

DC-DC converter Magic (12/12-20)



PN 81300400

- Conversion to the right voltage
- Stabilisation of the voltage
- Longer life span of halogen lights
- Battery charger function
- Dimmer function for atmospheric lighting
- Galvanic isolation of the input and output
- Completely interference-proof
- Programmable via a desktop or laptop PC
- Efficient cooling (microprocessor controlled fan)

Description

This DC-DC converter Magic provides both full galvanic isolation between different systems onboard and a controlled output voltage. The difference between our Mac and Magic range of DC-DC converters is the galvanic isolation. This is indicated by the addition of 'gi' in the name Magic compared to Mac.

The converter uses switch-mode technology, which results in a lightweight, safe, reliable and efficient unit. Built in a rugged aluminium extrusion body, the converter is completely shock proof. The unit generates little heat, which makes it easy to find a convenient location for installation. The corrosion-proof casing takes care of cooling together with a temperature-controlled fan. The inlets and outlets feature complete galvanic isolation which makes them completely interference-proof. If you have many power-consuming devices onboard, the parallel use of several units can allow capacities of 40, 60 or more Amps.

The Magic model can be used to operate in step up mode and step down mode. But it brings you even more benefits, like light dimming and battery charging. The output voltage can be controlled by an external button (not supplied) to be used for the dimming of lights. Battery charging is also possible, for example to charge a small 12V battery bank from a large 12V bank.

Specifications

INPUT SPECIFICATIONS

Nominal input voltage	12V
Input range (full output specs)	11-16V DC
Input range (3-stage charge mode)	12-16V DC
Input range (no defects)	0-17.5V DC
Lower input (set point)	10V DC (adjustable with MasterAdjust software)
Delay lower input set point	30 sec. (adjustable with MasterAdjust software)

OUTPUT SPECIFICATIONS

Nominal voltage	13.6V DC (adjustable with MasterAdjust software)
Voltage adjustable	12-15V DC (adjustable with MasterAdjust software)
Output voltage dimmer	4-13V DC (adjustable with MasterAdjust software)
Stabilised	2% at extremes of temperatures, load and input
Ripple	max. 1% peak peak
Maximum power	300W
Nominal power	270W
Current max. (derating >40°C, 5%/°C)	20A
Charge current - 3-step mode	16A

GENERAL SPECIFICATIONS

Ambient operating temperature	0°C to 60°C (derating above 40°C, 5% per °C); in practice: 20°C to 60°C
Storage temperature	-25°C to 85°C
Operating humidity	95% max. (non condensing)
Galvanic isolation	yes
Voltage limited	yes

3-step battery charge option yes (DIP switch setting)

Efficiency 90% (at nom. input voltage, full load); 92% peak

No load consumption <115mA

PROTECTIONS

Over current yes

Over heat yes

OPTIONS

Dimmer function yes (by external momentary switch via push on connection, to be activated by DIP switch setting)

Alarm contact yes (push on connector)

Communication quasi RS232, modular RJ12 connector to alter setpoints and to change characteristics (optional interface required)

MECHANICAL

Connections input/output screw terminals (max. wire size 16 mm²/AWG5)

Dimensions (H x W x D) 227 x 154 x 81 mm

Weight 1.8 kg

Cabinet anodised aluminium (Strapton ABS blend)

IP-rating IP21

Accessories



MasterBus-Serial Interface



Serial PC Link



Serial PC Link (galvanically isolated)