

BATTERY MONITOR

BM X

Operating Instructions

ACTIVE

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■ English

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WELCOME

Hi, nice to meet you! Ready to get ECTIVE?

Thank you for choosing the ECTIVE BM X battery monitor!

The ECTIVE BM X conveniently and reliably displays the voltage, capacity and current of your battery. The monitor has an integrated memory function as well as alarm functions for low voltage and low capacity. It is ideally suited for use in the field of stand-alone power supply as well as for mobile applications such as e-bikes, cleaning machines or other electronic devices.

Thanks to the Bluetooth functionality of the BM X, you can also keep an eye on all relevant battery values from your Android or iOS device.

 Please read these instructions carefully before using the unit for the first time and follow all safety, installation and operating instructions!

SCOPE OF DELIVERY



ECTIVE BM X
Battery Monitor



Shunt
500 A



B+ cable



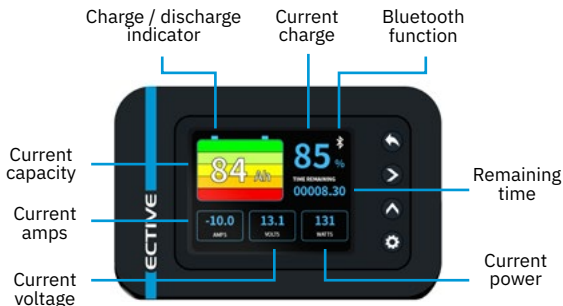
Shielded cable



Mounting
template

DEVICE OVERVIEW

Main Screen



Settings Menu



BM X IN THE ECTIVE-ECOSYSTEM

The advanced BM X battery monitor fits seamlessly into the ECTIVE ecosystem and enables convenient and reliable monitoring of your power supply's battery, with all components coming from a single manufacturer.

The ECTIVE BM X is suitable for use with the entire product range of ECTIVE batteries, including the advanced lithium iron phosphate batteries as well as classic lead acid batteries. Of course, the battery monitor also works with batteries from other manufacturers. The range of supported battery voltages is between 10 and 120 V.

In some ECTIVE battery series, such as the Slim and Underseat series with their special form factor, the BM X module is integrated directly into the battery. Likewise in the ECTIVE AccuBox All-in-One solution.

INSTALLATION

To install the ECTIVE BM X, first connect the positive terminal of the battery to any B+ terminal of the 500 A shunt supplied. To do this, use the included B+ cable.

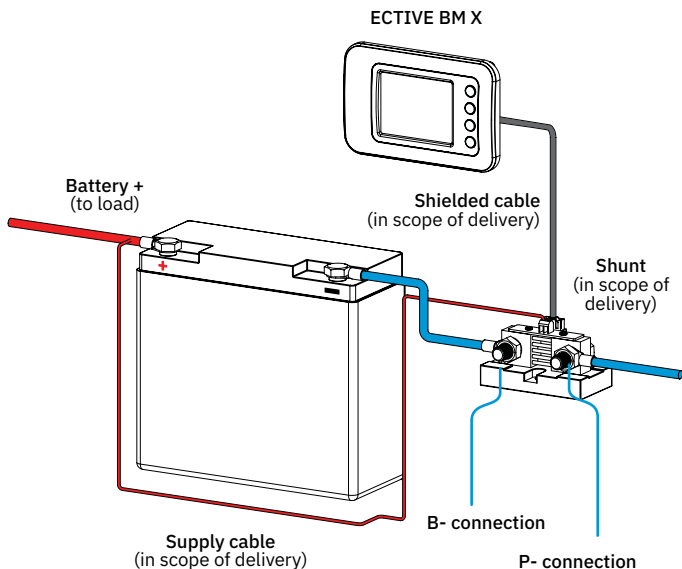
Next, connect the B- terminal of the shunt to the B- terminal of the battery. Then connect the P- terminal of the shunt to the P- terminal of the consumer.

Finally, use the supplied shielded cable to connect the shunt to the battery monitor.

