88 x 24 x 48	Sand texture black	9969.913	
		88 x 32 x 48	RAL 7035 light grey	9969.914	
		88 x 32 x 48	Sand texture black	9969.915	

Black cells indicate RittalXpress product.

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Networking Rittal TS8

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 – 3200 lbs (1451.5 kg)

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 RAL 9005 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
- Unique rail design allows for up to 32U in the zero "U" space

Key Accessories:

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



Networking TS8 Enclosure



NEMA 12 Networking TS8 Enclosure

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 No.
24U	24"	48 x 24 x 24	RAL 7035 light grey	9969.874
		48 x 24 x 24	Sand texture black	9969.875
	32"	48 x 24 x 32	RAL 7035 light grey	9969.858
		48 x 24 x 32	Sand texture black	9969.859
		48 x 32 x 32	RAL 7035 light grey	9969.860
		48 x 32 x 32	Sand texture black	9969.861
42U	32"	80 x 24 x 32	RAL 7035 light grey	9969.862
		80 x 24 x 32	Sand texture black	9969.863
		80 x 32 x 32	RAL 7035 light grey	9969.864
		80 x 32 x 32	Sand texture black	9969.865
47U	32"	88 x 24 x 32	RAL 7035 light grey	9969.866
		88 x 24 x 32	Sand texture black	9969.867
		88 x 32 x 32	RAL 7035 light grey	9969.868
		88 x 32 x 32	Sand texture black	9969.869

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Blanking Panels	40
Shelves	48-51
Baying Kit	46
Bolt Down Kits	40

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 No.
24U	24"	48 x 24 x 24	RAL 7035 light grey	9969.876
		48 x 24 x 24	Sand texture black	9969.877
	32"	48 x 24 x 32	RAL 7035 light grey	9969.884
		48 x 24 x 32	Sand texture black	9969.885
		48 x 32 x 32	RAL 7035 light grey	9969.886
		48 x 32 x 32	Sand texture black	9969.887
38U	24"	72 x 24 x 24	RAL 7035 light grey	9969.878
		72 x 24 x 24	Sand texture black	9969.879
	32"	72 x 24 x 32	RAL 7035 light grey	9969.888
		72 x 24 x 32	Sand texture black	9969.889
		72 x 32 x 32	RAL 7035 light grey	9969.890
		72 x 32 x 32	Sand texture black	9969.891
42U	24"	80 x 24 x 24	RAL 7035 light grey	9969.880
		80 x 24 x 24	Sand texture black	9969.881
	32"	80 x 24 x 32	RAL 7035 light grey	9969.892
		80 x 24 x 32	Sand texture black	9969.893
		80 x 32 x 32	RAL 7035 light grey	9969.894
		80 x 32 x 32	Sand texture black	9969.895
47U	24"	88 x 24 x 24	RAL 7035 light grey	9969.882
		88 x 24 x 24	Sand texture black	9969.883
	32"	88 x 24 x 32	RAL 7035 light grey	9969.896
		88 x 24 x 32	Sand texture black	9969.897
		88 x 32 x 32	RAL 7035 light grey	9969.898
		88 x 32 x 32	Sand texture black	9969.899

Black cells indicate RittalXpress product.

LCP Enclosures Server Enclosures

LCP Ready Cabinet

LCP ready cabinet for use with Liquid Cooling Product line. It is configured with air brush baffles to funnel cooled air over mounted components.

- Gland plates
- Solid viewing front door
- Solid rear door
- Solid roof with cable passes and grommets to cover up
- Air brush baffles
- Made out of TS8 frame

Design:

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

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

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 – 3200 lbs (1451.5 kg)

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

LCP Ready Cabinet

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
42U	40"	80 x 24 x 40	RAL 7035 light grey	9971.034
		80 x 32 x 40	RAL 7035 light grey	9971.036
	48"	80 x 24 x 48	RAL 7035 light grey	9971.035
		80 x 32 x 48	RAL 7035 light grey	9971.037

- 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

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
- Unique rail design allows for up to 32U in the zero "U" space

Key Accessories:

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

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



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 880 lbs (400 kg) for the network enclosure and 1400 lbs (635 kg) 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 19" (482.6 mm) attachment levels in the 19" (482.6 mm) multi-functional profile create a solid framework. Load capacity is 880 lbs (400 kg) for the network enclosure and 1400 lbs (635 kg) 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 19" (482.6 mm) 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 No.
11U	24"	24 x 24 x 24	RAL 7035 light grey	7000.390
	32"	24 x 24 x 32	RAL 7035 light grey	7000.410
24U	24"	48 x 24 x 24	RAL 7035 light grey	7000.430
		48 x 32 x 24	RAL 7035 light grey	7000.450
	32"	48 x 24 x 32	RAL 7035 light grey	7000.440
42U	24"	48 x 32 x 32	RAL 7035 light grey	7000.460
		80 x 24 x 24	RAL 7035 light grey	7000.500
		80 x 24 x 24	RAL 9005 black	7000.505
	32"	80 x 24 x 32	RAL 7035 light grey	7000.510
		80 x 24 x 32	RAL 9005 black	7000.515
	24"	80 x 32 x 24	RAL 7035 light grey	7000.520
		80 x 32 x 24	RAL 9005 black	7000.525
47U	24"	80 x 32 x 32	RAL 7035 light grey	7000.530
		80 x 32 x 32	RAL 9005 black	7000.535
	32"	88 x 24 x 24	RAL 7035 light grey	7000.560
		88 x 24 x 32	RAL 7035 light grey	7000.570
32"	88 x 32 x 24	RAL 7035 light grey	7000.580	
	88 x 32 x 32	RAL 7035 light grey	7000.590	

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) w/o sidewalls, including baying kit	Color	Part No.
42U	24"	80 x 24 x 24	RAL 7035 light grey	7000.502
	32"	80 x 32 x 32	RAL 7035 light grey	7000.532
47U	24"	88 x 24 x 24	RAL 7035 light grey	7000.562
	32"	88 x 32 x 32	RAL 7035 light grey	7000.592

TE 7000 Server Enclosures

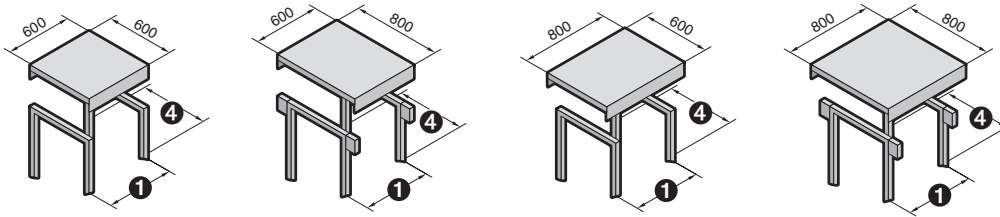
Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches) w/o sidewalls, including baying kit	Color	Part No.
42U	40"	80 x 24 x 40	RAL 7035 light grey	7000.882
		80 x 24 x 40	RAL 9005 black	7000.885
		80 x 32 x 40	RAL 7035 light grey	7000.892
		80 x 32 x 40	RAL 9005 black	7000.895



Accessories	Page
Sidewalls	38
Casters	41
Fans	58
Cable Management	33-36
Blanking Panels	40
Shelves	48-51
Baying Kit	46
Bolt Down Kits	40

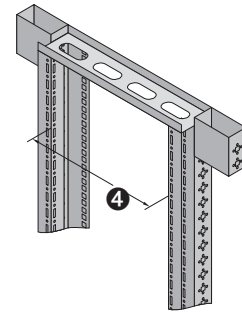
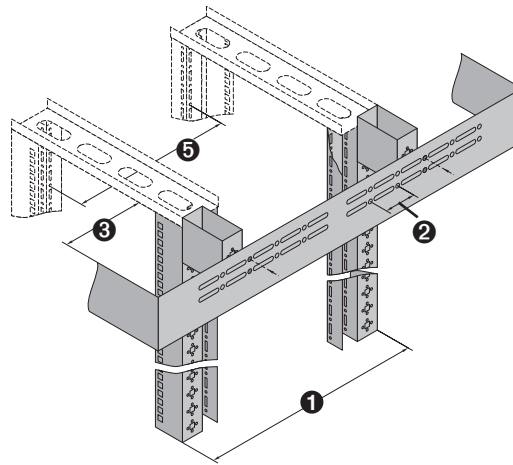
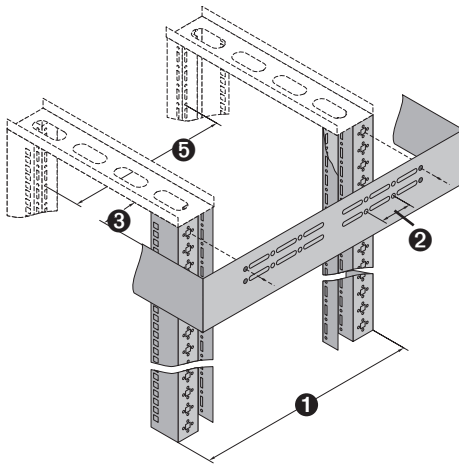


Networking Rittal TE 7000, Top Efficiency: The Global IT Enclosure



Example
23.62 x 23.62" (600 x 600 mm)

Example
31.49 x 31.49" (800 x 800 mm)



Explanation of levels

- 1 19.49" (495 mm) – the distance between the two 19" (482.6 mm) frames in the delivered state for all enclosure formats.
- 2 Pitch spacing 1.97" (50 mm)
- 3 Distance from door: 2.07" (52.5 mm) with depth 23.62" (600 mm), 6" (152.5 mm) with depth 31.50" (800 mm)
- 4 The attachment distance within a mounting frame at the rear horizontal, is equivalent to the frame attachment dimension of a 23.62" (600 mm) wide TS8 (outer level, 20.67" [525 mm])
- 5 = 4.72" (120 mm)

Enclosures

Quick Assembly in the Depth

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

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 15.74" (400 mm) deep TS enclosure's inner level.

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

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

3 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 23.62" (600 mm) (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, inches (mm)	23.64 (600)							
		31.49 (800)						
Possible distances between the 19" (482.6 mm) levels	17.52 (445)	19.49 (495)	21.46 (545)	23.43 (595)	25.39 (645)	27.36 (695)		
Slide rail for TE, for attachment between the 19" (482.6 mm) mounting frames, fixed length	-	7963.410	-	7963.510	-	7963.610	27	
19" (482.6 mm) component shelf for static installation, for direct screw fastening without installation kit, 16.14" (410 mm) deep, load capacity 66 lbs (30 kg), static	-	7000.620	-	-	-	-	48	
19" (482.6 mm) component shelf for static installation, 110 lbs (50 kg), 18.54" (471 mm) wide, in conjunction with punched section with mounting flange, max. base depth	7164.035	7164.035	7165.035	7165.035	7166.035	7166.035	*	
Punched section with mounting flange .66 x 2.87" (17 x 73 mm), for mounting components, attachment in the enclosure depth between the 19" (482.6 mm) mounting frames	8612.140	8612.040	8612.150	8612.050	8612.160	8612.060	44	
C rail for cable clamping in the enclosure depth via cable clamps	7828.040	7828.040	7828.050	7828.050	7828.060	7828.060	*	
Cable clamp rails, depth variable 16.73 – 28.54" (425 – 725 mm), for cable attachment in the enclosure depth via cable ties	7858.160	7858.160	7858.160	7858.160	7858.160	7858.160	*	

* See Handbook 31

Blue cells indicate A items.

Specialty Enclosures Rittal TS8 Co-Location



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, 19" (482.6 mm) 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

For more information contact Rittal.

Wallmount Enclosures QuickBox Enclosures



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 19" (482.6 mm) 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 19" (482.6 mm) 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 19" (482.6 mm) rails, infinitely depth adjustable
- RAL 7035 light grey

Design:

Wallmount panel for 19" (482.6 mm) 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 No.
6U	24"	14 x 24 x 24	RAL 7035 light grey	7502.016
9U		20 x 24 x 24		7502.026
12U		25 x 24 x 24		7502.036
15U		30 x 24 x 24		7502.046
18U		35 x 24 x 24		7502.056
21U		41 x 24 x 24		7502.066

Solid Sheet Steel Door Series

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
9U	24"	20 x 24 x 24	RAL 7035 light grey	7502.126
12U		25 x 24 x 24		7502.136
15U		30 x 24 x 24		7502.146
21U		41 x 24 x 24		7502.166

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 19" (482.6 mm) 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
- Safety glass

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
6U	19"	14 x 24 x 19	RAL 7035 light grey/ 7015 slate grey	7706.135
9U		19 x 24 x 19		7709.135
12U		24 x 24 x 19		7712.135
15U		29 x 24 x 19		7715.135
18U		35 x 24 x 19		7718.135
21U		40 x 24 x 19		7721.135
Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
12U	24"	24 x 24 x 24	RAL 7035 light grey/ 7015 slate grey	9969.580
15U		29 x 24 x 24		9969.581
21U		40 x 24 x 24		9969.582

Wallmount Enclosures EL Non-NEMA 3-Part Enclosures



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 19" (482.6 mm) 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 19" (482.6 mm) mounting surface.

Material:

Wall and hinged part:
Sheet steel, .06" (1.5 mm)
Viewing window:
0.12" (3 mm) safety glass

Features:

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

Protection Category:

Max. IP 43 to EN 60 529/10.91 when using solid gland plates.

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

Customers:

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

Supply Includes:

Wall section:

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

Hinged part:

With 0.98" (25 mm) pitch pattern of holes in the front and rear frame, two 19" (482.6 mm) mounting angles mounted on C rails, infinitely depth-variable, one outlet filter each on the left and right side.

Designer glazed door:

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

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Load Capacity (lbs)	Part No.
9U	23"	24 x 24 x 23	RAL 7035/ Slate grey 7015	99	7709.735
15U		29 x 24 x 23		165	7715.735
21U		40 x 24 x 23		165	7721.735
9U	27"	24 x 19 x 27		99	7709.535
15U		24 x 30 x 27		165	7715.535
21U		24 x 40 x 27		165	7721.535

Blue cells indicate A items.

Wallmount Enclosures EL Non-NEMA 3-Part Accessories



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 airflow):
 85/100 cfm/ for 50/60 Hz
 Temperature range:
 14°F to 131°F (-10°C to +55°C)

Fan Expansion Kit

Voltage	Packs of	Part No.
230 V fan	1 set	7980.000
115 V fan	1 set	7980.110

Replacement Exhaust Filters

Packs of	Part No.
5 filters	3322.700

Replacement Exhaust Filters:

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



Wallmounting Brackets

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

Material:

Steel, chromated

Wallmounting Brackets

Stand-off dimension A	Packs of	Part No.
1.58" (40 mm)	4	2503.200
0.39" (10 mm)	4	2508.200



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 No.
RAL 7035 light grey	7705.035



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 19" (482.6 mm) 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 19" (482.6 mm) mounting frames at the corresponding distance from one another beforehand.

For center part depth	Packs of	Part No.
8.50" (216 mm)	4	2238.000
12.44" (316 mm)	4	2239.000
16.38" (416 mm)	4	2237.000

Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

4 C rails, including assembly parts

Accessories:

Cable clamps



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: 3.15 x 3.35" (80 x 85 mm)

Load Capacity:

176 lbs (80 kg)

Material:

Sheet Steel, zinc-plated, passivated

For center part depth	Packs of	Part No.
8.50" (216 mm)	10	2240.000
12.44" (316 mm)	10	2250.000
16.38" (416 mm)	10	2260.000

Supply Includes:

2 slide rails, assembly parts

Possible Alternatives:

Depth-adjustable slide rails

Wallmount Enclosures TE Wallbox



Innovative and Cost-Effective Packaging Solution

Material:

Sheet steel enclosure, viewing window, single-pane safety glass 0.12" (3 mm)

Surface Finish:

Primed, powder coated

Color:

RAL 7035 light grey

Supply Includes:

Wallmounted enclosure with 19" (482.6 mm) rails at the front

Features:

- One-piece 19" (482.6 mm) wallmounted 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
- 19" (482.6 mm) mounting angles at the front, from inner edge of door adjustable in the depth from 0.98 to 4.33" (25 to 110 mm)
- 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

Glazed Door with 0.12" (3 mm) Safety Glass

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
6U	19"	14 x 24 x 19	RAL 7035 light grey	7000.700
9U		19 x 24 x 19		7000.710
12U		24 x 24 x 19		7000.720
15U		29 x 24 x 19		7000.730

Sheet Steel Door, Solid

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
6U	19"	14 x 24 x 19	RAL 7035 light grey	7000.750
9U		19 x 24 x 19		7000.760
12U		24 x 24 x 19		7000.770
15U		29 x 24 x 19		7000.780

Wallmount FlatBox Features



The innovative concept behind the FlatBox unites optimized storage and shipping costs with cleverly designed, toolless, fast one-person assembly. As you would expect, Rittal prides itself on details. Compatible with the extensive range of existing system accessories, and can be used as a wallmounted or floor-standing enclosure. Unrestricted accessibility during installation of the network components. The width and depth dimension of 27.56" (700 mm) provides plenty of space for use as a patch distributor, and small networks with active technology are also ideal for climate control via the fan panels (maximum of 8).

Enclosures



Pre-assemble the base frame, locate into the attachment points on the wall, and secure.



Configuration of the open enclosure is now possible. Slide the roof and gland plates into position, insert the side panels, locate and lock the door, and it's done!



If the FlatBox is used as a floor-standing enclosure, leveling feet are fastened to the gland plate.



The **leveling feet** allow the FlatBox to be used as a desktop enclosure, e.g., in measurement and control technology, or as an underdesk enclosure in the form of a small network node.

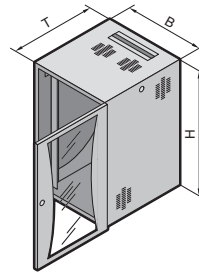


Optimum cable entry via brush strips top and bottom, plus plenty of space for cable distribution in the enclosure depth. Even active components with pre-assembled connectors may be routed.



The snap connection system facilitates **toolless enclosure assembly**. Once clipped into place, a very stable enclosure is created with a high static load capacity of 11 lb (5 kg)/U or a maximum of 165 lb (75 kg).

Wallmount Flatbox



Enclosures

Material:

Sheet steel

Surface Finish:

Powder-coated in RAL 7035 light grey

Supply Includes:

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

1 19" (482.6 mm) mounting frame (from 12 U), 4 levelling feet (from 12 U), 2 side panels, lockable, 1 glazed door, lockable, door hinge point selectable.

Earth straps for earthing of panels.

Components for toolless, fast assembly.

With 19" (482.6 mm) mounting angles at the front and glazed door		Packs of			
U		6	9	6	9
Width (B) inches (mm)		23.62 (600)	23.62 (600)	23.62 (600)	23.62 (600)
Height (H) inches (mm)		14.09 (358)	19.37 (492)	14.09 (358)	19.37 (492)
Depth (T) inches (mm)		15.75 (400)	15.75 (400)	23.62 (600)	23.62 (600)
Part No.	1	7507.000	7507.010	7507.100	7507.110
Accessories					
19" mounting angles as 2nd attachment level, 6U	2	7507.706	–	7507.706	–
19" mounting angles as 2nd attachment level, 9U	2	–	7507.709	–	7507.709
Levelling feet	4	7507.740	7507.740	7507.740	7507.740
Cover plates for fan panels	6	7507.760	7507.76	7507.76	7507.760
Earth rail	1	7113.000	7113.000	7113.000	7113.000
C rail for cable clamping	1	7016.140	7016.140	7016.140	7016.140
T-head rail for cable clamping	1	7016.150	7016.150	7016.150	7016.150
Fan, 230 V AC, 50/60 Hz, 69/90 cfm (117/135 m³/h), air throughput, unimpeded airflow	1	7980.100	7980.100	7980.100	7980.100
Fan, 48 V DC, 108 cfm (184 m³/h), air throughput, unimpeded airflow	1	7980.148	7980.148	7980.148	7980.148
Thermostat	1	3110.000	3110.000	3110.000	3110.000

With 19" (482.6 mm) mounting frame at the front and glazed door		Packs of					
U		12	15	12	15	18	21
Width (B) inches (mm)		23.62 (600)	23.62 (600)	23.62 (600)	27.56 (700)	27.56 (700)	27.56 (700)
Height (H) inches (mm)		24.61 (625)	29.84 (758)	24.61 (625)	29.84 (758)	35.12 (892)	40.35 (1025)
Depth (T) inches (mm)		15.75 (400)	15.75 (400)	23.62 (600)	27.56 (700)	27.56 (700)	27.56 (700)
Part No.	1	7507.020	7507.030	7507.120	7507.200¹⁾	7507.210¹⁾	7507.220¹⁾
Accessories							
19" mounting angles as 2nd attachment level, 12U	2	7507.712	–	7507.712	–	–	–
19" mounting angles as 2nd attachment level, 15U	2	–	7507.715	–	7507.715	–	–
19" mounting angles as 2nd attachment level, 18U	2	–	–	–	–	7507.718	–
19" mounting angles as 2nd attachment level, 21U	2	–	–	–	–	–	7507.721
Cover plates for fan panels	6	7507.760	7507.76	7507.76	7507.76	7507.76	7507.76
Earth rail	1	7113.000	7113.000	7113.000	7113.000	7113.000	7113.000
C rail for cable clamping	1	7016.140	7016.140	7016.140	7016.140	7016.140	7016.140
T-head rail for cable clamping	1	7016.150	7016.150	7016.150	7016.150	7016.150	7016.150
Fan, 230 V AC, 50/60 Hz, 69/80 cfm (117/135 m³/h), air throughput, unimpeded airflow	1	7980.100	7980.100	7980.100	7980.100	7980.100	7980.100
Fan, 48 V DC, 108 cfm (184 m³/h), air throughput, unimpeded airflow	1	7980.148	7980.148	7980.148	7980.148	7980.148	7980.148
Thermostat	1	3110.000	3110.000	3110.000	3110.000	3110.000	3110.000

1) Pre-configured variant available on request.

Black cells indicate RittalXpress product.

Wallmount Accessories



Cover Plates for Fan Panels

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

Material:
Sheet steel

Surface Finish:
Powder-coated in RAL 7035 light grey

Supply Includes:
Assembly parts

Packs of	Part No.
6	7507.760

Networking Data Racks

Enclosures



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 19" (482.6 mm) 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:

- 19" (482.6 mm) vertical frame
- Base with integrated feet
- Captive nuts and screws ordered separately
- RAL 7035 light grey frame highlighted with RAL 5018 teal trim
- Additional 19" (482.6 mm) 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 300 lbs (136 kg) frame. The 6-fold, roll formed, vertical frames are punched in front and back for mounting 19" (482.6 mm) 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 19" (482.6 mm) rackmount 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 No.
31U	30"	59 x 22 x 30	RAL 7035 light grey w/ RAL 5018 teal trim	7391.000
36U		68 x 22 x 30		7396.000
40U		75 x 22 x 30		7400.000
45U		84 x 22 x 30		7445.000

Blue cells indicate A items.

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Additional Frame

Rack Units	Quick Reference (Depth)	Dimensions H x W x D (inches)	Color	Part No.
31U	30"	59 x 22 x 30	RAL 7035 light grey w/ RAL 5018 teal trim	7296.000
36U		68 x 22 x 30		7297.000
40U		75 x 22 x 30		7298.000
45U		84 x 22 x 30		7299.000

Blue cells indicate A items.

