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# DK 7979.214 PDU metered

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POWER DISTRIBUTION >> CLIMATE CONTROL

IT INFRASTRUCTURE SOFTWARE & SERVICES

FRIEDHELM LOH GROUP

ENCLOSURES

## DK 7979.214 - PDU metered

High-end IT rack power distribution: Smart PDU with energy measurement per phase, i.e. output requirement of an entire IT rack



#### Features

Model No.	DK 7979.214
Benefits	For vertical mounting, it may be attached in the zero-U space of the
	Rittal VX IT or TS IT rack with no need for tools
	Colour coding of phases and fuse circuits (L1=pink, L2=black,
	L3=white)
	Tool-free divider kit for VX IT
	PDU self-supplied, no external power supply required
	Measurement accuracy ± 1% (kWh) to EN 62 053-21
	Integral real-time clock with battery buffering (max. 10 years, battery replaceable)
	Integral electromagnetic buzzer for acoustic alarms
	Adjustable limit values (warning/alarm) for voltage, current, output
	Operating hours meter, total and cyclical, resettable
	Power-saving design, minimal intrinsic power consumption

## Features

Technical specifications	Display/controller unit in the PDU enclosure rotatable through 180° and replaceable
	Compact circuit-breaker (16 A - Carling type)
	Integral, fully-redundant power pack, power supply from all phases Error-tolerant PDU power supply redundant across all phases Voltage V, current A, frequency Hz
	Active power, active energy, apparent power, apparent energy
	Power factor (cosPhi) and phase angle
	Zero conductor current measurement/load imbalance detection
	Fuse monitoring for PDUs with integral fuse
	Bright TFT display, 128 x 128 pixels (RGB) with back-lighting and energy-saving mode to display output data and basic PDU configuration
	Position sensors for display rotation and correct PDU representation on the website
	Power LED to indicate voltage
Material	Aluminium section, black anodised
	Slots: Plastic
Supply includes	Assembly parts
Options	Type 3 overvoltage protection with interchangeable arresters while operational, with status monitoring, suitable for integration into PDU enclosure
	Residual current measurement (type B) per infeed/phase/fuse
	Monitoring of the optionally available overvoltage protection
	CMC III CAN bus sensors may be connected for ambient
	monitoring, max. 16 sensors
	Other enclosure colours are available
Measurement functions,	Measurement per phase or infeed
description	Powerful CPU (ARM Cortex A8)
	Digital input (floating contact)
	Additional alarm output/relay output (changeover contact)
Dimensions	Width: 44 mm
	Depth: 70 mm
	Length: 1,295 mm
No. of sockets and type	16 x earthing-pin (type F, CEE 7/3)
Rated operating voltage	230 V (AC)
Rated current (max.)	32 A

#### Features

Power consumption	7.4 kW
Infeeds	Qty.: 1 Phases per infeed: 1~
Length of connection cable	3 m
Type of electrical connection	CEE
Interfaces	USB 2.0 port (USB-A) for mass configuration, firmware updates 8 data logging CAN bus interface (RJ 45) for a maximum of 16 ambient sensors Serial interface RS232 (RJ12) for LTE unit, scripting, CLI Use of own certificates/TLS 1.2 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 Ethernet interface 10/100/1000 Mbit/s
Number RJ45 ports for sensor units max	2
Directives	EMC Directive 2014/30/EU Low Voltage Directive 2014/35/EU
Standards	EN 62368-1 EN 61000-3 EN 61000-4 EN 61000-6 EN 62053-21
Protocols	Web server (HTTP, HTTPS, SSL) SSH, Telnet, NTP TCP/IP v4 & v6, DHCP, DNS SNMP v1, v2c & v3, Modbus/TCP, OPC-UA MIB for linking into 3rd party DCIM software FTP/SFTP (update/file transfer)
Operating temperature range	5 °C50 °C
Ambient humidity (non- condensing)	1095 %
Storage temperature range	-20 °C70 °C
To fit	Enclosure type: VX IT enclosure frame: ≥ 1,800 mm Enclosure type: VX IT 19" mounting angles: ≥ 1,800 mm

#### Features

Packs of	1 pc(s).
Net weight	0.001
Gross weight	0.001
Customs tariff number	85366990
EAN	4028177947672
E-Number Sweden	E8407033
ETIM 9	EC002762
ETIM 8	EC002762
ECLASS 8.0	27142604

# Approvals

Approvals	ΤÜV
Explanations	Declaration of conformity

#### Tender text

Compact power distributor for deployment in IT server and network enclosures. Vertical installation in the Zero-U space using the supplied universal brackets for common IT racks. Suitable for tool-free quick assembly in the Rittal VX IT and TS IT racks using the special supplied plug-%-play fastener. Robust aluminium housing with permanently mounted output slots, IEC 60320/C13 or IEC 60320/C19 as well as CEE 7/3 (earthing-pin) and BS 1363 (UK), depending on the type (see below for details). The IEC C13 / C19 output slots can be protected with a lock against unintentional removal of the connectors. Unused slots can be closed with slot covers available as accessories. This precludes an unintentional overloading of individual phases an circuits. The fuse circuits and phases are colour-coded for multiphase PDU variants. A fixed-mounted connection cable with IEC C20 or CEE connector appropriate for the variant makes the PDU available for immediate deployment. The PDU metered has extensive measurement functions for the current and power monitoring of each phase. The integral TFT colour display anables the basic configuration setting and quick access of the electrical consumption data. Two Gigabit network interfaces and the integrated Web server allow access and data transmission using various protocols. The consumption parameters can be forwarded to a DCIM software via SNMP, OPC-UA, Modbus/TCP. For monitoring the ambient parameters, up to 16 sensors (for example temperature / humidity / smoke / leakage / access) as well as VX IT and TS IT handle systems from the CMC accessories program can be connected to the CAN sensor interface.

