PORSCHE

Home Energy Manager

Good to know – Owner's Manual

02/2022

Printed in Germany.

Porscheplatz 1

70435 Stuttgart

Germany

Installation instructions

Keep these installation instructions and hand them over to the new owner when you sell your charger. Due to different requirements in various countries, the information in the thumb index tabs of this manual will be different. To ensure that you are reading the thumb index tab that applies to your country, compare the article number of the charger shown in the “Technical Data” section with the article number on the identification plate on the charger.

Further instructions

For information on fitting the basic wall mount and the charging dock and for the electrical installation of the Porsche charger, please refer to the installation instructions.

Suggestions

Do you have any questions, suggestions or ideas regarding your vehicle or these instructions?
Please write to us:

Dr. Ing. h.c. F. Porsche AG

Vertrieb Customer Relations

Porscheplatz 1

70435 Stuttgart

Germany

Equipment

Because Porsche vehicles undergo continuous development, equipment and specifications may not be as illustrated or described in this manual. Items of equipment are sometimes optional or vary depending on the country in which the vehicle is sold.
For information on retrofitting options, please contact an authorized Porsche dealer. Porsche recommends an authorized Porsche dealer as they have trained technicians and the necessary parts and tools.

Owing to the different legal requirements in individual countries, the equipment in your vehicle may vary from that described in this Owner’s Manual. If your Porsche is fitted with any equipment not described in this manual, your authorized Porsche dealer will be glad to provide information regarding correct operation and care of the items concerned.

About this Owner's Manual

Warning notes and symbols

Different types of warning notes and symbols are used in this Owner's Manual.

DANGER Serious injury or death

Failure to observe warning notes in the "Danger" category will result in serious injury or death.

WARNING Possible serious injury or death

Failure to observe warning notes in the "Warning" category may result in serious injury or death.

CAUTION Possible moderate or slight injury

Failure to observe warning notes in the "Caution" category may result in moderate or slight injury.

NOTE

Vehicle damage possible

Failure to observe warning notes in the "Notice" category can result in damage to the vehicle.

Information

Additional information is provided under "Information".

✓ Prerequisites that must be fulfilled in order to use a function.

▸ Instructions that must be followed.

1. Instructions are numbered in cases where a sequence of steps must be followed.
2. Instructions that must be followed on the center display.

▷ Indicates where you can find more information on a topic.

More Information

You can access the comprehensive Owner's Manual at the following web address:
https://tinyurl.com/porsche-e-help

Table of Contents

Safety

Applicable documents

Description	Type	Note	Info
External power supply unit	STEP-PS/ 1AC/24DC/0.75, article number 2868635		www.phoenixcontact.com
Connectors	2x1754571, 1x1790108, 1x1790111, 3x1790124, 1x1939439		www.phoenixcontact.com
WiFi antenna	HiRO H50284 Wireless 802.11n 2.4 GHz WiFi Gain 2dBi OMNI	2.4 GHz network compatibility only	www.hiroinc.com
Current converter	EChun ECS1050-L40P	50 A input; 33.3 mA output	www.echun-elc.com
	EChun ECS24200-L40G	200A input; 33.3 mA output	
	EChun ECS36400-L40R	400A input; 33.3 mA output	
	EChun ECS36600-L40N	600A input; 33.3 mA output	
	TT 100-SD (LEM)	100 A input; 33.33 mA output	www.lem.com

Safety principles

⚠ DANGER Risk of fatal injury due to electrical voltage!

Potentially fatal injuries as a result of electric shock and/or burns are possible!

- ▸ Always ensure that the system is de-energized during all work and that it is secured against being accidentally switched on.
- ▸ Under no circumstances should you open the housing of the energy manager.

Intended use

The following are not considered to be intended uses:

- unauthorized installation and modification of the energy manager
- any other use of the energy manager beyond that described here

The energy manager is designed as a series installation device and must be installed in compliance with the required electrical/electronic and information technology conditions and the applicable rules and regulations. If need be, care must be taken to ensure that the device is safe to touch.

For the electrical/electronic part, this means that the energy manager must be installed in a suitable housing.

Only USA: The energy manager kit sold in the USA has been bundled with a UL-certified enclosure from Günther Spelsberg GmbH & Co. KG. Selected parts are available for repair through authorized Porsche dealers.