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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System Accessories Cable Management

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

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 enclosures 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 enclosures 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



Enclosures

TS TE

TS Indicates its use with TS8 products

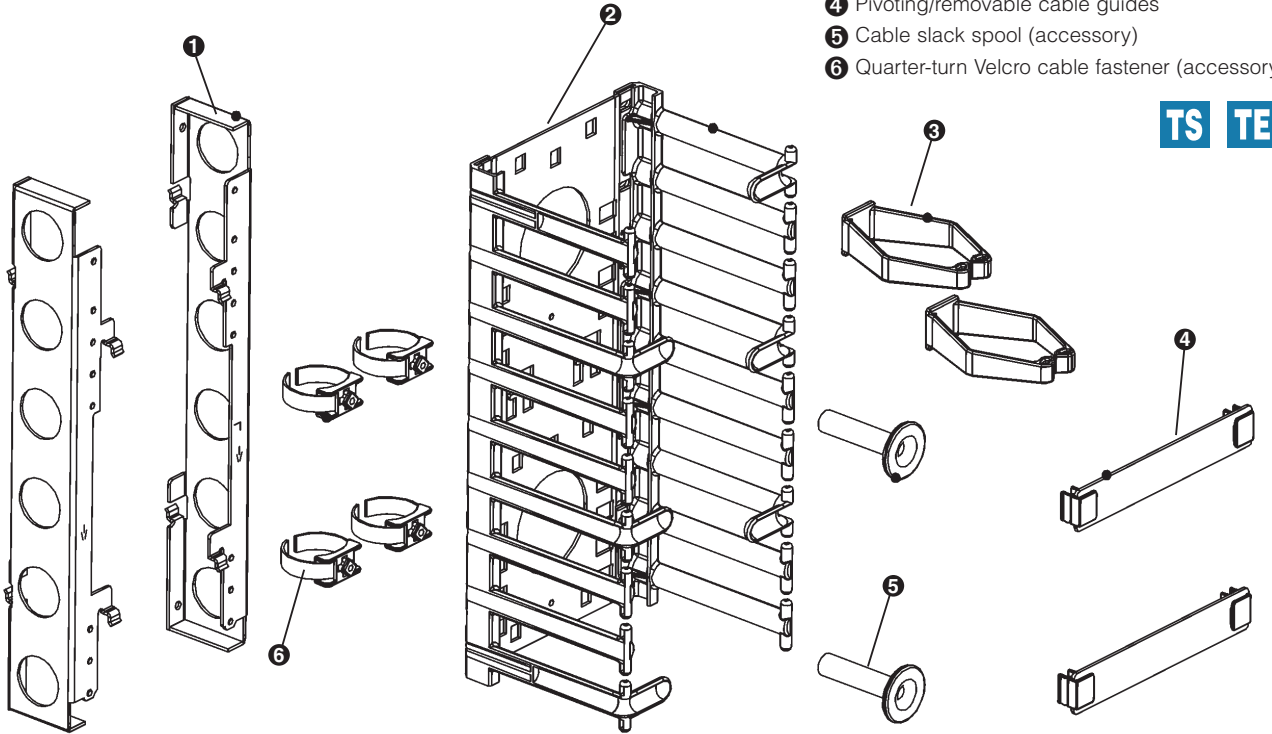
TE Indicates its use with TE 7000 products

System Accessories Cable Management

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)



For	Description	Part No.
TS	3.5" Wide x 9U Vertical Manager Kit for 23.62" (600 mm) Suited Enclosures and 27.56-31.50" (700-800 mm) Stand Alone Enclosures	9969.593
	3.5" Wide x 9U Manager Cover	9969.594
	7.5" Wide x 9U Vertical Manager Kit for 27.56" (700 mm) Wide Suited Enclosures	9969.595
	7.5" Wide x 9U Manager Cover	9969.596
	10" Wide x 9U Vertical Manager Kit for 31.50" (800 mm) Wide Suited Enclosures	9969.598
	2U Enclosure Mount Manager with Hingeable/Removable Cover	9969.597
	Quarter-turn Velcro Cable Fastener (Accessory)	9969.599
	Quarter-turn Cable Collection Claw (Accessory)	9969.600
TE	Cable Slack Spool with M5.5 Mounting Screw (Accessory)	9969.601
	3.5" Wide x 9U Vertical Manager for 31.50" (800 mm) Wide Stand Alone Enclosures	9969.983
TE	7.5" Wide x 9U Vertical Manager for 31.50" (800 mm) Wide Suited Enclosures	9969.984
TE TS	Cable Trough, Front to Back	9969.929
	Quarter-turn Cable Manager for 23.62" (600 mm) Suited Enclosures*	9969.928
	Quarter-turn Cable Manager for 23.62" (600 mm) Stand Alone Cabinets*	9969.927

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

Black cells indicate RittalXpress product.

Manage-IT Cable Capacity

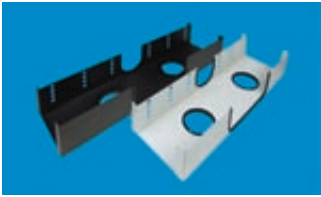
Description	Cable Diameter (sq. in.)							Part No.
	0.15	0.17	0.19	0.21	0.23	0.25	0.27	
15.75" (400 mm) x 3.5" (89 mm) Vertical Cable Manager	466	363	290	238	198	168	144	9969.593
15.75" (400 mm) x 7.5" (190 mm) Vertical Cable Manager	1166	908	727	595	496	420	360	9969.595
15.75" (400 mm) x 10" (254 mm) Vertical Cable Manager	1166	908	727	595	496	420	360	9969.598
Horizontal 2U Rackmount Manager with Cover	260	202	162	132	110	93	80	9969.597
Horizontal 1U Rackmount Manager with Cover	127	98	79	64	54	45	39	9969.736

Black cells indicate RittalXpress product.

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Cable Management



Overhead Cable Management

Provides cable management outside the cabinet easy. Fastens to existing roof tool-lessly through use of 2 snap rings and pre-existing cable passes on cabinet roof.

Sizes available to fit all size cabinets.

Square hole pattern allows use of cable management claws and rings.

TS TE

Different varieties are available: 600 Wide, 700 Wide, 800 Wide, LCP Wide, RAL 7035, Sand Textured Black, Ladder rack capable, end plates.

Width in (mm)	Description	Color	Part No.
23.62 (600)	Roofmount Cable Manager	RAL 7035 light grey	9970.253
23.62 (600)	Roofmount Cable Manager	Sand texture black	9970.254
27.56 (700)	Roofmount Cable Manager	RAL 7035 light grey	9970.255
27.56 (700)	Roofmount Cable Manager	Sand texture black	9970.256
31.50 (800)	Roofmount Cable Manager	RAL 7035 light grey	9970.257
31.50 (800)	Roofmount Cable Manager	Sand texture black	9970.258
23.62 (600)	Roofmount Ladder Rack	RAL 7035 light grey	9970.263
23.62 (600)	Roofmount Ladder Rack	Sand texture black	9970.264
27.56 (700)	Roofmount Ladder Rack	RAL 7035 light grey	9970.265
27.56 (700)	Roofmount Ladder Rack	Sand texture black	9970.266
31.50 (800)	Roofmount Ladder Rack	RAL 7035 light grey	9970.267
31.50 (800)	Roofmount Ladder Rack	Sand texture black	9970.268

Roofmount Manager End Covers	RAL 7035 light grey	9970.259
Roofmount Manager End Covers	Sand texture black	9970.260
Roofmount Manager LCP Kit	RAL 7035 light grey	9970.261
Roofmount Manager LCP Kit	Sand texture black	9970.262
Roofmount Manager Ladder Rack	RAL 7035 light grey	9970.269
Roofmount Manager Ladder Rack	Sand texture black	9970.270
12" W X 10' L Ladder Rack	Sand texture black	9970.271

Enclosures



Cable Ties

Cable ties, for quick assembly.

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

Length inches (mm)	Packs of	Part No.
5.90 (150)	100	2597.000

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: **TS TE**
Black

Width inches (mm)	Length inches (mm)	Max. cable diameter inches (mm)	Packs of	Part No.
0.63 (16)	5.11 (130)	1.18 (30)	10	7072.220
0.63 (16)	7.87 (200)	1.96 (50)	10	7072.230
0.63 (16)	11.81 (300)	3.54 (90)	10	7072.240

Blue cells indicate A items.

Also Required:

Screw 2486.500 for screw-fastening to the round system punchings



Cable Guide Rings

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

Material:
Sheet steel, zinc-plated, passivated

Includes:
10 cable guide rings, assembly parts

German Patent no. 3813002

Dimensions inches (mm)	Packs of	Part No.
4.72 x 3.14 (120 x 80)	10	7111.900
4.72 x 2.36 (120 x 60)	10	7111.000
3.14 x 1.45 (80 x 37)	10	7112.000

Black cells indicate RittalXpress product.
Blue cells indicate A items.

TS TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Cable Management



Cable Routing Across the 19" (482.6 mm) 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 No.
19" mounting surface	-	7016.100
Cable clamp rails	Depth	Part No.
19" mounting surface	-	7016.110
Cable clamp strap	Depth	Part No.
TS mounting angles	4" (100 mm)	7016.130

TS TE



19" (482.6 mm) Cable Troughs

For cable collection

Depth:
3.37" (85 mm)

Material:
Sheet steel

Color:
RAL 7035 light grey

	Part No.
U	
1	7149.135
3	7149.035

TS TE



19" (482.6 mm) Cable Entry Panels

Available in 2U (with a 15.35 x 1.58" [390 x 40 mm] opening) or 1U (with a 15.35 x 0.79" [390 x 20 mm] opening). Has edge protector and brush insert to protect against dust.

Material:
Sheet steel

Color:
RAL 7035 light grey

	Part No.
U	
1	7140.535
2	7150.535

TS TE



Cable Entry Panel with Brush Insert

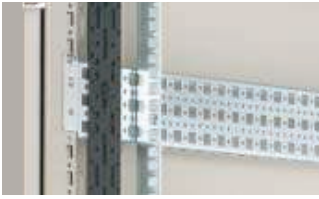
Multi-folded and welded, with foamed-on gasket and plastic brush insert for easy cable entry.

Cable Entry Panel with Brush Insert	
Color	Part No.
RAL 7035 light grey	7705.035

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Cable Management



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:
70.47 x 1.97" (1790 x 50 mm)

Packs of	Part No.
2	9968.219



System Accessories System Lights



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 inches (mm)	Technical data (120 V 60 Hz)	Part No.
With interference suppression capacitor and no receptacle	18.39 (467) 24.41 (620)	15 W 18 W	9968.108 9968.109
With RFI filter, and no receptacle U.S. receptacle and lamp shade	18.39 (467) 24.41 (620)	15 W 18 W	9968.111 9968.112

Includes:
Installation hardware

Connection Terminals:
L1, N, GND
On/off rocker switch
UL recognized for Canadian and U.S. requirements



Enclosures



Door Operating Switch

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

	PU	Part No.
Door operating switch without power cord	1	4127.000



System Accessories Roof/Base/Sidewall Configuration



Stabilizers for Server Enclosures

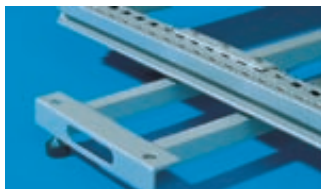
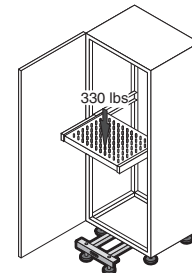
The pullout stabilizer is quickly and easily retrofitted to the base frame of a TS8 server enclosure and only extended when necessary. It may be used in combination with leveling feet and/or casters. The stabilizer cannot be used with gland plates or base/plinths.

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

Material:
Sheet steel, zinc-plated, passivated

Includes:
1 stabilizer including assembly parts

Enclosure depth	Part No.
36" (900 mm)	7825.200
40" (1000 mm)	7825.250
48" (1200 mm)	7825.260



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Roof/Base/Sidewall Configuration

Enclosures



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 lock. The super lightweight design means that it is easily handled by one person.

Material:

Sheet steel, powder coated

Supply Includes:

Security lock 3524 E

Protection Category:

IP 20



For TE Height inches (mm)	For TE Depth inches (mm)	Packs of	Color	Part No.
48 (1200)	24 (600)	2	RAL 7035 light grey	7000.642
48 (1200)	32 (800)	2	RAL 7035 light grey	7000.644
80 (2000)	24 (600)	2	RAL 7035 light grey	7000.650
80 (2000)	32 (800)	2	RAL 7035 light grey	7000.652
88 (2200)	24 (600)	2	RAL 7035 light grey	7000.654
88 (2200)	32 (800)	2	RAL 7035 light grey	7000.656
80 (2000)	40 (1000)	2	RAL 9005 black	7000.653
88 (2200)	40 (1000)	2	RAL 9005 black	7000.663



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



Sidewalls

H x D inches (mm)	Color	Part No.
48 x 24 (1200 x 600)	RAL 7035 light grey	8170.235
48 x 24 (1200 x 600)	Sand texture black	9969.948
48 x 32 (1200 x 800)	RAL 7035 light grey	8175.235
48 x 32 (1200 x 800)	Sand texture black	9969.949
48 x 36 (1200 x 900)	RAL 7035 light grey	9969.950
48 x 36 (1200 x 900)	Sand texture black	9969.951
48 x 40 (1200 x 1000)	RAL 7035 light grey	8176.235
48 x 40 (1200 x 1000)	Sand texture black	9969.952
48 x 42 (1200 x 1050)	RAL 7035 light grey	9969.953
48 x 42 (1200 x 1050)	Sand texture black	9969.954
72 x 24 (1800 x 600)	RAL 7035 light grey	8186.235
72 x 24 (1800 x 600)	Sand texture black	9969.918
72 x 32 (1800 x 800)	RAL 7035 light grey	8188.235
72 x 32 (1800 x 800)	Sand texture black	9969.919
80 x 24 (2000 x 600)	RAL 7035 light grey	8106.235
80 x 24 (2000 x 600)	Sand texture black	9969.920
80 x 32 (2000 x 800)	RAL 7035 light grey	8108.235
80 x 32 (2000 x 800)	Sand texture black	9969.916
80 x 36 (2000 x 900)	RAL 7035 light grey	8109.235

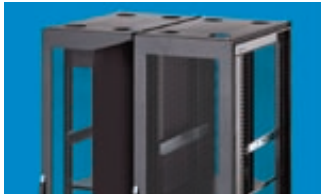
80 x 36 (2000 x 900)	Sand texture black	9968.597
80 x 40 (2000 x 1000)	RAL 7035 light grey	8100.235
80 x 40 (2000 x 1000)	Sand texture black	9968.596
80 x 42 (2000 x 1050)	RAL 7035 light grey	9969.309
80 x 42 (2000 x 1050)	Sand texture black	9969.351
80 x 48 (2000 x 1200)	RAL 7035 light grey	9969.955
80 x 48 (2000 x 1200)	Sand texture black	9969.956
88 x 24 (2200 x 600)	RAL 7035 light grey	8126.235
88 x 24 (2200 x 600)	Sand texture black	9969.917
88 x 32 (2200 x 800)	RAL 7035 light grey	8128.235
88 x 32 (2200 x 800)	Sand texture black	9969.352
88 x 36 (2200 x 900)	RAL 7035 light grey	9969.311
88 x 36 (2200 x 900)	Sand texture black	9968.595
88 x 40 (2200 x 1000)	RAL 7035 light grey	9968.593
88 x 40 (2200 x 1000)	Sand texture black	9968.594
88 x 42 (2200 x 1050)	RAL 7035 light grey	9969.312
88 x 42 (2200 x 1050)	Sand texture black	9969.355
88 x 48 (2200 x 1200)	RAL 7035 light grey	9969.957
88 x 48 (2200 x 1200)	Sand texture black	9969.958

Black cells indicate RittalXpress product.

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Roof/Base/Sidewall Configuration



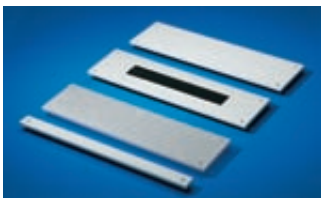
Partition Wall

For side partitioning of bayed TS server enclosures. Installs without the need for additional hardware or tools. Has 4 4.41 in (112 mm) cable passthrough holes, grommet covers included.

Color:
Sand Textured black

Note:
Use baying connector TS 8800.490. Not for use in conjunction with a baying seal. Any existing seals must be removed prior to installation.

Height in (mm)	Depth in (mm)	Part No.
80 (2000)	36 (900)	9971.041
80 (2000)	40 (1000)	9971.042
80 (2000)	42 (1050)	9971.043
80 (2000)	48 (1200)	9971.044
88 (2200)	36 (900)	9971.045
88 (2200)	40 (1000)	9971.046
88 (2200)	42 (1050)	9971.047
88 (2200)	48 (1200)	9971.048



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 spacers to support ventilation.

Material:
Sheet steel

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

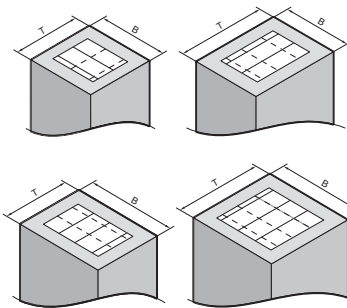
Includes:
Assembly parts

Note:
Configuration data below.

Version	Width inches (mm)	Depth inches (mm)	Part No.
Solid	17.72 (450) 25.59 (650)	7.87 (200) 7.87 (200)	7526.760 7526.800
With Brush Strips	17.72 (450) 25.59 (650)	7.87 (200) 7.87 (200)	7526.850 7526.860
Compensating Plate	17.72 (450) 25.59 (650)	1.97 (50) 1.97 (50)	7526.750 7526.790

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

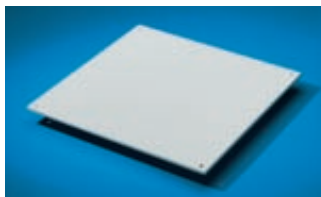
Accessories:
Spacers, see Handbook 31



Configuration

Roof/Base Frame for TE 7000 Enclosures

Enclosure dimensions inches (mm)	W(B)	23.62 (600)	23.62 (600)	31.49 (800)	31.49 (800)
	D(T)	23.62 (600)	31.49 (800)	23.62 (600)	31.49 (800)
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



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

Includes:
Assembly parts

Width (B) inches (mm)	Depth (T) inches (mm)	Part No.
17.72 (450)	17.72 (450)	7526.770
17.72 (450)	25.59 (650)	7526.780
25.59 (650)	17.72 (450)	7526.780
25.59 (650)	25.59 (650)	7526.820

Accessories:
Spacers, see Handbook 31

Note:
Configuration data on the next page



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Roof/Base/Sidewall Configuration



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 No.
1	10	Sand texture black	9970.016
3	5	Sand texture black	9970.017
1	10	RAL 7035 light grey	9970.240
3	5	RAL 7035 light grey	9970.241

Black cells indicate RittalXpress product.



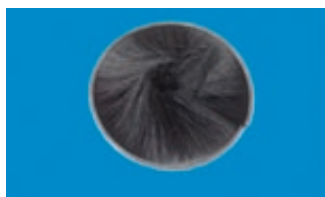
Enclosures



Air Brush Baffles

Designed to block air and redirect it where needed. Designed to mount to the z-rail on the top, bottom, and both sides.

- Easy installation
- Available for 80" and 88" server cabinets
- Standard in LCP ready cabinet



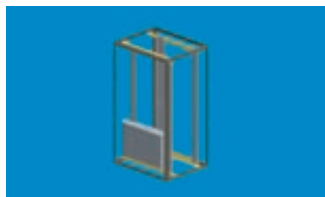
Height x Width	Part No.
80 (2000) x 24 (600)	9961.328
80 (2000) x 28 (700)	9961.329
80 (2000) x 32 (800)	9961.330
80 (2000) x 24 (600)	9961.331
88 (2200) x 28 (700)	9961.332
88 (2200) x 32 (800)	9961.333

Brush ring 4.41" (112 mm)	9961.334
Snap ring grommet	9961.326

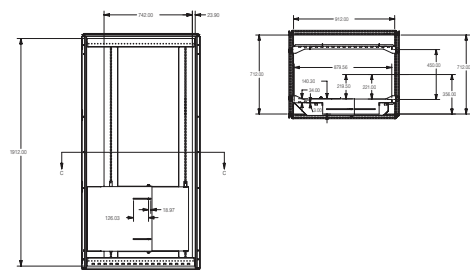


Side Breathing Air Baffle System

- It is designed to redirect hot exhaust from side breathing equipment out the back of the cabinet
- Designed for hot aisle/cold aisle installations
- Toolless Installation
- Depth adjustable
- Designed for up to 12U side breathing equipment
- Mounts in 0U space
- Designed for use with 32" (800 mm) wide cabinets



Packs of	Part No.
1	9960.552



Bolt Down Kits

For anchoring the enclosure even if it is on casters, at any position of the base frame. Has a vertical slot to account for different vertical positions.

Material:

Sheet steel, E-coated

PU	Part No.
4	9970.989

Note:

Additional holes in the base are required for mounting



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 No.
4	8800.830

Configuration:

Assembly hardware



Wallmount Enclosures EL 3-Part Accessories



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 (300 kg), static

Supply Includes:
1 set = 4 transport casters, assembly parts

Packs of	Part No.
1 set	7000.672

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 8800.290, see Handbook 31

TS



	Maximum Load Capacity per Caster (lbs)	Ground Clearance inches (mm)	Lock	Packs of	Color	Part No.
1	88	1.96 (50)	4 w/out	1 set	black	4611.000
2	165	3.35 (85)	2 with 2 w/out	1 set	black w/ grey surface	6148.000
3	264	4.92 (125)	2 with 2 w/out	1 set	black	4634.500
4						7495.000

Blue cells indicate A items.



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 (374 kg) each

Kit includes	Part No.
4 casters /1 wrench	9968.751

Black cells indicate RittalXpress product.

TS



Leveling Feet

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

Length of Thread:
2" (51 mm)

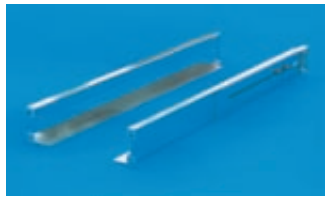
Load Capacity:
800 lbs (363 kg) each

For	Packs of	Part No.
TS	4	9968.385

Type of Thread:
M12

TS

System Accessories Interior Installation



**Heavy-Duty Support Rails
(Telescopic Slides)**

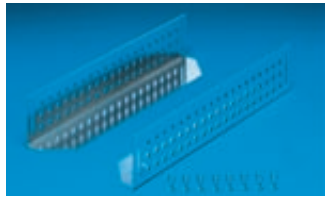
These telescopic support rails are designed to support components from underneath, and can support up to 200 lbs (91 kg). Rails extend from 22.07" (560.5 mm), totally retracted, to 30" (762 mm), totally extended.

Packs of	Part No.
2	9968.837

Black cells indicate RittalXpress product.

