

The E-PowerBox Instruction Manual provides basic instructions to know and follow when using the device.

Read this manual carefully before putting the device into operation. Observe all safety and warning instructions and follow the recommendations given. The manual is part of the product and should remain part of the product even if it changes ownership. Compliance with these instructions is

essential to protect the health of persons and property, and to accept the manufacturer's liability for any defects in the product during the warranty period. Download the official manual for instructions on installation, use, maintenance and service.



Improper use of the product will significantly shorten its life and risk voiding the warranty.

The device is available in 4 basic variants:

E-PowerBox 10

E-PowerBox 20

E-PowerBox 40

E-PowerBox 65

The product variants differ in battery capacity, instantaneous power delivered and box dimensions. The type number corresponds approximately to the maximum wattage recommended by the manufacturer to be connected to the device, in order for it to perform its function.

The devices come in standard configuration with Toshiba batteries, with an expected lifespan of 25 years. A variant with cheaper LiFePo batteries with an expected battery life of 7 years is also possible. At the end of their lifespan, the batteries can be replaced at an authorized service point.

It is assumed that the device is placed directly on a public lighting pole (PLP). The box is designed for outdoor use, IP65 protection rating.

Package content:

- E-PowerBox
- Power cable for connection to VO 5 m
- Metal pole clamp
- Operating Instructions
- 2 pcs 12 V connection cable
- 1 pc power connector



Using the E-PowerBox

The device finds its use wherever you need to ensure a continuous supply of 12 V, 24 V or 48 V DC electricity and this electricity is either only available for a limited period of time or not available at all.

Typical uses of the equipment are, for example, the need to place CCTV systems, WiFi hotspots, electronic area security systems or vehicle speed monitoring systems on VO lamp posts where electricity is only available during the night when the VO lamps are on.

The system can also operate completely autonomously without any connection to a temporary power source thanks to the fact, that solar photovoltaic panels can be alternatively connected to the system. The E-PowerBox can therefore be placed on a separate mast without any connection to the electricity grid.

A combined mode is also possible, where the system charges the batteries from the VO

lamps at night and during the day, when no grid power is available, supplies the end devices with battery power and can also be supported by the connected solar panels. This prolongs battery life and also reduces the cost of electricity drawn from the fixed grid during night-time charging.

The system assumes that it will be connected to an internet network. In this case, it will automatically connect to the cloud "Enstore Backup Systems", where it will continuously store data about its status and from where you as a user can monitor and control it. At the same time, the cloud will inform you of any critical error conditions of the device.

An internet connection is not a prerequisite to ensure the functionality of the device. The system can also work without an internet connection, but in this case you as a user are deprived of the possibility of remote monitoring and control of the device. You will not be aware of any critical fault conditions of the device.

