

SMART BATTERY CHARGER

BC-10A

12/24V 10AMP

AUTO SELECT

300 WATTS

91.5 %



FEATURES

- 100 kHz forward switchmode architecture
- High efficiency > 91.0%
- Life extending regenerative charging feature
- Automatic output voltage selection: 12/24V
- Microprocessor controlled
- Easy to use, DIP switch selections
- Selectable two, three or four stage charging
- Supports lead-acid and NiCd batteries
- Analog current reading output (0-10V)
- Output voltage and current display (optional)
- Rectifier fail output
- Boost charge input
- Overload and short circuit protected
- Wide operating temperature range
- Thermal protection
- Low output ripple
- Low line and load regulation
- Wide operating voltage range
- Small dimensions
- Low weight
- Rugged design for industrial environments

DESCRIPTION

BC-10A chargers are designed in high efficiency, forward 100 kHz switchmode technology. Thanks to their smart charging algorithm, they charge batteries faster than conventional chargers.

Fast charging is achieved by maintaining the highest possible charging voltage at battery terminals and resuming to the float charge voltage when the battery is fully charged.

The regenerative charging algorithm extends battery life by applying periodic regenerative charging cycles.

Chargers offer automatic battery voltage detection. Thus the same unit operates as 12V or 24V without the need of a manual selection, removing human errors.

The charger continuously measures its internally its output voltage. If the voltage is below 18V, it operates in 12V mode. If the voltage is above 18V then it operates in 24V mode. If no battery is connected then it will operate in 12V mode.

BC-10A charges both lead-acid and Nickel-Cadmium batteries. It is specially designed for permanent connection to genset starter batteries and does not require disconnection during cranking.

Thanks to its continuous DC outputs, it may also be used in a wide range of industrial applications where DC power is required.



DESCRIPTION (continued)

The efficiency of the charger exceeds 91%, resulting in lower energy losses and lower long-term operation costs. As an example, compared to a charger of 80% efficiency, with 30% average load and 30 years of operational life, it will consume 3'200 kW-h less electrical energy. This corresponds approximately to 320 USD less energy expenses.

The unit has overload, short circuit and high temperature protections. This feature makes the unit deliver only the rated current during short circuit or overload conditions. In case of excessive temperature, it will protect itself by reducing the current output.

The BC-10A-D has an optional LED display and shows instantaneous output voltage and current.

Via a logic signal it can be manually switched to "boost charge" mode.

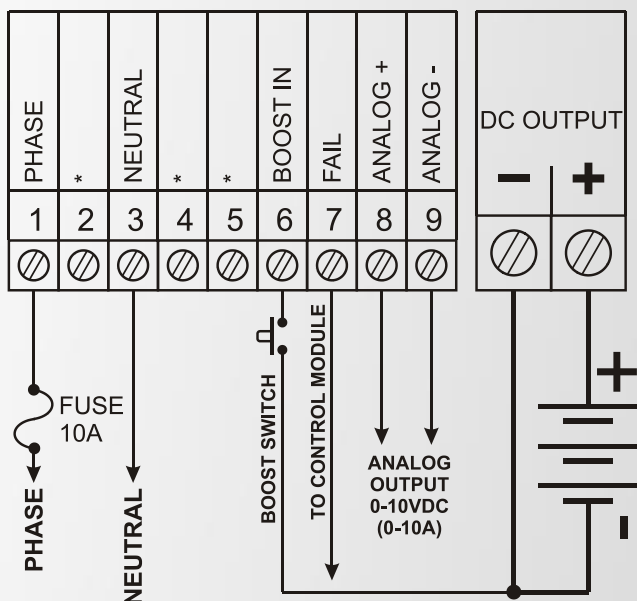
The charger measures internally its output current and provides a 0-10V analog output. This signal may directly drive measurement units.

Chargers have open chassis, metal cased design, suitable for bolt and stud mounting in an enclosed panel. The low weight of the unit makes it ideal for use in highly vibrating environments. Small dimensions allow compact panel design.

The wide input voltage range allows these chargers to be used in most countries.

The rectifier fail output is provided as a standard feature. Thanks to this output, a rectifier fail signal is provided to the control module which will give an alarm in case of failure.

CONNECTION DIAGRAM



TECHNICAL SPECIFICATIONS

Technology: Switchmode, forward 100 kHz

Output voltage (lead-acid selection):

Float: 13.4VDC or 26.8VDC

Storage: 14.0VDC or 28.0VDC

Boost: 14.6VDC or 29.2VDC

Output current: 10 ADC max.

Input voltage range: 170-305 VAC

Input current: 3 ARMS max.

Input frequency range: 45-66 Hz

Maximum input power: 325 Watts

Efficiency (@80% output): > %91

Output power: 292 Watts max.

Output noise (ripple): 0.2 Vpp

Load regulation: 0.2 VDC

Line regulation: 0.2 VDC

Rectifier Fail output: 270 ohms

Overload protection: limits output current to 10A

Short circuit protection: limits output current to 10A

Short circuit duration: unlimited

High temp. protection: limits internal temp. to 85°C

Isolation:

Input-output: 3300 VAC

Input-ground: 1650 VAC

Output-ground: 1650 VAC

Operating temperature range: -25 °C to +70 °C

Storage temp. range: -40 °C to +80 °C

Max relative humidity: %95 (non condensing)

Width: 90mm

Height: 175mm

Depth: 82mm

Weight (approx): 610 grams

Protection degree (EN60529): IP20

Electrical connections:

DC Power outputs: 4 mm²

Other connections: two part connector, 2.5 mm²

EFFICIENCY CHART