Includes:
2 support rails

Enclosures



Slide Rails

For mounting between a front and a rear pair of mounting angles. The slide rails can be used to support heavy 19" (482.6 mm) components. H x W: 3.15 x 3.35" (80 x 85 mm)

Load Capacity:
176 lbs (80 kg)

Material:
Sheet steel, zinc-plated, passivated

Includes:
2 slide rails, assembly parts

Length inches (mm)	19" (482.6 mm) distance between levels inches (mm)	Packs of	Part No.
12.75 (324)	15.55 (395)	2	7963.310
16.69 (424)	19.49 (495) ¹⁾	2	7963.410
20.63 (524)	23.43 (595)	2	7963.510
24.57 (624)	27.36 (695)	2	7963.610

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

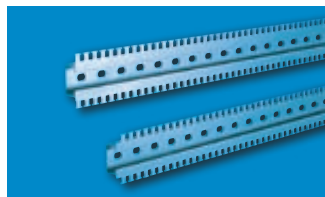
These slide rails facilitate flexible integration of 19" (482.6 mm) components without loss of installation height in all enclosures with L-shaped mounting angles or 19" (482.6 mm) mounting frames in enclosure series TS8 & TE and their server variants. Installation of the slide rail is independent from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

Material:
Sheet steel

Surface Finish:
Sheet steel, zinc-plated, passivated

Length inches (mm)	Load capacity	Contact surface W x D inches (mm)	Part No.
23.23 x 36.61 (590 x 930)	330 lbs (150 kg)	1.96 x 20.66 (50 x 525)	7063.884

Includes:
2 slide rails, including assembly parts



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

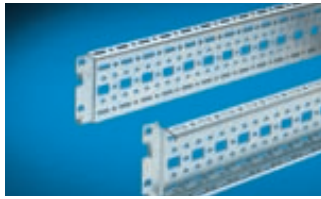
For enclosure width	Length	Packs of	Part No.
23.60" (600 mm)	15.70" (400 mm)	2	7502.304



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Interior Installation



TS System Chassis with Mounting Flange 0.66 x 2.87" (17 x 73 mm)

For designing a flexible interior installation, or for accommodating additional components. The punched sections with mounting flanges may be attached directly onto a 19" (482.6 mm) 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 inches (mm)	Packs of	Part No.
24 (600)	4	8612.060
32 (800)	4	8612.080
36 (900)	4	8612.090
40 (1000)	4	8612.000
48 (1200)	4	8612.020

For outer mounting level¹

Enclosure width/depth inches (mm)	Packs of	Part No.
24 (600)	4	8612.160
32 (800)	4	8612.180
40 (1000)	4	8612.100
48 (1200)	4	8612.120

NOTE:

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



Enclosures



TS System Chassis with Mounting Flange 0.66 x 2.87" (17 x 73 mm)

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 19" (482.6 mm) 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.

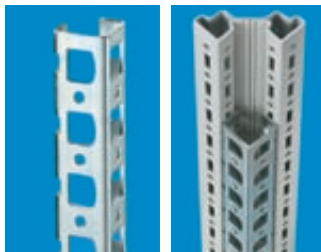
19" (482.6 mm) distance between levels inches (mm)	Packs of	Part No.
16.54 – 23.23 (420 – 590)	2	7000.676
25.59 – 32.28 (650 – 820)	2	7000.678

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



Adapter Rail

for PS compatibility

Installation in the vertical TS enclosure sections (across the entire enclosure height or in subsections) to create compatibility with:

- PS punched rail, 0.91 x 0.91" (23 x 23 mm)
- PS punched section without mounting flange, 0.91 x 2.87" (23 x 73 mm)
- PS punched section with mounting flange, 0.91 x 0.91" (23 x 23 mm)

For enclosure height	Packs of	Part No.
72" (1800 mm)	4	8800.380
80" (2000 mm)	4	8800.300
88" (2200 mm)	4	8800.320

Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

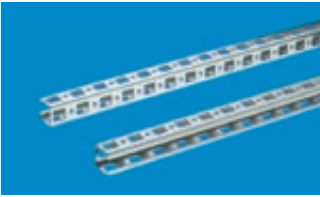
Assembly screws

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Interior Installation

Enclosures



PS Punched Rails 0.91 x 0.91" (23 x 23 mm)

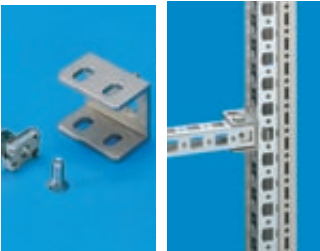
Installation Options:

- On the vertical enclosure section
 - Directly via support brackets TS
 - Via adapter rail for PS compatibility in conjunction with angle brackets, mounting brackets or support brackets PS
- On the horizontal enclosure section
 - Directly via angle brackets, mounting brackets or support brackets PS

Length in (mm)	For WHD in (mm)	Packs of	Part No.
74.61 (1895)	78.74 (2000)	6	4177.000
81.52 (2095)	85.60 (2200)	6	4178.000

Material:

Sheet steel, zinc-plated, passivated



Mounting Bracket PS

For variable attachment of punched rails 0.91 x 0.91" (23 x 23 mm).

Installation Options:

- Optionally flush with:
 - Outer enclosure edge or
 - Enclosure clearance width
- On the vertical TS enclosure section via
 - Adapter rail for PS compatibility
- On the horizontal TS enclosure section
- On enclosures and rails with square system punchings 0.49 x 0.41" (12.5 x 10.5 mm).

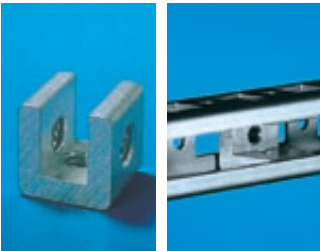
Packs of	Part No.
24 sets	4182.000

Material:

Die-cast zinc

Supply Includes:

1 set = 1 mounting bracket, 1 screw M6 x 0.47" (12 mm), 1 cage nut M6.



U Nuts

for:

- Punched rail 0.91 x 0.91" (23 x 23 mm)
- Punched section without mounting flange, 0.91 x 2.87" (23 x 73 mm)
- Punched section without mounting flange, 1.77 x 3.46" (45 x 88 mm)
- Punched section with mounting flange, 0.91 x 2.87" (23 x 73 mm)

For mounting punched rails and punched sections without mounting flanges on angle brackets, mounting brackets and support brackets, we recommend U nuts with M6 thread (4179.000).

Thread	Packs of	Part No.
M4	20	4119.000
M5	20	4157.000
M6	20	4179.000
M8	20	4180.000



Mounting Kit

For 19" (482.6 mm) equipment

Facilitates fast, simple integration of additional mounting space within an enclosure by attaching to the enclosure frame or to the existing mounting angles at the sides. The flexible slot fastening of the brackets means that the distance between the two installation brackets may be freely selected, so that other 19" (482.6 mm) attachment dimensions may be implemented.

The second row of holes is used for the optional configuration of additional mounting surfaces.

U	Color	Packs	Part No.
1	Black	2	9970.986
2	Sheet steel	2	7856.026

Material:

Sheet steel, zinc-plated, passivated

Supply Includes:

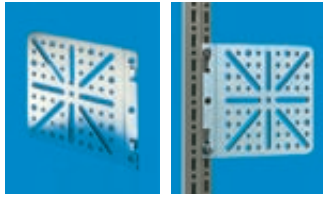
Assembly parts



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Interior Installation



Mounting Plate

Locatable

On the vertical TS enclosure section or TS punched section with mounting flange 0.66 x 2.87" (17 x 73 mm) on the inner and outer mounting level.

Material:

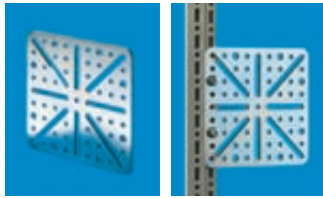
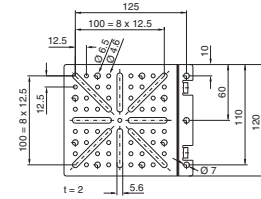
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part No.
4	8612.400

TS TE



Mounting Plate

Screw-Fastened, Large

On all enclosures and mounting parts with system punchings on a 0.98" (25 mm) pitch pattern.

Material:

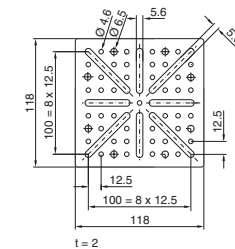
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part No.
4	8612.410

TS TE



Mounting Plate

Screw-Fastened, Small

Material:

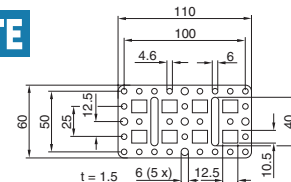
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part No.
4	4532.000

TS TE



Button Mount Brackets

- Enables toolless installation of PDUs
- Allow 0U mounting of PDUs
- Black, E-coated

Description	Part No.
0U, z-rail button mount bracket, quantity 2 per package	9971.066
0U, dual button mount bracket, quantity 2 per package	9971.067



Mounting Bracket

Screw-fastened on all enclosures and mounting parts with system punchings on a 0.98" (25 mm) pitch pattern.

Material:

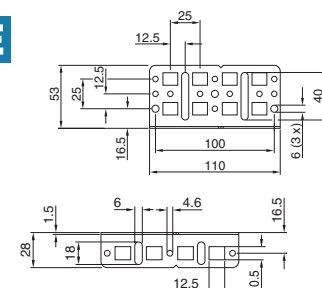
Sheet steel, zinc-plated, passivated

Supply Includes:

Assembly screws

Packs of	Part No.
4	4597.000

TS TE



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Enclosures

System Accessories Baying Components

Enclosures



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 No.
1 kit	7000.640

Blue cells indicate A items.



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 No.
Sheet steel	6	8800.490
Stainless steel	6	8700.000

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 No.
4	4582.500

Accessories:

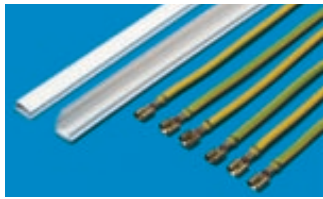
For mounting on vertical TS enclosure: Snap-on nut M8, 8800.808, see Handbook 31



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Grounding



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 No.
TE	1 kit	7000.675
TS	1 kit	7829.150

TS TE



Assembly Screws M6 x 16 mm, M5 x 16 mm

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

Type	Packs of	Part No.
Slotted screw M6	100	2093.200
Phillips screw M6	100	2089.000
Phillips screw M5	100	2099.500

Black cells indicate RittalXpress product. Blue cells indicate A items.

TS TE



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: 0.32 – .12" (8 – 3 mm)
Length: 0.63" (16 mm)
Usable length: 0.37" (9.50 mm)
Width across flats: 0.32" (8 mm)

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 No.
Torx screws	M6 x 12 mm	300	2504.500
Torx screws	BZ 5.5 x 13 mm	300	2486.500

Self-Tapping Screws

Hex screws	M5 x 10 mm	500	2504.000
Posidrive raised countersunk screws	M5 x 12 mm	500	2488.000
Pan head screws, posidrive	M5 x 12 mm	500	2489.000
Self-tapping screws	–	300	2487.000

TS TE



Captive Nuts M5/M6

For the attachment of rack-mounted electronic equipment, 19" (482.6 mm) installed equipment and blanking plates to mounting angles, 19" (482.6 mm).

For use with metal thickness from .03 – .08" (0.8 – 2.0 mm). In areas of narrow tolerance, captive nuts for metal thicknesses of .05 – .06" (1.2 – 1.5 mm) should be used. Optionally with or without contact of the installed equipment to the 19" (482.6 mm) section/enclosure.



Captive Nut M5

Design	For metal thicknesses inches (mm)	Packs of	Part No.
With contact	.03 – .08 (0.8 – 2.0)	50	2094.500
Without contact	.03 – .08 (0.8 – 2.0)	50	2092.500

Captive Nut M6

Design	For metal thicknesses inches (mm)	Packs of	Part No.
With contact	.03 – .08 (0.8 – 2.0)	50	2094.200
Without contact	.03 – .08 (0.8 – 2.0)	50	2092.200
With contact	.05 – .06 (1.2 – 1.5)	50	2094.300
Without contact	.05 – .06 (1.2 – 1.5)	50	2092.300

Captive Nut 10/32

Without contact	.03 – .08 (.8 – 2.0)	50	9957.324
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Black cells indicate RittalXpress product.

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Shelves

Enclosures



**Toolless Shelves
For 19" (482.6 mm)
Rackmounting**

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

Load Capacity:
150 lbs (68 kg)

Mounting	Color	Part No.
Fixed	RAL 7035 light grey	9968.421
Fixed	Cool black	9968.422

**Black cells indicate RittalXpress product.
Blue cells indicate A items.**

TS



**Heavy-Duty Toolless Shelves
For 19" (482.6 mm)
Rackmounting**

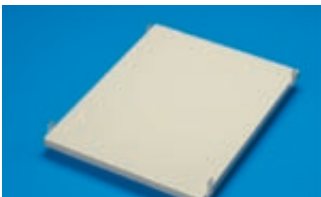
These 19" (482.6 mm) heavy-duty enclosure mount shelves are designed for your ease. The toolless advantage allows quick and simple assembly.

Load Capacity:
250 lbs (113 kg)

Mounting	Color	Part No.
Fixed	RAL 7035 light grey	9968.556
Fixed	Cool black	9968.557
Telescopic	RAL 7035 light grey	9968.586
Telescopic	Cool black	9968.587
Fixed	RAL 7035 light grey	9967.920

Blue cells indicate A items.

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 19" (482.6 mm) mounting frame. To this end, it is first necessary to secure the 19" (482.6 mm) mounting frames at the corresponding distance from one another.

Load Capacity:
130 lbs (59 kg), static

Material:
Sheet steel, spray-finished

H x W x D inches (mm)	19" (482.6 mm) distance between levels inches (mm)	Packs of	Part No.
0.87 x 20.16 x 1.57 (22 x 512 x 40)	19.49 (495)	1	7000.620

Color:
RAL 7035 light grey

Includes:
1 component shelf, assembly parts

TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Shelves



**Component Shelves, 1/2U,
Depth-Variable**

These space-saving component shelves are screw-fastened to the front and rear 19" (482.6 mm) 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

Distance between levels inches (mm)	Part No.
15.74 – 23.62 (400 – 600)	7063.710
23.62 – 35.43 (600 – 900)	7063.720

Surface Finish:
Spray-finished, RAL 7035 light grey

Includes:
Component shelf, including assembly parts

TS TE



Component Shelves, 2U

Static Installation
If only one pair of 19" (482.6 mm) 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 (25 kg) surface load, static

Material:
Sheet steel, spray-finished

Color:
RAL 7035 light grey

Also Required:
Screws, captive nuts

Component shelf depth inches (mm)	Part No.
10 (250)	7119.250
16 (400)	7119.400

**Vented Component Shelves with 19" (482.6 mm)
Railmounting**

inches		mm		Part No.
W	D	W	D	
16	12	400	300	7143.035
16	16	400	400	7144.035
16	20	400	500	7145.035

**Black cells indicate RittalXpress product.
Blue cells indicate A items.**

TS TE



Component Shelf, 2U

Static Installation or Fully Extendable
Suitable for installation in all enclosures with only one 19" (482.6 mm) location point via flange mounting.

Load Capacity:
55 lbs (25 kg) surface load, static

Material:
Sheet steel, spray-finished

Color:
RAL 7035 light grey

Width x depth inches (mm)	Part No.
15.35 x 12 (390 x 300)	7148.035

1) For fully extendable version, telescopic slides 7051.000 should be ordered additionally.

Blue cells indicate A items.

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

Accessories:
Telescopic slides

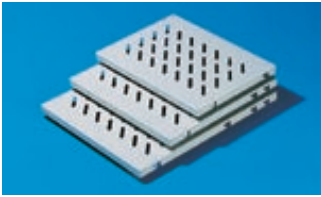
TS TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Shelves

Enclosures



Component Shelves, 19" (482.6 mm) Configuration

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

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

Material:

Sheet steel

Color:

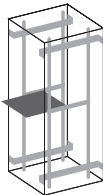
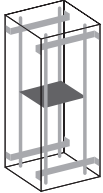
RAL 7035 light grey

Includes:

Component shelf including spacers for static installation

Also Required:

Depth-variable installation kit, see next page



Component shelf width inches (mm)	16.10 (409)				
Component shelf depth (T) inches (mm)	11.81 (300)	15.74 (400)	19.68 (500)	23.62 (600)	27.55 (700)
Part No. 110 lbs Shelf	7143.035	7144.035	7145.035	7145.635	7145.735
Part No. 220 lbs Shelf	-	-	7063.895	-	7063.897
Handle for component shelf	3636.010	3636.010	3636.010	3636.010	3636.010
Telescopic slides 50 kg (110 lbs)	7051.000	7061.000	7081.000	7161.000	7161.700
Telescopic slides 100 kg (220 lbs)	-	-	7065.000	-	7066.700

Blue cells indicate A items.



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: 110 lbs (50 kg)
 max. load capacity: 220 lbs (100 kg)



Technical Description:

- Installation adjustable in 0.98" (25 mm) increments
- 2-stage extension

For shelf depth	Packs of	Part No. max. load capacity	
		110 lbs (50 kg)	220 lbs (100 kg)
12" (300 mm)	1 set	7051.000	-
16" (400 mm)	1 set	7061.000	7064.000
20" (500 mm)	1 set	7081.000	7065.000
24" (600 mm)	1 set	7161.000	7066.000

Blue cells indicate A items.

Material:

Sheet steel, zinc-coated, chromated



Handle for Component Shelves

Material:

Die-cast zinc

Includes:

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

Packs of	Part No.
2	3636.010



TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

System Accessories Shelves



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 inches (mm)	Part No.
24 (<600)	7163.500
24 (>600)	7163.550

Blue cells indicate A items.

TS TE



Installation Kits, Depth-Variable

For 19" (482.6 mm) Component Shelves

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

Suitable for all 19" (482.6 mm) component shelves in 16.10" (409 mm) 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 inches (mm)	Load Capacity lbs (kg)	Part No.
15.75 – 23.62 (400 – 600)	110 (50)	7063.858
23.62 – 33.46 (600 – 850)	110 (50)	7063.860
24.01 – 35.43 (610 – 900)	220 (110)	7063.891¹⁾
27.95 – 39.37 (710 – 1000)	220 (110)	7063.890
21.7 – 33.5 (500 – 850)	220 (110)	7063.850

Packs of 1 set

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

Blue cells indicate A items.

Accessories:

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

TE



Keyboard Drawer, 2U

for a 19" (482.6 mm) attachment level
For keyboards up to 16.93" (430 mm) wide and 9.84" (250 mm) deep with the front panel folded over.

Material:
Sheet steel with aluminium front, spray-finished in RAL 7035 light grey.

Height	Part No.
2U	7281.035

Supply Includes:

Lockable drawer with handles, folding front, pull-out mouse pad, mouse support, practical cable entry and strain relief.

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Cooling

RimatriX5 IT Solutions from Rittal

RIMATRIX5
DRIVING IT-PERFORMANCE



RimatriX5 IT Solutions from Rittal

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.

Liquid Cooling

Liquid Cooling Package (LCP) Solution..... 54

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DC Fan Mounting Plate 60

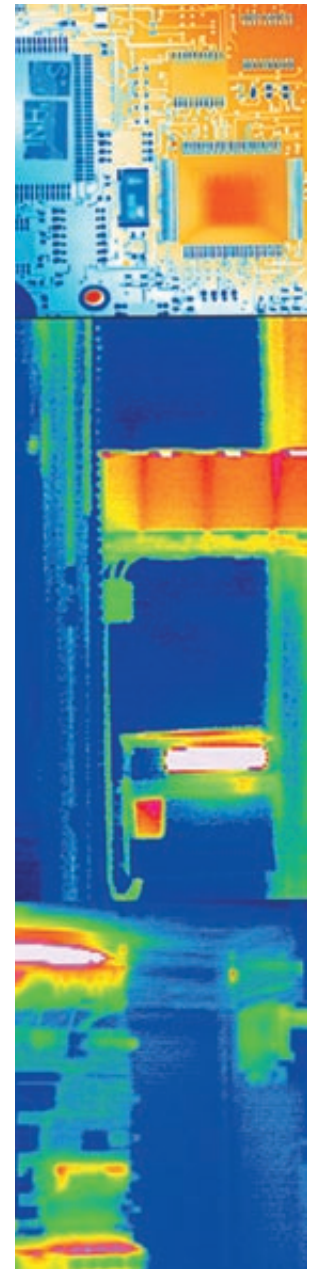
Air Conditioners

Wallmounted Air Conditioners..... 61

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Accessories

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Cooling

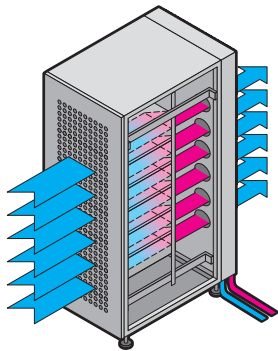
Rittal Liquid Cooling Package



Modular climate control concepts – to your specific requirements!

Rittal RimatriX5 solves the problem of climate control for high heat losses per rack with the Liquid Cooling Package (LCP) range. Extremely high heat loads are dissipated from the rack via the LCP air/water heat exchanger. Additionally, this system also allows temperature-neutral expansion of the data center.

LCP Extend



Installation while operational
Air/water heat exchanger (10 kW) to support climate control of the room. For Rittal racks, the relevant door is preconfigured in the factory and exchanged on site.

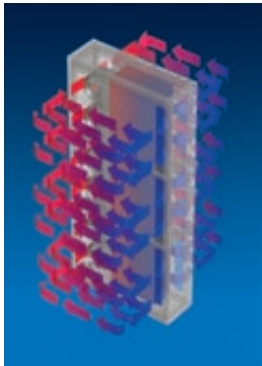


Suitable for use on any surface
The stand-alone unit may be fitted onto any suitably sized rear door (including other brands).

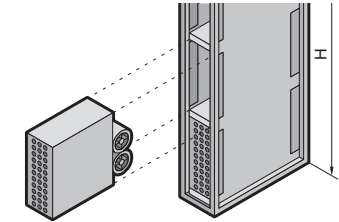


Water connection variants
Water connection either at the bottom or top. Connection to the existing cooling circuit (optionally via water/water heat exchanger) or to recooling systems.

LCP Standard



Bayable with TS 8 server racks
As the height and depth are identical, it may be bayed either in the middle of an enclosure suite or at the end, for added assembly and service-friendliness.

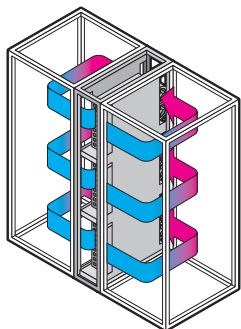


Up to 20 kW useful cooling output
The useful cooling output is achieved with a modular configuration (1 – 3 modules). Active condensate management supports inlet temperatures from 43°F to 68°F (+6°C to +20°C).



Safe insertion, simple assembly
The separation of cooling and rack prevents water from penetrating the server rack. A recooling system supplies the required cooling fluid.