Product variants table

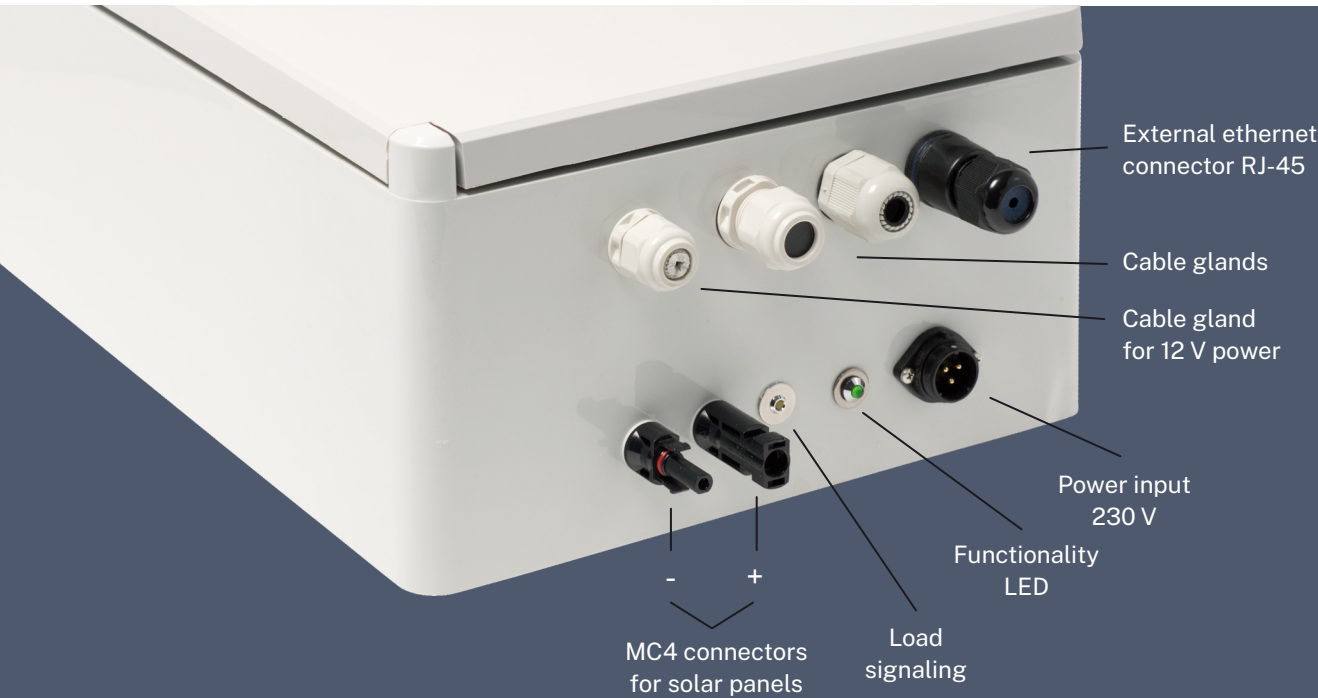
Product variant	Continuous nominal consumption (W)	Comm via internet	Output voltage	Input voltage	Capacity accu (Wh)	Maximum power consumption (A)	Outer dimensions (mm)	Internal compartment dimensions (mm)	Total weight (kg)	Expected battery life
ENSTORE PowerBox 10	10	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	200	3	H = 420 W = 320 D = 180	H = 150 W = 260 D = 80	7	25
ENSTORE PowerBox 20	20	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	400	3	H = 420 W = 320 D = 180	H = 150 W = 260 D = 80	10	25
ENSTORE PowerBox 40	40	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	800	5	H = 500 W = 350 D = 200	H = 150 W = 300 D = 100	15	25
