METERBOOST
BATTERY FOR LIFE

User Manual

Rev. 2023-1

MB48LI82.GW
MB48LI50.GW

MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001

USER MANUAL

The battery has a display on the right (7), two switches, a red one on the left (4) and a smaller one on the right side (8) and two RGB LEDs (2,3) that are used as a Human to Machine Interface (HMI).

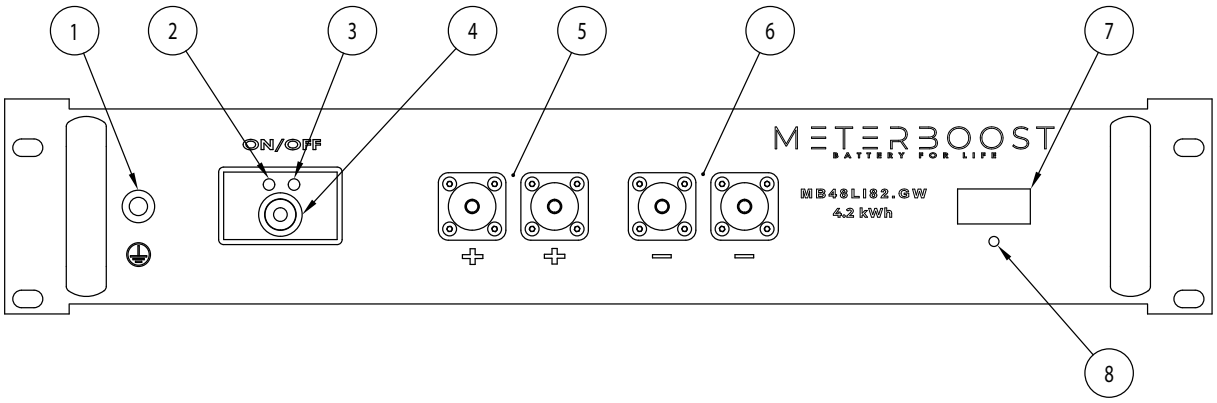


Figure 1: Battery front.

Table 1: Component designation.

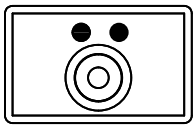
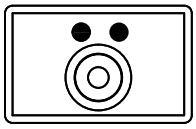
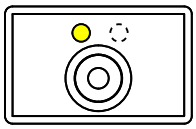
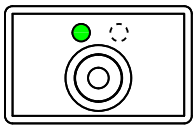
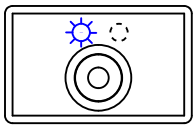
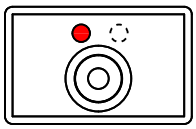
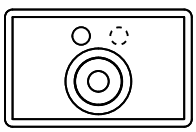
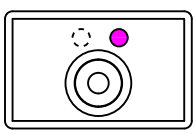
Number	Designation
1	Earth screw
2	LED1
3	LED2
4	Red switch
5	Positive output terminals
6	Negative output terminals
7	Display
8	Display switch

The RGB LEDs can have the following behaviour:

◌ Indiferent
● LED OFF
○ Fixed color, in this case white
☼ Blinking slow
☼ Blinking fast

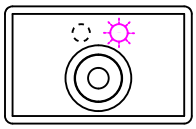
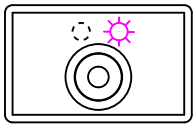
MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001

Table 2: LEDs' behaviour.

LED	Display	Meaning
 Both OFF	OFF	The battery is turned OFF and in a low-power mode
 Both OFF	Blinking dot	The battery is awake and ready to receive more commands
 Yellow	Blinking dot	The battery is starting up (pre-charge of inverter capacitors)
 Green	Battery voltage	Battery is ON and there is voltage on the output connectors
 Blue	Not relevant	One of the switches is pressed
 Red	Error code	There is an error, check the display to see the error code
 White	Blinking dot	The battery is scheduled to be turned ON, or the battery is waiting to establish a connection to a MtB GateWay to turn on
 Magenta	Not relevant	Searching for a MtB GateWay

MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001

Table 2: LEDs' behaviour, continued.