Disclaimer

No repairs are possible in the event of damage due to transport, storage or handling. Opening the housing of the energy manager invalidates the warranty. This also applies if damage occurs due to external factors such as fire, high temperatures, extreme environmental conditions or improper use.

Qualification of personnel

The electrical installation may only be carried out by individuals with relevant electrotechnical knowledge (electricians). These individuals must demonstrate the required expertise for the installation of electrical systems and their components by passing an examination.

Improper installation can endanger your own life and the lives of others.

Requirements to be met by the installing electrician:

- Ability to evaluate the measurement results
- Knowledge of IP protection classes and their application
- Knowledge of how to install the electrical installation material
- Knowledge of the applicable electrotechnical as well as the nationally applicable regulations
- Knowledge of fire safety measures as well as general and specific safety and accident prevention regulations
- Ability to select the appropriate tool, measuring equipment and, if necessary, personal protective equipment and electrical installation material to ensure shutdown conditions
- Knowledge of the type of supply network (TN, IT and TT system) and the resulting connection conditions (classic grounding, protective grounding, necessary additional measures

Notes on installation

The electrical installation must be performed such that:

- the contact protection for the entire electrical installation is provided at all times in accordance with the locally applicable regulations.
- the locally applicable fire protection regulations are observed at all times.
- the display and control elements and the USB interfaces of the energy manager are safe to touch for customers and accessible without restrictions.
- the maximum permitted cable length of 9.8 ft. (3m) per current sensor is complied with.
- the inputs for voltage measurement, the external voltage supply and the relay on the energy manager are secured with appropriate series fuses.
  ▷ Refer to chapter “Connection to the power grid“ on page 11.
- when laying the installation cables, the correct length and the product-specific bending radii are observed.

Should the installation environment require overvoltage category III (OVCIII), the input side of the external supply voltage must be protected by an appropriate protective circuit (e.g. with Varistor) that meets the locally applicable regulations.

Installation at high altitudes

Sensor supply cables that are installed in electrical installations at an altitude of over 6,600 ft. (2,000m) or that must conform to overvoltage category III (OVCIII) due to their installation location must additionally be insulated using heat-shrink tubing or suitable insulation tubing with a dielectric strength of 508 V/mil (20kV/mm) and minimum wall thickness of 0.016 in. (0.4mm) along the entire length of cable between the sensor output (housing) and the input terminal on the energy manager.

Overview

Example for Home Installation

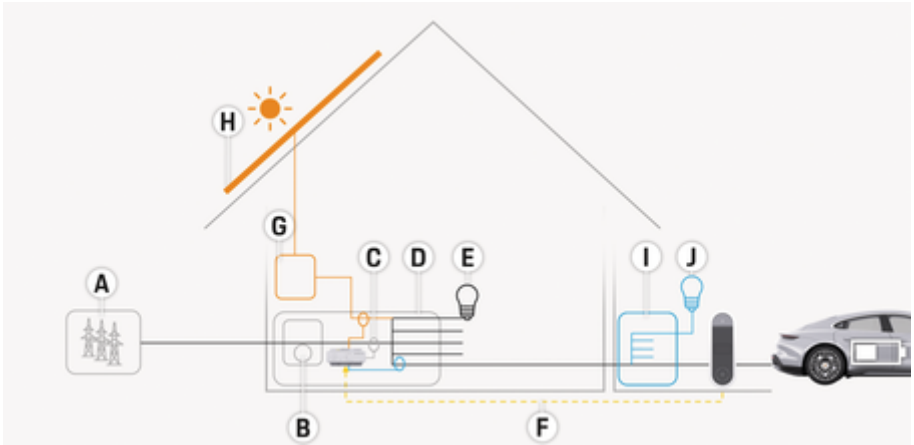

Fig. 1: Example of home installation with photovoltaic system and sub-distribution

A Power supply (1- to 3-phase, here 1-phase)
B Electric meter
C Current transformer (1 current transformer per phase)
D Distributor
E Household power consumers
F EEBus protocol
G Inverter
H Photovoltaic system
I Sub-distribution
J Power consumers outside the house