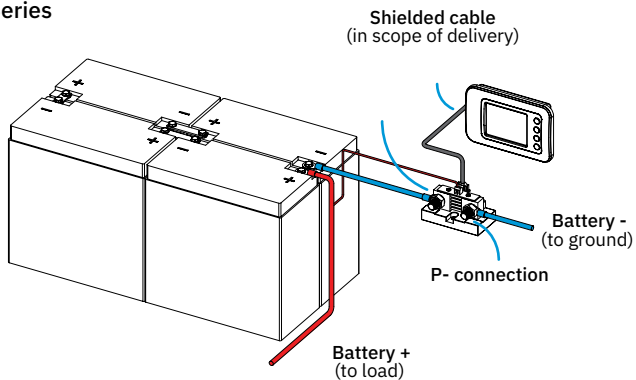
You can use the template supplied to drill holes to fix the battery monitor in a suitable place.

CONNECTION DIAGRAM

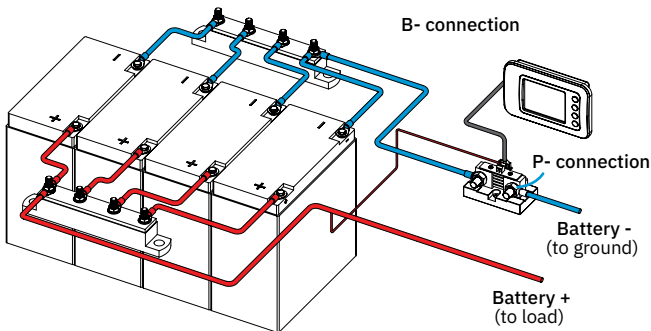
Please strictly follow the connection diagram shown below. The shunt must be connected to the negative circuit. Never connect it to the positive circuit.



In Series



In Parallel



OPERATING INSTRUCTIONS

The ECTIVE BM X battery monitor starts operating as soon as it has been connected according to the instructions above. The screen should now display values such as voltage, current and the battery charge level. If the display remains dark, please check the connections.

Set the capacity:

When first used, the capacity percentage shown on the display does not correspond to the actual value. There are two ways to calibrate the battery monitor to the correct capacity:

1. Calibration of fully discharged battery:
 - First discharge the battery completely.
 - Press the ▲ button for three seconds to clear the stored capacity calibration, setting it to capacity to zero.
 - Fully charge the battery.

2. Calibration of fully charged battery:

- Fully charge the battery.
- Press and hold the ► button for three seconds to set the the „full capacity“ value to the current, full state of charge of the battery.



The battery monitor will now correctly display the capacity of the battery. If you connect the battery monitor to another battery, you will need to repeat these steps.


Verifying the displayed values:



If you notice major deviations between the actual values and the information shown on the display when charging or discharging, please check the connections.



USING THE DISPLAY

After some time, the battery monitor switches to a power-saving standby mode. Activate the display by pressing any key.

From the start screen, press the  key to enter the settings menu. From here, press the  key to return to the start screen of the display.

In the settings menu, press the  key again to adjust the settings. The individual items are now displayed flashing red.

Use the  key to select a value and press the  key to change this value.

Finally, press the  key to save all changes. Press the  key to discard any changes and return to the start screen.

You can change the following settings:

- **CAPACITY** (preset capacity): A default capacity is set at the factory. Please set the actual capacity of your battery here.

- **MAX VOLT** (maximum voltage): If the measured voltage is above this value, the display shows 100 %.
- **MIN VOLT** (zero voltage): If the measured voltage is below the value set here, the display shows 0 % and the display backlight switches off. If the battery continues to discharge, the display starts flashing and shows an alarm message. A warning signal also sounds.
- **ALARM**: If the measured capacity of the battery falls below this value, the display starts flashing. A warning signal also sounds.
- **Full charge calibration voltage**: during charging, when the voltage reaches this preset value, the battery capacity and percentage are both registered as 100% full.
- **LCD-on time**: indicates the time for which the display remains lit, in minutes. The default is „0001“ which equals one minute. If this value is set to „9999“, the display will always be on.


Note: In normal use, you do not need to change the MAX VOLT and MIN VOLT values, which are set to a default value of 0V. If you want to change these values, please first make sure that you know the actual charge and discharge voltage of your battery.

USING THE BLUETOOTH APP

The ECTIVE BM X battery monitor has a **Bluetooth function** that allows you to conveniently monitor the battery's values from your Android or iOS device.

