

AC-DC Converter REC3200-230-48-K1

Rectifier System for Telecom Applications

Specification

General

Electrical Safety	EN 60950, UL 94
Protection class	1
Pollution degree	2
PFC	acc. to EN 61000-3-2, >0,98 at 100% load ; > 0,95 at 60% load
Hot plug-in	Modules can be replaced during operation
Ventilation	Forced Ventilation, electronically monitored fans
MTBF	140.000h



Picture may differ from actual device

Electrical Data

Input

Mains input voltage nom. Voltage range	$U_N = 230V_{AC}, 50/60 \text{ Hz}$ $\pm 20\% (184 - 276) V_{AC}$
Frequency range	45-66 Hz, sine wave
Mains connection	1-3-phase, potential free, Positive mass associated with housing / Protective earth
Commercial power line	TT and TN-Netz acc. to EN60950

Load sharing activ, accuracy +/-10%

Environmental conditions

Conditions - during operation	ETS 300 019-1-3 class 3.3, extended to +60°C ambient temperature
during temperature	ETS 300 019-1-2 class 2.3
during stockig	ETS 300 019-1-1 class 1.2
Isolation group	EN 60950, pollution degree 2
Ambient temperature During operation	-25°C to +60°C
Max. ambient temperature	+70°C, from +60°C derating = 2,5% per 1°C
Rel. humidity	0% to 100%, start-up after drying
Max. operation altitude	3000 meters
Protection	IP 20

Output

Output voltage	-48V _{DC} , Postive mass connected with housing / protective earth
Output voltage tolerance	Temperature controlled battery loading characteristic
Output power	From module size 800–3200 W Without derating up to 60°C Ambient temperature
Output characteristic	UI characteristic
Output ripple	<100 mVpp
Efficiency	>85% in range 20 – 100% load
Parallel operating	Redundant de-coupling of the 800W Modules with diode function

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EMC

Emission	EN 55022, class B, ETS 300 386 V1.3.1
immunity	EN 55024, EN 61000-6-2 (Industrial areas)

Signales

Visuales Controller	LED red: alarm LED green: DC o.k. LED green: AC o.k.
Rectifier	LED green: AC o.k. LED green: DC o.k.
Alarm contacts	3x programmable, potential free alarm contacts, contact load max. 60V _{DC} , 500 mA by signal connector

Protection functions

AC Input	Overvoltage, acc. to EN 61000-4-1(VDE 0160): 750V _{AC} 0,1/1,3 ms
DC Output	Overvoltage protection, repetitive trace function, tripping value $\leq 60V_{DC}$ Short-circuit current $I_{K=16}$ A per Rectifier module (without accu), short-circuit proof
Leakage current	a fixed protective earth (PE) connection must be setup

Cooling

Rectifier module	horizontaly forced ventilation, with fan failure detection
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Warranty

24 months

Mechanical Data

Construction	for mounting in ETSI- and 19"- Racks (flanges can be changed)
Dimensions	19" x 240 mm x 3 HE (W x D x H)
Weight Module rack + Controller + Fuse panell	approx. 12 kg
Single rectifier	approx. 1,5 kg

Connection terminals

AC Input	screw clamps, type Phoenix Front 2,5-H/..., 1-3 phases, (consider the different connections of the phases)
DC Input	Terminal: HDFK16
DC Output	OUT 1: HDFK16 OUT 2: HDFK16 OUT 3: HDFK16
Alarm conact	MC 1,5/12-G3,5/1,5mm ² (programmable)
Signal contact battery	MC 1,5/5-G3,5/1,5mm ² temperature & symmetry

Distribution/Fuse panel

DC OUT 1	63A, 1-pole, circuit breaker
DC OUT 2	63A, 1-pole, circuit breaker
DC OUT 3	10A, 1-pole, circuit breaker
Battery	80A, 2-pole

Order code

Module rack with 1 module	REC3200-230-48-1-K1
Module rack with 2 modules	REC3200-230-48-2-K1
Module rack with 3 modules	REC3200-230-48-3-K1
Module rack with 4 modules	REC3200-230-48-4-K1