



MCB
Battery charger
User Manual MCB-V1.2.49
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1.0 Description

MCB - battery charger is designed for permanent connection to an automotive Lead-Acid battery, without overcharging it (**TRICKLE CHARGE** mode). The current is adjustable by a trimmer within a range between 10% and 100% of full-scale. **QUICK CHARGE** mode, selected by pressing a push button (E), allows a rapid recharging of the battery (140% of full-scale). Typical applications of **MCB** include: standby engines, pumps and generators.

2.0 Characteristics

DC OUTPUT: 12V or 24V nominal (specified on ordering)

OUTPUT CURRENT (adjustable by trimmer):

- max. 5A (NORMAL CHARGE)
- max. 7A (QUICK CHARGE)

AC INPUT: 200V-240V / 50Hz

ALARM OUTPUT: RELAY with NO / NC / COM (8A / 250Vac)

LED INDICATORS:

- BATTERY CONNECTED (GREEN) (A)
- QUICK / TRICKLE CHARGE (YELLOW) (B)
- CHARGE / FULL BATTERY (GREEN) (C)
- CHARGER FAIL / ALARMS (RED) (D)

ALARMS:

- BLOWN FUSE
- MAINS FAILURE
- BATTERY VOLTAGE
- OVER CURRENT

PROTECTION: Short Circuit, Reverse Polarity, Over Current / Over Voltage

FUSES: 6.3A (AC INPUT) and 8A (OUTPUT CURRENT)

CONNECTORS:

- AC INPUT: 3 poles connectors
- BATTERY CONNECTOR: 2 poles screw terminal block (2 SETS)
- ALARM OUTPUT: 3 poles screw terminal block

DIMENSIONS: 124 (W) x 171 (L) x 103 (H) (without connectors)

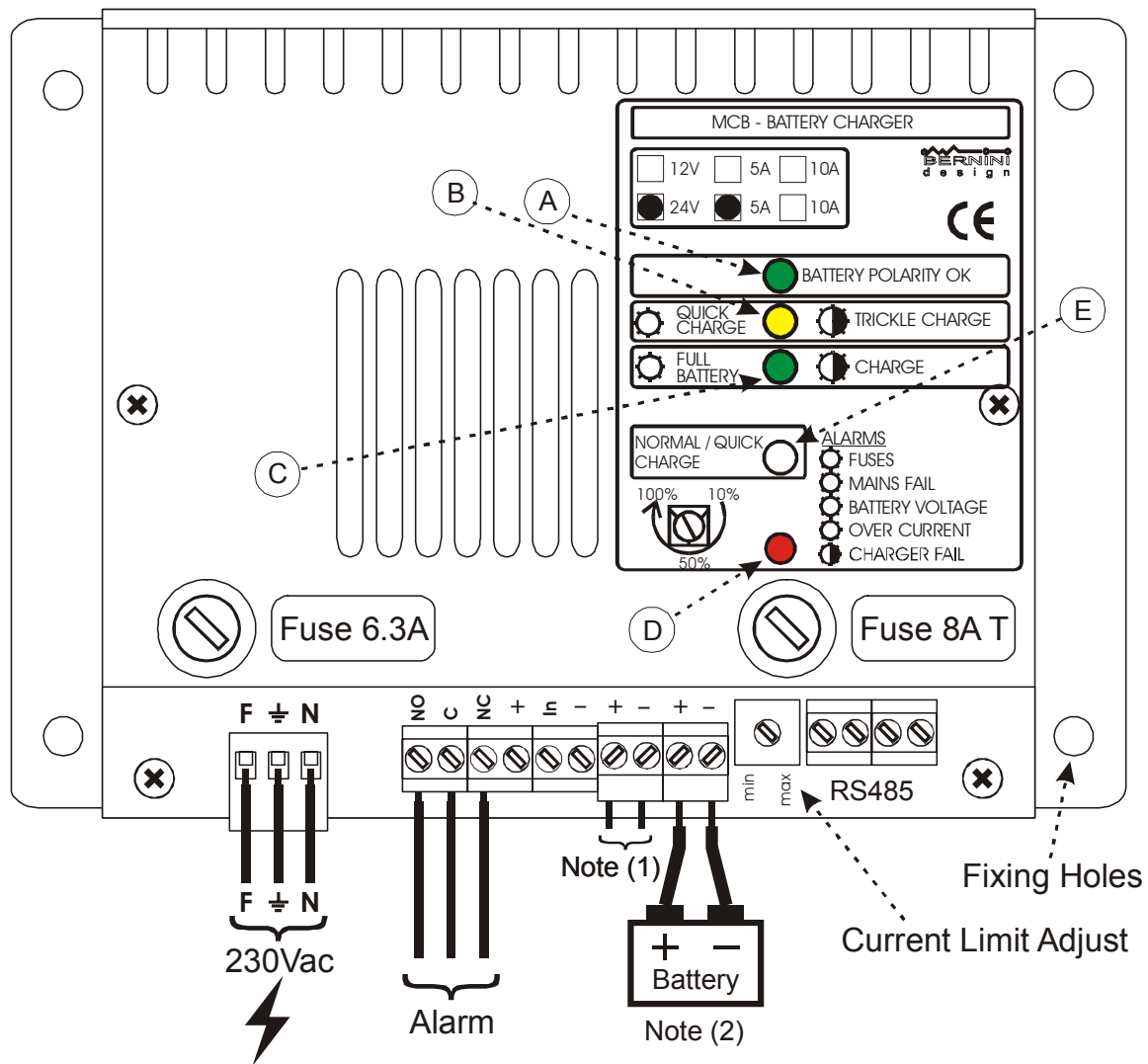
ENCLOSURE: Extruded Aluminium (base) / Black Coated Steel (cover)

WEIGHT: ~2.8 Kg

MOUNTING: 4 holes (6 mm diameter) at 155 mm x 99 mm (use screws)

TEMPERATURE RANGE: -10÷50°C

3.0 Typical wiring diagram



WARNING !