Optinally, an overvoltage protection module (type3) can be placed on the PDU at the infeed; the overvoltage protection module is equipped with arrestors that can be replaced during operation. For intelligent PDUs, the status is monitored via the network interface, the PDU basic has a floating alarm contact for monitoring the overvoltage protection. As option, intelligent PDU variants can be supplied with an AC/DC sensitive residual current measurement (RCM type B) with up to 6 measurement points. This changes the PDU length and the number of installed slots for each standard length. The warranty for proper operation is 24 months. Technical specifications metered Input voltage range (L/N/PE): 230 VAC, 50-60Hz input current: 32A No. of phases: 1 Marking of phases (3-phase PDU only L1, L2, L3): Rittal Power Pink, black, white Number of slots type IEC 60320/C13 (total): -Number of slots type IEC 60320/C13 (per phase/fuse): -Number of slots type IEC 60320/C19 (total): -Number of slots type IEC 60320/C19 (per phase/fuse): -Number of slots type CEE 7/3 (total): 16 Number of slots type CEE 7/3 (per phase/fuse): 16 / 8 No. of circuit brakers: 2 Hydraulic-magnetic protective circuit-breaker: 16 A **Connector PDU input:** EN 60309 / CEE (L+N+PE, 6h) Length of connection cable: 3m Connection cable type: H05-VV No. of wires: 3 Cable cross-section: 4mm<sup>2</sup> PDU housing width: 44mm PDU housing depth: 70mm PDU housing height: 1295mm PDU material: Aluminium, anodised, in RAL 9005 (black)<(>,<)> other colours available on request PDU mounting adaptor (VX IT / TS IT) - Mounting options: Frame + Zero-U space + cable route Measurement functions: Measurement per phase or infeed Values recorded (per phase): Voltage (V), current (A), frequency (Hz), Power factor<(>,<)> Active power (kW), active energy (kWh)<(>,<)> apparent power (kVA) Active power(kW), neutral conductor current measurement<(>,<)> fuse monitoring (at 32 A) Optional: Residual current monitoring (RCM) AC + DC (RCM Typ B) max. 6 measurement points per PDU possible (input / per phase / per fuse) 0 mA – 100 mA je RCM Voltage measuring range: 90V - 255V Voltage resolution 0.1V Current measuring range 0 - 16A/32A Current resolution 0.1A Measuring accuracy typ. ± 1% according to IEC/EN 62 053-21 Freely adjustable limit values (warning/alarm) for for voltage, current, power: Yes Operating hours counter: Yes Controllerboard: can be rotated and replaced during operation Display: TFT, RGB 128x128 pixels Network interface: 2x RJ45, per 10/100/1000 MBit/s Supported protocols: IPv4 / IPv6, integral web server HTTP, HTTPS, SSL, SSH, NTP, Telnet TCP/IP v4 and v6, DHCP, DNS, NTP, Syslog SNMP v1, v2c und v3, Traps<(>,<)> FTP/SFTP (update/file transfer) OPC-UA, Modbus/TCP<(>,<)> FTP/SFTP (update/file transfer)<(>,<)> E-mail forwarding (SMTP) User administration including rights management: Yes LDAP(S)/Radius/Active Directory connection: Yes USB port for firmware update+data logging functions: Yes CAN bus interface: RJ45, for connecting 16 sensors CAN sensor types: Temperature<(>,<)> temperature/humidity (combined), infrared access sensor<(>,<)> leakage, NH measurement module, smoke alarm, vandalism<(>,<)> airflow, EFD, differential pressure<(>,<)> VX IT / TS IT handle system Plug & play drivers - Rittal RiZone DCIM software: Yes **Digital input: 1** Alarm relay: 48 V DC/2 A Acoustic signal encoder Serial interface Conformity: CE

Standards: Safety: EN 62368 EMV: EN 55022 / B EN 61000-4-2 EN 61000-4-3 EN 61000-6-2 EN 61000-6-3 Safety Directive: 2014/35/EU EMC Directive: 2014/30/EU MTBF (at 40°C) 100.000 hours Protection category: IP 20 (EN 60529) Protection class: Class 1 Pollution degree: 2 Overvoltage category: II Environmental properties: 2011/65/EU (RoHS 2), WEEE Storage temperature: -20 °C to +70 °C Ambient temperature: +5°C to +50°C Ambient humidity 10 - 95% rel. humidity, non-condensing Operating altitude (max. above mean sea level): 3000 m Connector lock for C14 and C20 connectors: 1x (further connector locks optional - DK 7979.020) Covers C13 (optional accessory): DK 7955.010 Covers C19 (optional accessory): DK 7955.015 Warranty: 24 months Type: Rittal PDU metered, Model No.: DK 7979.214