

Magic 12/12-20



Product code: 81300400

For the toughest tasks

The Mac and Magic DC-DC converters are designed for the toughest conditions for professional, semi-professional and recreational purposes. Even under the most extreme conditions, these DC-DC converters operate faultlessly, giving you round-the-clock output when necessary. The sustainability and technologies that underpin the Mastervolt concept have long been proven in practice. With an MTBF of 280,000 hours at full capacity and 24/7 use, the DC-DC converters are ideal for the toughest tasks and any situation that requires a reliable power supply.

Making the best even better

The reliability and long lifespan of Mastervolt's DC-DC converters have been established beyond doubt over the past 20 years. While the Mastervolt products have evolved with the latest technological developments, the dimensions and connections have remained the same. As a result it is exceptionally easy to replace one unit with another with only negligible downtime.

Mastervolt Green by Heart

As part of our constant search for eco-friendly and long-lasting solutions, Mastervolt has developed the Green by Heart programme. Its impact on the Mac & Magic DC-DC converters include:

- An exceptionally effective use of the consumed input current ($\cos \phi$) > 0.98!
- Faster charging of batteries, even with when the input current is limited.
- Use of top quality components with a long lifespan.
- Savings in weight and space.
- Fewer installation materials.

MasterBus compatible

For the DC-DC converters you can use the MasterBus Serial Interface. All you need is a single cable with one connection. Your benefits: Fast and easy installation, plus centralised monitoring, configuration and operation of your system with a MasterView panel.

Programmable via desktop or laptop/PC

Remote control the Mac or Magic via your laptop or PC or configure your personal preferences. The device has a communication port and easy installation with a PC-Link and MasterAdjust software.

Energy-saving dimmer function

Many standard light dimmers convert part of the energy to heat and also lose unnecessary energy. The Mastervolt Magic converters regulate the power supply efficiently and without excessive heat build-up, up to 580 watts for optimal safety (multiple Magic converters can be used for multiple lamps).

Parallel operation

If you have many/heavy power-consuming devices onboard, the parallel use of several units allows capacities of 40, 60 or more Amps. Advanced high-frequency technology with modern microprocessors ensures minimum power loss when switching from 24 to 12 V and vice versa.

Specifications

General specifications

Nominal output voltage	13.6 V
Output voltage (adjustable with MasterAdjust)	10-15 V
Output voltage dimmer (adjustable with MasterAdjust)	4-13 V
Output voltage stabilisation	2% at extremes of temperatures, load and input
Output voltage ripple (peak peak)	max. 1%
Max. output power	300 W
Nominal output power	300 W
Max. output current	20 A
Output charge current (3-step mode)	16 A
Nominal input voltage	12 V
Input voltage range	11-16 V
Input voltage range (3-step charge mode)	12-16 V
Lower input set point (adjustable with MasterAdjust)	10 V
Delay lower input set point (adjustable with MasterAdjust)	30 sec.
Galvanic isolation	yes
Voltage limited	yes
Efficiency	> 90% at nom. input voltage, full load; peak 92 %
Dimmer function	yes, by external momentary switch via fast-on connection, to be activated by DIP switch setting
Alarm contact	yes (fast-on connector)
Dimensions, hwxwd	227 x 154 x 81 mm 8.9 x 6.1 x 3.2 inch
Weight	1.8 kg 4.0 lb
Approvals	CE

Technical specifications

3-Step charge option	yes (DIP switch settings)
DC consumption	< 115 mA
Connections	screw terminals (max. wire size 16 mm ² / AWG5)
Temperature range (ambient temp.)	-25 °C to 80 °C, derating > 40 °C -13 to 176 °F
Sound level	< 48 dBA at 1 mtr
Protection degree	IP21
Protections	against over load & over temperature
Cooling	maintenance free vario fans
MasterBus compatible	yes, in combination with a MasterBus Serial Interface