

R&S® PDU4003 POWER DISTRIBUTION UNIT



Product Brochure
Version 01.00

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AT A GLANCE

The R&S®PDU4003 is a 19" power distribution unit, which provides the AC and DC mains power supply to all devices mounted in the 19" rack. Owing to the phase allocation variability, there are several R&S®PDU4003 models.

General description

The implemented rack devices are protected by circuit breakers on all poles. The assigned circuit breakers of the R&S®PDU4003 can be used either for AC or DC power. For this purpose, there are 18 double-pole slots. 16 of these slots can be configured freely.

It is essential to choose the values of the circuit breakers according to the requirements of your application. The following options are available:

Slot	Circuit breaker options
Variable slots	
F2, F3, F6 to F8, F20 to F22	max. 10 A, 110 V to 240 V AC, 50 Hz to 60 Hz
F4, F5, F9, F23	max. 16 A, 110 V to 240 V AC, 50 Hz to 60 Hz
F11, F12, F26, F27	max. 25 A, 24 V to 28 V DC
F24, F25	models .02/.03/.04/.12: max. 16 A, 400 V to 440 V AC, 50 Hz to 60 Hz; models .05/.15/.16: max. 25 A, 110 V to 240 V AC, 50 Hz to 60 Hz
Predefined slots	
F1 (ACH)	max. 6 A, 110 V to 240 V AC, 50 Hz to 60 Hz
F10 (UPS)	max. 16 A, 110 V to 240 V AC, 50 Hz to 60 Hz

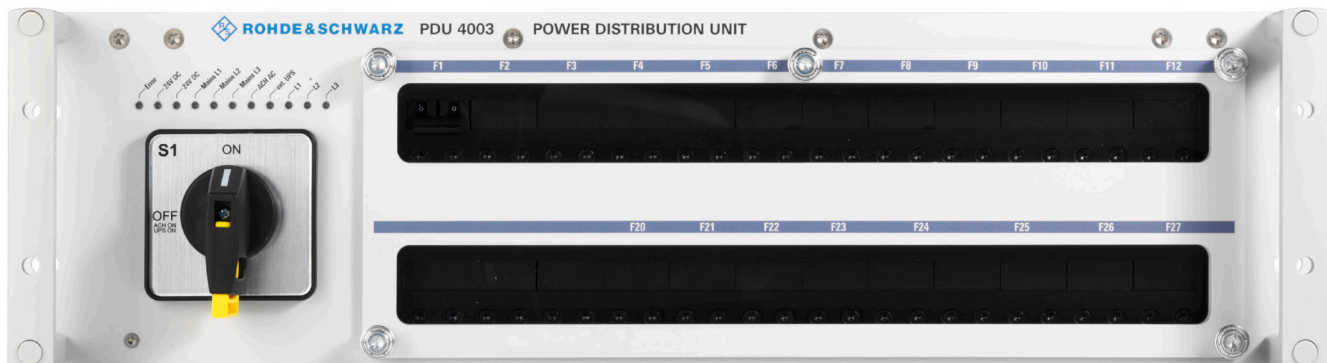
Input X9 and output X19 are reserved for the uninterruptible power supply (UPS). The UPS is a separate electric circuit which cannot be disconnected via switch S1.

One of the units integrated in the R&S®PDU4003 is the power fail detection unit (PFDU). The PFDU manages device functions such as tracing the input power level or monitoring the status of the circuit breakers. This data is accessible via Ethernet port X50 on the rear panel.

Model overview

Owing to the variable configurations, several R&S®PDU4003 models are provided, as shown in the ordering information. Model .02 is regarded as the basic version. Corresponding phase allocation and bridge holding yield models .03/.04/.05. Model .15 is identical to model .05, and model .12 is identical to model .02, except that the internal PFDU is primarily supplied by the mains instead of the anti-condensation heater (ACH) supply. The 115 V/230 V AC mains power supply is fed via connector X1.

