

Charge Mate Pro 40

CURRENT LIMITED ELECTRONIC CHARGE RELAY

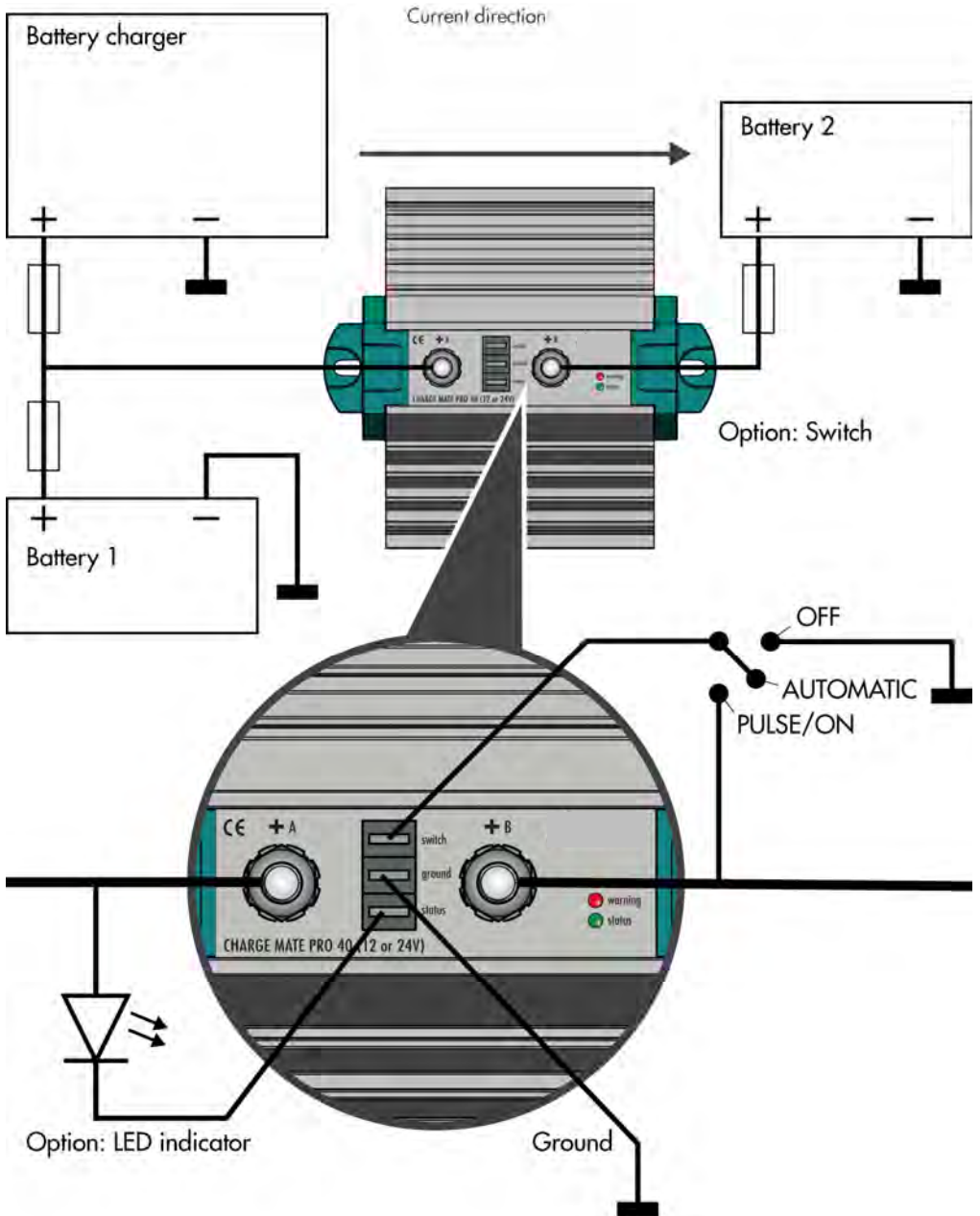


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THE POWER TO BE INDEPENDENT

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Charge Mate Pro 40



Model	Charge Mate Pro 40 83304002
Weight	0.88 kg 1.9 lb
Dimensions	157 x 140 x 80 mm 6.2 x 5.5 x 3.1 in
Input voltage	9-32 Vdc
Operation temperature	-40 to 60 °C -40 to 148 F
Maximum output current	40 A
Maximum voltage drop	0,2 V
Maximum allowed voltage difference	8 V @ 12 V / 16 V @ 24 V
Maximum current Status output	1 A