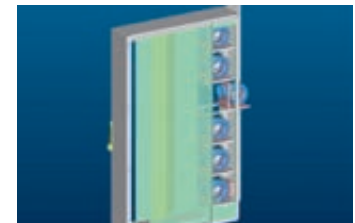
LCP Plus



Up to 40 kW useful cooling output
Useful cooling outputs of 28 kW (rack height 78.74" [2000 mm]) or 40 kW (rack height 94.49"



[2400 mm]) are achieved with 6 or 8 high-performance fans, which may be exchanged without the need for tools. Overall, the LCP Plus has been optimized for use in data



centers. Even with the enclosure doors open, e.g., during servicing work on servers, climate control is 100% guaranteed.

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

Rittal Liquid Cooling Package



LCP Extend

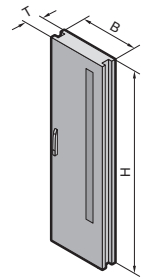
Air/water heat exchanger for retrofitting to racks while operational.

The stand-alone unit may be fitted onto any rear doors (including other brands).

For Rittal racks, the relevant door is preconfigured in the factory ready to be connected and exchanged on site.

Technical Specifications:

- Up to 10 kW useful cooling output
- Max. air volume 1767 cfm (3000 m³/h)
- Water connection either at the bottom or top



B = Width
H = Height
T = Depth



LCP Standard

Air/water heat exchanger, bayable with server racks based on TS8.

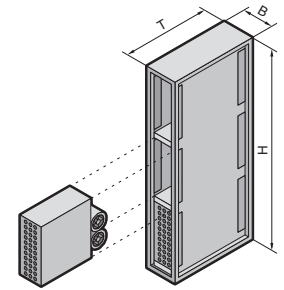
The useful cooling output of max. 20 kW can be achieved by installing additional modules.

The separation of cooling and rack prevents water from penetrating the server rack, and makes it more assembly and service-friendly.

LCPs are easy to handle (max. 6.5' [2 m]) and may be transported in lifts and through doors. The low weight means a minimal area load.

Technical Specifications:

- Up to 20 kW useful cooling output
- Max. air volume 1767 cfm (3000 m³/h)
- TÜV GS, UL/CUL, DIN 3168



B = Width
H = Height
T = Depth



LCP Plus

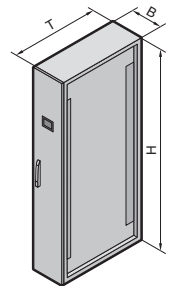
Air/water heat exchanger, bayable with server racks based on TS8. Complete unit with 28 kW useful cooling output.

The separation of cooling and rack prevents water from penetrating the server rack, and makes it more assembly and service-friendly.

LCPs are easy to handle (max. 6.5' [2 m]) and may be transported in lifts and through doors. The low weight means a minimal area load.

Technical Specifications:

- Up to 28 kW useful cooling output
- Max. air volume 2827 cfm (4800 m³/h)



B = Width
H = Height
T = Depth

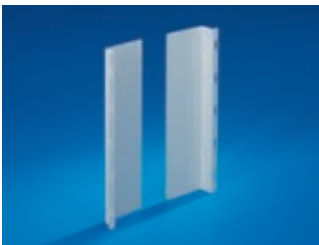
Rittal Liquid Cooling Package

Cooling

Part No.	3301.490¹⁾	3301.230	3301.420	3301.480¹⁾	on request	
Description	LCP Extend	LCP Standard		LCP Plus	LCP Plus	
Rated operating voltage V, Hz	230, 50/60	230, 50/60		230, 50/60	230, 50/60	
Dimensions in inches (mm)	B	20.47 (520)	11.81 (300)	11.81 (300)	11.81 (300)	
	H	75.20 (1910)	78.74 (2000)	78.74 (2000)	94.49 (2400)	
	D	6.30 (160)	39.37 (1000)	47.24 (1200)	47.24 (1200)	
Usable U	42	42	42	42	51	
Useful cooling output	10 kW	Up to 20 kW		Up to 28 kW	Up to 40 kW	
Rated current	2.4 A/3.0 A	3.8 A/4.4 A		9.3 A/10.4 A	Technical specifications on request.	
Pre-fuse	6 A/6 A	10 A/10 A		16 A/16 A		
Cooling medium	Water (for specifications see Internet)					
Water inlet temperature	59°F (+15°C)	43°F to 68°F (+6°C to +20°C)				
Permissible operating pressure p. max.	87 psi (6 bar)	87 psi (6 bar)		87 psi (6 bar)		
Protection category to EN 60 529/10.91	–	IP 30				
Duty cycle	100 %					
Electrical connection	Connection cable					
Water connection	3/4" external thread			1" external thread		
Weight	99 lb (45 kg)	max. 376 lb (170 kg)		332 lb (150 kg)		
Color	RAL 7035 light grey					
Air throughput of fans	1767 cfm (3000 m ³ /h)			2827 cfm (4800 m ³ /h)		
Temperature control	Fan control		Electronically controlled magnetic valve and 4-way fan control			
Additional module						
Useful cooling output 4 kW (59°F [15°C], .28 cfm [8 l/min])	–	3301.250		–	–	

Special voltages and sizes available on request. Technical modifications reserved.
 Rack heights of 88" (2200 mm) are achieved with an optional add-on cover.
¹⁾ Delivery times available on request.

For LCP Ready Cabinet, see page 18.



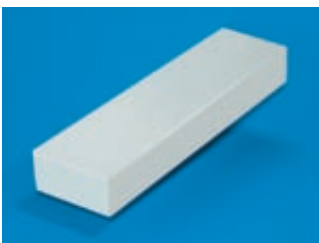
Covers

For sealing any air inlet and outlet openings of the LCP that are not required.

Material:

Sheet steel, spray finished in RAL 7035

Packs of	Part No.
2	3301.310



Add-On Cover

For height compensation with 88" (2200 mm) high racks in conjunction with the LCP (H = 80" [2000 mm]).

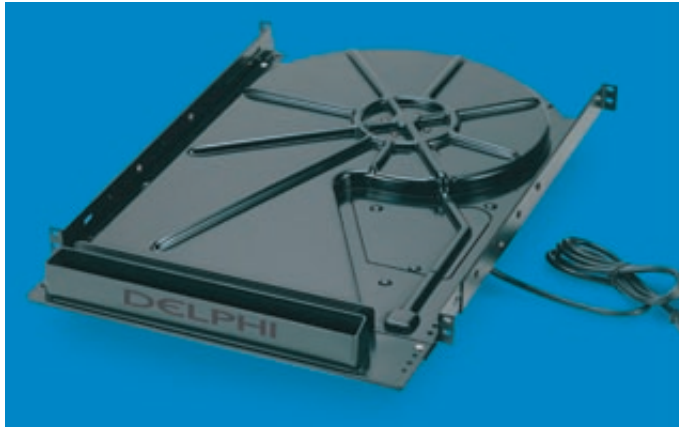
Material:

Sheet steel, spray finished in RAL 7035

For LCP	Part No.
3301.210	3301.221
3301.230	
3301.420	3301.421
3301.480	

Delivery times available on request.

Rittal Enclosure Blower



Rittal Enclosure Blower

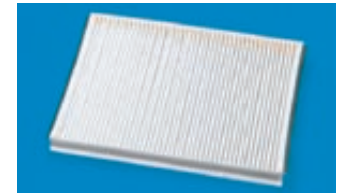
Assist airflow in your cabinets with the Rittal Enclosure Blower and be confident that your equipment will run cooler. The Enclosure Blower features a durable, lightweight polymer housing and fits in the bottom of server cabinets where it draws cool air from beneath the floor and boosts delivery of the 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 6' each, 5-15 plug
- Re-settable circuit breaker for each power cord
- 19" (482.6 mm) rackmount with 1U panel (not included)
- Maintains output power from two separate power sources
- 1.25" H x 9.5" W x 2" D

Description	Weight	Part No.
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	9969.639
1 Filter assembly	2 lbs	9969.640
2 Replacement filters, 12 per box	5 lbs	9969.641
3 Dual power transfer switch	5 lbs	9969.658

Fan Systems

Cooling



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 No.
115	210	24"	RAL 7035 light grey	9969.936
			Black	9969.937
		28"	RAL 7035 light grey	9969.940
			Black	9969.941
		32"	RAL 7035 light grey	9969.944
			Black	9969.945
230	210	24"	RAL 7035 light grey	9969.938
			Black	9969.939
		28"	RAL 7035 light grey	9969.942
			Black	9969.943
		32"	RAL 7035 light grey	9969.946
			Black	9969.947

Black cells indicate RittalXpress product.



Roof Fan

Mounts easily into any enclosure roof. Requires round cutout.

Configuration:

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

Material:

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

TS TE

Protection rating	Noise level	Rated current	Air displacement	Dimensions in inches (mm)		Rated voltage V/Hz	Part No.
				Diameter	H		
NEMA 1	50 dBA	0.4 A	500 cfm	9.1 (232 mm)	3.79" (96.40 mm)	115/60	9964.163
NEMA 1	50 dBA	0.4 A	500 cfm	9.1 (232 mm)	3.79" (96.40 mm)	230/50/60	9961.868



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.

dramatically higher rate than traditional roofmount 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 4 fans (220 cfm per fan)

TS TE *

* TE server cabinets only

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

Cabinet width	Part No.		Height in (mm)	Width in (mm)	Depth ⁽¹⁾ in (mm)	cfm ⁽²⁾	Voltage	Current	Noise
	RAL 7035 light grey	Black							
24	9968.490	9968.493	11.73 (298)	19.49 (495)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)
28	9968.491	9968.494	11.73 (298)	23.43 (595)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)
32	9968.492	9968.495	11.73 (298)	27.36 (695)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)

1) Depth of extension from enclosure door into enclosure

2) Free air delivery

Fan Systems



Fan Expansion Kit

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

Technical Specifications 7980.000:

Rated operating voltage: 230 V
 Power consumption: 15/14 W at 50/60 Hz
 Air displacement (unimpeded airflow): 94/106 cfm (160/180 m³/h), 50/60 Hz
 Noise level (unimpeded airflow): 37 dB(A)
 Temperature range: 14°F to 131°F (-10°C to +55°C)

Technical Specifications 7980.100:

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

Dimensions in inches (mm)	Packs of	Part No.
4.69 x 4.69 x 1.50 (119 x 119 x 38)	1 set	7980.000
4.69 x 4.69 x 0.98 (119 x 119 x 25)	1 set	7980.100
4.69 x 4.69 x 0.98 (119 x 119 x 25)	1 set	7980.148

Technical Specifications 7980.148:

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

Supply Includes:

Fan, including assembly parts and connection cable (24" [610 mm])

* For 115 V, inquire (**7980.110**)



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.

Includes:

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

Technical Specifications for One Fan:

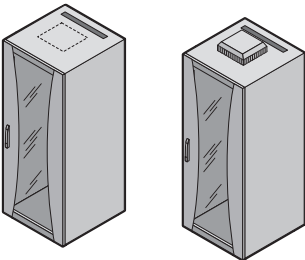
See Fan Expansion Kit above

Technical Specifications of Thermostat:

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

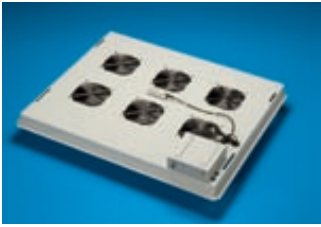
Accessories:

Fan expansion kit, see above.



For enclosures W x D inches (mm)	Number of prewired fans	Rated operating voltage	Color	Part No.
All sizes	2	115 V	RAL 7035	7000.920
			RAL 9005	7000.915
		230 V	RAL 7035	7000.670

Fan Systems



DC Fan Mounting Plate

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

Suitable for TS8 enclosures with a raised roof (> 0.79" [20 mm]) or TS8 roof plate, vented. The fan mounting plate may be used as an alternative to fan mounting plate 7988.035. 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 airflow 6 x 97 = 584 cfm [6 x 165 = 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 19" [482.6 mm] with 7320.440 or on the frame with 7320.450)
- 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 7320.100 (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 in (mm)	For enclosures Depth in (mm)	Number of DC fans	Part No.
32 (800)	32 (800) 36 (900) 40 (1000) 42 (1050) 48 (1200)	6	7858.488

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: 41°F to 104°F (+5°C to +40°C)
 Total air throughput (unimpeded airflow):
 6 x 97 = 584 cfm (6 x 165 = 990 m³/h)

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 airflow): 97 cfm (165 m³/h)
 Speed: 2650 rpm
 Noise level: up to 41.0 dB(A) at maximum speed activation

Also Required:

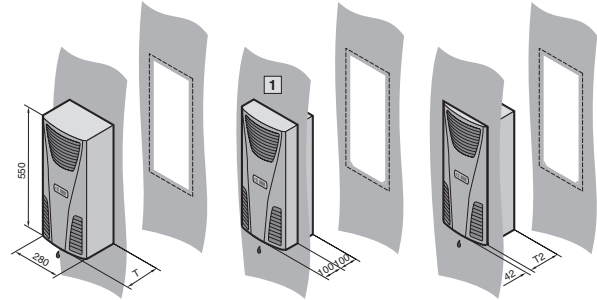
Connection cable 230/115 V
 Example, US version, Part No. 7200.214

Accessories:

1U mounting unit, Part No. 7320.440
 Mounting module, Part No. 7320.450



Useful cooling capacity 1093/2080 BTU (320/610 W)



Configuration:

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

With nano-coated condenser.

Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Partial Internal Mounting Possible With 3303.XXX Only.

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

visit: www.rittal-corp.com

Property Rights:

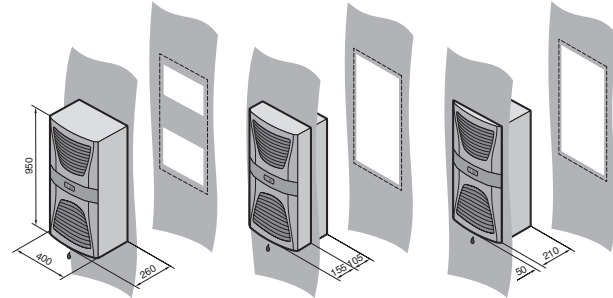
US design patent no. D 488,480
IR reg. design no. DM/061 967 with validity for FR, IT, ES
German registered designs no. 402 02 324 and no. 402 02 325
Japanese registered design no. 1 187 896
Indian registered design no. 189 953

Part No. with basic controller, RAL 7035 light grey		3302.100	3302.110	3303.100	3303.110
Part No. with comfort controller, RAL 7035 light grey		-		3303.500	3303.510
Voltage V, Hz		230, 50/60		230, 50/60	
Dimensions in inches (mm)	Height (H)	22 (550)		22 (550)	
	Width (B)	11 (280)		11 (280)	
	Depth (T)	6 (140)		8 (200)	
	T2	4 (98)		6 (158)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	864 (253)		2400 (703)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	1025/1093 (300/320)		1708/2083 (500/610)	
	L 95 L 122	512/581 (150/170)		957/1195 (280/350)	
Rated current maximum		1.6 A/1.7 A	3.3 A	2.6 A/2.6 A	5.7 A
Starting current		3.0 A/3.4 A	8.0 A	5.1 A/6.4 A	11.5 A
Pre-fuse T		10.0 A/10.0 A	10.0 A	10.0 A/10.0 A	10.0 A
Power consumption Pel to DIN 3168	L 35 L 35	245 W/255 W	290 W	360 W/380 W	470 W
	L 35 L 50	255 W/275 W	340 W	420 W/390 W	500 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.2		1.4	
Refrigerant		R134a, 3.5 oz (100 g)		R134a, 6.0 oz (170 g)	
Maximum allowable operating pressure		263 psi (25 bar)		406 psi (28 bar)	
Temperature and setting range		68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)			
	Internal circuit	UL 12 (IP 54)			
Duty cycle		100%			
Type of connection		Plug-in terminal strip			
Weight in lb (kg)		28.7 (13)		37.5 (17)	
Air displacement of fans	External circuit	182 cfm (310 m³/h)		203 cfm (345 m³/h)	
	Internal circuit	203 cfm (345 m³/h)		182 cfm (310 m³/h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])			
Accessories	PU				
Filter mats	3		3286.300		
Metal filters	1		3286.310		
Door-operated switch	1		4127.000		
SK bus system for comfort controller	1		-	3124.100	
RiDiag II including cables for comfort controller	1		-	3159.100	
Interface card for comfort controller	1		-	3124.200	
Condensate hose	1	3301.608		3301.610	

Special voltages available on request. Technical modifications reserved.

Black cells indicate RittalXpress product.

Useful cooling capacity 3620/5150 BTU (1060/1510 W)



Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Integration of the air conditioner with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

visit: www.rittal-corp.com

Property Rights:

German registered design no. 402 02 325
IR reg. design no. DM/062 557 with validity for FR, IT, ES
Indian registered design no. 190 269
Japanese registered design no. 1 187 905

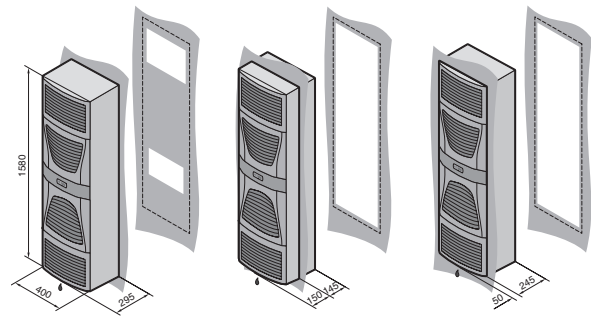
Part No. with basic controller, RAL 7035 light grey	3304.100	3304.110	3305.100	3305.110
Part No. with comfort controller, RAL 7035 light grey	3304.500	3304.510	3305.500	3305.510
Voltage V, Hz	230, 50/60	115 ¹⁾ , 50/60	230, 50/60	115 ¹⁾ , 50/60
Dimensions in inches (mm)				
H	37 (950)		37 (950)	
W	16 (400)		16 (400)	
D	10 (260)		10 (260)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	3916 (1147)		5794 (1697)
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	3415/3620 (1000/1060)		5123/5157 (1500/1510)
	L 95 L 122	2698/2869 (790/840)		4201/4269 (1230/1250)
Rated current maximum	4.8 A/4.4 A		9.5 A/10.0 A	5.4 A/6.0 A
Starting current	12.0 A/14.0 A		26.0 A/28.0 A	22.0 A/24.0 A
Pre-fuse T	10.0 A/10.0 A		16.0 A/16.0 A	16.0 A/16.0 A
Power consumption Pel to DIN 3168	L 35 L 35	700 W/650 W	725 W/680 W	850 W/1000 W
	L 35 L 50	750 W/710 W	780 W/750 W	1000 W/1160 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.4		1.7
Refrigerant	R134a, 17.6 oz (500 g)		R134a, 21.2 oz (600 g)	
Maximum allowable operating pressure	363 psi (25 bar)			
Temperature and setting range	68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)		
	Internal circuit	UL 12 (IP 54)		
Duty cycle	100%			
Type of connection	Plug-in terminal strip			
Weight in lb (kg)	86.0 (39)	97.0 (44)	90.3 (41)	101.4 (46)
Air displacement of fans	External circuit	530 cfm (900 m ³ /h)		
	Internal circuit	353 cfm (600 m ³ /h)	471 cfm (800 m ³ /h)	
Temperature control	Basic or comfort controller (factory setting +95°F [35°C])			
Accessories	PU			
Filter mats	3	3286.400		
Metal filters	1	3286.410		
Door-operated switch	1	4127.000		
SK bus system for comfort controller	1	3124.100		
RiDiag II including cables for comfort controller	1	3159.100		
Interface card for comfort controller	1	3124.200		
Condensate hose	1	3301.612		

¹⁾ Delivery times available on request.

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

Black cells indicate RittalXpress product.

Useful cooling capacity 8026/9392 BTU (2350/2750 W)



Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Additional Parts Needed:

For installation in the door, the use of a ride-up roller is recommended.

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

visit: www.rittal-corp.com

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

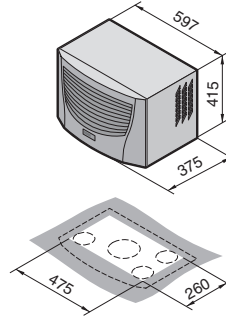
Part No. with basic controller, RAL 7035 light grey		3328.100	3328.110	3329.100	3329.110
Part No. with comfort controller, RAL 7035 light grey		3328.500	3328.510	3329.500	3329.510
Voltage V, Hz		230, 50/60	115, 50/60	230, 50/60	115, 50/60
Dimensions in inches (mm)					
	H	62 (1580)		62 (1580)	
	W	16 (400)		16 (400)	
	D	11 (290)		11 (290)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	8706 (2550)		10525 (3083)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	6830/8026 (2000/2350)		8537/9392 (2500/2750)	
	L 95 L 122	4952/6771 (1450/1690)		5464/5977 (1600/1750)	
Rated current maximum		6.9 A/8.5 A	13.6 A/16.2 A	8.0 A/10.0 A	16.0 A/21.0 A
Starting current		22.0 A/26.0 A	36.0 A/39.0 A	21.0 A/21.0 A	44.0 A/42.0 A
Pre-fuse T		16.0 A/16.0 A	25.0 A/25.0 A	16.0 A/16.0 A	25.0 A/25.0 A
Power consumption Pel to DIN 3168	L 35 L 35	900 W/1070 W	960 W/1130 W	1320 W/1550 W	1380 W/1600 W
	L 35 L 50	1130 W/1220 W	1170 W/1290 W	1500 W/1880 W	1550 W/1940 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.7		1.9	
Refrigerant		R134a, 33.5 oz (950 g)			
Maximum allowable operating pressure		406 psi (28 bar)			
Temperature and setting range		68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)			
	Internal circuit	UL 12 (IP 54)			
Duty cycle		100%			
Type of connection		Plug-in terminal strip			
Weight in lb (kg)		145.5 (66)	160.9 (73)	152.1 (69)	167.6 (76)
Air displacement of fans	External circuit	377 cfm (640 m ³ /h)		418 cfm (710 m ³ /h)	
	Internal circuit	324 cfm (550 m ³ /h)		377 cfm (640 m ³ /h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])			
Accessories		PU			
Filter mats		3		3286.400	
Metal filters		1		3286.410	
Door-operated switch		1		4127.000	
SK bus system for comfort controller		1		3124.100	
RiDiag II including cables for comfort controller		1		3159.100	
Interface card for comfort controller		1		3124.200	
Condensate hose		1		3301.612	

¹⁾ Delivery times available on request.

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

Blue cells indicate A items.

Useful cooling capacity 4098 BTU (1200 W)



Property Rights:

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



Designed For Office Applications.

Low noise level (considerably quieter than air conditioners for industrial applications). With nano-coated condenser and integrated condensate evaporator.

Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring

system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 modular enclosures with mounting cutout.

