

UtilitySure™ EC4820/M DC/DC Converter

DC Power
for Business-Critical Continuity™



Features and Benefits

- ✓ 20A@48Vdc output
- ✓ High power density, ultra compact design
- ✓ Ultra-high overload capability, specially designed for AC&DC integrated system
- ✓ Ultra-wide input voltage range, compatible with 220Vdc or 110Vdc rated input DC systems
- ✓ DSP control, high reliability and integration
- ✓ All-weather operation at -40°C to +70°C
- ✓ Hot swappable, convenient and quick on-line maintenance
- ✓ CE certified, European Union RoHS complied, safe and environment-friendly

Description

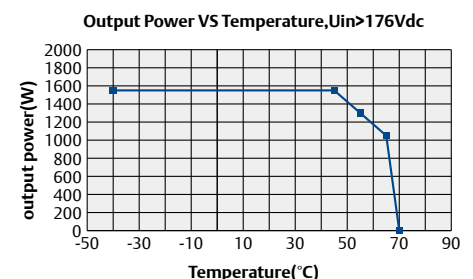
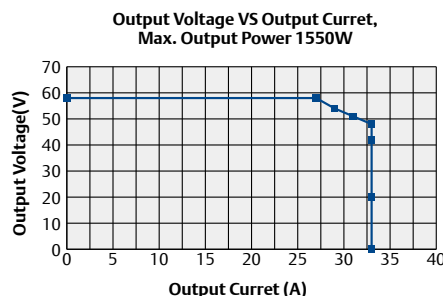
UtilitySure™ rectifier, using the advanced power technology and process, is designed for the DC systems in various transformer substations, hydropower plants, power plants and other DC power supply applications. It features high efficiency, high power density, high reliability, intelligent control and aesthetic appearance.

The UtilitySure™ EC4820/M DC/DC converter is designed for AC & DC integrated system. When one DC circuit of the system is shorted, the converter can provide current to ensure the switch tripping to isolate the fault, so as to avoid load power interruption due to shortcircuit on one DC circuit. The converter is fitted with fan, features high power density and small footprint. Hot-swappable and battery reverse protection functions make easy system design.

The converter can be used with the UtilitySure™ controller to form a DC system. The rectifiers provide CAN communication and can be used with UtilitySure™ controller to achieve simple and intuitionistic rectifier setting, adjustment and control.



EC4820/M



Technical Specifications

OUTPUT CHARACTERISTIC	
Output Voltage	
Nominal:	48.0Vdc
Rated:	53.5Vdc
Maximum:	58.0Vdc
Minimum:	42.0Vdc
Output Current	
Rated:	20A
Maximum:	33A
Output power:	Max. 1550W
Efficiency:	≥ 90%
Load regulation:	≤ ±0.5%
Voltage stabilizing accuracy:	≤ ±0.5%
Peak-peak voltage:	≤ 100mV (0Hz to 20MHz)
Psophometric noise:	≤ 2mV
Soft start time:	3 to 8 seconds
Load sharing imbalance:	≤ ±5% for 10% to 100% rated load
Dynamic response characteristic:	Meet GR-947 standard
Audible noise:	< 55dB
INPUT CHARACTERISTIC	
Input Voltage	
Rated:	200Vdc to 250Vdc
Maximum:	320Vdc
Minimum:	88Vdc (88Vdc to 180Vdc output power limiting)
ENVIRONMENTAL	
Rated operating temperature:	-5°C to 45°C
Lowest start temperature:	-40°C
Highest work temperature:	70°C
Relative humidity:	5% to 95%
Rated air pressure:	80 kPa to 106 kPa
Transp. & stge., temperature:	-40°C to +70°C
Transp. & stge., RH:	5% to 95%
SAFETY	
Standard:	EN 60950-1(CE marked)
Protection level:	IP20
EMC	
Emission:	EN 61000-6 -4:2007 (CE& RE CLASS A)
Immunity:	EN 61000-6-2:2005
RELIABILITY	
MTBF:	250,000 hours (Bellcore TR332)
RoHS:	R5

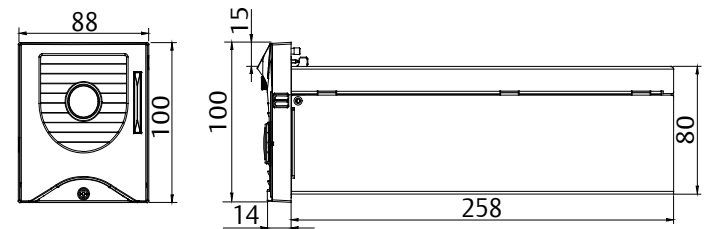
FUNCTION	
Input Protection	
Over-voltage:	No output, self-recoverable
Under-voltage:	No output, self-recoverable
Over-current:	Built-in fuse
Output Protection	
Over-voltage:	No output, manually recoverable, through hardware or software.
	Software threshold and lock mode* configurable
Output current limiting:	20% to 165% rated current
Output power limiting:	Automatic power limiting according to DC input and ambient temperature
Hot swappable:	Yes
Reverse battery connection:	Built-in fuse
Cooling:	Forced air
Fan control:	Ambient temperature and output current combine to control the fan speed
Communication protocol:	CAN bus

MECHANICAL	
Width:	88mm (2U)
Height:	100mm
Depth:	272mm
Weight:	< 2.5kg

Note *: Two lock mode can be set:

- 1) First overvoltage lock mode
After software protection, the rectifier turns off, manually recoverable.
- 2) Second overvoltage lock mode
After software protection, the rectifier turns off. The rectifier will restart automatically in five seconds (settable from controller), if overvoltage happens again within the preset time (default: 5min, settable), the rectifier turns off and remains off, manually recoverable.

If the rectifier output current is less than 10% of the rated current, the software overvoltage protection function is disabled.



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