



Controllis

Better Power
Anywhere

Smart48 Embedded Power System Solar Converter Module



Introduction

The Smart48 Embedded Power System Solar Converter Module is an isolated DC/DC converter which has the MPPT function. It can extract maximum power in real time from the solar panels throughout the day. Module can work in 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. MPPT efficiency is higher than 99%.
- **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**
Module can 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**
Meetw CE,UL and TUV standards.

Input

Voltage	85~440VDC(Normal 220VDC) (HVDC CB must be configed for each module)
MPPT Efficiency	>99%
Input Current	<15A at 220VDC input <19A at 176VDC input
Startup time	3S-8S

Output

Voltage	42~58V DC (Nominal 53.5V DC)
Power	3000W
Maximum Current	62.5A at 48VDC
Static Voltage Regulation	<0.5%
Ripple	<150mV peak to peak
Psophometric	<2mv
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 220VDC 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

