



# Controllis

Better Power  
Anywhere

## Smart48 Embedded Power System 2kW rectifier module



### Introduction

The Conrollis Smart48 Embedded Power System 2kW 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 22.40W/in<sup>3</sup> 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**  
SmartPowerI48/2000HE will 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**  
Meets CE, UL and TUV standards.

### Input

<b>Voltage</b>	85~300VAC(Nominal 220VAC)
<b>Frequency</b>	45Hz~66Hz
<b>Input Current</b>	<11Arms at 220Vac input <14Arms at 176Vac input
<b>Power Factor</b>	>0.99
<b>THDi</b>	<5%

### Output

<b>Voltage</b>	42~58V DC (Nominal 53.5V DC)
<b>Power</b>	2000W
<b>Maximum Current</b>	41.7A at 48V DC
<b>Static Voltage Regulation</b>	±0.6%
<b>Dynamic Voltage Regulation</b>	<5% for 10%~90% load, regulation time < 50ms
<b>Ripple</b>	<200mV peak to peak
<b>Psophometric</b>	<2mv
<b>Current Sharing</b>	<5%
<b>Hold up time</b>	>10ms
<b>Startup time</b>	3~8S
<b>Efficiency</b>	96.2%

## Other Specifications

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

## Applicable Standards

<b>Safety</b>	IEC60950-1 UL60950-1 EN60950-1
<b>EMC</b>	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
<b>Environment</b>	ETSI EN 300 019-2(-1,-2,-3) ETSI EN 300 132-2 Telcordia NEBS GR63 CORE Zone 4 RoHS compliant

## Diagrams