ENSTORE PowerBox 40L	40	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	800	5	H = 500 W = 350 D = 200	H = 150 W = 300 D = 100	11	7
ENSTORE PowerBox 65	65	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	1200	10	H = 500 W = 350 D = 200	H = 150 W = 300 D = 100	22	25
ENSTORE PowerBox 65L	65	YES	3x 12V	AC 230V 50Hz DC 12-22V / 7A	1200	10	H = 500 W = 350 D = 200	H = 150 W = 300 D = 100	16	7

Output voltage

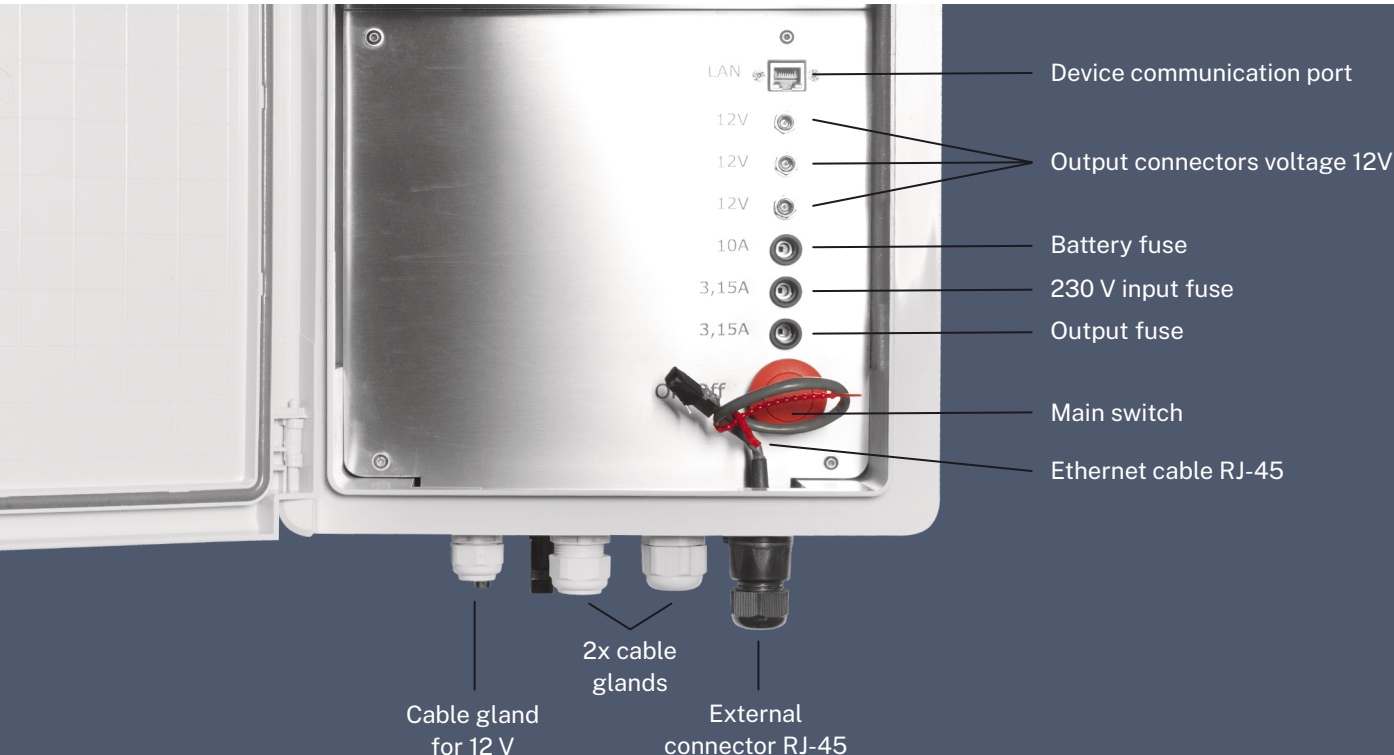
The device offers a basic output voltage of 12 V DC. Adapters for 24 V and 48 V can be purchased as an option. These adapters plug into standard 12 V output sockets.