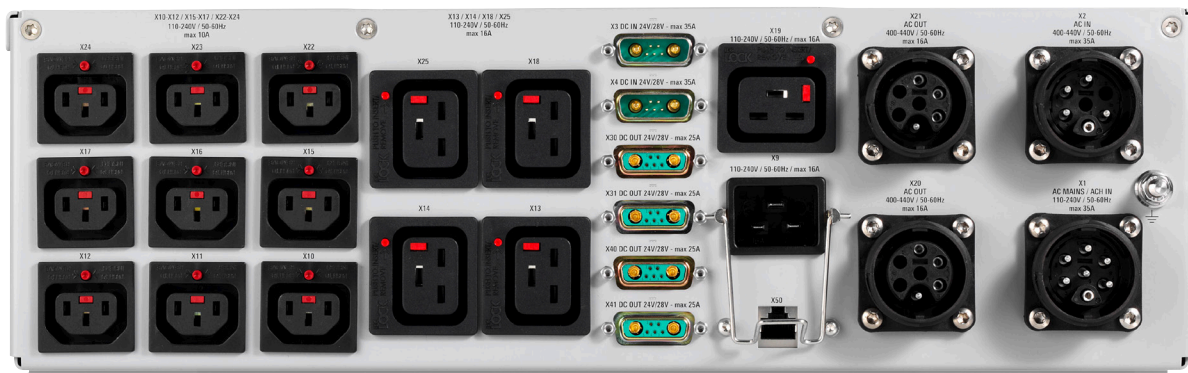
R&S®PDU4003 front panel



Rear panel interfaces

Description	Labeling	Models	Voltage	Current	Connector type
AC mains and ACH input					
AC input	X1		110 V/240 V AC	max. 35 A	
ACH input	X1	.02/.03/.04/.05 .12/.15/.16	110 V/240 V AC	max. 16 A	6-pin plus PE pin
AC2 input	X2	.02/.03/.04/.12 .05/.15/.16	400 V/440 V AC	max. 35 A	6-pin plus PE pin
AC output	X20, X21	.02/.03/.04/.12 .05/.15/.16	400 V/440 V AC	max. 50 A	5+3-pin plus PE pin
AC output	X20, X21	.02/.03/.04/.12	400 V/440 V AC	max. 16 A	6-pin plus PE pin
AC output	X20, X21	.05/.15/.16	110 V/240 V AC	max. 25 A	6-pin plus PE pin
DC input	X3, X4		+19 V/+32 V DC	max. 35 A	D-Sub 7W3P
UPS input	X9		110 V/240 V AC	max. 16 A	IEC 60320 C20
UPS output	X19		110 V/240 V AC	max. 16 A	IEC 60320 C19
AC outputs	X10 to X12, X15 to X17, X22 to X24		110 V/240 V AC	max. 10 A	IEC 60320 C13
AC outputs	X13, X14, X18, X25		110 V/240 V AC	max. 16 A	IEC 60320 C19
DC outputs	X30, X31, X40, X41		+19 V/+32 V DC	max. 25 A	D-Sub 7W3S
Ethernet interface	X50				8-pin RJ-45

R&S®PDU4003 rear panel



SPECIFICATIONS IN BRIEF

Specifications in brief

Environmental data

Climatic environmental simulation

Temperature		in line with EN 60068-2-1/2
	operating temperature range	-20°C to +55°C
	storage temperature range	-40°C to +70°C
Damp heat		+30°C to +55°C ≤ 95% rel. humidity, in line with EN 60068-2-30

Mechanical environmental tests

Vibration	sinusoidal	1.5 mm to 0.15 mm double amplitude, 4.50 Hz, test period: 40 min on each of 3 axes, in line with MIL-STD-167-1, type 1
	random	shipboard random vibration exposure, 4 Hz to 100 Hz at 0.03 g ² /Hz, test period: 40 min on each of 3 axes, in line with MIL-STD-810F, method 514.5
Shock resistance		45 Hz crossover frequency, 40 g, 15 ms to 23 ms 2 × 3 shocks per main axis (pos./neg.), in line with: ▶ MIL-STD-810F, method 516.5, procedure I ▶ EN 60068-2-27

EMC		in line with: ▶ EN 55022:2010 ▶ ETSI EN 301 489-1 V2.1.1 (2017-02) R&TTE Article 3(1) (b) ▶ ETSI EN 301 489-22 V1.3.1 (2003-11) R&TTE Article 3(1) (b) ▶ EN 61000-3-2:2006 + A1:2009 + A2:2009 ▶ EN 61000-3-3:2008
Electrical safety		EN 60950-1, EN 50514, EN 62368-1
Protection class		▶ IP32 (front panel only) ▶ IP20 (rest of device) in line with IEC 60529

Mechanical data

Dimensions	W × D × H, depth: distance between front panel and rear panel	482 mm × 356 mm × 134 mm (3 HU), 19 in × 14 in × 5.2 in
Weight		6.3 kg (23.6 lb)

ORDERING INFORMATION

Designation	Type	Order No.
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2 or L1/N, power feed at X2 connector: L1/L2/L3	R&S®PDU4003	6179.0999.02
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2/L3, power feed at X2 connector: L1/L2/L3	R&S®PDU4003	6179.0999.03
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2/L3/N, power feed at X2 connector: L1/L2/L3	R&S®PDU4003	6179.0999.04
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2 or L1/N, power feed at X2 connector: L1/L2, max. 50 A	R&S®PDU4003	6179.0999.05
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2 or L1/N, power feed at X2 connector: L1/L2/L3, power fail detection unit (PFDU) primarily supplied by mains	R&S®PDU4003	6179.0999.12
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2 or L1/N, power feed at X2 connector: L1/L2, power fail detection unit (PFDU) primarily supplied by mains	R&S®PDU4003	6179.0999.15
Power distribution unit, 3 HU, power feed at X1 connector: L1/L2 or L1/N, power feed at X2 connector: L1/L2, X22 to X25 are supplied by AC2 instead of the AC mains power feed	R&S®PDU4003	6179.0999.16

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