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

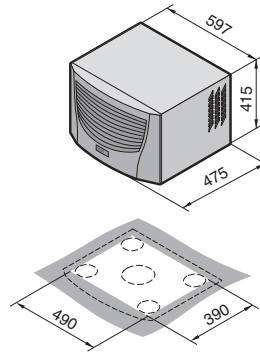
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Part No. with comfort controller		3273.500	3273.515 ¹⁾
Voltage V, Hz		230, 50/60	115, 50/60
Dimensions in inches (mm)	H x W x D	16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	4687 (1373)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	3756/4098 (1100/1200)	
	L 95 L 122	2903/2971 (850/870)	
Rated current maximum		5.2 A/5.4 A	11.0 A/11.5 A
Starting current		15.5 A/16.5 A	32.0 A/35.0 A
Pre-fuse T		10.0 A/10.0 A	20.0 A/20.0 A
Power consumption Pel to DIN 3168	L 35 L 35	890 W/910 W	920 W/940 W
	L 35 L 50	960 W/1100 W	990 W/1140 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.2	
Refrigerant		R134a, 24.7 oz (700 g)	
Maximum allowable operating pressure		363 psi (25 bar)	
Temperature and setting range		68°F to 131°F (+20°C to +55°C)	
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)	
	Internal circuit	UL 12 (IP 54)	
Duty cycle		100%	
Type of connection		Plug-in terminal strip	
Weight in lb (kg)		92.6 (42)	103.6 (47)
Color		RAL 7035 light grey	
Air displacement of fans	External circuit	1036 cfm (1760 m ³ /h)	
	Internal circuit	259 cfm (440 m ³ /h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])	
Accessories	PU		
Filter mats	3		3286.100
Metal filters	1		3286.210
Door-operated switch	1		4127.000
SK bus system for comfort controller	1		3124.100
RiDiag II including cables for comfort controller	1		3159.100
Interface card for comfort controller	1		3124.200
Air ducting system	1		3286.870
Cover stoppers for interior air outlet	2		3286.980
Condensate hose	1		3301.612

¹⁾ Delivery times on request.

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

Useful cooling capacity 1742/2766 BTU (510/810 W)



Property rights:

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



Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Air conditioners with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

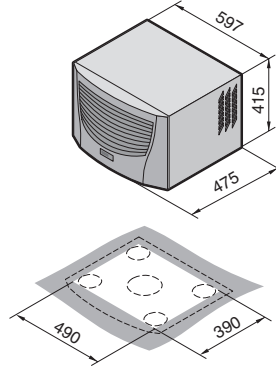
visit: www.rittal-corp.com

Part No. with basic controller, RAL 7035 light grey	3382.100	3382.110	3359.100	3359.110
Part No. with comfort controller, RAL 7035 light grey	3382.500	3382.510	3359.500	3359.510
Voltage V, Hz	230, 50/60	115, 50/60	230, 50/60	115, 50/60
Dimensions in inches (mm)	H x W x D 16 x 24 x 15 (415 x 597 x 375)			
Useful cooling capacity QK in BTU (W)	L 131 L 131	1581 (463)		3081 (903)
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	1708/1742 (500/510)		2561/2766 (750/810)
	L 95 L 122	922/1264 (270/370)		1861/2015 (545/590)
Rated current maximum	2.7 A/2.9 A		5.5 A/6.0 A	3.0 A/3.9 A
Starting current	9.2 A/10.2 A		18.4 A/18.4 A	10.0 A/10.7 A
Pre-fuse T	10.0 A/10.0 A		10.0 A/10.0 A	10.0 A/10.0 A
Power consumption Pel to DIN 3168	L 35 L 35	360 W/410 W	370 W/420 W	410 W/520 W
	L 35 L 50	410 W/450 W	420 W/470 W	490 W/600 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.4		1.8
Refrigerant	R134a, 8.8 oz (250 g)		R134a, 10.6 oz (300 g)	
Maximum allowable operating pressure	363 psi (25 bar)			
Temperature and setting range	68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)		
	Internal circuit	UL 12 (IP 54)		
Duty cycle	100%			
Type of connection	Plug-in terminal strip			
Weight in lb (kg)	66.1 (30)	77.1 (35)	70.5 (32)	81.5 (37)
Air displacement of fans (unimpeded airflow)	External circuit	536 cfm (910 m ³ /h)		
	Internal circuit	259 cfm (440 m ³ /h)		
Temperature control	Basic or comfort controller (factory setting 95°F [+35°C])			
Accessories	PU			
Filter mats	3	3286.500		
Metal filters	1	3286.510		
Quick-change frame	1	3286.700		
Door-operated switch	1	4127.000		
SK bus system for comfort controller	1	3124.100		
RiDiag II including cables for comfort controller	1	3159.100		
Interface card for comfort controller	1	3124.200		
Air ducting system	1	3286.870		
Cover stoppers for interior air outlet	2	3286.780		
Condensate hose	1	3301.612		

Special voltages available on request. Technical modifications reserved.

Blue cells indicate A items.

Useful cooling capacity 3688 BTU (1080 W)



Property Rights:

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



Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

Certifications:

UL, cUL, CSA
 UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

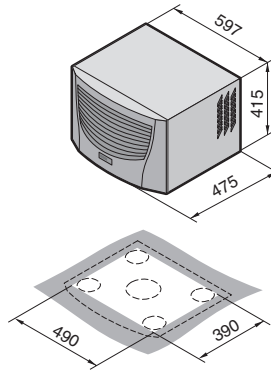
visit: www.rittal-corp.com

Part No. with basic controller, RAL 7035 light grey	3383.100	3383.110
Part No. with comfort controller, RAL 7035 light grey	3383.500	3383.510
Voltage V, Hz	230, 50/60	115, 50/60
Dimensions in inches (mm)	16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	4462 (1307)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	3415/3688 (1000/1080)	
Rated current maximum	4.3 A/4.5 A	8.3 A/8.7 A
Starting current	15.5 A/15.5 A	25.3 A/24.3 A
Pre-fuse T	10.0 A/10.0 A	16.0 A/16.0 A
Power consumption Pel to DIN 3168	550 W/650 W	580 W/660 W
Cooling coefficient $\phi = QK/Pel$	660 W/750 W	670 W/755 W
Refrigerant	R134a, 17.6 oz (500 g)	
Maximum allowable operating pressure	363 psi (25 bar)	
Temperature and setting range	68°F to 131°F (+20°C to +55°C)	
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)
	Internal circuit	UL 12 (IP 54)
Duty cycle	100%	
Type of connection	Plug-in terminal strip	
Weight in lb (kg)	88.2 (40)	101.4 (46)
Air displacement of fans	External circuit	1036 cfm (1760 m³/h)
	Internal circuit	259 cfm (440 m³/h)
Temperature control	Basic or comfort controller (factory setting 95°F [+35°C])	
Accessories	PU	
Filter mats	3	3286.500
Metal filters	1	3286.510
Quick-change frame	1	3286.800
Door-operated switch	1	4127.000
SK bus system for comfort controller	1	3124.100
RiDiag II including cables for comfort controller	1	3159.100
Interface card for comfort controller	1	3124.200
Air ducting system	1	3286.870
Cover stoppers for interior air outlet	2	3286.880
Condensate hose	1	3301.612

Special voltages available on request. Technical modifications reserved.

Blue cells indicate A items.

Useful cooling capacity 5191/7274 BTU (1520/2130 W)



Property Rights:

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



Configuration:

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

With nano-coated condenser and integrated condensate evaporator.

Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

Certifications:

UL, cUL, CSA
UL file: ACVS2.SA8250

Detailed Drawing:

visit: www.rittal-corp.com

Performance Diagrams:

visit: www.rittal-corp.com

Part No. with basic controller, RAL 7035 light grey		3384.100	3384.110	3385.100	3385.110
Part No. with comfort controller, RAL 7035 light grey		3384.500	3384.510	3385.500	3385.510
Voltage V, Hz		230, 50/60	115, 50/60	230, 50/60	115, 50/60
Dimensions in inches (mm)	H x W x D	16 x 24 x 19 (415 x 597 x 475)		16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	6009 (1760)		8272 (2423)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	5123/5191 (1500/1520)		6830/7274 (2000/2130)	
	L 95 L 122	3757/4132 (1100/1210)		5362/5703 (1570/1670)	
Rated current maximum		5.7 A/6.8 A	12.5 A/14.1 A	5.7 A/6.6 A	13.0 A/14.2 A
Starting current		16.6 A/17.1 A	30.7 A/29.1 A	16.8 A/18.4 A	36.0 A/32.0 A
Pre-fuse T		10.0 A/10.0 A	20.0 A/20.0 A	10.0 A/10.0 A	20.0 A/20.0 A
Power consumption Pel to DIN 3168	L 35 L 35	815 W/930 W	850 W/950 W	1000 W/1175 W	1050 W/1250 W
	L 35 L 50	950 W/1090 W	1000 W/1150 W	1100 W/1310 W	1160 W/1380 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.8		2.0	
Refrigerant		R134a, 17.6 oz (500 g)			
Maximum allowable operating pressure		363 psi (25 bar)			
Temperature and setting range		68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)			
	Internal circuit	UL 12 (IP 54)			
Duty cycle		100%			
Type of connection		Plug-in terminal strip			
Weight in lb (kg)		90.3 (41)	103.6 (47)	92.6 (42)	105.8 (48)
Air displacement of fans	External circuit	1036 cfm (1760 m³/h)		1071 cfm (1820 m³/h)	
	Internal circuit	277 cfm (470 m³/h)			
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])			
Accessories	PU				
Filter mats	3			3286.500	
Metal filters	1			3286.510	
Quick-change frame	1			3286.800	
Door-operated switch	1			4127.000	
SK bus system for comfort controller	1			3124.100	
RiDiag II including cables for comfort controller	1			3159.100	
Interface card for comfort controller	1			3124.200	
Air ducting system	1			3286.870	
Cover stoppers for interior air outlet	2			3286.880	
Condensate hose	1			3301.612	

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

Blue cells indicate A items.

Accessories



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 No.
1	3124.200

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 No. 7320.425) 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 (inches): 1.73 (1U) x 5.35 x 5.00
(44 x 136 x 129 mm)

Cooling



Fan 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 1.38" (35 mm) support rail DIN EN 50 022
- Dimensions (H x W x D): 2.24 x 3.70 x 7.09" (57 x 94 x 180 mm)
- Rated operating voltage: 230 V AC/115 V AC
- Setting range: 68°F to 131°F (+20°C to +55°C)
- 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 5.90' (1.80 m)

Rated operating voltage	Part No.
230 V AC	3120.000
115 V AC	3120.115¹⁾

1) Delivery times available on request.

Accessories

	Part No.
Mounting adapter	7526.964



Mounting Adapter



Bottom-Mounted Adapter

For enclosure internal thermostat 3110.000 and hygrostat 3118.000

Bottom-mounted adapter with mounting option for screwed cable glands, for targeted cable infeed from appropriate equipment such as filter fan units and enclosure heaters. In conjunction with screwed cable glands, it is also suitable for use as strain relief.

PU	Part No.
1	3110.200

Accessories



Enclosure Internal Thermostat

Ideal for controlling filter fan units, heaters and heat exchangers, this thermostat can also be used as a signal generator for monitoring the enclosure internal temperature.

Technical Specifications:

- Bi-metal sensor as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
 - Category 5 – 3 (heating)
 - AC 10 (4)¹⁾ A,
 - DC = 30 W
 - Category 5 – 4 (cooling)
 - AC 5 (4)¹⁾ A,
 - DC = 30 W
- (¹⁾ = Inductive load at $\cos j = 0.6$
- Setting range 40°F to 140°F (+5°C to +60°C)
- Weight approximately 3.7 oz (105 g)
- Dimensions 2.80 x 2.80 x 1.30" (71 x 71 x 33 mm)
- Switching difference approximately 1 K ± 0.8 K
- A broad voltage spectrum, just one model covers 24 to 230 V
- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 1.38" (35 mm) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adapter

Voltage	Part No.
230/115/60/48/24 V (AC)	3110.000
60/48/24 V (DC)	



Hygrostat

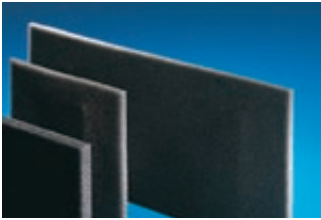
The hygrostat switches on the heater and/or fan when a preset relative humidity level in the enclosure is exceeded. The relative humidity is raised above the dew point, and condensation on assemblies or electronic components is avoided.

Technical Specifications:

- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
 - AC ~ 5 (0.2)¹⁾ A
 - DC = maximum 20 W
- (¹⁾ = Inductive load at $\cos j = 0.6$
- Setting range 50 – 100% relative humidity
- Weight approximately 3.5 oz (100 g)
- Dimensions 2.80 x 2.80 x 1.30" (71 x 71 x 33 mm)
- Switching difference approximately 4%
- A broad voltage spectrum, just one model covers 24 to 230 V
- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 1.38" (35 mm) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adapter

Voltage	Part No.
24 - 230 V (AC/DC)	3118.000

Accessories



Filter Mats for Air Conditioners

Rittal air conditioners are low-maintenance and are supplied without filter mats. Filter mats may be used for extreme conditions.

Material:

Open celled polyurethane foamed plastic with excellent physical and mechanical properties. Temperature resistant from -40°F to 176°F (-40°C to +80°C). Thickness: 0.39" (10 mm).

For TopTherm Air Conditioners

For Air Conditioner	HxWxD inches (mm)	PU	Part No.
3302.300 / 3302.310	3.7 x 7.5 x 0.4 (95 x 190 x 10)	1	3286.110
3302.100 / 3302.110 / 3303. . . . / 3361. . . .	7.9 x 10.4 x 0.4 (200 x 265 x 10)	1	3286.300
3304. . . . / 3305. . . . / 3328. . . . / 3329. . . . / 3332. . . . / 3366. . . .	11.3 x 13.5 x 0.4 (288 x 344 x 10)	1	3286.400
3273. . . . / 3382. . . . / 3383. . . . / 3384. . . . / 3385. . . . / 3359. . . .	10.0 x 20.9 x 0.4 (255 x 530 x 10)	1	3286.500
3386. . . . / 3387. . . .	11.8 x 28.3 x 0.4 (300 x 720 x 10)	1	3286.600
3377. . . .	8.3 x 8.1 x 0.4 (210 x 205 x 10)	1	3253.010

Cooling



Spare Filter Mats for Filter Fans

Made of chopped-fiber mat with a progressive structure.

Temperature resistant to 212°F (100°C), self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean air end: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:

Chemical fiber

For Filter Fan Units	H x W x D inches (mm)	PU	Part No.
3321. . . .	4 x 4 x 0.4 (89 x 89 x 10)	5	3321.700
3322. . . .	5 x 5 x 1 (120 x 120 x 12)	5	3322.700
3323. . . .	7 x 7 x 1 (173 x 173 x 17)	5	3171.100
3324. . . . / 3325. . . .	9 x 9 x 1 (221 x 221 x 17)	5	3172.100
3326. . . .	11 x 11 x 1 (289 x 289 x 17)	5	3173.100
3327. . . .	11 x 11 x 0.4 (289 x 289 x 10)	5	3327.700
For Filter Holders	H x W x D inches (mm)	PU	Part No.
3175.000	10 x 13 x 1 (242 x 338 x 20)	3	3174.000



Fine Filter Mats for Filter Fans

Made of chopped-fiber mat with a progressive structure.

Temperature-resistant to 100°C (212°F), self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean air end: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:

Chemical fiber

For Filter Fan Units/Outlet Filters	H x W x D inches (mm)	PU	Part No.
3323. . . .	7 x 7 x 1 (173 x 173 x 12)	5	3181.100
3324. . . . / 3325. . . .	9 x 9 x 0.4 (221 x 221 x 12)	5	3182.100
3326. . . . / 3327. . . .	11 x 11 x 1 (289 x 289 x 12)	5	3183.100

Accessories



Air Duct System

For TopTherm Roofmounted Air Conditioners

The air duct system for Rittal TopTherm roofmounted air conditioners makes it possible to route the cold air directly to specific areas of the enclosure. The risk of short circuits in the air circulation due to self-ventilated installed devices is eliminated.

The length of the flat duct is 59" (1500 mm), and it may be cut to the desired length.

Material:

Flame-resistant plastic to DIN 4102/B1.

Configuration:

Flat duct, compensating hose.

Accessories:

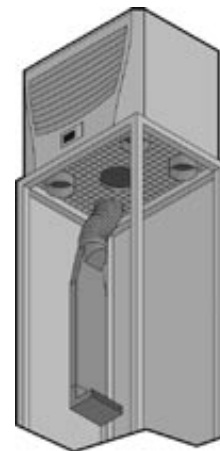
90° deflector, see www.rittal-corp.com.

Cover bungs, see www.rittal-corp.com.

For Air Conditioner	PU	Part No. Air Duct System
3382. . . /3383. . . /3384. . . /3385. . . / 3273. . . /3359. . . .	1	3286.870
3386. . . /3387. . . .	1	3286.970

Note:

Do not direct cold air straight at active components. When using the ducting system, the performance of the air conditioner may be reduced, depending on the application in question.



Monitoring and Security

RimatriX5 IT Solutions from Rittal

RIMATRIX5
DRIVING IT-PERFORMANCE



RimatriX5 IT Solutions from Rittal

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.

The Basic System

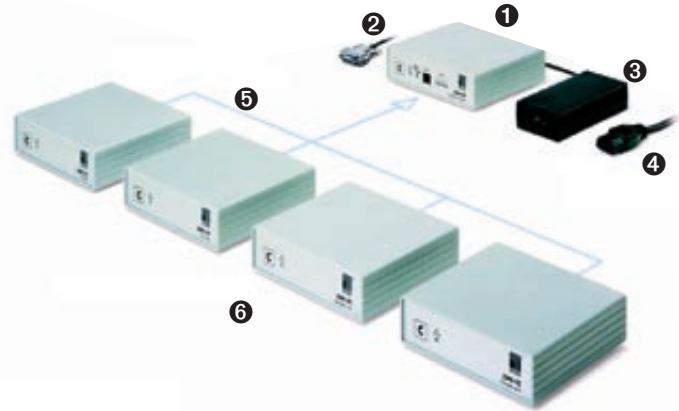
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The Basic System

The Processing Unit II (PU II) 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 II. The following products are required for each CMC-TC application:

- 1 **Processing Unit II (PU II)**
(7320.100)
- 2 **Programming Cable** (7200.221)
- 3 **Power Pack 100 – 240 V**
50 – 60 Hz (7320.425) or power pack 48 V DC (7320.435)
- 4 **Cable for Power pack**,
country-specific
(7200.210 – 215)
- 5 **Connection Cable, Sensor Unit**
(7320.470 / 472 / 475 / 481 / 485)
- 6 **Up to Four Sensor Units,
But at Least One**
(7320.210 / 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 No.	7320.425 7320.435	7200.210 7200.211 7200.213 7200.214 7200.215	7200.221	7320.470 7320.472 7320.475 7320.481 7320.485	7320.440 7320.450	7200.490
7320.005 Master Unit II (optional)		•	•			
7320.105 Processing Unit II	•	•	•		○	
7320.215 I/O unit (sensor unit)				•	○	
7320.225 Access unit (sensor unit)				•	○	
7320.235 Climate unit (sensor unit)		•		•	○	○
7320.815 Fan control system (sensor unit)	•			•	○	
7320.605/7320.615 Voltage monitor with IEC jack		•				
7320.705 Electromagnetic Ergoform-S handle for FR, PS, TC and TE						
7320.735 Universal latch						
7320.755 Smartcard reader						
7320.765 Magnetic card reader						
7320.775 Coded lock						
7200.635 CMC socket strip						
7200.525 Voltage expansion unit		• max. 2 x		• max. 1 x		
2372.005 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 No.	7200.344 7200.345 7200.346 7200.347	7200.420 7200.430	7200.440 7200.450 7320.814	7200.371 7200.372	7200.61X	7320.580
7320.005 Master Unit II						
7320.105 Processing Unit II						
7320.215 I/O unit			RJ 12 ○ ¹⁾			
7320.225 Access unit			RJ 12 ○ ¹⁾			
7320.235 Climate unit			RJ 12 ○ ¹⁾			
7320.815 Fan control system (sensor unit)			○			
7320.605/7320.615 Voltage monitor with IEC jack						
7320.700 Electromagnetic Ergoform-S handle for FR, PS, TC and TE				•		
7320.735 Universal latch					○	
7320.755 Smartcard reader	•					
7320.765 Magnetic card reader	•					
7320.775 Coded lock	•					
7200.635 CMC socket strip		RJ 10 •	RJ 10 ○			•
7200.525 Voltage expansion unit						
2372.005 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

Optional Basic Module



Camera available on request.

Monitoring System CMC-TC Master II

Benefits:

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

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

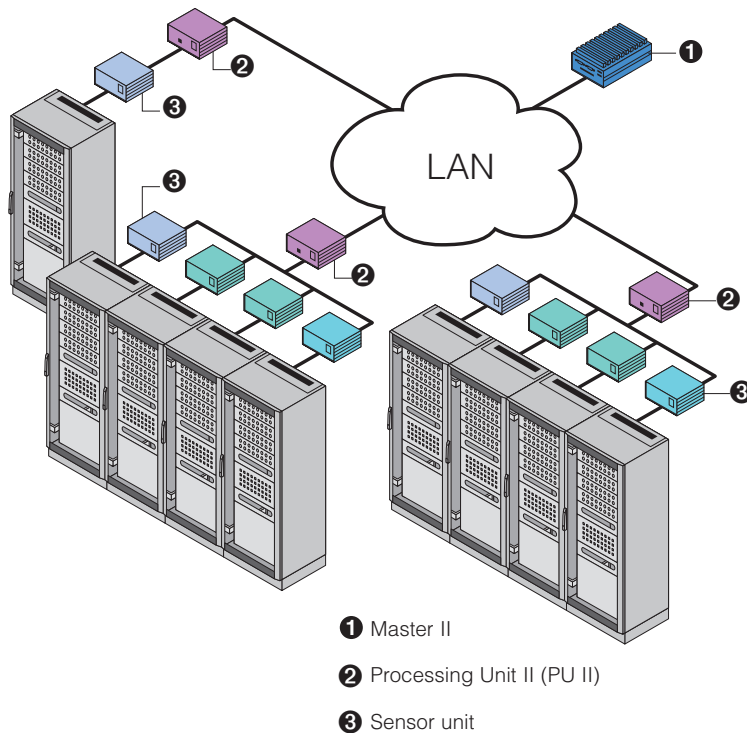
Users may directly access the web pages of the PU II or the web page of the Master II, where all data is combined and linked. The PU II transmits

all monitoring-related data and messages to the master system via TCP/IP, SNMP. The master unit has a 10BaseT/100BaseT network interface for network integration. All monitoring data is provided in a separate MIB via TCP/IP, SNMP. The system may be configured remotely via the integral web server. Basic settings can also be implemented serially via RS232 or Telnet. A Telnet routing function to the individual Processing Units II is also pre-integrated, providing users with a clear central monitoring facility. For example, up to 160 temperature sensors may be accessed or up to 80 enclosure doors may be monitored and activated via one IP address. Combined applications are also possible, and may be compiled individually from PU II and sensor units. Functional upgrades for the CMC-TC Master II are available on request in the form of a software update. Images may be archived on the hard drive via an optional web camera. Up to two USB cameras may be connected. USB webcam available on request.

