Rittal – The System.

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# Power Distribution Unit

Reliable power distribution in the IT rack


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

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# Modern monitoring

## Smart and secure

The rapid spread of digitalisation across all industries has forced companies to act quickly and install powerful IT systems at their distributed locations. This applies to core and cloud data centres as well as edge data centres on the network periphery. Security and availability are the key criteria, because without a functioning IT system many everyday processes, such as traffic control and airline bookings, not to mention production processes, are simply impossible. This trend remains unbroken, as illustrated by the latest technologies such as 5G or Digital Twins in an Industry 4.0 production environment.

## Dependable and available

A reliable power supply is a crucial element of any data centre, beginning with the main power supply, extending across UPS systems and sub-distributors, and ending with the socket systems in the IT racks. Depending on the application, availability and security requirements, a data centre may be a single enclosure solution or a large core or cloud data centre. Power supply plays a pivotal role in all these cases.

## Individually configurable

This broad range of applications necessitates a PDU portfolio capable of providing the optimum configuration for each specific application. Above and beyond this, smart PDUs may use additional sensors to capture and control a wide range of additional information from the IT rack and its environment. This is a great advantage for small installations such as floor distributors in particular, since the PDU allows the entire solution to be integrated into a central monitoring system.


Application-specific sensors may be incorporated into the central monitoring system directly via the PDU's CAN bus interface.

# Power Distribution Unit

## Demand-based power distribution in the IT rack


**The modular PDU system has every application covered with just five variants**

| Application/PDU variant | Basic | Metered | Metered Plus | Switched | Managed |
|---|---|---|---|---|---|
| Simple power distribution | ■ | ■ | ■ | ■ | ■ |
| Measurement per phase | – | ■ | ■ | ■ | ■ |
| Measurement per output slot | – | – | ■ | – | ■ |
| Switching function per output | – | – | – | ■ | ■ |
| Measurement and switching per output | – | – | – | – | ■ |


## The convincing benefits

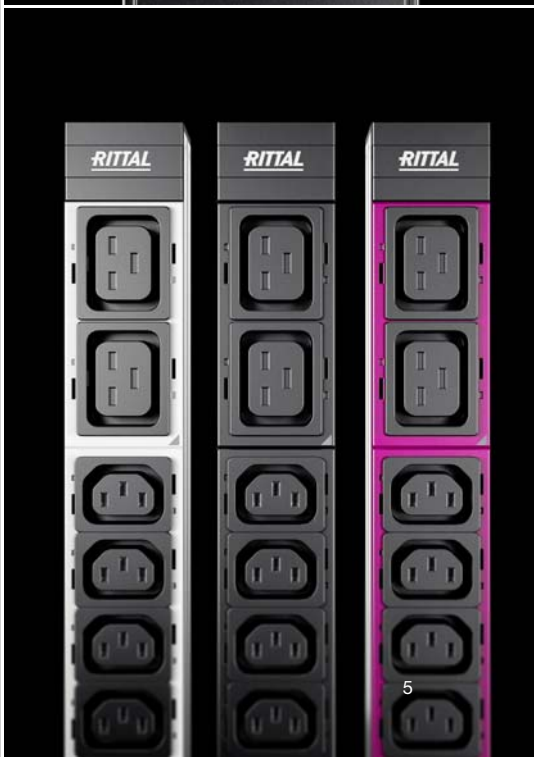
- The compact design and tool-free clip fastening onto the 482.6 mm (19˝) frame in Rittal IT racks allows simple installation in the zero-U-space, guaranteeing free access to the 482.6 mm (19˝) level – a major advantage when retrofitting IT equipment with the system operational.
- The PDU has every application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