Connection diagram

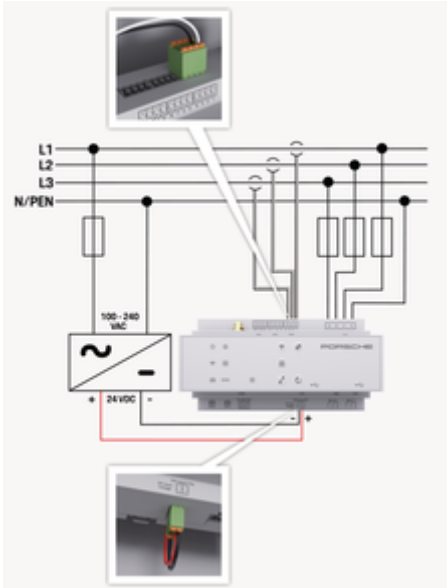

Fig. 2: Wiring diagram

L1 L2 L3	up to 3 phases
N/PEN	Neutral conductor
100-240 VAC	Input voltage
24 VDC	Output voltage

NOTE

The assignment of phases L1 - L3 may▷ (Fig. 2) differ from the illustration shown. Please check the phase assignment of your home connection.

Displays and controls

Fig. 3: Displays and controls

Displays	Description
On/Off status	LED lights up green: Energy Manager is ready for operation.
Internet status	LED lights up green: Internet connection established
WiFi status	LED flashes blue: Hotspot mode – no client connected LED lights up blue: Hotspot mode, at least one client connected LED flashes green: Client mode, no WiFi connection available
	LED lights up green: Client mode, WiFi connection available LED lights up or flashes blue: Parallel operation in client mode is possible. LED flashes yellow: WiFi connection setup via WPS
Powerline Communication (PLC) network status	LED flashes green: Searching for PLC network connection. LED lights up green: PLC network connection established. LED flashes blue: Activating DCHP. LED lights up blue: DHCP (only for PLC) is active and there is a PLC network connection.
Ethernet status	LED lights up green: Network connection established.
10101 RS485/ CAN status	On: LED lights up green during communication (currently not assigned).
Error status	LED flashes or lights up yellow: Error present LED lights up red: Functions restricted

Controls	Description
WPS button	▸ To establish a WiFi connection using the WPS function, briefly press the WPS button (only network connection as client possible).
WiFi button (hotspot)	▸ To activate WiFi, press the WiFi button briefly. ▸ To deactivate WiFi, press the WiFi button for more than 1 second.
PLC pairing button	▸ To activate the PLC connection, briefly press the PLC pairing button. ▸ To activate the Energy Manager as a DHCP Server (only for PLC connections), press the PLC pairing button for more than 10 seconds. ▸ To pair a PLC with a client, briefly press the PLC pairing button again.

Controls	Description
Reset button	▸ To restart the device, press the Reset button for less than 5 seconds. ▸ To reset the passwords, press the Reset and CTRL buttons for between 5 and 10 seconds. ▸ To reset the device to factory settings, press the Reset and CTRL buttons for more than 10 seconds. All current settings will be overwritten.
CTRL button	
USB connection	USB connection

▸ For information on network connection options, please refer to the Porsche Home Energy Manager installation instructions on the Porsche website at the following address:
https://tinyurl.com/porsche-e-help

Device connections overview

Device connections, top

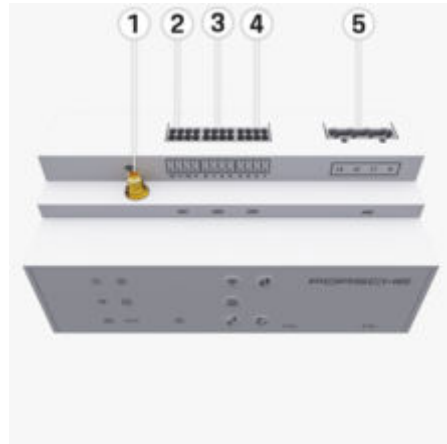

Fig. 4: Top device connections overview

1	WiFi antenna
2/3/4	Current converter (J301), Current converter (J300), Current converter (J200)
5	Voltage measurement (J400), Voltage range: 100 V — 240 V (AC)(L-N)

Device connections, bottom

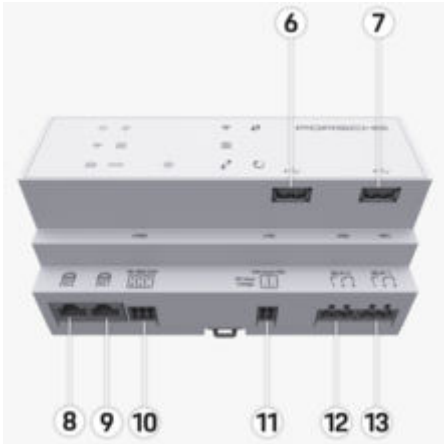

Fig. 5: Bottom device connections overview

6 USB1
7 USB2
8 ETH 0
9 ETH 1
10 RS485/CAN (J1000) (not assigned)
11 Power supply (J102), 24 V (DC)
12 Relay (J900) (not assigned)
13 Relay (J901) (not assigned)

▷ Refer to chapter “Connector overview“ on page 9.