Automatic 12/24V detection

Switch on voltage	>13,5 V @ 12 V / >27 V @ 24 V
Switch on delay time	5 s
Switch off voltage	<12.75 V @ 12 V / <25.50 V @ 24V
Switch off delay time	2,5 s

Recommended wire sizes for wire length up to 3 meters (DIN 47750)

DC Current	Wire size
25 – 75 Amp	16 mm ² (AWG 4)
75 – 100 Amp	25 mm ² (AWG 3)
100 – 140 Amp	35 mm ² (AWG 1-2)
140 – 200 Amp	50 mm ² (AWG 0)

Charge Mate Pro 40

The Mastervolt Charge Mate Pro 40 is a current limited electronic charge relay for the distribution of charge current between two battery banks. The battery banks are connected when the voltage rises above a pre-set value for at least 5 seconds. When the voltage drops the battery banks are isolated again. With an optional remote control switch the Charge Mate Pro can be used as a switch for emergency starts of the motor. This will overrule the automatic function and disables the current limit.



Only use battery banks with the same type of charge characteristics.



The Charge Mate Pro can only be applied in 12 Vdc or 24 Vdc installations with a common negative.

Safety regulations and measures

Install the Charge Mate Pro according to the instructions in this manual.

The Charge Mate Pro must be used in accordance with the specifications

Connections and safety features must be executed according to the locally applicable regulations.

Use cables with appropriate size wire and keep the cable connections as short as possible. Use reliable terminals and fasten the bolts tightly, but do not over torque.

Examine your electrical installation on a regular base, at least once a year. Defects such as loose connections, burnt wiring etc. must be corrected immediately.

Liability

Mastervolt cannot be held liable for:

Consequential damage resulting from the use of the Charge Mate Pro.

Possible errors in the included manual and the consequences of these.

Use that is inconsistent with the purpose of the product.

Warranty

Mastervolt assures the product warranty of the Charge Mate Pro during two years after purchase, on the condition that the product is installed and used according to the instructions in this manual.

Installation or use not according to these instructions may result in under performance, damage or failure of the product and may void this warranty. The warranty is limited to the cost of repair and/or replacement of the product. Costs for labour or shipping are not covered by this warranty.

Correct disposal of this product (Waste Electrical & Electronic Equipment)



This product is designed and manufactured with high quality materials and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2012/19/EU.

Please be informed about the local separate collection system for electrical and electronic products.

Please act according to your local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences to the environment and human health.

Installation

Be sure that the output of the supplying source is switched off during installation. Also be sure that no consumers are connected to the batteries during installation, to prevent hazardous situations.

Install the Charge Mate Pro not only as close as possible to the supplying source, but to the batteries as well. The Charge Mate Pro must be installed in a well-ventilated environment, as high currents will heat up the Charge Mate Pro. Preferably, the Charge Mate Pro should be mounted on a flat metal surface, with the fins vertical.

Check the installation drawing for correct connection.

Use the template from the packaging to determine the exact location and screw holes for mounting of the device.

Install the Charge Mate Pro in the positive lead between the battery banks.

Connect the negative of the battery banks to the Charge Mate Pro

Optionally you can install a remote status light to the Status output and A+.



Do not install the Charge Mate Pro directly above the batteries because of possible corrosive sulphur fumes.

Remote switch (optional)

Optionally you can install a single pole ON-OFF-ON switch for remote operation of the Charge Mate Pro, see installation drawing on page 2.





Remote switch functions

ON	Switches input to 12/24 V. The battery banks are connected in parallel and bi-directional without current limit.
PULSE	Switches input to 12/24 V for a short time. Emergency start (battery banks are connected for 30 seconds without current limit)
OFF	Switches input to Ground. The Charge Mate Pro is switched off.
AUTOMATIC	Let the Switch input floating (or no switch connected). Default automatic mode with 40 A fixed current limit.

LED indicators

The green status led is continuous lit when there is an electrical connection between A+ and B+.
The red warning led is lit when there is no electrical connection between A+ and B+.

Warning LED

 1 blink	Overvoltage The voltage on A+ and/or B+ has been above 15,5/31 V for more than 1 s. The warning disappears when voltage drops below 15/30 V for more than 10 s.
 2 blinks	High voltage differential A voltage differential between A+ and B+ has been detected of more than 8/16 V for more than 2,5 s. The warning disappears when the voltage differential drops below 8/16 V for more than 2,5 s.
 3 blinks	Temperature too high (85 °C / 185 °F) This warning disappears when the temperature drops below 75 °C/ 167 °F.
 4 blinks	Reverse current Reverse current detected from B+ to A+ for more than 2s. Disappears after 20 s.