## Technical perfection

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

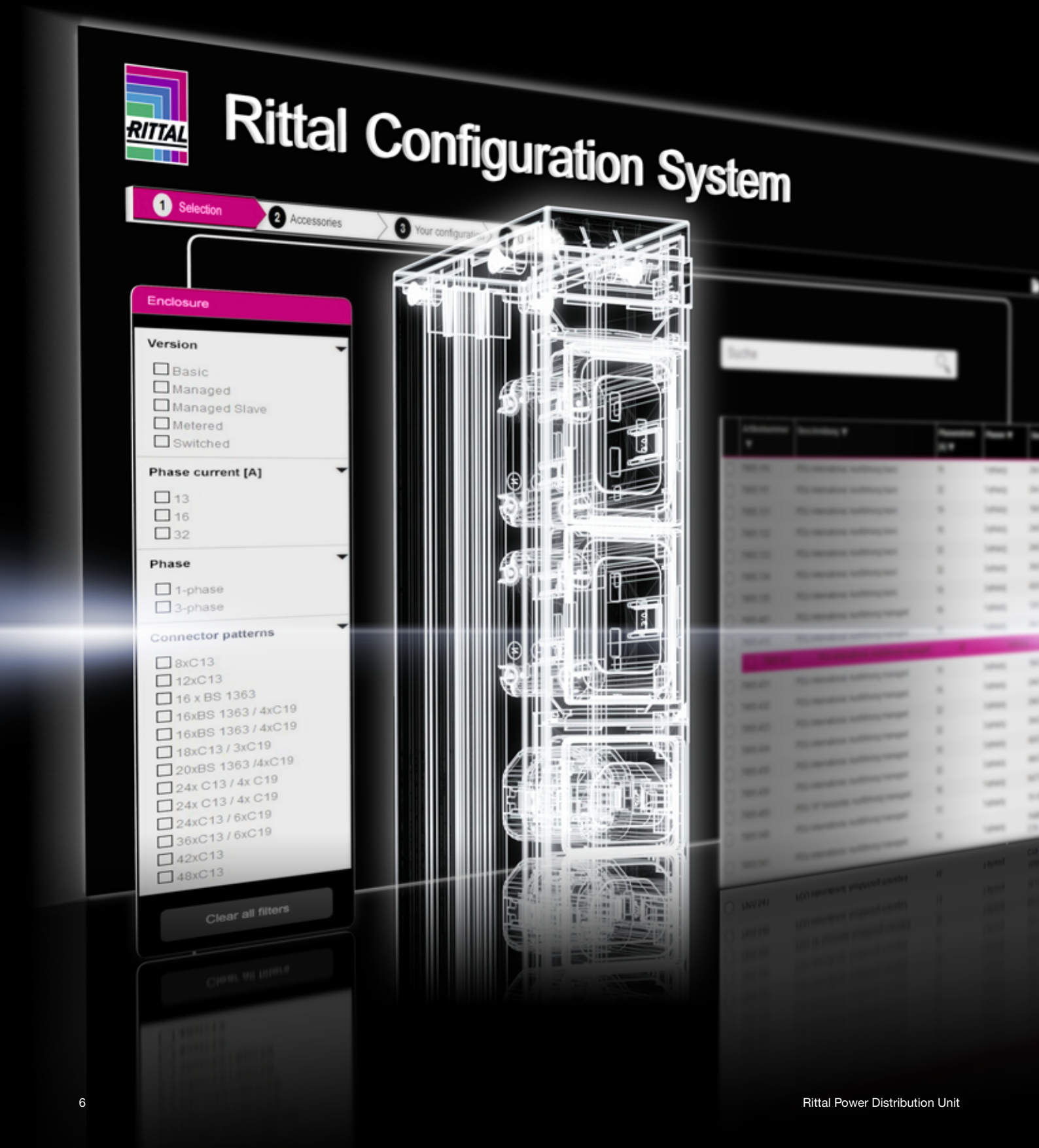

## Configure your individual solution online

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



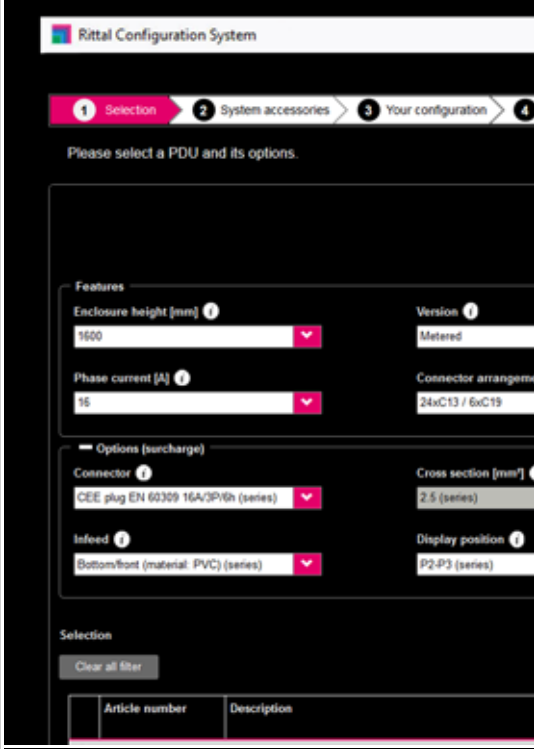
# Rittal Configuration System RiCS

Individual solutions with online configuration



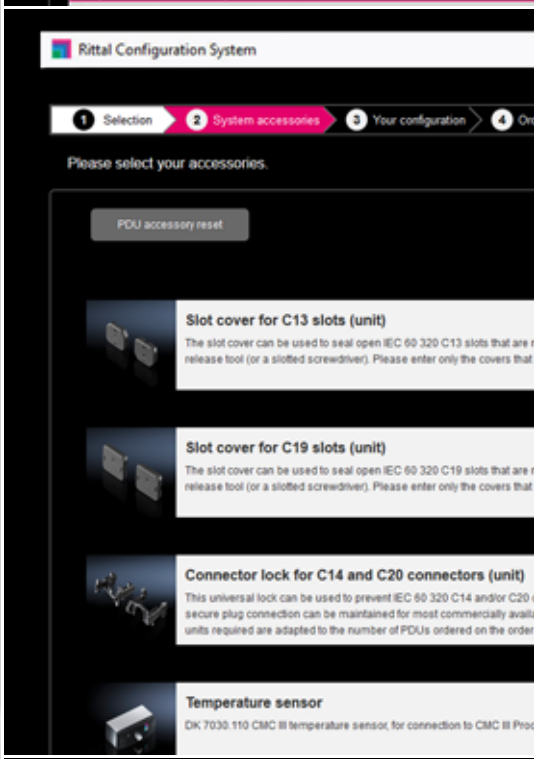
## Configurator-assisted selection

- The Rittal Configuration System (RiCS) allows you to adapt the PDU to your specific requirements – be it the enclosure colour, the length of the connection cable or the connectors, or the positioning of the display or power supply.
- It also offers a range of optional accessories, such as C13 protective covers or various sensors that can be connected to the PDUs.
- A clear list helps you to visualise your selection.
- The required pricing information appears immediately when you log onto the online shop.