Installation and connection

Connector overview

The overview of the device connections ((Fig. 4), (Fig. 5)) shows the connection position of the plug connectors that are used for current converters, voltage measurement, relay contacts and communication. The pin position is shown graphically for each plug connector type. The tables show the pin assignment with the corresponding signal.

▷ Refer to chapter “Device connections overview“ on page 7.

Plug connector current measurement

Information

Be sure to write down the connection positions of the current converters, the type of the current converters, their phase assignment and the rated current of the phase fuse, as they will be queried later during the configuration of the energy manager (installation wizard for the web application).

Parameter	Value
Connectors	J200/Y300/Y301
Manufacturer	Phoenix Contact
Bushing part number	1786853
Connector part number	1790124

Connector overview J200/J300/J301

The plug connectors of the current converters (J200, J300, J301) are identical in construction and can be connected variably in one of the terminals ((Fig. 4 **2/3/4**)) provided for this purpose.

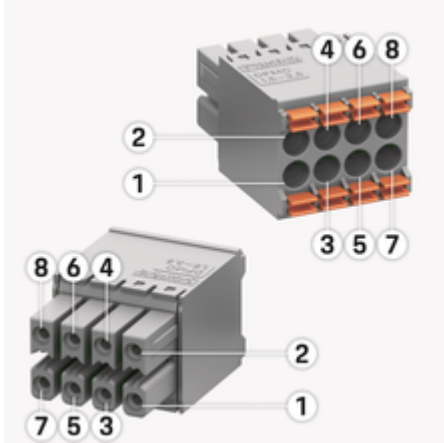

Fig. 6: Overview J200/J300/J301

PIN	Current converter			Code
	J200	J300	J301	
1	1	5	9	"I", black
2	1	5	9	"k", white
3	2	6	10	"I", black
4	2	6	10	"k", white
5	3	7	11	"I", black
6	3	7	11	"k", white
7	4	8	12	"I", black
8	4	8	12	"k", white

In the case of the LEM current converter cable (100 A), the cable is not white, but rather black and white.

Information

Note the connector orientation when plugging into Home Energy Manager! Pins 1, 3, 5, 7 are rounded, pins 2, 4, 6, 8 are rectangular.

Plug connector voltage measurement

Parameter	Value
Connectors	J400
Manufacturer	Phoenix Contact
Bushing part number	1766369
Connector part number	1939439

Connector J400 overview

Fig. 7: Overview J400

PIN	Signal
1	Neutral conductor N
2	Phase L1
3	Phase L2
4	Phase L3

Power supply plug connector

Parameter	Value
Connectors	J102
Manufacturer	Phoenix Contact
Bushing part number	1786837
Connector part number	1790108

Connector J102 overview

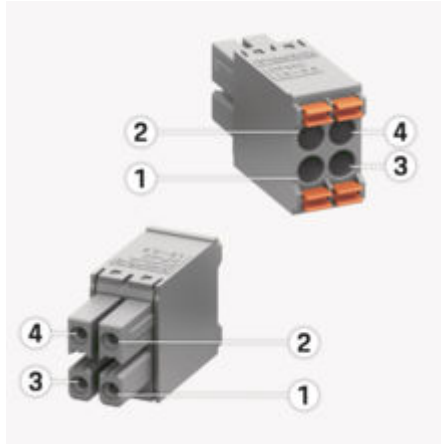

Fig. 8: Overview J102

PIN	Signal
1	V (+) 24 V DC ±1%
2	V (-) 24 V DC ±1%
3	V (+) 24 V DC ±1%
4	V (-) 24 V DC ±1%

Information

Note the connector orientation when plugging into Home Energy Manager! The pins 1, 3 are rounded, the pins 2, 4 rectangular.