- Disconnect power supply before making any connection at the charger terminal block
- Disconnect the battery if the power supply is not present for a long period of time
- QUICK CHARGE mode must be used in accordance with the battery manufacturer's recommendations, otherwise cells damage may occur
- Replace blown fuses by the same type only
- Check the status of the battery if "Charger Fail" alarm is activated for a long period of time (LED (D) is blinking)

4.0 LED indicators / STATUS of the charger

LED	STATUS OF THE CHARGER				
	NORMAL CHARGE	QUICK CHARGE	TRICKLE CHARGE	ALARM	CHARGER FAIL
A	ON	ON	ON	ON	ON
B	OFF	ON	BLINK	X	X
C	BLINK	BLINK	ON	X	X
D	OFF	OFF	OFF	ON	BLINK

X = Don't care

5.0 Alarm messages / Charger fail

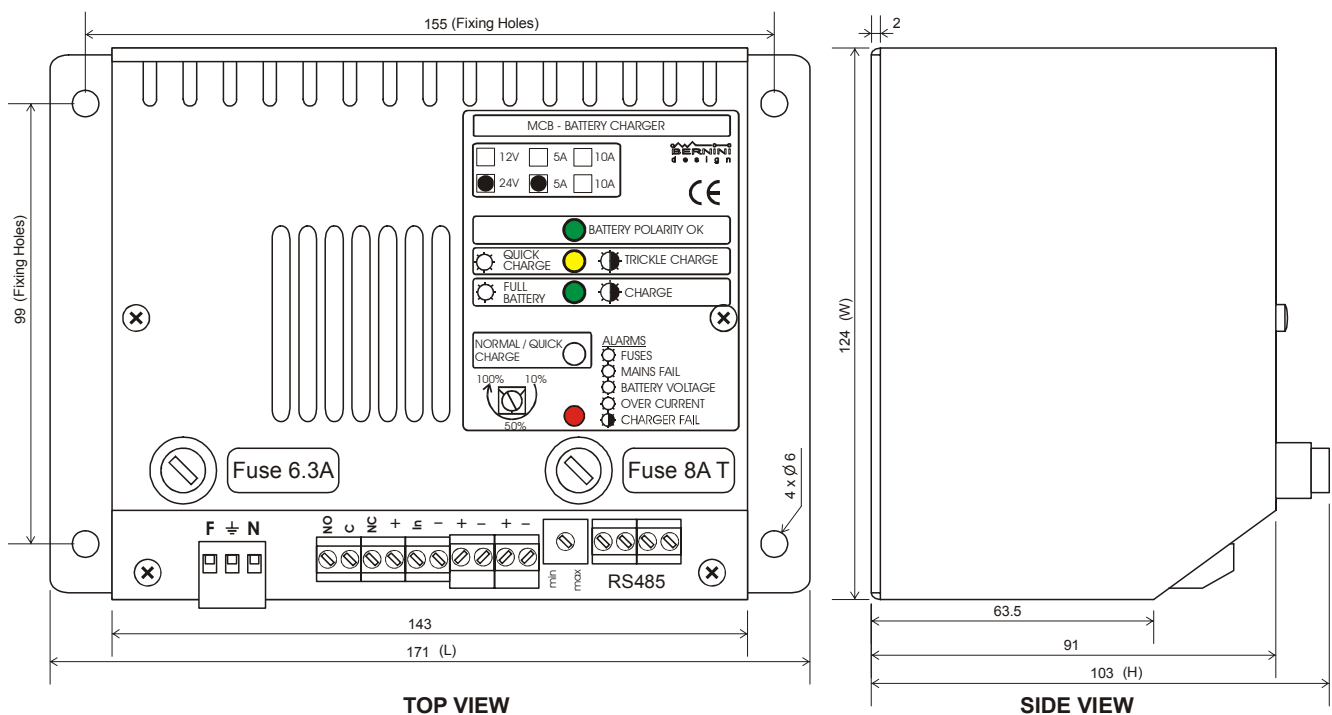
When a battery is connected at the **MCB** (with proper polarity) the LED "A" (green) is turned ON. In **NORMAL CHARGE** mode the battery is charging at a current adjusted by a trimmer within a range between 10% and 100% of full-scale (5A). This mode is indicated by blinking of the LED "C" (green). For a quick charge (up to 140% of full-scale) press the push button; **QUICK CHARGE** is indicated by the LED "B" (yellow) turned ON and LED "C" (green) blinking; pressing once again the push button allows the return to **NORMAL CHARGE** mode. When the battery is fully charged, the LED "C" (green) is turned ON and the LED "B" (yellow) is blinking (**TRICKLE CHARGE** mode).

When charging process fails, the "Alarm" relay is activated and LED "D" (red) is turned ON, indicating one of the situations:

- blown fuses
- mains failure
- battery voltage out of the range
- over current

The **MCB** will attempt for a few times to start the charging process of the battery after the fault conditions are eliminated. If it fails, the LED "D" (red) will blink, indicating a **CHARGER FAIL** status. In this case check the status of the battery.

6.0 Dimensions and Mounting



7.0 Ordering Code

- **MCB 12V / 5A**
- **MCB 24V / 5A**