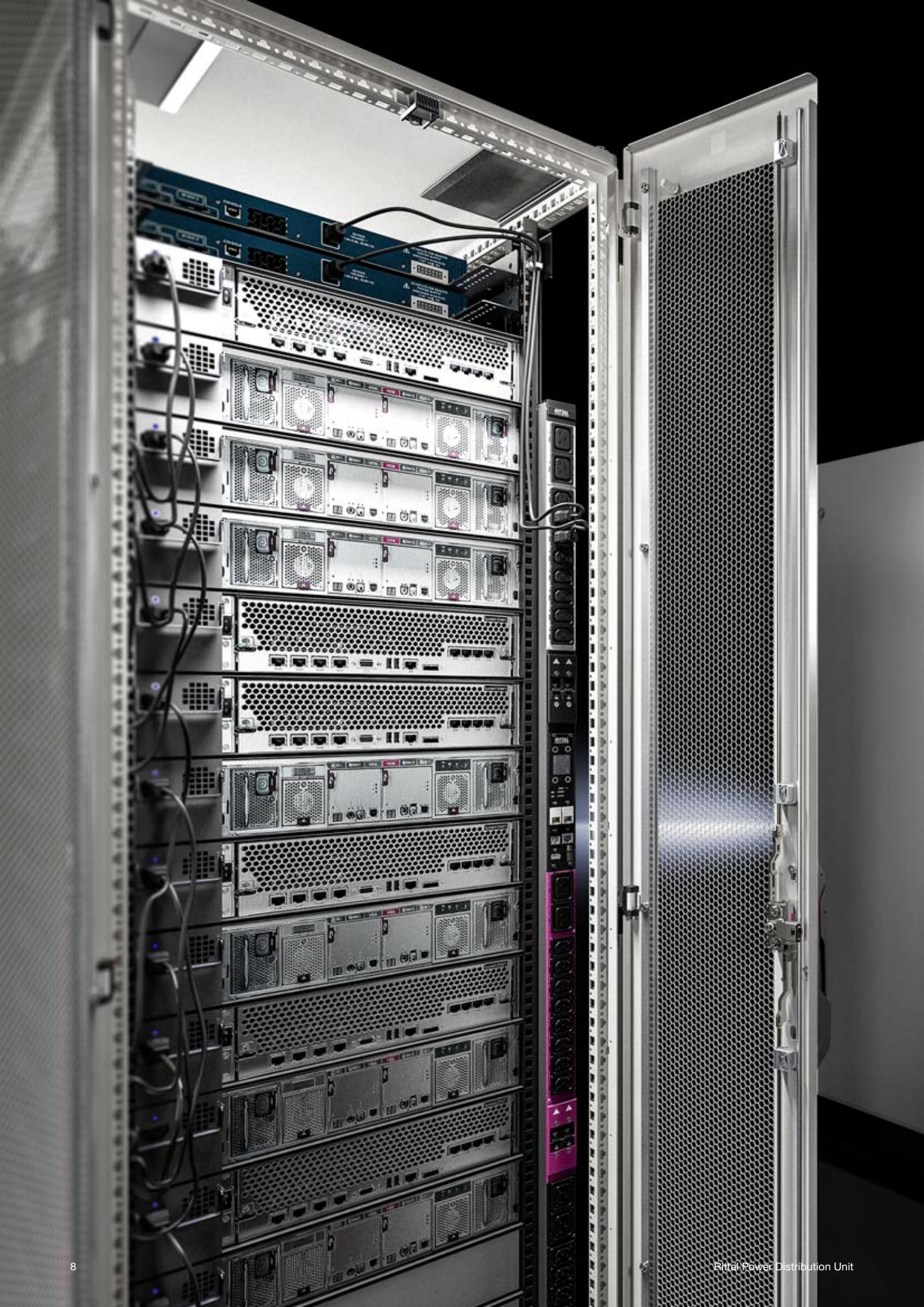



## Modular concept

- The modular PDU concept comprises individual system modules which can be compiled to your specific requirements in a further configuration step. For example, you may select individual connector patterns (C13, C19, earthing-pin) based on the requirements in your IT rack.
- Additional modules such as fault monitoring or overvoltage protection can also be configured.
- The configuration outcome is a bespoke adaptation tailored to your specific application.
  Please contact us – we will be happy to advise you.




Configure your solution directly online at:
www.rittal.com/rics



# Fits all your data centre requirements

## For individual IT racks

- In the Rittal VX IT and TS IT enclosure platforms, the PDU may be mounted in a specially shaped recess in the 482.6 mm (19˝) level. This zero-U-space assembly allows free access to the 482.6 mm (19˝) level.
- The connection of sensors and electronic handles demonstrates the PDU's flexibility, allowing you to monitor an entire enclosure.
- The TE 8000 is easily fitted with a PDU using the universal adaptor.

## For edge data centres

- Fail-safe operation and reliability are just as important in edge data centres as they are in large data centres. Redundant PDUs are therefore included in the A and B power supply.
- The extensive PDU portfolio ensures there is a size to fit each IT rack.
- Remote monitoring of the PDU and the opportunity to intervene if necessary is particularly crucial in spatially and geographically distributed edge applications. To this end, the PDU portfolio offers the possibility of measuring and switching even at individual output level, and monitoring all relevant environmental parameters.

## For core and cloud data centres

- Large installations such as those in core and cloud data centres may require bespoke PDUs tailored to the IT components in the IT rack suites. In this way, the number and combination of C13 and C19 outlets can be optimally adapted to the power supply of the storage systems, core switches and implemented servers.
- The Rittal Configuration System will assist you through the planning phase, and help you to design the ideal PDU configuration.

# Power Distribution Unit

**Overview** Page 15

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

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

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

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

**PDU switched**
Measurement function per phase and individually switchable output slots

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

**Material:**
- Extruded aluminium section, anodised

**Protection category IP to IEC 60 529:**
- IP 20

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

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

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

**Low Voltage Directive:**
- 2014/35/EU

**EMC directive:**
- 2014/30/EU

## PDU, basic version

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

## PDU, metered version

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

# Design

## PDU, metered plus version

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

## PDU, switched version

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

## PDU, managed version

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

## PDU UK, basic version

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

## PDU UK, metered version

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

# Accessories

## Overvoltage protection modules Type 3, with replaceable arresters and alarm contact

Compact overvoltage protection module for terminal unit protection (Type 3) with alarm contact for fastening on the enclosure frame.

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

## RCM measurement module – Inline Meter

Autonomous energy acquisition unit (incl. residual current monitoring) in the 1 U/19″ form factor. The unit is looped into the feed cable of a consumer, PDU basic or modular PDU without measurement function. All important electrical characteristics are acquired similarly to a PDU metered.

