

AC-DC Converter REC2400-230-48

Rectifier System for Telecomm applications

Specification

General:

Electrical Safety	EN 60950, UL 94
Protection Class	1
Pollution degree	2
Isolation	Primary – Secondary 3.75 kV DC
PFC	according EN 61000-3-2, >0,98 at 100% Last ; > 0,95 at 60% Last
Hot plug-in	Modules can be replaced during operation
Ventilation	Forced ventilation, electronically monitored fans
MTBF	140 000 h

Electrical Data:

Input

Mains Input Voltage nom.	Un = 230 VAC, 50/60 Hz
Voltage Range	± 20 % (184 – 276) VAC
Frequency Range	45-66 Hz, sine wave
Mains Connection	1-3 phase
Commercial Power Line	TT and TN-Net according EN60950

Output

Output Voltage	-48 VDC, Positive pole is connected with chassis / Protective Earth
Output Voltage tolerance	Temperature controlled Battery loading characteristic
Output Power	from 600 - 2400 W, Module size = 600 W, without Derating up to 60°C Ambient Temperature
Output Characteristic	UPI Characteristic, transition from P to I at ≤ 33 VDC
Maximum Output Current in case of defect	72 A
Output Ripple	< 100 mVpp
Efficiency	>90 % at nominal load
Parallel Operation	Redundant de-coupling of the 600W Modules with Diode function
Load sharing	active, accuracy ± 10%



Picture may differ from actual device

Environmental conditions:

Conditions during operation	ETS 300 019-1-3 Class 3.3, extended to +60°C Ambient temperature
during transport	ETS 300 019-1-2 Class 2.3
during stocking	ETS 300 019-1-1 Class 1.2
Isolation group	according EN 60950, Pollution degree 2
Ambient Temperature During operation	-25°C to +60°C
Cold start	-40 °C, adherence of tolerances from -25° C
Maximum Ambient Temperature	+70 °C, from +60 °C with Derating = 2,5% / 1 °C
Rel. Humidity	0% to 100%, start-up after drying up
Maximum Operation Altitude	3000 Meter
Protection	IP 20
EMC:	
Emission	EN 55022, Class B, ETS 300 386 V1.3.1
Immunity	EN 55024, EN 61000-6-2 (Industrial areas)

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Signal:

Alarm contacts	4 programmable, potential free Alarm contacts, max. 125 VDC, 500 mA
Visual	<p>Controller: LED 1 (green) = DC o.k., LED 2 (green) = AC o.k., LED 3 (red) = Failure</p> <p>Rectifier: LED 1 (green) = DC o.k., LED 2 (green) = AC o.k.</p>
RS 232	Interface for Data reading, Parameter adjustment, used protocol: ASCII, 19200 Baud, 8N1

Battery management:

Symmetry control	3 monitoring inputs
LVD	integrated Low Voltage Disconnect Relay
Battery test	adjustable via RS 232 Interface in combination with a monitoring software
Temperature monitoring	PT1000 Sensor Input at the Controller

Protection Functions:

AC Input	Overvoltage, acc. EN 61000-4-1 (VDE 0160) : 750 VAC 0,1/1,3 ms
DC Output	<p>Overvoltage, repitive trace function, Tripping value ≤ 60 VDC</p> <p>Short circuit current $I_c = 18$ A each Rectifier Module (without Accu), short-circuit proof</p>
Leakage Current	A fixed protective earth (PE) connection must be setup.

Cooling:

Rectifier Module	Horizontal forced ventilation, with fan failure detection
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Mechanical Data:

Construction	for mounting in ETSI- and 19"- Racks (flange can be changed)
Dimension	19" x 240 mm x 3 HE (W x D x H)
Weight	
Module Rack + Controller + Fuse panel	approx. 12 kg
Single Rectifier	approx. 1,5 kg

Connection Terminals:

AC Input	Screw Clamps (1-3 phase) inside module rack, for sheathed cable 5-pol: 5 x 1,5 mm ² or 3-pol: 3 x 2,5 mm ²
DC Input	Screw Clamps, Type HDFK 16, 16 mm ²
Signal	Male Connector, Type Phoenix MC1,5/17-G3,5 1,5 mm ²
RS 232	Female Connector, 9-polig
DC Output 1	PP75 Powerpole, Type APP, 16 mm ²
DC Output 2	PP75 Powerpole, Type APP, 16 mm ²
DC Output 3	Wago-WINSTA, Series 770, 4 mm ²

Distribution / Fuse Panel:

DC Input	Circuit Breaker, magneto-hydraulic, 80 A, 2-polig
DC Output 1	Circuit Breaker, magneto-hydraulic, 63 A, 1-polig
DC Output 2	Circuit Breaker, magneto-hydraulic, 63 A, 1-polig
DC Output 3	Circuit Breaker, magneto-hydraulic, 6 A, 1-polig

Warranty:

24 Month

Order Code:

Full equipped Module rack (2400 W) REC2400-230-48