Simply download and install the app „**ECTIVE BM X**“ from the Google Play Store or Apple App Store.

Make sure that the Bluetooth function of your smartphone or tablet is switched on.

Open the app. Here you should now see the battery monitor as an available device. If multiple devices are listed, press the  on the battery monitor for a few seconds to find out the correct device ID. Select the battery monitor to establish the connection. Here you can now display all relevant battery values and make settings.


TECHNICAL DATA

Voltage range	10 to 120V (DC)
Battery capacity	10 to 1000Ah
Max. measured current	500A
Power consumption	≤ 2W
Voltage accuracy (%)	± 2.0%
Capacity accuracy (%)	± 2.0%
Current accuracy (%)	± 2.0%
Temperature range	0°C to +50°C
Connection	Bluetooth, RS485
Dimensions	125 × 82 × 21 mm
Weight	110g
Protection	IP20
Standards	EN 62368-1: 2014+A11: 2017 EN 62479: 2010 ETSI EN 301 489-1 V2.2.3 ETSI ETSI EN 301 48917 V3.2.4 ETSI EN 300 328 V2.2.2

FURTHER INSTRUCTIONS

- While charging or discharging the battery, the battery monitor must be switched on to ensure an accurate measuring of the capacity.
- If a consumer is connected, the display lights up when the current exceeds 100mA. The display now shows the discharge current and discharge voltage in real time. The remaining time displayed may vary if there are major fluctuations in the discharge current. Note: If the display backlight flashes, the B- and P- connections have been reversed.
- If you connect the charger while the connection to the consumer is interrupted, the display backlight will start flashing if the charging current is more than 100 mA. The display also shows the charging current. Note: If the display backlight is permanently lit, the B- and P-connections have been reversed.
- When the charging or discharging current is less than 60mA, the battery monitor goes into a power-saving standby mode and the display backlight turns off. If you press one of the buttons, the display lights up for 10 seconds.

- Due to the high sensitivity of the battery monitor, any electromagnetic radiation in the vicinity (e.g. generated by a high-power motor) may cause the backlight to switch on briefly in standby mode.
- Frequent power fluctuations may reduce the accuracy of the values shown on the display.

 Protect the battery monitor from prolonged exposure to strong sunlight to avoid degradation of the LCD display life.

SERVICE / COMPLAINTS

If you have any questions about your device after purchase or during operation, we are happy to help you. To speed up the process, please provide information by email in advance, whenever possible with an explanation of the issue and photos.

To contact us and for product returns, please use the following service address:

batterium GmbH

Robert-Bosch-Straße 1, 71691 Freiberg am Neckar
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Tip: When contacting us directly, please have your customer or invoice number and the article number ready.

In case you would like to return a product to us, please follow these guideline to ensure a quick and secure handling of the issue:

1. If possible use the original packaging as shipping carton.
2. If you no longer have the original packaging, please use suitable (UN-certified) packaging to ensure adequate protection against transport damage.
3. If the goods are not shipped in the original packaging or a UN-certified packaging, the goods are considered damaged and will therefore need to be billed when the item is returned.

Please enclose the following with the return shipment:

- Copy of the invoice
- (Service Form)
- Reason for return
- An exact and detailed error description

DISPOSAL

Please recycle or dispose of the packaging material for this product.

The German Electronic Equipment Act (ElektroG) regulates how to place electronic devices on the market, how to recycle and dispose of them.

In case of decommissioning of the device, please contact the nearest recycling centre or point of sale in order to get information about the disposal regulations.



STAY IN TOUCH

Would you like to learn more about ECTIVE and our products? Just visit us on our [website!](#)

You want to stay up to date or are looking for inspiration for your next camper conversion? Follow us on [Instagram!](#)

Do you have a specific question? Our [customer service](#) team will be happy to help you. There you will receive quick, qualified help with concerns about our products!

Our goal is to make your life easier with our ECTIVE products. No matter whether you are travelling with a motorhome, a boat or simply a backpack. Whether you're on a trip, at a festival or on a professional photo shoot, we want you to be able to concentrate fully on your adventure or project. A reliable power supply that runs efficiently and safely in the background strengthens your back and you can take care of the essentials: Experiencing unforgettable moments and creating priceless memories.





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