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

## PDU accessories

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

## CMC III/PDU sensors

| **CMC III/PDU sensor type** | Packs of | **Model No.** |
|---|---|---|
| Temperature sensor | 1 pc(s). | **7030.110** |
| Temperature/humidity sensor (combi-sensor) | 1 pc(s). | **7030.111** |
| Infrared access sensor | 1 pc(s). | **7030.120** |
| Vandalism sensor | 1 pc(s). | **7030.130** |
| Analogue airflow sensor | 1 pc(s). | **7030.140** |
| Analogue differential pressure sensor | 1 pc(s). | **7030.150** |
| Universal sensor (digital inputs) | 1 pc(s). | **7030.190** |
| Smoke detector | 1 pc(s). | **7030.400** |
| Leak sensor | 1 pc(s). | **7030.430** |
| Leak sensor, 15 m | 1 pc(s). | **7030.440** |
| CMC III CAN bus connection cable RJ45 (length: 0.5 m, 1 x required for each sensor) | 1 pc(s). | **7030.090** |
| CMC III CAN bus connection cable RJ45 (length: 1.0 m, 1 x required for each sensor) | 1 pc(s). | **7030.091** |
| CMC III CAN bus connection cable RJ45 (length: 1.5 m, 1 x required for each sensor) | 1 pc(s). | **7030.092** |
| CMC III CAN bus connection cable RJ45 (length: 2.0 m, 1 x required for each sensor) | 1 pc(s). | **7030.093** |

## VX IT handle system

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

## Overview

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

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

**Note:**
– Select plausibility-checked enclosures and components easily with the Rittal Configuration System, plan machining and place your order, see page 6

# Technical specifications

## Overview

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

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

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

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

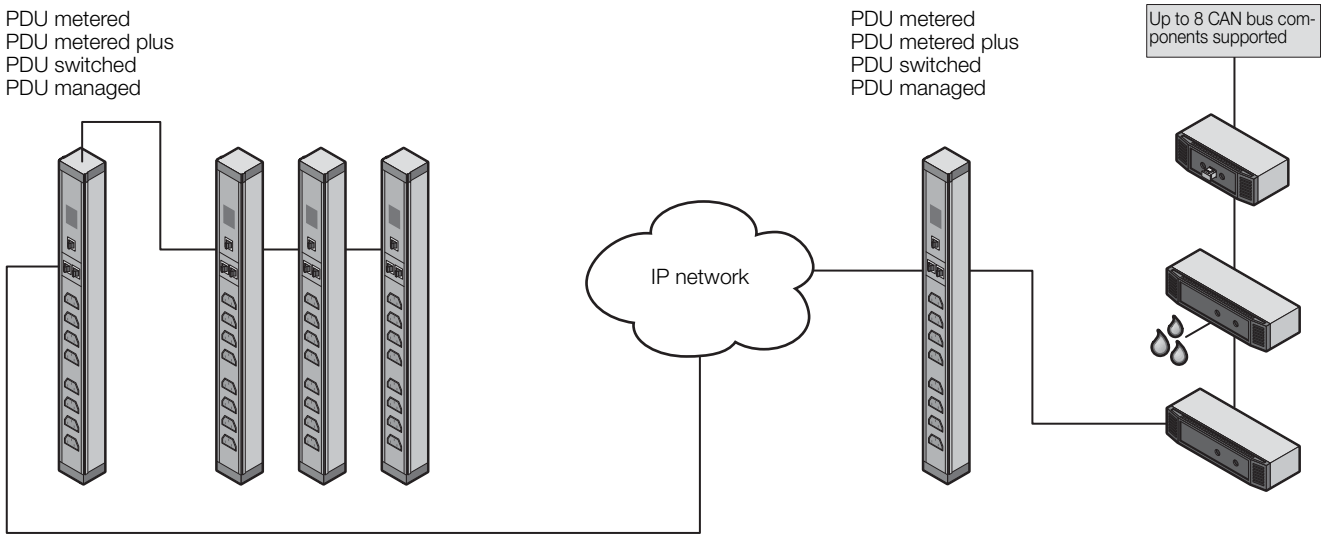
[1)] In addition to the defined products, customised modifications are also possible.

