

200 Series 19" Rack Mount 1RU



Description

The Benbro 200 Series converters are a range of high efficiency DC/ DC Converters developed by Benbro for high reliability applications including communication systems, solar installations, process control, industrial electronics, railway rolling stock and mine applications.

The DC-DC Converter converts a single primary DC Voltage to the required single DC output Voltage. Nominal inputs available are 110VDC, 48VDC, 24VDC or 12VDC. Nominal outputs available are 12VDC, 24VDC or 48VDC.

The input and output are fully isolated; this enables connection of input and output polarity (earthing/common) as required. The equipment is housed in a rugged 19" 1RU rack mounting enclosure with the input and output terminals on the rear and the indicators on the front panel.

Function

The equipment is protected against input reverse polarity by a diode across the input, which causes an external circuit breaker or fuse to trip.

The equipment is fitted with both common mode and differential mode input and output filter to minimize EMI emissions that are produced by switch mode operation.

The switching converter is a current mode. Push Pull configuration operating at approximately 50 kHz.

The output voltage is monitored by the supervisory circuit, which regulates the output voltage and activates shutdown and alarm for over voltage and alarm for under voltage conditions.

The heat sink is fitted with a temperature sensor which shuts down the converter if the temperature threshold is exceeded.

The alarm outputs are Voltage free relay contacts that can be configured for normally closed (open on alarm) or normally open (close on alarm).

The primary current is monitored by a current transformer, which activates pulse by pulse current limiting in the case of an over current condition (constant current) and shuts down the converter in the case of a short circuit.

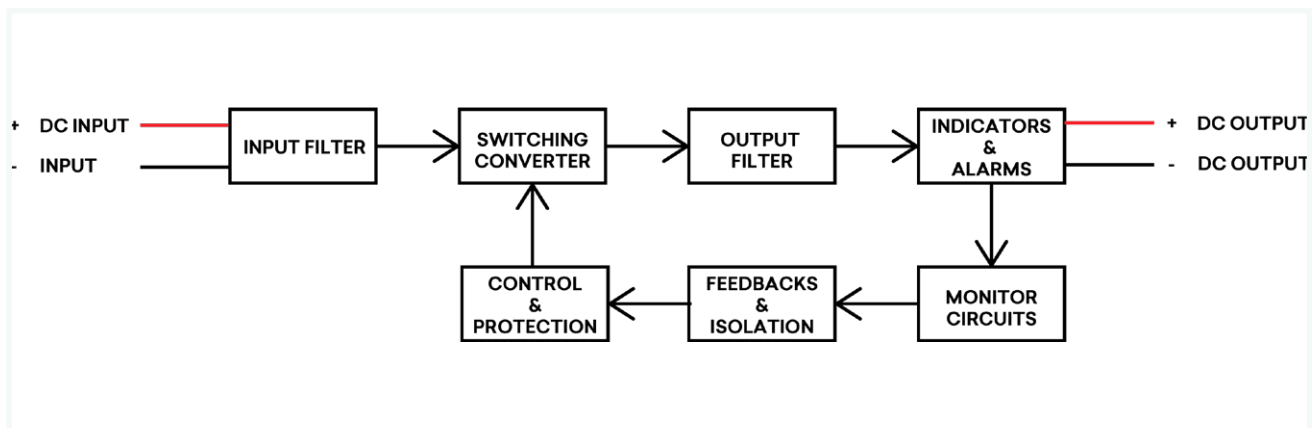
Indicators display the status of input voltage, output voltage, and under/over voltage conditions.

The output is fitted with an isolation Schottky diode enabling 2 or more converters to be connected in parallels for load sharing or redundancy applications.

Features

- Steel 19" 1RU rack mount enclosure, or free standing.
- Input, output, and under/over voltage LED indicator.
- Under Voltage and Over Voltage output alarm voltage free contacts.
- Low Voltage drop output diode option for load sharing or redundancy applications.
- Auto resetting over voltage shutdown
- Over current and short circuit protection.
- Over temperature protection (thermal shutdown).
- Fully isolated input to output.
- Input reverse polarity protection.

Block Diagram



Specifications

Product Codes	Input Voltage	Range	Output Voltage	Range	Output Current	Output Power	Efficiency
5100344	48VDC	42-63VDC	48VDC	44-56VDC	4 Amps	200W	>85% (typ 90%)
5100186	48VDC	42-63VDC	24VDC	23-29VDC	8 Amps	200W	>85% (typ 90%)
5100257	48VDC	42-63VDC	12VDC	12-15VDC	15 Amps	200W	>80% (typ 85%)
5100380	24VDC	21-30VDC	48VDC	44-56VDC	4 Amps	200W	>85% (typ 88%)
5100311	24VDC	21-30VDC	24VDC	23-29VDC	8 Amps	200W	>85% (typ 88%)
5100283	24VDC	21-30VDC	12VDC	12-15VDC	15 Amps	200W	>80% (typ 85%)
5100396	12VDC	10.5-20VDC	48VDC	44-56VDC	4 Amps	150W	>80% (typ 85%)
5100394	12VDC	10.5-20VDC	24VDC	23-29VDC	8 Amps	150W	>80% (typ 85%)
*****	12VDC	10.5-20VDC	12VDC	12-15VDC	15 Amps	150W	>80% (typ 85%)

*Contact us for more information

Electrical

Line regulation	<+/-0.02%
Load regulation	<+/-0.5%
Output ripple	<1mV RMS
Output noise	<+/-20mV
Current limit	Set between 100-115% as required
Over voltage alarm/shutdown	Shutdown set at 120%
Under voltage alarm	Set at approx. 80%
Redundant operation	Output diode option for N+1 applications
Isolation	1kVDC
Indicators	Input Voltage, under/over Voltage (alarm), output, voltage

Protection

Output over Voltage	over Voltage shutdown
Output short circuit	short circuit shutdown
Thermal	Over temperature shutdown
Input over current	Circuit breaker option
Input polarity	Reverse voltage protection

Mechanical

Dimensions (Converter)	H: 44mm; D: 290mm; W: 483mm
Construction	Steel 1RU rack mount case (or free standing)
Cooling	Convection

Environmental

EMC	AS3548, CISPR 22 Class B
Operating temperature	0-50°C