Part No.	7320.005
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 VAC AC, 50/60 Hz
Serial interfaces	2 D-SUB 9 jacks RS232
USB	Standard 2.0 for Rittal USB webcams
Time function	Real-time clock
Temperature application range	41°F to 95°F (+5°C to +35°C)
Humidity application range	5% to 80% relative humidity, non-condensing

Also Required:

A component shelf must also be ordered for each CMC-TC Master II.



Processing Unit II (PU II)

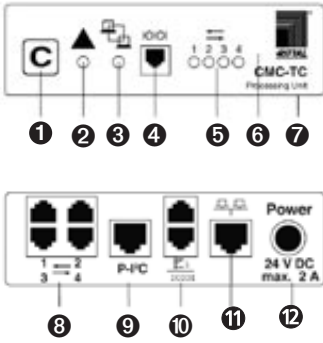


Monitoring System Processing Unit II

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-and-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 19" (482.6 mm) mounting angles
- The protocol for the master/slave system is TCP/IP SNMP
- May be used for large data centers or small individual applications



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/100BaseT

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 II

7 Mounting Attachment

For attachment with nylon tape, individual bracket 7320.450 or 1U mounting units 7320.440

8 Inputs for Sensor Unit RJ 45

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

- I/O unit 7320.210
- Access unit 7320.220
- Climate unit 7320.230
- FCS 7320.810

Connection cable 7320.470/472/475/481/485
Other connection cables available upon request

9 Power-1²C Bus RJ 45

Up to 2 voltage extension units 7200.520 may be connected via the power 1²C bus. Up to three AC voltages may be monitored with every extension unit. Connection cable 7320.470/472/475/481/485

10 Alarm Relay RJ 12/ RS 232

The upper RJ 12 jack provides a change-over contact from the PU II alarm relay. Connection cable 7200.430
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 10/100BaseT full-duplex 10/100 Mbit/s

12 Power Supply

The rated voltage for the PU II is 24 V DC. There is a choice of power packs with varying primary voltages. AC power pack 7320.425

Interface to the Customer:

The PU II can be incorporated directly into the user network via 10BaseT. The PU II can also be linked to the master 7320.000 via this interface (TCP/IP, SNMP).

Interface to the Sensors Actuators:

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

Fast, Easy Programming and Installation:

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

Power Supply:

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

Part No.	7320.100
H x W x D in (mm)	1.73 x 5.35 x 5.08" (44 [1U] x 136 x 129)
Network interface	Ethernet to IEEE 802.3 via 10/100BaseT full-duplex 10/100 Mbit/s
Protocols	TCP/IP, SNMP V1.0, TELNET, FTP, HTTP, SSM, NTP, DHCP, PPP
Rated voltage	24 V DC
Serial interface	RS 232
Ports for sensor units	4 jacks RJ 45, shielded
Bus system	Power 1 ² 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	41°F to 113°F (+5°C to +45°C)
Humidity application range	5% to 95% relative humidity, non-condensing
IP protection category	IP 40 to EN 60 529



Sensor Units



1

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 19" (482.6 mm) mounting angles
- I/O unit: Freely selectable sensors/actuators
- Access unit: Personalized access detection
- Climate unit: Fan control with airflow monitoring



2



3

- 1 Interface for the sensor unit and processing unit connection. Used for data communication and power supply. Cable 7320.470/472/475/481/485.
- 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 No.: 7320.440.

Technical Specifications:

The sensors/actuators are set up via an automatic electronic ID system. Because it is installed using a flexible plug-and-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: 1.73" x 5.35" x 5.08"
(44 mm (1U) x 136 mm x 129 mm)
Temperature application range:
41°F to 113°F (+5°C to +45°C)
Humidity application range:
5% to 95% relative humidity,
non-condensing

Protection Category:

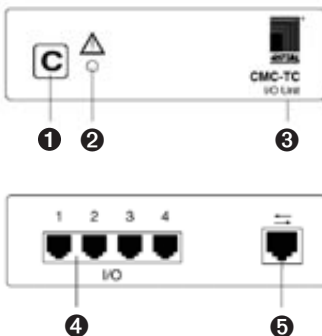
IP 40 to EN 60 529



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 II (Processing Unit II), 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 7320.440 or 7320.450
- 4 **RJ 12, 4 Inputs for Sensors/Actuators**
- 5 **RJ 45, Connection** to PU II 7320.100 via connection cable 7320.470/472/475/481/485
(The unit is also supplied with power via this connection.)

Sensor unit I/O unit	Part No.
4 universal inputs or outputs	7320.210

Also Required:

Sensors/Actuators	Max.	Part No.
Temperature sensor	4	7320.500
Humidity sensor	4	7320.510
Analog sensor input module "4 – 20 mA"	4	7320.520
Access sensor ¹⁾	4 x 5	7320.530
Vibration sensor	4	7320.540
Airflow monitor	4	7320.550
Smoke alarm	4	7320.560
Motion sensor	4	7320.570
Digital input module	4	7320.580
Digital relay output module	4	7320.590
Voltage monitor	4	7320.600
Voltage monitor with switch output	2	7320.610
Voltage monitor 48 V DC	4	7320.620
Water leak sensor	4	7320.630

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

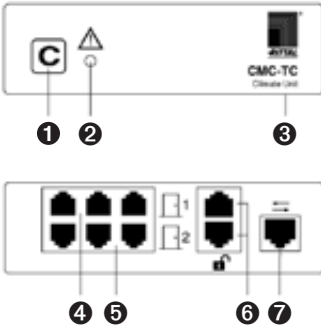


Sensor Units



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 7320.440 or 7320.450
- 4 **Inputs for Access Sensor, Handles**
Latch system 1 (see table)
- 5 **Inputs for Access Sensor, Handles**
Latch system 2 (see table)
- 6 **1°C Bus for Reader Units** Door system 1 and 2 (see table)
- 7 **RJ 45 Connection** to PU 7320.100 via connection cable 7320.470/472/475/481/485
(The unit is also supplied with power via this connection.)

Sensor unit access unit	Part No.
Control of 2 door systems	7320.220

Also Required:

Sensors/Actuators	Max.	Part No.
Access sensor ¹⁾	2 x 5	7320.530
Digital input module	2	7320.580

Latch/Reader

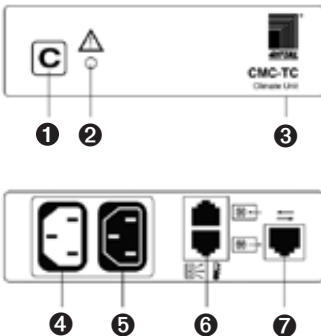
Electromagnetic Ergoform-S lock	2	7320.70
Electromagnetic Ergoform-S	2	7320.710
Comfort handle for TS8 master key	2	7320.721
Universal lock	2	7320.730
Room door output module	2	7320.740
Universal handle	2	7320.950
Smartcard reader for door release	2	7320.750
Magnetic card reader for door release	2	7320.760
Coded lock for door release	2	7320.770

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 II, 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 7320.440 or 7320.450
- 4 **Input for Fan Supply** 115/230 V AC, cable 7200210 – 215
- 5 **Output to Fan** with cable 7200.215
- 6 **RJ 12, 2 Inputs for Sensors** (see table)
- 7 **RJ 45 Connection** to PU II 7320.100 via connection cable 7320.470/472/475/481/485
(The unit is also supplied with power via this connection.)

Sensor unit climate unit	Part No.
Control of a fan system	7320.230

Also Required:

Sensors	Max.	Part No.
Temperature sensor	2	7320.500
Access sensor ¹⁾	2 x 5	7320.530
Airflow monitor	2	7320.550
Smoke alarm	2	7320.560
Motion sensor	2	7320.570
Digital input module	2	7320.580
Voltage monitor	2	7320.600
Voltage monitor 48 V DC	2	7320.620

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



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 No. 7320.810
Fan speed monitoring	•
Pre-selectable speed	•
Non-temperature dependent speed	•
Speed increase in the event of a fan failure	•
Collective fault signal	•
Floating change-over contact	•
LAN connection via PU II	•
LAN via I/O unit + PU II	
Configurable via LAN	•
Alarm output	Beeper, LED, relay, RJ 45 output for PU

FCS Example:

Control System with Fan Regulation and Monitoring

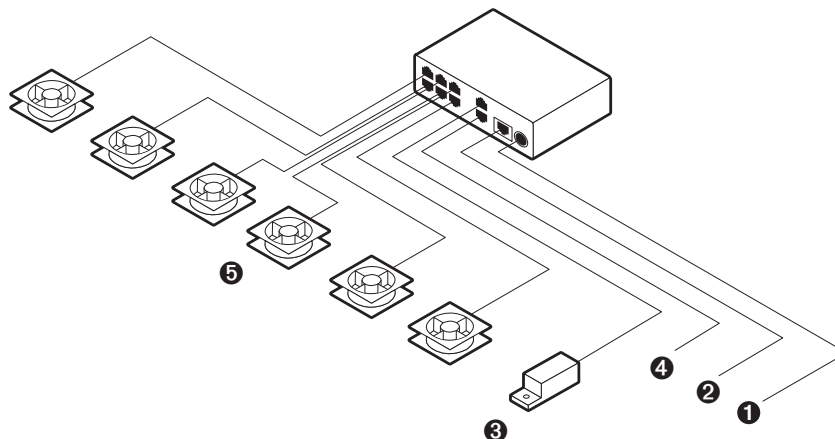
Description	Required Packs	Part No.
Fan alarm system FCS	1	7320.810
CMC-TC power pack 24 V input 100-230 V AC	1	7320.425
CMC-TC temperature sensor	1	7320.500
Fan 24 V DC (packs of 2) with speed monitoring	3	7320.812
RJ 12 extension for DC fan, 1 m (packs of 2)	3	7320.814
CMC connection cable D 230 V AC	1	7200.210



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 7320.812, 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 7320.500. The temperature set-point 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) 7320.100.



FCS	To fit processing unit	Part No.
Without fan	•	7320.810

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-and-play installation via RJ 12 connector system
- 19" (482.6 mm) mounting is possible via 7320.440

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 7320.813
- CMC 24 V power pack 100 – 230 V AC (input) 7320.425
- CMC-24 V power pack 48 V DC (input) 7320.435. 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 7320.100 (optional)

3 CMC-TC Temperature Sensor 7320.500

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

5 Fan with Speed Monitoring 7320.812 (24 V DC). 48 V DC fans may optionally be used

FCS Accessories



Fan 24 V DC

With Speed Monitoring

Fan with integral speed monitoring with RJ 12 connector/connection cable 23.62" (0.6 m) for connecting to FCS 7320.810.

Technical Specifications:

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

Packs of	Part No.
2	7320.812

Note:

Fan variant with 48 V DC available on request.



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: 78.74" (2 m)

Packs of	Part No.
1	7320.813

Additional Units

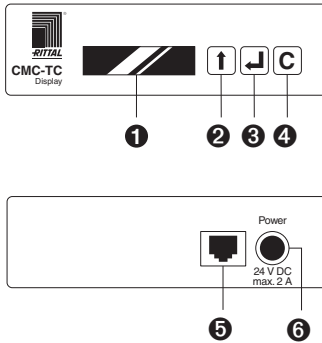


CMC-TC Display Unit

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 7320.100. 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 7320.440 or with the individual mounting unit 7320.450. 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 II
- 6 The GSM Unit may optionally be supplied with **24 V DC, 150 mA** via this input. For applications with the PU II, this is not necessary

CMC-TC Display Unit	Part No.
Alarm text display	7320.490

Technical Specifications:

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

Also Required:

Components	Part No.
Processing Unit II	7320.100

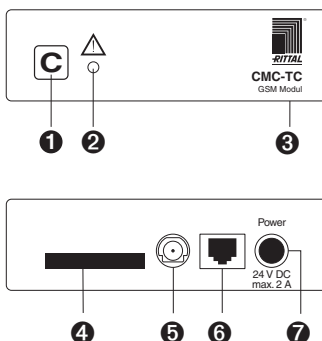


CMC-TC GSM Unit

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 7320.100 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 7320.440 or 7320.450
- 4 **SIM Card Rackmount**
- 5 **Antenna System**
- 6 **RJ 12 Jack for Connecting** to the serial interface of the PU II
- 7 The GSM unit may optionally be supplied with **24 V DC, 500 mA** via this input. For applications with the PU II, this is not necessary

GSM Unit	Part No.
SMS function	7320.820

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 II.

Also Required:

Components	Part No.
Processing Unit II	7320.100

Cable and Mounting Accessories



Power Pack for PU II, FCS

A 24 V DC power pack is required to supply the processing unit II 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, 64.96" (1.65 m) long.

Technical Specifications 7320.425:

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

Technical Specifications 7320.435:

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

Primary input voltage	Output voltage	Part No.
100 – 240 V AC/ 50/60 Hz	24 V DC	7320.425
48 V DC	24 V DC	7320.435

Also Required:

Connection cable for 7320.425 power pack – see below



Connection Cable/Extension

The cable is used to connect to:

- CMC-TC master II
- 24 V power pack for PU II
- 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 No.
D/F/B	230	7200.210
GB	230	7200.211
CH	230	7200.213
USA/CDN	115	7200.214
IEC 320 extension	230/115	7200.215

Includes:

1 connection cable, length 98.43" (2.5 m)

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 II/Master II, while the 9-pole SUB-D connector is connected to a serial PC interface.

Packs of	Part No.
1	7200.221



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 in (m)	Packs of	Part No.
19.69 (0.5)	4	7320.470
78.74 (2.0)	4	7320.472
196.85 (5.0)	4	7320.475
393.70 (10.0)	1	7320.481
590.55 (15.0)	1	7320.485



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.

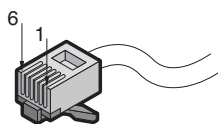
Connector	Length in (m)	Packs of	Part No.
RJ 10	196.85 (5)	4	7200.420
RJ 12	196.85 (5)	4	7200.430

Connector/jack	Length in (m)	Packs of	Part No.
RJ 10	196.85 (5)	4	7200.440
RJ 12	196.85 (5)	4	7200.450
FCS RJ 12	39.37 (1)	2	7320.814

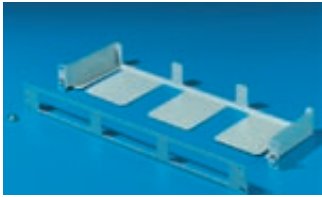


Extension Cable RJ 10, RJ 12

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.



Cable and Mounting Accessories



Mounting Unit 1U

The mounting unit can accommodate up to 3 sensor units or processing units in the 19" (482.6 mm) attachment level. Cable clamp straps 7610.000 or 7611.000 can be used for cable clamping.

Material:

Sheet steel, spray-finished

Color:

RAL 7035 light grey



Packs of	Part No.
1	7320.440

Description	Part No.
Cable clamp straps without cable screen contact	7610.000
Cable clamp straps with spring clips for contacting cable screen	7611.000

Monitoring and Security



Mounting Module

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

Material:

Sheet steel, spray-finished

Color:

RAL 7035 light grey



Packs of	Part No.
1	7320.450

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 No.
1	7320.500

To fit sensor unit:

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

Technical Specifications:

Type: NTC
 Resistance: 10 kOhm at 77°F (25°C)
 Tolerance: 3°F (±2°C)
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 78.74" (2 m),
 RJ 12 connector 6/6 on both sides
 Temperature application range: 41°F to 113°F
 (+5°C to +45°C)



Humidity Sensor

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

Packs of	Part No.
1	7320.510

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 68°F [20°C])
 Connection: RJ 12 jack, 6-pole
 Connection cable: Length 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Temperature application range:
 41°F to 113°F (+5°C to +45°C)



Vandalism Sensor

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

Packs of	Part No.
1	7320.540

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends

Internal Security Accessories



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 No.
2	7320.530

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 78.74" (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 No.
1	7320.630

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Temperature range: 41°F to 113°F (+5°C to +45°C)

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 No.
1	7320.520

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Sensor connection: Pull-off clamping strip, 3-pole

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 No.
1	7320.560

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Dimensions (alarm with base/plinth):
 H = 50 mm (1.97"), D = 3.94" (100 mm)
 Temperature application range:
 41°F to 113°F (+5°C to +45°C)



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 No.
1	7320.550

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 78.74" (2 m)
 Temperature application range:
 41°F to 113°F (+5°C to +45°C)

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



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 No.
1	7320.600

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Temperature application range: 41°F to 113°F
 (+5°C to +45°C)

Protection Category:

IP 40

Internal Security Accessories



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-and-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: ± 5% at 68°F to 86°F (+20°C to +30°C)

Packs of	Part No.
1	7320.610

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 7200.214, US version,
IEC extension cable 7200.215 for connecting the equipment and high voltage input



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 78.74" (2 m),
RJ 12 connector 6/6 at both ends
Temperature application range: 41°F to 113°F
(+5°C to +45°C)

Packs of	Part No.
1	7320.620

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 No.
1	7320.580

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 78.74" (2 m),
RJ 12 connector 6/6 at both ends
Sensor connection: Pull-off clamping strip, 3-pole

Internal Security Accessories



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 No.
2	7320.570

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
•		•	

Technical Specifications:

Alarm type: Infrared (IR) detector
 Range: max. 275.59" (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: 4.02 x 2.32 x 1.26"
 (59 x 102 x 32 mm)



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 II via the RJ 45 connection cable on the P-1²C port (sep. accessory). Up to two extension units may be connected in series to one PU II. A separate power pack is not required. Alarm limits may be preset for all voltages.

Maximum number per PU II	Packs of	Part No.
2	1	7200.520

Technical Specifications:

Voltage inputs: 3 x 100 – 230 V AC, IEC connector
 Interface: I²C, P-I²C, max. cable length 78.74" (2 m)
 Temperature application range:
 41°F to 113°F (+5°C to +45°C)

Protection Category:

IP 40



Digital Relay Output Module

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

It is connected to the I/O sensor unit via the connection cable supplied loose. 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 No.
1	7320.590

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 78.74" (2 m),
 RJ 12 connector 6/6 at both ends
 Sensor connection: Pull-off clamping strip, 3-pole

Internal Security Accessories



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 II.

Item	Part No.
LED steady light component 24 V DC, red	2372.000
Connection component	2368.010

To fit PU II:

Processing unit	FCS	RLCP	SK
•	•	•	•

Technical Specifications:

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



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 No.
100 IF	20	7200.490

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 No.
1	7320.740

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 78.74" (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 7320.530 is always needed for access control.

Access Systems Accessories



Comfort Handle for TS8 Unit with Master Key Function

The TS8 handle 7320.721 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 (7320.530) must be connected to the corresponding door for each handle. If the lever handle is closed, the locking mechanism integrated into the handle latches automatically.

The handle may be released via the CMC-TC system in the network or via optional add-on systems, such as smartcard readers, etc. The handle is locked in a de-energized manner (without electrical connection). The push-button may be depressed following electrical release and then opens the lever automatically. Opening via the key is always superordinate, i.e., the enclosure may always be opened with the key in the case of electrical locking and in the event of a power failure (emergency opening).

Design	Part No.
Comfort Handle	7320.721

To fit sensor unit:

I/O unit	Access unit	Climate unit	FCS
	•		

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 100 mA
 Connection cable: Length 118.11" (3 m), RJ 12 connector
 Connection cable: Length 78.74" (2 m), RJ 12/RJ 12 connector
 Coupling for extension: RJ 12/RJ 12 jack
 Temperature application range: 41°F to 104°F (+5°C to +40°C)

Protection Category:

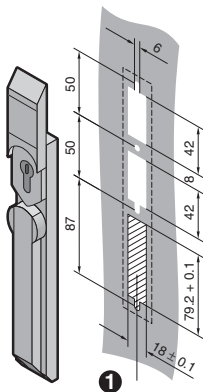
IP 40



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 (7320.530) 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 push-button 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/TC/TE)

Handle system	Part No.
Ergoform-S handle for FR, PS, TC, TE	7320.700

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 No.
Lower door locking bar for 78.74" (2000 mm) high PS enclosures	7200.371
Lower door locking bar for 78.74" (2000 mm) high FR enclosures	7200.372
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 118.11" (3 m), RJ 12 connector
 Connection cable: Length 78.74" (2 m), RJ 12/RJ 12 connector
 Coupling for extension: RJ 12/RJ 12 jack
 Temperature application range: 41°F to 104°F (+5°C to +40°C)

Protection Category:

IP 40

Access Systems Accessories



Comfort Handle

For lock inserts

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

Length:

11.61" (295 mm)

Color	Part No.
RAL 7035 light grey	8611.020
RAL 9005 black	8611.350
Security handle	7200.800

TS



Lock and Push-Button Inserts

For installation in the comfort handles for lock inserts.

Design	Part No.
Security lock insert no. 3524 E	8611.180*
Push-button inserts	8611.190
Push-button and lock inserts, lock no. 12321; no other lock is possible	8611.200

* 2 keys included

TS



Ergoform Handles

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

Design	Part No.
Grey brown	2451.000
RAL 7035 light grey	2435.000

TE



Comfort Handle

For Semi-Cylinder

Prepared for the installation of commercially available semi-cylinders, 1.6 or 1.8" (40 or 45 mm) total length, to DIN 18 254.

Length:

11.9" (302 mm)

Design	Part No.
RAL 7035 light grey	8611.070
RAL 9005 black	8611.360

Also Required:

Handle adapter for mounting on a TS glazed door, PC-TS bottom door, IW designer door.

TS



Lock and Push-Button Inserts

For installation in:

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

Design	Part No.
Security lock insert no. 3524 E	2467.000*
Push-button inserts	2468.000
Push-button and lock inserts, lock no. 2123 E; no other lock is possible	2469.000*

* 2 keys included

TS TE

TS Indicates its use with TS8 products

TE Indicates its use with TE 7000 products

Access Systems Accessories



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-and-play.

Additionally, an access sensor (7320.530) should always be used to enable polling of the door status. The handle is equipped with a connection cable and an RJ 12 connector, which may be plugged into the access unit 7320.220 of the CMC-TC system. The handle is equipped with a push-button insert which may be depressed when the electromagnetic lock is released.

Technical Specifications:

Rated voltage: 24 V DC
 Rated current: max. 100 mA
 Connection cable: Length 196.85" (5 m),
 RJ 12 connector

Note:

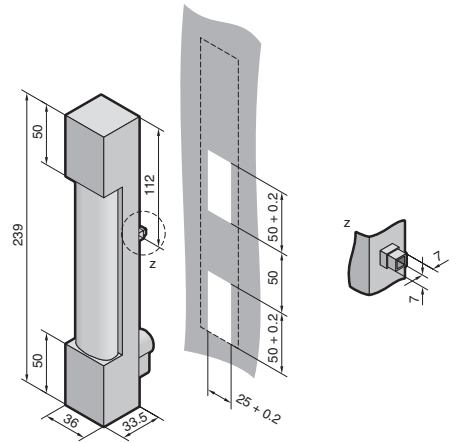
The handle only fits into the cutout shown in the drawing. For other hole patterns, additional adapters and/or machining of the door are needed. Solutions provided on request.

	Type	Part No.
Electromagnetic handle	CMC-TC	7320.950 ¹⁾

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 push-button.

Use with the CMC-TC transmitter:

The transponder transmitter is linked to the CMC-TC system via the room door output 7320.740 and the access unit. The transmitter is placed in the enclosure frame, near the handle. In this way, the door may be released via the CMC-TC system. Additionally, an access sensor (7320.530) should always be used to enable polling of the door status.

