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DK 7979.233

PDU metered

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DK 7979.233 - 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 7979.233
Product description	High-end power distribution in a compact design for IT network and server racks. With power measurement at the infeed or per phase.
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 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
Product modification	Minimum order volume 6 units
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. 8 sensors Other enclosure colours are available
Measurement functions, description	Measurement per phase or infeed 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	18 x earthing-pin (type F, CEE 7/3)
Rated operating voltage	400 V (AC)

Features

Rated current (max.)	16 A
Power consumption	11 kW
Infeeds	Qty.: 1 Phases per infeed: 3~
Length of connection cable	3 m
Type of electrical connection	CEE
Interfaces	USB 2.0 port (USB-A) for mass configuration, firmware updates & data logging CAN bus interface (RJ 45) for a maximum of 8 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 monitoring via 2nd network Fully redundant Ethernet interface 10/100/1000 Mbit/s
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 °C...50 °C
Ambient humidity (non-condensing)	10...95 %
Storage temperature range	-20 °C...70 °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).
Weight/pack	5.71 kg
Customs tariff number	85366990
EAN	4028177947733
ETIM 7.0	EC000330
ECLASS 8.0	27142604

Approvals

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 (L1-L2-L3/N/PE): 400 VAC, 50-60Hz
input current: 16A
No. of phases: 3
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): 18
Number of slots type CEE 7/3
(per phase/fuse): 6
No. of circuit brakers: -
Hydraulic-magnetic protective circuit-breaker: 16 A
Connector PDU input:
EN 60309 / CEE (3L+N+PE, 6h)
Length of connection cable: 3m
Connection cable type: H05-VV
No. of wires: 5
Cable cross-section: 2,5 mm²
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 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
Operating hours meter: 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 7979.233