Description of connectors, controls and status indicators

View of E-PowerBox from below



View of E-PowerBox from inside



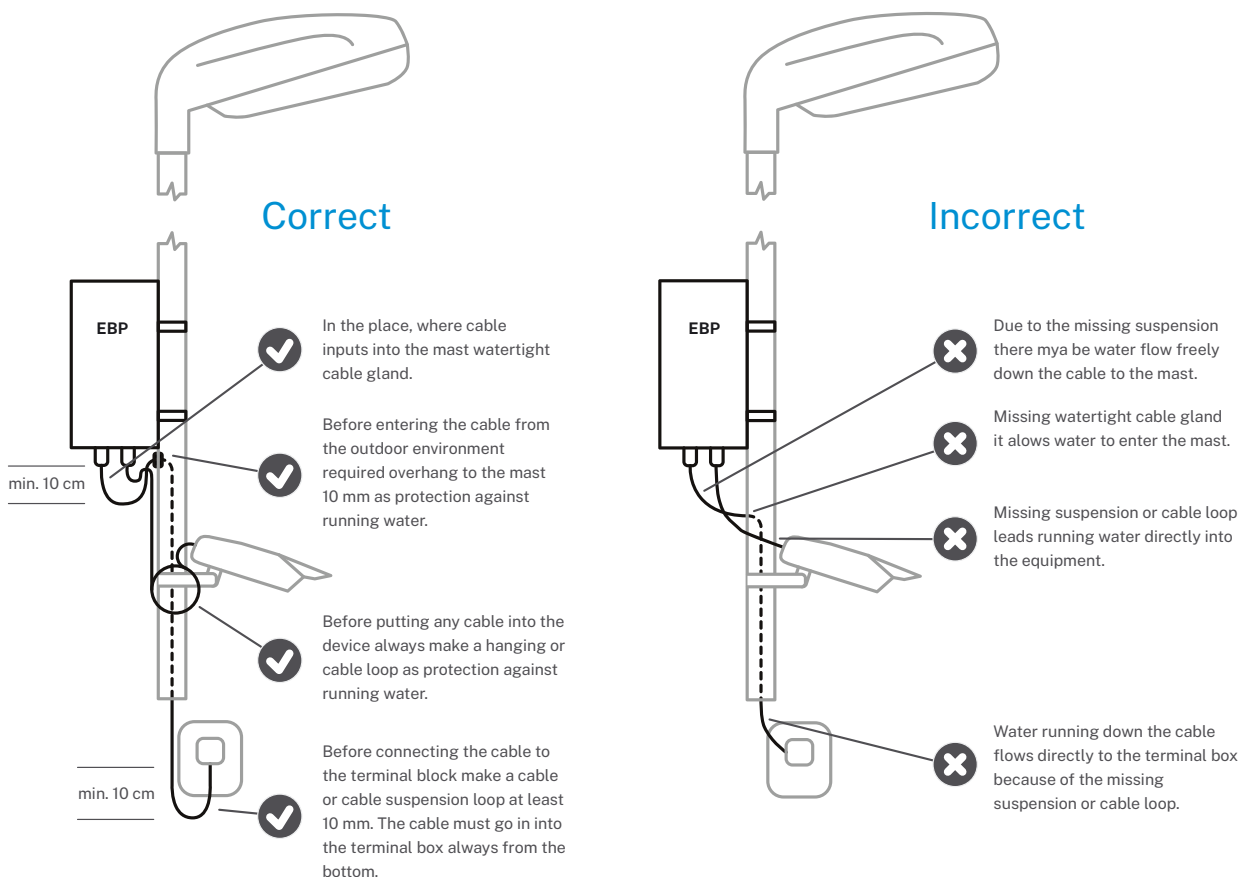
Wiring

- 1** Before connecting, fix the E-PowerBox to a suitable position on the mast or wall. Secure it so that it cannot be loosened. The device **MUST** always be installed with the connectors and grommets from the device pointing down to the ground. Water and moisture must be prevented from entering the interior of the equipment.
- 2** Connect the supplied supply cable to the 230 V AC power supply, usually to the VO lamp socket. The connection of the cable must only be carried out by a person authorised to install and assemble electrical equipment who has been properly trained. Make sure that the main switch is switched off (red button is pressed down). Connect the cable to the power inlet of the device and secure by screwing in the pull nut.

- 3** Ensure that the cable is slack between any mast entry and the device power connector so that rainwater run-off does not run down the cable and into the VO lamp box. The sag should be at least 10 cm below the mast entrance.
- 4** If you will be operating the equipment with solar panels, plug the MC4 connectors into the solar panels.
- 5** Press the main switch to put the device into operation. The green POWER LED on the bottom of the device should light up. This LED indicates that the device is operational.
- 6** You can now plug other powered devices into the 12V connectors.



Always make sure you are using the correct voltage before connecting any device. Using a different voltage may irreversibly damage your device.



Data communication with the monitoring system

The E-PowerBox is equipped with smart technology, allowing data to be transferred via the internet to remote cloud storage. You can access this cloud storage as a user after registration.

Communication with the cloud storage works via the internet. To use the cloud storage services, connect the "LAN" socket with an Ethernet cable to a network with Internet access. The device expects to receive an IP address from a DHCP server (dynamically assigned IP address).

In order for the device to communicate correctly, enable outbound communication on the firewall with the IP address of the e-powerbox.cz domain on ports TCP/9709, TCP/9711 and TCP/9701 and DNS communication on port UDP/53.

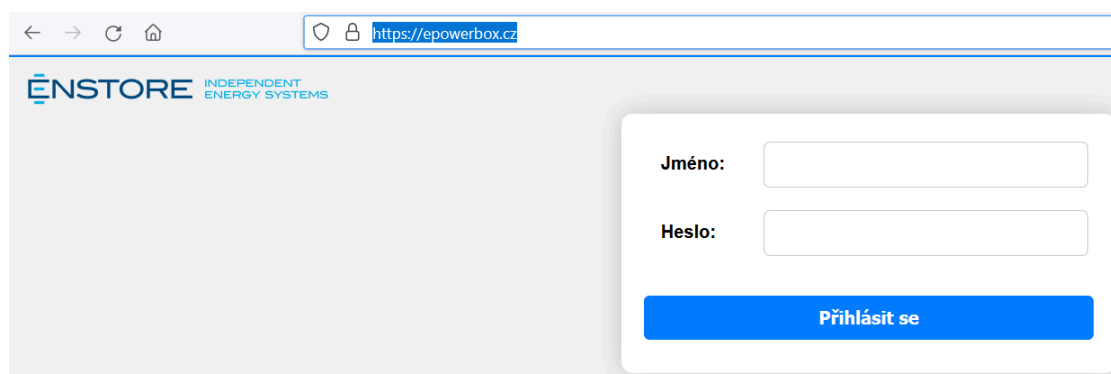
After connecting to the Internet, the device immediately starts sending status data to the server, no additional configuration or registration is required.

Access to the data is possible exclusively via the cloud. It is not possible to retrieve data from the system other than via cloud storage.

User registration

In order to access the data on the cloud storage, the user must set up their personal access with a username and password.

Connect to <https://epowerbox.cz/> using a WWW browser. A login screen will appear.



The screenshot shows a web browser window with the address bar displaying <https://epowerbox.cz>. The page header features the logo for "E-STORE INDEPENDENT ENERGY SYSTEMS". The main content area contains a login form with two input fields: "Jméno:" (Name) and "Heslo:" (Password). Below these fields is a prominent blue button labeled "Přihlásit se" (Log in).