Use of the programmable transponder:

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

	Type	Part No.
Electromagnetic handle	Transponder, stand alone application	7320.960 ¹⁾
Transponder transmitter	Hand held transmitter	7320.961 ¹⁾
Transponder transmitter	CMC-TC transmitter	7320.962 ¹⁾
Programmable transponder	Programming	7320.963 ¹⁾

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-and-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.



Access Systems Accessories



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 (7320.530) is always required for door monitoring.

Technical Specifications:

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

Lock unit	Part No.
Packs of 1 set	7320.730

To fit sensor unit:

I/O unit	Access unit	Climate unit
	•	

Includes:

- 1 base unit with connection cable 3.94" (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, 87.74" (2 m), RJ 12/RJ 12 connector without mounting kit

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.

Transponder	On request
-------------	------------

To fit PU II –

Technical Specifications:

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

Access Systems Accessories



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.

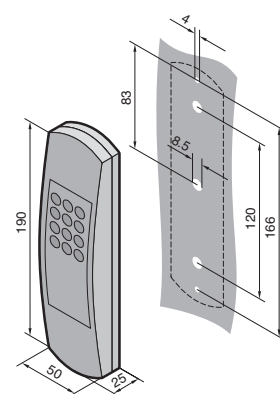
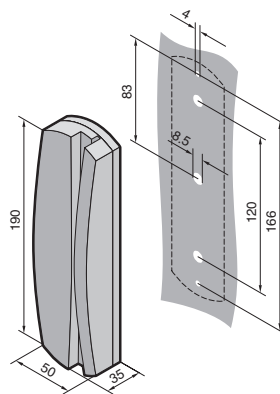
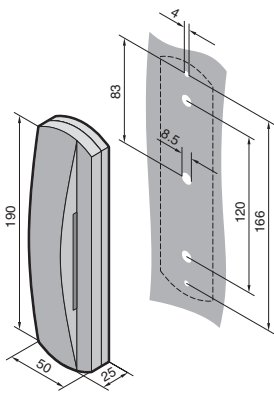
Note:

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 No.
Smartcard reader	7320.750
Magnetic card reader	7320.760
Coded lock	7320.770

To fit sensor unit:

I/O unit	Access unit	Climate unit
	•	



For Climate Control Units



Monitoring of Climate Control Units

The interface card is an extension for TopTherm cooling units with Comfort controller. In this way it is possible, e.g., to monitor a master/slave combination of up to 10 cooling units. Control is via standardized interfaces: RS232 (DB9) or RS485, one PLC interface (DB9). The RTT I/O unit may also be connected to the Processing Unit II. This means that remote monitoring can be achieved via the network. The extension card is built into a 1U plastic housing. A voltage supply of 24 V DC is needed. This may be supplied from the CMC-TC via a wide-range power pack 7320.425 (100 to 240 V AC, 50/60 Hz) or externally via a Kycon connector.

Supply Includes:

Interface card integrated into plastic box W x H x D: in (mm) 5.35 x 1.7 x 5.07 (136 x 44 [1U] x 129).
Serial sub-D cable 59.06" (1.5 m).

- 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 7320.100
- 5 **RS-485 Interface**
- 6 **RS-232** for set-up with a serial PC interface (e.g., Hyperterm)
- 7 **Mounting Fixture** for 7320.440 or 7320.450
- 8 The unit may optionally be supplied with **24 V DC, 160 mA** via this input. For applications with the PU II, this is not necessary
- 9 **RES Reset Key**
- 10 **MEM EEPROM Fault**
- 11 **Changeover Switch** Serial interface
- 12 **LAN Connection** to the master cooling unit with comfort control

Accessories

Interface card RTT-I/O unit (maximum of 3 additional cards)	3124.200
--	-----------------

Functions/settings:

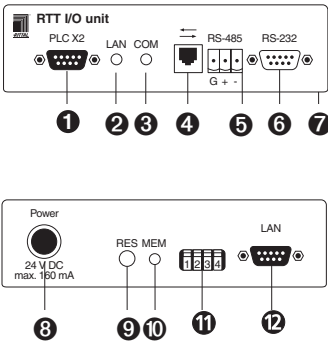
- Setpoint temperature for enclosure
- Alarm temperature value for enclosure
- Warning temperature value for enclosure
- Filter mat monitoring

Warnings/alarms:

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

Includes:

Processing unit PU II with firmware/software for applications with climate control units, Interface card, climate control unit RTT-I/O unit (3124.200) Power pack 24 V DC, input 100 – 240 V AC (7320.425), Connection cable D with IEC320 connector (7200.210), Cat5 connection cable, 78.74" (2 m), for RTT-I/O unit to the processing unit PU, Data cable RS232, 78.74" (2 m), for connecting the RTT-I/O unit to the RTT climate control unit with comfort control.



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

40 lbs (18 kg)

Color

Black

Keyboard

PS/2 84 keys keyboard with 15 mm trackball supporting US, UK English, German, Belgium, Swiss, 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 No.
1U 15" LCD Panel Drawer w/ Cherry K/B, 8 port KVM Switch, Black	9969.549
1U 17" LCD Panel Drawer w/ Cherry K/B, 8 port KVM Switch, Black	9969.562
15" LCD Panel Drawer w/ Cherry K/B, without KVM	9969.973
17" LCD Panel Drawer w/ Cherry K/B, without KVM	9969.972

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

Optional Peripherals

Description	Part No.
connecting cable with VGA, PS/2 keyboard and mouse connectors at platform side, 70.87" (1.8 m)	9969.550
connecting cable with VGA, PS/2 keyboard and mouse connectors at platform side, 118.11" (3 m)	9969.561

KVM Switch (optional)

8 x 25 pin 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: 15.16" (385 mm)

Power Supply

Industrial level

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 (7200.100)
- PCU Web sockets (7200.000)
- CMC-TC processing unit (7320.100)

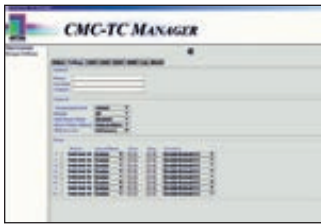
The graphical interface provides the relevant information about the system and offers the option of configuring the systems via SNMP. Java Runtime Environment JRE 1.5 (or higher version) should be installed on the corresponding PC system. Java may be downloaded from the Internet at www.sun.com. The various 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-it.com



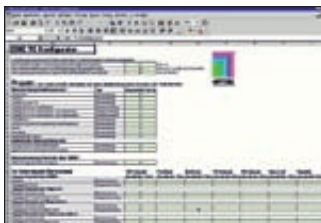
Network Management Systems

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-it.com and is included with the supply of every CMC-TC system

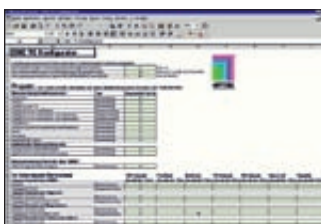


CMC-TC Configurator

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-it.com



Plug-In for HP Open View

Thanks to its integration into HP Open View NNM, StableNet™ CMC-TC is centrally and permanently available. The management functions of HP Open View have been extended to optimum effect: NNM monitors the traps occurring in CMC-TCs and forwards them to StableNet™ CMC-TC. The MIB of the CMC-TC system processing unit (7320.100) has been incorporated.

Functions:

- Integral trap manager
- Various alarm functions, e.g., e-mail, SMS, etc.
- Integral MIB browser
- Graphical display of the monitored values with diagrams and tables
- Individual representation and organization of the monitoring tools
- Pre-configured graphical interface for the CMC-TC
- Microsoft® Outlook® "look and feel"
- Non-platform-dependent (JAVA)

Other products from the StableNet™ suite with the option of integrating the StableNet™ CMC-TC manager:

StableNet™ ARC Advanced Router Configuration

- Management of all network components and CMC-TCs from within HP Open View NNM
- Efficient management of routers and switches StableNet™ PME Performance Management Engine
- Evaluation of the data obtained with StableNet™ CMC-TCs by means of comprehensive reporting functions
- Diverse opportunities for measuring network performance

Note:

Further information can be found on the Internet at: www.infosim.net or by sending an e-mail inquiry to: info@infosim.net



Power

RimatriX5 IT Solutions from Rittal



RimatriX5 IT Solutions from Rittal

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-and-play expansion – with no need to interrupt current operations. Downtimes are avoided and future operating costs are decreased.



RimatriX Modular UPS	102
Single-Phase (UPS)	106
Power Distribution Units (PDU)	110



RimatriX Modular UPS



Introducing the RimatriX Modular UPS Uninterruptible Power Supply

Designed specifically for high-density computing environments, the RimatriX Modular UPS delivers 12 kW of efficient, reliable power in only 6U of standard rack space, including batteries. Expand capacity by combining 12 kW modules in a building block fashion to deliver 60 kW of redundant backup power from a single rack enclosure. This powerful configuration delivers higher power density than competitive, modular solutions, while dissipating one-third of the heat.

The standard internal batteries provide needed ride-through power until an auxiliary power source takes over or systems are gracefully shut down. Extend runtime up to 34 minutes at full load (or 76 minutes at halfload) with Extended Battery Modules (EBMs).

Reduce Energy Costs with High Efficiency

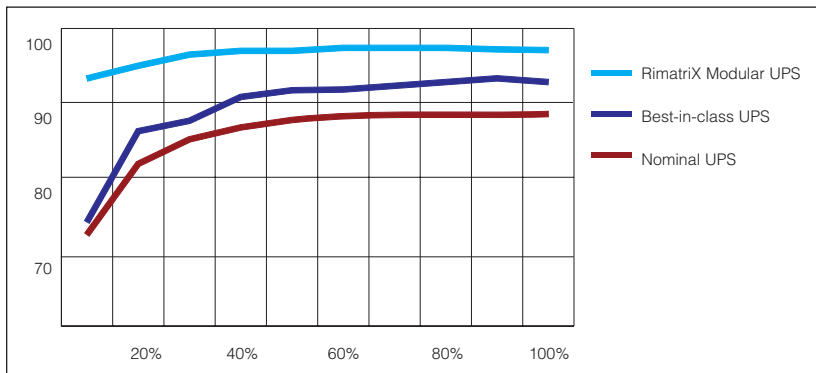
The RimatriX Modular UPS delivers an outstanding, industry-leading 97% efficiency in normal operation. Even at <50% load, where efficiency is typically much lower, this UPS performs more efficiently than competitors' modular products at full load.

Even small increases in efficiency can quickly translate into thousands of dollars. The example compares annual and five-year energy costs for the RimatriX Modular UPS and a competitor's solution. It's easy to see that the RimatriX Modular UPS pays for itself through energy and cooling savings alone.

	RimatriX Modular UPS	Nominal UPS
UPS Efficiency Rating	>97%	91.5%
Rack Power Consumption	60 kW	60 kW
Cost per Kilowatt Hour	\$0.10	\$0.10
Cost to Operate per Hour	\$6.18	\$6.56
Monthly Power Savings	\$273 saved each month	
Heat Dissipation (BTUs per hour)	6300	19,000
Monthly Cooling Savings*	\$246 saved each month	
Annual Savings	\$6238 saved each year	
Five-year Savings	\$31,190 saved in five years	

* Cooling savings based on industry calculation of cooling costs per kW of power costs.

Power



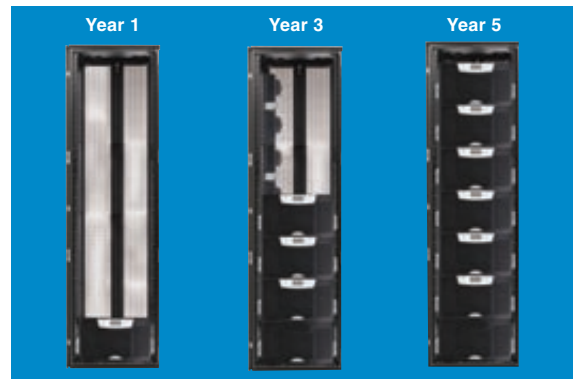
Reduce Cooling Costs with Lower Heat Dissipation

The high-efficiency RimatriX Modular UPS reduces the power requirements for the data center. In the example shown, the RimatriX Modular UPS reduces energy costs by an average of \$273 per month. In addition, the high efficiency of a RimatriX Modular UPS reduces overall air conditioning needs by more than one-third, multiply that with a reduction in cooling costs by one-third; and utility bills are further decreased by an additional \$246 per month. The savings compound with the data center size and the number of UPS products. The low heat dissipation means this UPS can be located close to equipment racks without a concern for creating hot spots in the data center.

Meet Current and Changing Requirements with Modular Architecture

The building block of the RimatriX Modular UPS system is a 6U rackmount module that provides 12 kW of backup power protection. The system expands easily to provide maximum results. As your data center grows, the system's modularity plays a key role in optimizing your capital planning and deployment. Using the patented and field-proven Powerware Hot Sync® paralleling technology, up to six RimatriX Modular UPS modules can be paralleled for extra capacity or redundancy, providing 60 kW of redundant backup power protection in one 19" rack.

Patented load-sharing control intelligently distributes the workload among modules without requiring direct synchronization links among them. Any module can provide backup support for any other, with no interruption or downtime. For instance, in a redundant system you could perform full maintenance on any module without any interruption of conditioned power to the protected IT equipment.



® Hot Sync is a registered trademark of Eaton Powerware Corporation.

RimatriX Modular UPS

Easily Set-up with Simple Parallel Configuration Changes

The RimatriX Modular UPS is easy to install, configure, and deploy – and easy to expand later. To link multiple RimatriX Modular UPS modules into a parallel configuration, all you need is a RimatriX Modular UPS Parallel Bus Bar – a simple kit installed in the bottom of the rack and on the back rail. IT personnel can then simply plug additional modules into the parallel bus bar. The system is intelligent, so it automatically detects paralleled modules and fully configures itself for parallel operations.

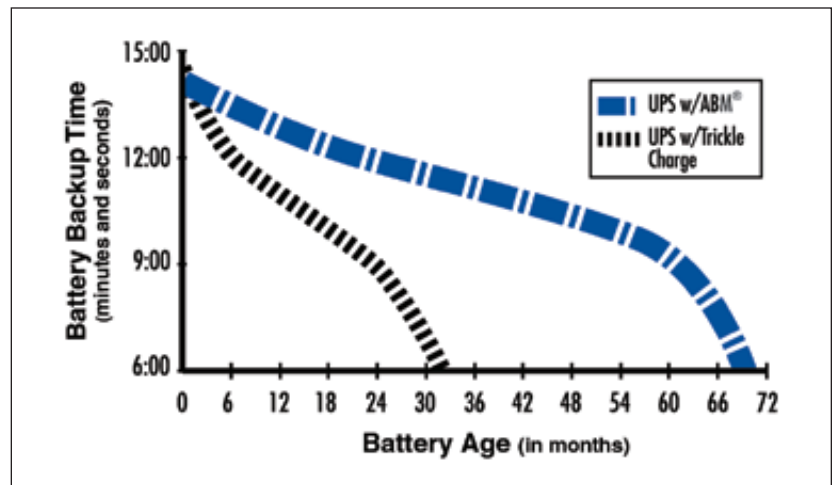


Flexibly Distribute Power to Racks with the RimatriX Rack Power Module (RPM)

Partner the RimatriX Modular UPS with a RimatriX Rack Power Module (RPM) to create a highly flexible, adaptable power delivery architecture at the rack level. The RPM delivers up to 36 kW of power in an organized manner to loads of various voltages, power cords and layouts. The 3U RPM can be deployed in the same rack with the UPS and IT equipment; there's no need for a dedicated infrastructure rack. The resulting architecture has fewer cables to manage, fewer distribution points to monitor, and greater flexibility for IT personnel to make changes without an electrician.

Advanced Battery Management

Advanced Battery Management (ABM) technology significantly extends battery service life with a unique three-stage charging technique. The UPS automatically tests battery health and provides advance notification when preventive maintenance is needed, allowing ample time to hot-swap batteries without ever having to shut down connected equipment.



Power



Simplify UPS Installation and Maintenance

The RimatriX Modular UPS is easy to install, configure, and deploy. All RimatriX Modular UPS (UPS and battery) come with rackmount kits for easy installation in standard equipment racks. In-house IT staff can install and service this UPS themselves. Adding parallel units for future expansion is a simple, plug-and-play procedure.

The RimatriX Modular UPS battery trays are user-replaceable so that one person, working alone, can replace the battery without disrupting data center operations or power to protected equipment.

RimatriX Modular UPS



RimatriX Modular UPS

Benefits:

- Protects mission-critical applications with innovative backup power technology designed specifically for high-density environments
- Modular, scalable and flexible backup power architecture
- Conserves valuable rack space with 12 kW of power, including battery, in only 6U of rack height
- Accommodates growth with building block upgrades from 12 kW to 60 kW in a single rack
- Best-in-class efficiency reduces energy costs with >97% efficiency, even at loads below 40% capacity
- One-third the heat dissipation of comparable competitive designs
- Powerware Hot Sync® paralleling technology and intelligent bypass design delivers highest levels of reliability
- Simplifies installation and maintenance with plug-and-play connections and hot-swappable batteries and electronic modules
- Parallel battery strings increase system reliability by decreasing the chance of battery failure

Description	Input	Output	Part No.
Modular 3 Phase	5W	5W	9971.054
Modular 3 Phase	5W	4W	9971.055
Modular 3 Phase	Parallel	Parallel	9971.056
Modular 3 Phase	5W	RPM	9971.057

Description	Part No.
3U EBM	9971.058
Rail Kit	9971.059
CAN Bridge Parallel Card	9971.060
Modbus Card	9971.061
Industrial Relay Card	9971.062
Modem Card	9971.063
PowerVision®	9971.064
42 Circuit Breaker Panel	9971.065
Parallel Bus Bar	9961.451
Wireway for Modular UPS	9961.452
Rack Power Module	9961.453
Electronic Module	9961.454
Battery Module	9961.455
SNMP Card	9970.822
Relay Card	9970.823

RimatriX Modular UPS Typical Battery Runtime Chart (In Minutes)

Single Module	Internal Battery	Internal Battery	+ 1 EBMs	+ 2 EBMs	+ 3 EBMs	+ 4 EBMs
Load kW	Load %					
1.6	13%	55	118	183	253	329
2.4	20%	37	78.3	119	163	211
4	33%	23	46	69	94	120
6	50%	13	30	44	59	76
8	67%	9	21	32	43	54
9.6	80%	6.9	17	26	34	44
12	100%	4.8	12	20	27	34

RimatriX Modular UPS Typical Battery Runtime Chart (Parallel Ups, In Minutes)

Number of UPS Modules	Total Load kW	Configuration	Internal Battery	+ 1 EBMs	+ 2 EBMs	+ 3 EBMs	+ 4 EBMs
6	60	N+1	6	15	22	29	37
5	48	N+1	6.9	17	26	34	44
4	36	N+1	18	28	37	47	47
3	24	N+1	9	21	32	43	54
2	12	N+1	13	30	44	59	76

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RimatriX Modular UPS



Technical Specifications¹

General Characteristics	
Power Rating	12 kW per UPS module
Efficiency	>97%
Heat Dissipation	371W/1266 BTU/hr at 100% rate load
Cooling	Fan cooler, temperature microprocessor monitored; front air entry, rear exhaust
Audible Noise, Normal Operation	50 dBA at 1 meter
Altitude before derating	1000 meters (3300 ft ASL)
Input Characteristics	
Input Voltage	208 VAC
Voltage Range	208 V model: 180 to 265 VAC
Frequency Range	50 or 60 Hz, + 5 Hz
Input Current Distortion	<5% with IT loads (PFC power supplies)
Input Power Factor	>0.99 with IT loads (PFC power supplies)
Inrush Current	Load dependent
Input Requirements	3-phase, 4-wire + ground
Bypass Source	Same as input (single feed)
Generator Compatibility	Fast sync slew rate for generator synchronization
Output Characteristics	
Rate Output Voltage	208 V model: 180 to 255 VAC. Ph to Ph
Output Configuration	3-phase, 4-wire + ground
Output Frequency (nominal)	50 to 60 Hz auto-detection on startup
Frequency Regulation	0.1 Hz free running
Load Power Factor Range	Lagging: 0.7, Leading 0.9
Total Output Voltage Distortion	<3% (linear load), <5% (non-linear load)
Battery Characteristics	
Battery Type	VRLA – AGM
Battery Runtime (Internal)	13 minutes at 50% load 4.8 minutes at 100% load
Battery String Voltage	240 Vdc
Battery Test	Automatic battery test standard (remote scheduling capable) Manual battery test from front display
Battery Recharge Profile	Advanced Battery Management 3-stage charging technology
Battery Cut-off Voltage	Variable from 1.67 VPC at <5 min. runtime to 1.75 VPC at >90 min. runtime
Battery Low Condition	Announced with alarm
Extended Battery Capability	Yes, add up to 4 additional 3U battery enclosures (-34 min at 100% load, >1 hour at 50% load)
Physical Characteristics	
Dimensions (HxWxD)	
UPS	10.3 (6U) x 17.4 x 26.0 inches 267 x 442 x 660 mm
EBM	5.2 (3U) x 17.2 x 26 inches 132 x 437 x 660 mm
Note: Total Chassis Weight without batteries or electronics	100 lbs (46 kg)
Total Chassis Weight with batteries or electronics	307 lbs (140 kg)
Total UPS Weight without Batteries	135 lbs (61 kg)
Total UPS Weight with Batteries	307 lbs (140 kg)
EBM Weight	170 lbs (77 kg)

Communications and User Interface

Software Compatibility	UPS ships with Software Suite CD containing LanSafe® power management software and a trial version of PowerVision
X-Slot® Bays	Two available for the cards listed below

Optional X-Slot Communication Cards

TCPI/P	SNMP Card
Modbus® RTU	Modbus Card
IBM eServer™ (i5™, iSeries™, or AS/400®)	Relay Interface Card
N/O, N/C (dry contacts)	Industrial Relay Card
Parallel	CAN Bridge Parallel Card
Remote Monitoring	Modem Card
Control Panel LCD	2 Lines by 20 characters 4 menu-driven interface buttons 4 status at a glance LEDs
Multi-language	English standard; 20 languages available
Configuration Changes	User capable, firmware auto configures
Dry Contact Inputs	One, user-configurable
Dry Contact Outputs	One, user-configurable

Service

Installation	User capable, located in the IT racks
Preventative Maintenance	User capable, optional factory service available
Corrective Maintenance	User capable, optional factory service available
Serviceability Features	Hot-swappable batteries Hot-swappable electronics module Automated internal maintenance bypass Auto-configure firmware Flash firmware upgradeable

Certifications

Safety	208 V model: UL1778, cUL
EMI	208 V model: FCC part 15 Class A
Surge Protection	ANSI C62.41, Cat A & B
Hazardous Materials (RoHS)	EU Directive 2002/95/EC Category 3 (4 or 5)

Warranty

Standard	12 months
Warranty Repair	Factory depot repair or replace

Service Support Agreements²

Depot	PowerTrust™ Express
On-site 5x8	PowerTrust Value
On-site 7x24	PowerTrust 8-, 6- or 2-hour response

Options and Accessories

Detachable input cord
Detachable input/output cord assembly
Detachable paralleling cord assembly
Extended Battery Modules (EBMs)
3U output sub-distribution module
Zero U to 3U rack power strips
60 kW RimatriX Modular UPS Parallel Bus Bar
4-post rail kit
Environmental Monitoring Probe (EMP) for temperature and humidity monitoring
X-Slot Communication Cards (See Communications and User Interface section)

1. Due to continuing product improvement programs, specifications are subject to change without notice.
2. eNotify remote monitoring and 7x24 technical support included.

