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DK 7979.431

PDU managed

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DK 7979.431 - PDU managed

High-end IT rack power distribution with energy measurement and monitoring functions for each individual output slot. Input with CEE connector (16 A/32 A) with C13 and C19 outputs.







Features

Model No.	DK 7979.431
Design	PDU, managed
Product description	High-end power distribution in a compact design for IT network and server racks. Depending on the design, they come with an extensive range of management functions for energy measurement and monitoring.
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 ± 0.5 % (kWh) to EN 62 053-21 Programmable startup behaviour following voltage recovery (on/off/last status) Programmable switching behaviour (time/programmable logic) Integral real-time clock with battery buffering (max. 10 years, battery replaceable) Integral electromagnetic buzzer for acoustic alarms Adjustable limit values (warning/alarm) for current, voltage, output, individual settings for each output slot

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 Multi-colour LEDs (green/amber/red) to indicate switching states and limits per individual output slot Power LED to indicate voltage Power-saving design, minimal intrinsic power consumption
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

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Features

Measurement functions, description	Emergency power supply to PDU web server via PoE, sequential disconnection of the outputs Switching function per output slot Avoids overload peaks: Sequential activation of the outputs following voltage recovery Relay states are saved even in the event of a power failure Bistable relays: Low current consumption and high switching capacity, also suitable for higher starting currents up to max. 300 A Grouping: Joint switching of multiple outputs Measurement per phase or infeed Plus measurement per output slot Powerful CPU (ARM Cortex A8) Digital input (floating contact) Additional alarm output/relay output (changeover contact)
Dimensions	Width: 44 mm Depth: 70 mm Length: 1,495 mm
No. of sockets and type	12 x C19
Sockets	12 x C 19
Rated operating voltage	400 V (AC)
Rated current (max.)	32 A
Power consumption	22 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 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

Features

Number RJ45 ports for sensor units max	6
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...60 °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
Packs of	1 pc(s).
Customs tariff number	85366990
ETIM 9	EC002762
ETIM 8	EC002762
ECLASS 8.0	27142604
Product description	DK PDU managed, high-end power distribution incl. energy measurement, switching and monitoring functions per output slot, with network interface and display, WLD: 44x1495x70 mm, IEC 60 320: 12x C19

Approvals

Approvals

Approvals	Cyber Security Certificate TÜV-tested safety
Explanations	Declaration of conformity

Tender text

Rittal PDU managed Model No.: DK 7979.431

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 wicht 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 managed has extensive measurement and switching functions for the current and power monitoring of each output slot. The integral TFT colour display enables the basic configuration setting and quick access to the electrical consumption data. Two Gigabit network interfaces and the integrated Web server allow remote 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.
Technical specifications managed
Input voltage range (L1-L2-L3/N/PE): 400 VAC, 50-60Hz
input current: 32A
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): 12
Number of slots type IEC 60320/C19
(per phase/fuse): 4 / 2
Number of slots type CEE 7/3 (total): -
Number of slots type CEE 7/3
(per phase/fuse): -
No. of circuit brakers: 6
Hydraulic-magnetic protective circuit-breaker: 16 A
Slots individually switchable: Yes
Connector PDU input:
IEC 60309 / CEE (3L+N+PE, 6h)
Length of connection cable: 3m
Connection cable type: H05-VV
No. of wires: 5
Cable cross-section: 4mm²
PDU housing width: 44mm
PDU housing depth: 70mm

PDU housing height: 1495mm
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 output or slot
Switching function: Switching per output slot
Values recorded (per phase): Voltage (V), current (A)<(>,<)>
frequency (Hz), Active power (kW), avtive energy (kWh)
apparent power (kVA), apparent energy (kWAh)
reactive power (var), power factor<(>,<)>
THD (voltage and current) for 3 phases<(>,<)>
Crest factor for single-phase<(>,<)>
Neutral conductor current measurement
fuse monitoring (at 32 A); optional:
Residual current monitoring (RCM): AC + DC (RCM type B)
max. 6 measurement points per PDU possible
(input / per phase / per fuse)
0 mA – 100 mA je RCM
Voltage measurement range: 90 - 255 V
Voltage resolution: 0.1 V
Current measurement range: 0 - 32 A
Current resolution: 0.1 A
Measurement accuracy: 1 %
Freely settable limit values per slot
for (warning/alarm): Voltage, current, power: 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 und v6, DHCP, DNS, NTP<(>,<)>
Syslog, SNMP v1, v2c und v3, Traps<(>,<)>
OPC-UA, Modbus/TCP<(>,<)>
FTP/SFTP (update/file transfer)<(>,<)>
E-mail forwarding (SMTP)
User administration including rights management: Yes
LDAP(S)/Radius connection: Yes
USB port for firmware update
and data logging functions: Yes

Initial commissioning / mass configuration:
yes, with predefined CSV file
CAN bus interface: RJ45, for connecting 16 sensors
CAN sensor types: Temperature<(>,<)>
temperature/humidity (combined),infrared access sensor<(>,<)>
leakage,ariflow,EFD, NH measurement module, smoke alarm
vandalism, 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:
RS232 (e.g. for LTE unit 7030.571)
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
Low Voltage Directive: 2014/35/EU
EMC Directive: 2014/30/EU
MTBF (at 40°C) 100.000 hours
Protection category: IP20 (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
Betriebshöhe (max.ü.NN.): 3000m
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
Type: Rittal PDU managed Model No.: DK 7979.431