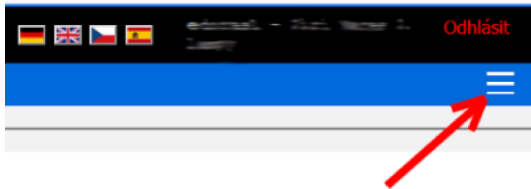
If you have already set up a username and password to access the application, continue by entering them. If you do not have your login credentials yet, click on the

"**Create a new user**" link at the bottom of the login window. If you have had login credentials in the past but have forgotten them, click on the "**Forgot Password**" link.

Add a new device to your own profile

After the first connection, the user is in the system but does not see any devices. These devices have yet to be connected to the user account. After logging into your profile, click on the three horizontal lines on the right side. A menu will appear, from which select "Add a new device".

Enter the 20-digit activation code, which can be found inside the device, in the fields displayed. The code consists of four groups of five characters. Copy the code and press the "Add device" button.



If the entry is correct, the device will immediately appear in your user profile.

Once the device has been added to your user profile, we recommend that you fill in all the details for the device, such as the owner's contact details, the location of the device, etc.

To add a device to multiple user profiles

You can access a device from multiple user profiles at the same time. However, for security reasons, the first time you add a device to a user profile, the device is locked against further additions to other user profiles. If you want to add this device to another user, you must first enable the

addition in the settings of the device. After enabling the addition of the device, it is allowed to be added to another user profile for 24 hours, after which time the option is automatically invalidated and must be reactivated if necessary.

Removing a device from a profile

You can remove a device from the user profile yourself by clicking on the "Remove device from user profile" button. In this case, you will no longer see the device in your profile. The

device remains active in the cloud and continues to collect data. You can add the device again in the future using the above procedure.

Troubleshooting and service

**Problem: There is no voltage at the output terminals.
The "Power" LED is on, but the "out" LED is not.**

- Check in the Cloud the current (or last) status of the device, especially the PercentAKU values, as well as the charging and discharging power (nW and vW). For the PercentAKU entry, make sure to check the current state of the battery and whether the percentage of charge has increased overnight. For Charging Power, look to see if current was flowing to the device during the charge cycle. For the discharge power, look at the total consumption of the device to see if it exceeds the permitted limit. Also compare whether the charging cycle was long enough to fully charge the batteries.
- Unscrew and check the "Output" and "Battery" fuses. If they are blown, replace them.
- Disconnect all connectors from the output terminals and try the red button to turn the device off and on. Check that the "out" LED lights up when switched on. If it does light up, connect the devices to the outputs one at a time and check that the "out" LED is still lit after each connection of another device.
- Check that the device connected to the output is not short-circuited (test its functionality by temporarily connecting it to another power source).
- Check with a voltmeter or other device with a given power supply that the power supply works when the voltmeter or other device is connected.
- Calculate the power consumption of all devices connected to the output terminals. The consumption of all devices must not exceed the limit set by the manufacturer for the type of E-PowerBox.

Problem: The Power LED does not illuminate even though the input power cable of the device is connected to the terminal block and is energized.

- Check in the cloud to see if you see any nW (charging power) values when there is voltage at the terminal.
- Check that the power cable is properly attached to the terminal block, check the tightening of the screws and check with a voltmeter that there is indeed voltage at the terminal block.
- Unscrew and check the fuse in the "230 V input" position for blown fuse. 0 V, zda není přepálená.

Problem: The device works, but I don't see any actual data in the cloud.

- Make sure that the data cable is plugged into the RJ-45 network socket inside the device and that it is plugged in correctly.
- Make sure that the cable that is plugged into the network socket is linking at the network layer (the link light on the switch or modem must come on after the cable is plugged in).
- Check, for example by plugging in a laptop, that the network cable you are connecting to the device is running the automatic IP address assignment service (DHCP) and that the device connected to this cable has access to the Internet.
- Check with your administrator that outgoing traffic on ports TCP/9709, TCP/9711 and TCP/9701 and DNS communication on port UDP/53 are enabled on the network.

Problem: I can't associate a device in the cloud with my user profile.

- Make sure you enter the correct 20-digit registration code.
- The first time you assign a device to a user, it automatically blocks the device from being added to another user profile. The user who performed the activation first must enable this option. The permission is valid for 24 hours. So make sure that someone has not already activated the device before you, and if so, that user must allow you to add the device to your profile.

If the above procedures do not solve the problem, please send a message to **servis@e-powerbox.cz**. In the message, please include the name and serial number of the device, contact details, a description of the problem, and what you have checked and tested.



Do not, under any circumstances, arbitrarily open the equipment outside of the areas designated for opening. Any unauthorized tampering with the equipment will void the warranty on the equipment.



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