Single-Phase Uninterruptible Power Supply (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 power management software.

Power Rating: 500-750 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)

Single-Phase Uninterruptible Power Supply (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 (EBMs) 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.

EBMs 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 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 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 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.

Single-Phase Uninterruptible Power Supply (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

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.

SNMP 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:

- 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 SNMP card, remotely monitoring temperature, humidity and the status of two contacts/sensors, such as smoke detector and open-door detector. (See table, page 109)

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.



Single-Phase Uninterruptible Power Supply (UPS)

Description	Battery Run Time 100/50%	EBM Runtime 100%	Input Power	Output Rec	Other Connections	Weight (lbs)	Part No.
Small Capacity Tower 120 V AC 7.9" H x 5.9" W 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	9970.817
750VA, 120 V AC, 19", Tower	6	N/A	5-15P	4x 5-15R	USB, DB9, 2x RJ45	27	9970.818
Small Capacity Tower 208/230 V AC							
500VA, 230 V AC, Tower	5	N/A	C14	4x C13	USB, DB9, 2x RJ45	17	9970.819
750VA, 230 V AC, Tower	6	N/A	C14	4x C13	USB, DB9, 2x RJ45	27	9970.820
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	7857.411
1.5kVA, 120 V AC, 19", 2U Line Interactive *	5/13	23, 49, 73, 96	5-15P	6x 5-15R	DB9, 2x RJ45	65	7857.412
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	7857.413
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	7857.414
1.5kVA, 230 V AC, 19", 2U Line Interactive*	5/13	23, 49, 73, 96	C14	6x C13	DB9, 2x RJ45	65	7857.415
3kVA, 230 V AC, 19", 2U Line Interactive*	5/15	25, 49, 69, 90	C20	1x C19, 9x C13	DB9, 2x RJ45	90	7857.416
6kVA, 230 V AC, 19", 3U Line Interactive**	5/15	19, 36, 53, 71	HW	HW, 4x C19, 4x C13	SNMP Exp Card	165	7857.417
Line Interactive Extended Battery Modules 19.4"/24.5"/24.75" Deep							
Ebm, 1 - 1.5kVA, 19", 2U Line Interactive						65	7857.418
Ebm, 3kVA, 19", 2U Line Interactive						125	7857.419
Ebm, 6kVA, 19", 3U Line Interactive						170	7857.470
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	7857.471
1.5kVA, 120 V AC, 19", 2U Double Conversion*	8	37, 70, 106, 144	5-15P	6x 5-15R	DB9	50	7857.472
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	7857.473
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	9970.821
1.5kVA, 230 V AC, 19", 2U Double Conversion*	8/25	37, 70, 106, 144	C14	6x C13	DB9	35	7857.474
3kVA, 230 V AC, 19", 2U Double Conversion *	5/13	25, 38, 54, 70	C20	1x C19, 9x C13	DB9	50	7857.475
6kVA, 230 V AC, 19", 5U Double Conversion ***	10/34	30, 52, 76, 102	L6-30P	L6-30R	USB, DB9	206	7857.476
Double Conversion Extended Battery Module 19.4"/24"/24.75" Deep							
Ebm, 1 - 1.5kVA, 19", 2U Double Conversion						65	7857.477
Ebm, 3kVA, 19", 2U Double Conversion						95	7857.478
Ebm, 6kVA, 19", 3U Double Conversion						170	7857.479
Connectivity Option Cards							
SNMP Card						5	9970.822
Relay Card						5	9970.823
Optional Mounting Hardware							
*4 Post 19" Mntg 1-3kVA						10	9970.824
**4 Post 19" Mntg 6kVA Line Interactive						15	9970.825
***4 Post 19" Mntg 6kVA Double Conversion						15	9970.826
Environmental Monitoring Probe (requires SNMP Exp Card)						5	9970.827

All units include LANsafe power management software and serial cable

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

Power Distribution Units (PDU)

Metered, Smart, Switched and Basic

Blade servers and high density computing power requirements continue to increase, creating heat expansion 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.



Metered PDU

Metered PDU products provide reliable power distribution for all the devices in your equipment cabinet, from 5,000 to 20,000 Watts. Metered units are available in 20 or 30 Amps, 120 Volts or 208/240 Volts single-phase, and 208 Volts three-phase. Local input current monitoring allows the installation engineer to verify the combined load on the circuit or phase.

Metered PDU

Horizontal 120 V AC

Description	Length	Amps	Watts Derated	Part No.
10x5-20R, C20P, 1U, amp display*	19" rackmount	20	1920	9970.723
10x5-20R, 10' cord, L5-30P, 1U, amp display	19" rackmount	30	2880	9970.726

Horizontal 208/230 V AC

12xC13R, C20P, 1U, amp display*	19" rackmount	20	3328	9970.728
12xC13R, 10' cord, L6-30P, 1U, amp display	19" rackmount	30	4992	9970.730
4xC19R, 10' cord, L6-30P, 1U, amp display	19" rackmount	30	4992	9970.732

Vertical 120 V AC

1.75" W x 2.25" D

12x5-20R, C20P, 0U, amp display*	32" L	20	1920	9970.741
12x5-20R, 10' cord, L5-30P, 0U, amp display	32" L	30	2880	9970.742
24x5-20R, C20P, 0U, amp display*	56" L	20	1920	9970.747
24x5-20R, 10' cord, L5-30P, 0U, amp display	56" L	30	2880	9970.748

Vertical Dual Input 120 V AC

3.5" W x 2.25" D

48x5-20R, 10' cord, 2xL5-30P, 0U, amp display	56" L	30	5760	9970.789
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Vertical 208/230 V AC

1.75" W x 2.25" D

12xC13R, C20P, 0U, amp display*	32" L	20	3328	9970.743
12xC13R, 10' cord, L6-30P, 0U, amp display	32" L	30	4992	9970.745
24xC13R, C20P, 0U, amp display*	56" L	20	3328	9970.749
24xC13R, 10' cord, L6-30P, 0U, amp display	56" L	30	4992	9970.750

Vertical Dual Input 208/230 V AC

3.5" W x 2.25" D

48xC13R, 10' cord, 2xC20P, 0U, amp display*	56" L	20	6656	9970.793
48xC13R, 10' cord, 2xL6-30P, 0U, amp display	56" L	30	9984	9970.794

Automatic Transfer Switch

8xC13R, 120/208 V AC, 2xC20P, 1U*		20	3328	9970.800
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* Must choose power cord

Black cells indicate RittalXpress product.

Power Distribution Units (PDU)

Smart PDU

The Smart PDU 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

Horizontal Dual Input 208/230 V AC

Description	Length	Amps	Watts Derated	Part No.
12xC19R, 10' cord, 2xL6-30P, 2U, amp display, serial & IP	19" rackmount	30	9984	9970.783
12xC19R, 30A/phase, 10' cord, 2xL21-30P, 2U, amp display, serial & IP	19" rackmount	30/phase	17280	9970.786

Vertical 208/230 V AC

1.75" W x 2.25" D

21xC13R, 10' cord, L21-20P, 0U, amp display, serial & IP	46" L	20/phase	5764	9970.752
24xC13R, 10' cord, L21-20P, 0U, amp display, serial & IP	67" L	20/phase	5764	9970.754
24xC13R, 30A/phase, 10' cord, L21-30P, 0U, amp display, serial & IP	67" L	30/phase	8640	9970.757

Vertical 208/230 V AC

1.75" W x 2.25" D

24xC13R, 10' cord, L6-30P, 0U, amp display, serial & IP	67" L	30	4992	9970.751
21xC13R, 10' cord, L15-20P, 0U, amp display serial & IP	46" L	20/phase	5764	9970.753
24xC13R, 10' cord, L15-20P, 0U, amp display, serial & IP	67" L	20/phase	5764	9970.755
24xC13R, 30A/phase, 10' cord, L15-30P, 0U, amp display, serial & IP	67" L	30/phase	8640	9970.758

Vertical Dual Input 120 V AC

3.5" W x 2.25" D

48x5-20R, 10' cord, 2xL5-30P, 0U, amp display, serial & IP	53" L	30	5760	9970.790
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Vertical Dual Input 208/230 V AC

3.5" W x 2.25" D

48xC13R, 10' cord, 2xL21-30P, 0U, amp display, serial & IP	53" L	30/phase	17280	9970.795
48xC13R, 6x5-20R, 10' cord, 2xL21-30P, 0U, amp display, serial & IP	53" L	30/phase	17280	9970.796
84xC13R, 10' cord, 2xL6-30P, 0U, amp display, serial & IP	67" L	30	9984	9970.797
84xC13R, 30/phase, 10' cord, 2xL21-30P, 19", amp display, serial & IP	67" L	30/phase	17280	9970.799

Environmental Option

Temp/Humidity Sensor, 118.11" (3 m) cable	9970.815
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* Must choose power cord

Power Distribution Units (PDU)

Switched PDU

Switched PDU products are Flagship PDUs with remote monitoring and management, including reboot commands for connected servers and network equipment.

The Switched PDU products provide complete lights-out management of a data center and remote branch office. Switched PDUs combine remote configuration and management with power distribution and power and environmental monitoring. Features of switched PDU's include the ability to reboot a single or dual-power server with one command, receive SNMP alerts when power or environmental conditions exceed thresholds, and assign users specific access rights to designated outlets or groups. Only the Switched PDU products provide the flexibility needed for all data centers and remote sites, including power requirements for high-amperage, high-voltage; branch circuit protection; SSL & SSH security; and SNMP-based input current monitoring.



Switched PDU

Horizontal 120 V AC

Description	Length	Amps	Watts Derated	Part No.
8x5-20R, C20P, 1U, amp display, serial & IP*	19" rackmount	20	1933	9970.733
8x5-20R, C20P, 1U, amp display, serial*	19" rackmount	20	1920	9970.734
8x5-20R, 10' cord, L5-30P, 1U, amp display, serial & IP	19" rackmount	30	2880	9970.735
8x5-20R, 10' cord, L5-30P, 1U, amp display, serial	19" rackmount	30	2880	9970.736

Horizontal 208/230 V AC

8x5-20R, C20P, 1U, amp display, serial & IP*	19" rackmount	20	3328	9970.737
8x5-20R, C20P, 1U, amp display, serial*	19" rackmount	20	3328	9970.738
8x5-20R, 10' cord, L6-30P, 1U rackmount, serial & IP	19" rackmount	30	4992	9970.739
8x5-20R, 10' cord, L6-30P, 1U rackmount, serial	19" rackmount	30	4492	9970.740

Vertical 120 V AC

1.75" W x 2.25" D

16x5-20R, C20P, 0U, amp display, serial & IP*	46" L	20	1920	9970.759
16x5-20R, C20P, 0U, amp display, serial*	46" L	20	1920	9970.760
16x5-20R, 10' cord, L5-30P, 0U, amp display, serial & IP	46" L	30	2880	9970.761
16x5-20R, 10' cord, L5-30P, 0U, amp display, serial	46" L	30	2880	9970.762

Vertical 208/230 V AC

1.75" W x 2.25" D

16xC13, C20P, 0U, amp display, serial & IP*	46" L	20	3328	9970.763
16xC13, C20P, 0U, amp display, serial*	46" L	20	3328	9970.764
16xC13, 10' cord, L6-30P, 0U, amp display, serial & IP	46" L	30	4992	9970.765
16xC13, 10' cord, L6-30P, 0U, amp display, serial	46" L	30	4992	9970.766
24xC13, C20P, 0U, amp display, serial & IP*	67" L	20	3328	9970.767
24xC13, C20P, 0U, amp display, serial*	67" L	20	3328	9970.768
24xC13, 10' cord, L6-30P, 0U, amp display, serial & IP	67" L	30	4992	9970.769
24xC13, 10' cord, L6-30P, 0U, amp display, serial	67" L	30	4992	9970.770

Vertical 208 V AC

1.75" W x 2.25" D

24xC13R, 10' cord, L21-20P, 0U, amp display, serial & IP	67" L	20/phase	5760	9970.771
24xC13R, 10' cord, L21-20P, 0U, amp display, serial	67" L	20/phase	5760	9970.772
24xC13R, 10' cord, L15-20P, 0U, amp display, serial & IP	67" L	20/phase	5760	9970.773
24xC13R, 10' cord, L15-20P, 0U, amp display, serial	67" L	20/phase	5760	9970.774
24xC13R, 1x5-20R 10' cord, L21-30P, 0U, amp display, serial & IP	67" L	30/phase	8640	9970.775
24xC13R, 1x5-20R 10' cord, L21-30P, 0U, amp display, serial	67" L	30/phase	8640	9970.776
24xC13R, 1x5-20R 10' cord, L15-30P, 0U, amp display, serial & IP	67" L	30/phase	8640	9970.777
24xC13R, 1x5-20R 10' cord, L15-30P, 0U, amp display, serial	67" L	30/phase	8640	9970.778

Environmental Option

Temp/Humidity Sensor, 118.11" (3 m) cable				9970.815
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* Must choose power cord

Power Distribution Units (PDU)



Basic PDU

The Basic PDU products provide reliable power distribution for equipment racks and other data center applications. They offer different input and output connections to distribute 110 V, 208 V, or 230 V power and a 20 or 30-Amp power input feed. Criteria for Branch Circuit Protection is met by the use of UL-listed fuses, with 30 Amp models featuring a combination of white and black outlets to easily distinguish between each branch circuit.

Basic PDU

Horizontal/Vertical 120 V AC		1.75" W x 2.25" D			
Description	Length	Amps	Watts Derated	Part No.	
12x5-20R, C20 inlet, 0U*	17" L	20	1920	9970.843	
12x5-20R, 10' cord. L5-30P, 0U	17" L	30	2880	9970.844	
Horizontal/Vertical 208 V AC		1.75" W x 2.25" D			
12xC13R, C20 inlet, 0U*	17" L	20	3328	9970.845	
12xC13R, 10' cord. L6-30P, 0U	17" L	30	4992	9970.846	
Vertical 120 V AC		1.75" W x 2.25" D			
24x5-20R, C20 inlet, 0U*	31.25" L	20	1920	9970.847	
24x5-20R, 10' cord. L5-30P, 0U	31.25" L	30	2880	9970.848	
Vertical 208 V AC		1.75" W x 2.25" D			
24xC13R, C20 inlet, 0U*	31.25" L	20	3328	9970.849	
24xC13R, 10' cord. L6-30P, 0U	31.25" L	30	4992	9970.850	

Power Cord

Power Cords for 20-Amp Models

Description	Part No.
177.17" (4.5 m), C19/L6-20P	9970.811
98.43" (2.5 m), C19/L5-20P	9970.812
98.43" (2.5 m), C19/5-20P	9970.813
118.11" (3.0 m), C19/5-15P	9970.814

Equipment Power Cord

78.74" (2 m), C13/C14, pk. of 8	9970.816
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Button Mount Brackets

Description	Part No.
0U, z-rail button mount bracket, quantity 2 per package	9971.066
0U, dual button mount bracket, quantity 2 per package	9971.067

* Must choose power cord

Black cells indicate RittalXpress product.

Inlets and Outlets NEMA and IEC

INLETS

NEMA Non-locking

5-15P	120 V	15 A		
5-20P	120 V	20 A		

NEMA Locking

L5-20P	120 V	20 A		
L5-30P	120 V	30 A		
L6-20P	230 V	20 A		
L6-30P	230 V	30 A		

IEC 60320

C20	120/230 V	20 A		
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OUTLETS

NEMA Non-locking

5-15R	120 V	10 A		
5-20R	120 V	15 A		

IEC 60320

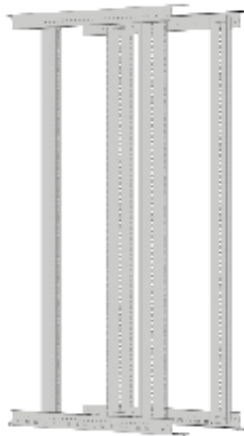
C13	120/230 V	10 A		
C19	120/230 V	20 A		

Rittal TS 19" Rails

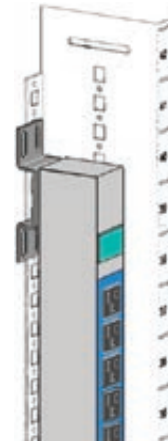
Mounting Strength with Flexibility



The TS Server rack from Rittal contains an innovative 19" mounting rail system giving the strength needed for mounting heavy equipment while allowing flexibility for a variety of application and installation choices.

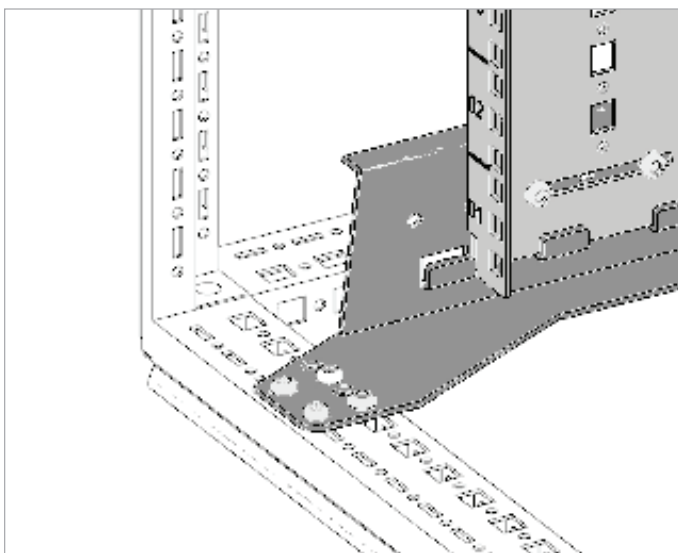


The entire 19" rail system can be adjusted from side to side to allow cable management equipment and other accessories to be mounted beside the vertical rail, in cabinets wider than 24" (600 mm).



0.98" (25 mm) hole patterns located on the side and return flange are perfect for installing cable management equipment, PDUs and other accessories next to the 19" rails or between cabinets.

Solid Features



Heavy steel construction mounts up to 3200 lb (1451 kg) of static load on the vertical rails.

The rail system design allows equipment to be installed over the entire height of the 19" rail.

U markings are numbered from bottom to top and are located on the front and rear of the vertical rails to provide easy location of equipment.

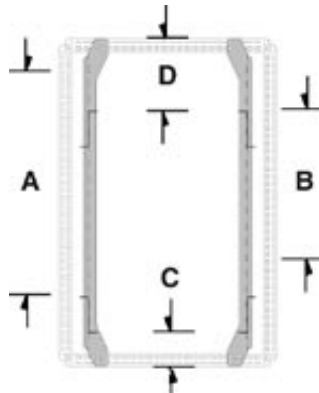
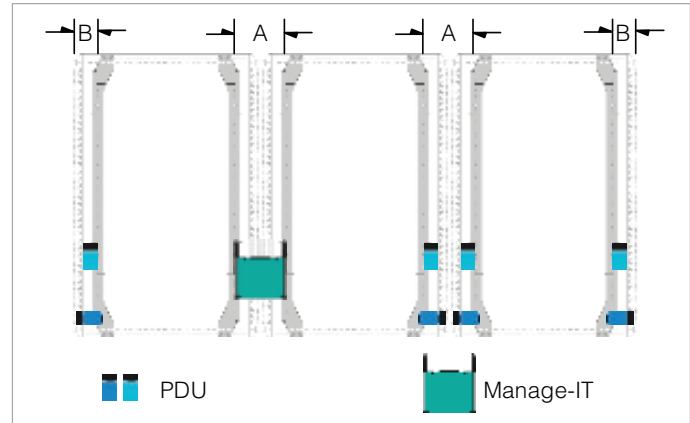
Vertical Z rail can be fully depth adjustable to mount equipment from any manufacturer.

TS 19" Rails

Zero U Mounting

The Rittal TS 19" rail system floats independently from the enclosure frame. This system provides room for zero U mounting space between rails in adjacent cabinets as well as between the 19" rails and the enclosure sides.

Suited Enclosure Width:	24"	28"	32"
Dim A	3.5"	7.5"	11.5"
Dim B	1.7"	3.7"	5.7"
Zero U Space	12U	24U	36U



- Dim A Dimension between 19" mounting surfaces on F&R rails
- Dim B Dimension between 25 mm mounting flange on F&R rails
- Dim C Dimension between 19" mounting surface and inside of F or R doors
- Dim D Dimension between 19" mounting surface and inside of rear door

	Factory Position	Minimum ¹⁾	Maximum ²⁾
32"/800 mm Depth			
Dim A	25.3" (642 mm)	9.4" (238 mm)	28.2" (715 mm)
Dim B	16.1" (410 mm)	5.8" (147 mm)	19.0" (483 mm)
Dim C	2.6" (66 mm)	1.6" (41 mm)	1.6" (41 mm)
Dim D	3.5" (89 mm)	20.4" (518 mm)	1.6" (41 mm)
40"/1000 mm Depth			
Dim A	29.2" (742 mm)	9.4" (238 mm)	36.0" (915 mm)
Dim B	20.1" (510 mm)	5.8" (147 mm)	26.9" (683 mm)
Dim C	2.6" (66 mm)	1.6" (41 mm)	1.6" (41 mm)
Dim D	7.4" (189 mm)	28.3" (718 mm)	1.6" (41 mm)
42"/1050 mm Depth			
Dim A	29.2" (742 mm)	9.4" (238 mm)	38.0" (965 mm)
Dim B	20.1" (510 mm)	5.8" (147 mm)	28.8" (733 mm)
Dim C	2.6" (66 mm)	1.6" (41 mm)	1.6" (41 mm)
Dim D	9.4" (239 mm)	30.2" (768 mm)	1.6" (41 mm)
48"/1200 mm Depth			
Dim A	29.2" (742 mm)	9.4" (238 mm)	43.9" (1114 mm)
Dim B	20.1" (510 mm)	5.8" (147 mm)	34.7" (882 mm)
Dim C	2.6" (66 mm)	1.6" (41 mm)	1.6" (41 mm)
Dim D	15.3" (389 mm)	36.1" (918 mm)	1.6" (41 mm)

1) Minimum – Rails extended towards door in nearest position
 2) Maximum – Rails extended away from door in farthest position

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8612.090	43	9969.549	97	9969.855	15	9969.956	38	9970.766	112	9971.056	104
8612.100	43	9969.550	97	9969.856	15	9969.957	38	9970.767	112	9971.057	104
8612.120	43	9969.561	97	9969.857	15	9969.958	38	9970.768	112	9971.058	104
8612.140	20	9969.562	97	9969.858	17	9969.972	97	9970.769	112	9971.059	104
8612.150	20	9969.580	23	9969.859	17	9969.973	97	9970.770	112	9971.060	104
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8612.180	43	9969.582	23	9969.861	17	9970.017	40	9970.772	112	9971.062	104
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8612.410	45	9969.595	33	9969.863	17	9970.241	40	9970.774	112	9971.064	104
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