LEDs	Display	Meaning
 Magenta	Not relevant	MtB GateWay found; battery is connecting to it
 Magenta	Not relevant	The battery is paired and connected to MtB GateWay

The red switch, on the left is used to control the battery, while pressed a sound signal will be emitted every second. The switch has the following functions:

- Press and release: Wake-up the battery when in low-power mode. In this case the LED1 will not blink blue. When the battery is ready to receive more commands there will be two quick sound signals.
- Long press (release after sound signal is emitted): The function that will be enabled will depend on how many sound signals are heard while the button is pressed.
  - 1 sound signal: Turn ON or OFF the battery.
  - 2 sound signals: Pair the battery with a MtB GateWay or force connection to a previously paired MtB GateWay.
  - 3 sound signals: Forget the previously paired MtB GateWay and enter low-power mode. Before entering low-power mode the battery will do a test routine in which the display will show "End" followed by a sequence where both RGB LEDs should light up in red, blue and green two times and the display should show "8.8.8.".

If the battery is not connected to a MtB GateWay the battery will automatically enter low-power mode after 10 minutes.

The switch below the display is used to control the information present in the display, while pressed there will be a sound signal every second. The switch has the following functions:

- Press and release: Shows the battery ID when paired and connected to MtB Gateway. In this case the LED1 will not blink blue.

The 3-digit display, located on the right side of the battery, shows the battery voltage, when the battery is powered ON (LED1 fixed green), the error codes (LED1 fixed red), the firmware version when the battery boots and a blinking dot when the battery is awake but turned OFF.

MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001

Turn ON procedure:

To turn ON a battery, the battery should firstly be woken up by pressing and releasing the red switch, it will make a sound signaling when it is ready to receive more commands. The battery can then be turned ON by pressing and holding the red switch until one sound signal is emitted.

The battery will only turn ON if it does not detect voltage at its output terminals and it was not previously paired with a MtB GateWay. If the battery was previously paired with a MtB GateWay, the battery will wait until the connection is established with the MtB GateWay and only then will it turn ON. This waiting status is represented by a fixed white LED1.

Turn OFF procedure:

To turn OFF a battery, the user should press and hold the red switch until one sound signal is emitted, after this, LED1 will turn off and the voltage will disappear from the display.

Pair a battery with a MtB GateWay:

To pair a battery with a MtB GateWay the user should firstly power on the MtB GateWay, either by turning on the MPPT or by turning on one and only one of the batteries. After this the user should go to the MtB GateWay webpage and enable the paring (please check our quick start guide for detailed instructions).

The MtB GateWay is now ready to accept new batteries and the user should hold the red switch on the battery until two sound signals are emitted. The LED2 will become fixed magenta, while the battery is searching for the MtB GateWay, followed by a quick blinking magenta while the connection is being established and finally a slow blinking magenta meaning the connection was successful.

Other batteries on the system should now be woken up and paired the same way, with the MtB GateWay, before they can be turned on.

MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001

ERROR CODES

- **E01:** There is a problem with the BMS, MeterBoost should be contacted.
- **E02:** The battery is ON, but the system is not detecting voltage on the output terminals. Probably the internal fuse is blown, and the battery must be sent to MeterBoost to be serviced.
- **E03:** Mismatch between the battery PCB and BMS.
- **E04:** The user tried to turn ON a battery that is not paired to a MtB GateWay and the battery detected voltage in its output. The battery should first be paired with a MtB GateWay and then turned on.
- **E05:** Battery PCB lost communication with the BMS.
- **E06:** The battery could not verify or change the BMS status. The battery output state is undefined, **there could be voltage at the battery output terminals**.

MeterBoost, Lda.
Núcleo Empresarial da Venda do Pinheiro II - Letra D e E, 2665-608 Mafra, Portugal
Web: www.meterboost.com E-Mail: info@meterboost.com Phone: (+351) 261 060 001