



Controllis

Better Power
Anywhere

Smart48 Embedded Power System 3kW rectifier module



Introduction

The Smart48 Embedded Power System 3kW rectifier module is a digital rectifier with outstanding reliability, efficiency and power density. It is specially designed for telecom, network access and data center applications.

Features

- **High efficiency and high power density**
96.2% efficiency and 33.43W/in³ power density.
- **Digital control**
Digital primary and secondary control, realize excellent monitoring and regulation.
- **High reliability design**
One fan front-to-back air flow with latest thermal solution and experienced design.
- **Disconnect mains when hazardous input**
Smart Power II 48/3000HE disconnect mains to protect itself when it can not sustain the input voltage.
- **Excellent EMC performance**
Lower interference and excellent susceptibility give module better compatibility.
- **Global approvals**
CE and UL certified, and meets the TUV standard.

Input

Voltage	85~300VAC(Nominal 220VAC)
Frequency	45Hz~66Hz
Input Current	<15Arms at 220VAC input <19Arms at 176VAC input
Power Factor	>0.99
THDi	<5%

Output

Voltage	42~58V DC (Nominal 53.5V DC)
Power	3000W
Maximum Current	62.5A at 48VDC
Static Voltage Regulation	<0.5%
Dynamic Voltage Regulation	<5% for 10%~90% load, regulation time < 50ms
Ripple	<150mV peak to peak
Psophometric	<2mv
Current Sharing	<5%
Hold up time	>10ms
Startup time	3~8S
Efficiency	96.2%

Other Specifications

Operating temp	-40°C~+75°C
Storage temp	-40°C~+85°C
Relative humidity	<95%(non-condensing)
Altitude	4000m
IP level	IP 20
Input protection	6KA lightning protection
Output protection	59Vdc Overvoltage shutdown Short circuit proof Output fuse
Isolation	3.0KVAC-input and output 1.5KVAC-input and earth 0.5KVAC-output and earth
Cooling	One fan (front to back airflow)
Fan speed	Temperature and output current regulated
MTBF	>300,000 hours (T_ambient:25°C) Telcordia SR-332 Issue 1
Acoustic noise	≤55dB at 220VAC input and full load (T_ambient<30°C)
Dimensions	108W x 41.4 H x 327.2D (mm)
Weight	2.2Kg

Applicable Standards

Safety	IEC60950-1 UL60950-1 EN60950-1
EMC	EN55022 ClassB(emission) IEC61000-3-2 IEC61000-3-3 IEC61000-4-2(electrostatic discharge) IEC61000-4-3(radiated immunity) IEC61000-4-4(EFT) IEC61000-4-5(surge immunity) IEC61000-4-6(conducted immunity) IEC61000-4-8 IEC61000-4-11
Environment	ETSI EN 300 019-2(-1,-2,-3) ETSI EN 300 132-2 Telcordia NEBS GR63 CORE Zone 4 RoHS compliant

Diagrams