## Sample application

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

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

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




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

# Technical specifications

Compact power distributor for use in IT servers and network enclosures. Please observe the relevant product dimensions and check whether the PDU can be installed in your preferred rack. The PDU dimensions and the minimum rack height required may be found in the ordering table from page 11. The technical specifications listed below apply wholly or partially to the following PDU products:

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

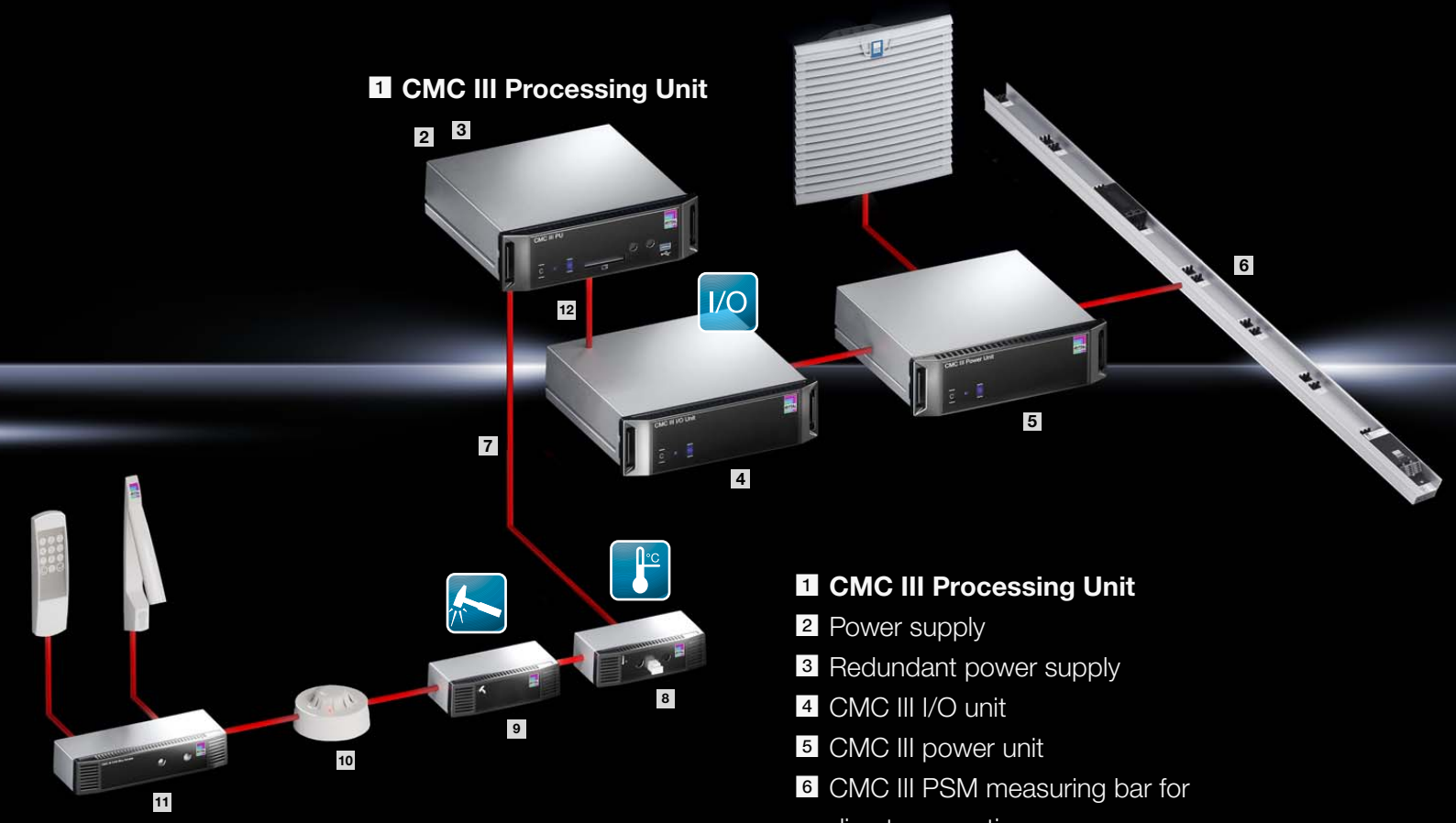
Technical specifications apply to the following product variants:
PDU metered 7979.2XX, PDU metered plus 7979.5XX, PDU switched 7979.3XX, PDU managed 7979.4XX

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

We reserve the right to make technical modifications

# CMC III – Monitoring system

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




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

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