

Key Features

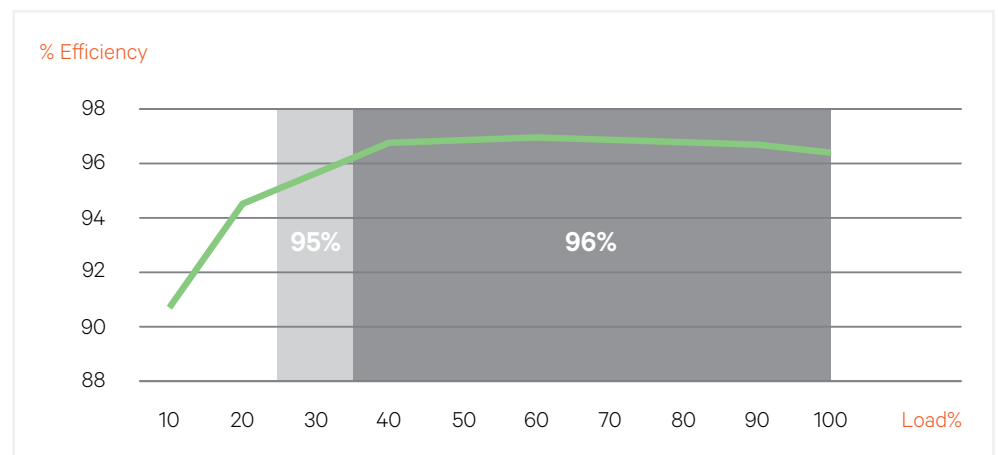
- 3500 Watt high-efficiency converter designed to operate from a nominal 400V DC source to provide -48V DC load power
- High efficiency over 96.5% – reduces power consumption for lower operating costs
- Very high power density (50.2 W/inch³) saves costly space
- Hot pluggable – facilitates future extensions
- Wide input voltage range to operate during battery discharge down to 190 VDC
- Wide temperature operating range from -40°C to +75°C / -40°F to 167°F meets the harshest climatic environment requirements

In addition to reducing power consumption and lowering operating cost, eSure™ high-efficiency converters offer superior performance and uncompromised reliability.

Description

The eSure™ C400/48-3500E3 high-efficiency converter is designed to operate from a nominal 400V DC source to provide nominal -48V DC load power, which is adjustable to application needs. The C400/48-3500E3 is a constant power converter designed with the latest patented switchmode technology, using Digital Signal Processing (DSP) functionality for efficient operation.

For a higher load capacity, converters can be connected in parallel, and intelligent control can be added with the help of a separate controller.



C400/48-3500E3 Efficiency Curve at 380 VAC Nominal

Technical Specifications

DC Input

Voltage 190 VDC to 400 VDC (see figure 1) 400 VDC (nominal)

Maximum Current 22 A

DC Output

Voltage -42 VDC to -58 VDC

Maximum Power 3500 W @ $V_{out} > 48$ VDC (see figure 2 for derating)

Maximum Current 73 A @ 48 VDC (see figure 2 for derating)

Peak Efficiency 96.5%

Psophometric Noise (System) <12 mV ; <38 dBrc

Temperature Derating See figure 3 for derating

Control and Monitoring

Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller

Visual Indications
 Green LED: Normal Operation
 Yellow LED: Alarm
 Red LED: Failure
 Flashing Red LED: Fan Failure

Environmental

Operating -40°C to +75°C / -40°F to +167°F

Temperature Range, Full Load -40°C to +45°C / -40°F to +113°F

Storage -40°C to +70°C / -40°F to +158°F

Relative Humidity 0 to 95%

Altitude 2000 m / 6560 ft at full power

Standards Compliance

Safety IEC 60950, EN 60950, UL 60950

EMC ETSI EN 300 386 class A, FCC CFR 47 Part 15 class A, Telcordia GR-1089-CORE class A

Environment REACH, RoHS 2011/65/EU and 2015/863, WEEE

Mechanics

Dimensions (H x W x D) 42 x 84.5 x 330 mm (1.7 x 3.3 x 13.0 inches)

Weight 1.7kg (3.7 lbs)

Ordering Information

Product Code

Description

1C400483500E3 Converter, 400 to 48 VDC, 3500 W

Figures

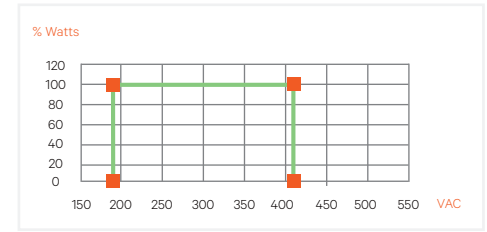


Figure 1
 Output Power vs. Input Voltage
 and $V_o > 48$ V at Temp <45°C

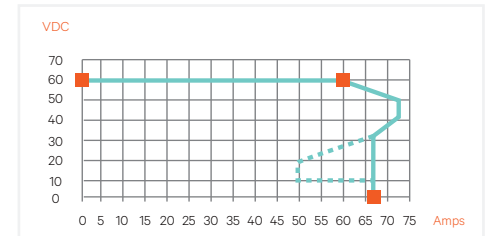


Figure 2
 Output Voltage vs Output Current
 at Max. Output Power 3500 W

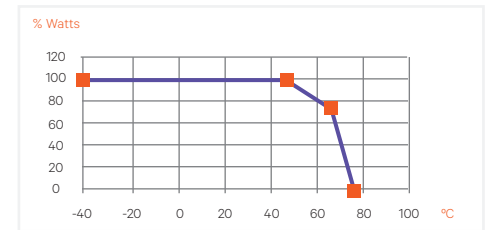


Figure 3
 Output Power vs. Temperature
 at $410 \geq V_{in} \geq 190$ VDC