

Flatpack DC/DC 48/24

DC/DC Converter

High quality and reliable DC output voltage

Flatpack DC/DC 48/24 is a modular hot plug-in DC/DC converter prepared for stand-alone use, or for working in parallel as part of a DC/DC rack system..



FLATPACK DC/DC 48/24

241114.503.DS3-rev5

PRODUCT DESCRIPTION

The converter is specially designed to provide a high quality and highly reliable DC output voltage.

Switch mode technology with soft switching and high switching frequency is used to minimize volume and weight, and to obtain fast output voltage regulation.

The module has a soft start power-up. When working in parallel, the converters provide active current sharing. An internal blocking diode allows hot plug-in and isolates any faults in the converter output from the DC-bus.

Several internal protection circuits ensure safe operation, even outside specified limits for normal operation.

KEY FEATURES

- **ALARMS**
A module failure alarm is given if the module shuts down due to high/low input voltage, high output voltage (selective), or in case of an internal failure.
- **CONNECTION**
Converters connected in parallel will exhibit active load sharing, even without a Monitoring and Control Unit via CAN bus.
- **VISUALIZATION**
Front LEDs show power ON/OFF and alarm status in addition to a LED bar graph for output current indication.
- **OPERATING TEMPERATURE**
The Flatpack DC/DC 48/24 will operate in ambient temperatures up to +75°C (+167°F). At temperatures above +65°C (+149°F), the output power may be derated.

INPUT SPECIFICATIONS

| | |
|---------------------|--|
| Input Voltage range | 40.0-60 VDC |
| Maximum Current | 32 Amps at 40.0 VDC input |
| Protection | <ul style="list-style-type: none"> ○ Soft start ○ Internal fuse ○ Automatic shutdown for input voltages < 40 VDC and > 62 VDC |

OUTPUT SPECIFICATIONS

| | |
|----------------------------|---|
| Output Voltage | 24-28 VDC |
| Output Power | 1100 W at 27.5 VDC |
| Output Current | 40 Amps at 24 VDC |
| Current Share | ± 2 Amps |
| Static voltage regulation | ±0.5% from 0 to full load |
| Dynamic voltage regulation | ±4.0% for 10-90% or 90-10% load variation |
| Ripple and Noise | <100 mV peak to peak, 30 MHz bandwidth |
| Protection | <ul style="list-style-type: none"> ○ Blocking diode ○ Non-destructive short circuit operation and selective high output voltage shutdown (30 V) |

OTHER SPECIFICATIONS

| | |
|--------------------|--|
| Isolation Voltages | <ul style="list-style-type: none"> ○ Input/ Earth: 600 VDC ○ Input/ Output: 1000 VDC ○ Output/ Earth: 600 VDC |
| Converter alarms | <ul style="list-style-type: none"> ○ No output voltage ○ Overvoltage shutdown ○ Dual Fan failure ○ High temperature shutdown ○ Short circuit/ fold back activated |
| Converter warnings | <ul style="list-style-type: none"> ○ DC input voltage out of range ○ Single fan failure ○ High temperature/ derating activated ○ Current limit |
| Visual indications | <ul style="list-style-type: none"> ○ Green LED: ON, no faults ○ Red LED: No output, converter failure ○ Yellow LED bargraph: measuring output current (0-100%) |
| Efficiency | 90% typical |
| Operating temp. | <ul style="list-style-type: none"> ○ -40 to +65°C (-40 to +149°F) ○ +65 to +75 °C (+149 to +167°F): Temperature dependent power limiting may occur |
| Storage temp. | -40 to +85 °C (-40 to +185°F) |
| Cooling | Temperature controlled fans |
| Acoustic Noise | 6.3 Bels |
| Dimensions | 218 x 43 x 240mm (w x h x d) (8.58" x 1.69" x 9.45") |
| Weight | < 3kg (< 6.6lbs) |

APPLICABLE STANDARDS

| | | |
|-------------------|---|--|
| Electrical safety | IEC 60950-1, UL 60950-1 | |
| EMC | <ul style="list-style-type: none"> ○ ETSI EN 300 386 V.1.3.2 (telecommunication network) ○ EN 61000-6-3 (emission, light industry) ○ EN 61000-6-2 (immunity, industry) ○ EN 61000-6-4 (emission, industry) ○ EN 61000-6-1 (immunity, light industry) | |
| | <ul style="list-style-type: none"> ○ ETSI EN 300 019-2 ○ ETSI EN 300 132-1 ○ ETSI EN 300 132-2 | |
| | <ul style="list-style-type: none"> ○ ETSI EN 300 753 class 3.1 (acoustic noise) | |
| | Environment | |

ORDERING INFORMATION

| Part No. | Description |
|------------|--------------------------------|
| 241114.503 | Flatpack DC/DC 48/24 Converter |