Relay contact plug connector

Parameter	Value
Connectors	J900/Y901
Manufacturer	Phoenix Contact
Bushing part number	1757255
Connector part number	1754571

Connector overview J900/J901

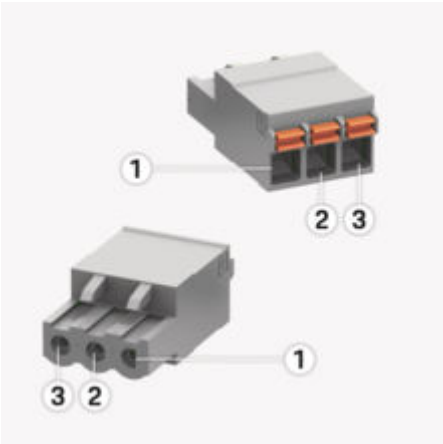

Fig. 9: Overview J900/J901

PIN	Signal
1	Normally open contact
2	Joint contact
3	Normally closed contact

Information

The relay connections of the Home-Energy-Managers are currently deactivated and do not function.

Connector communication

Parameter	Value
Connectors	J1000
Manufacturer	Phoenix Contact
Bushing part number	1786840
Connector part number	1790111

Connector overview J1000

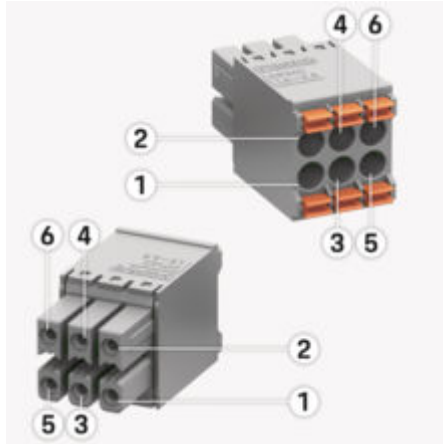

Fig. 10: Overview J1000

PIN	Signal
1	RS485 signal B -
2	RS485 signal A +
3	Ground
4	Ground
5	CAN Low
6	CAN High

Information

Note the connector orientation when plugging into Home Energy Manager! Pins 1, 3, 5 are rounded, pins 2, 4, 6 rectangular.

Connection to the power grid

Installation of Circuit Breakers

Information

Line protection fuses are not included in the scope of delivery and must be installed by a qualified electrician.

The energy manager does **not have any internal fuses**, which means that the inputs of the voltage measurement, the external power supply and the relay must be protected with suitable back-up fuses.

- The operation of the energy manager requires overcurrent protection of all supply lines. It is important to select fuses with sensitive tripping criteria.
- The selection of fuse elements is based on the commercially available components of the respective country of use.
- Components with the lowest tripping current and the shortest tripping time must be used.

Prepare distributor cabinet

For information on the space requirement of the energy manager:

▷ Refer to chapter “Technical Data“ on page 30.

- ▶ Provide 11.5 pitch units on a DIN rail for installation of the energy manager inside the distributor cabinet.
- ▶ Install the power supply unit of the energy manager at a distance of at least 0.5 pitch units to its housing.
- ▶ Protect all electrical interfaces from direct/indirect contact.

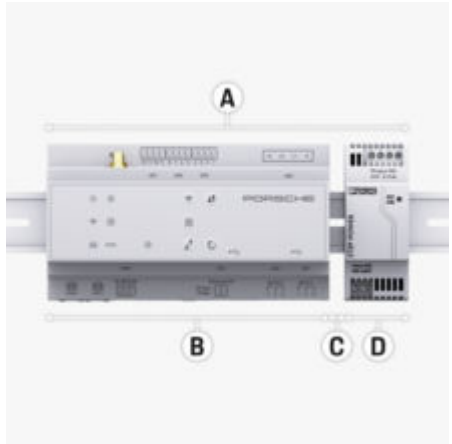

Fig. 11: Prepare distributor cabinet

A	11.5 pitch units
B	9 pitch units
C	0.5 pitch units
D	2 pitch units

Assembly in distributor cabinet

✓ Top-hat rail mount on the housing of the energy manager is unlocked.

1. Place the top-hat rail mount on the top-hat rail in the distributor cabinet at an angle.
2. Tilt the housing of the energy manager and place it flat on the DIN rail.
3. Lock the DIN rail mount on the housing of the energy manager.

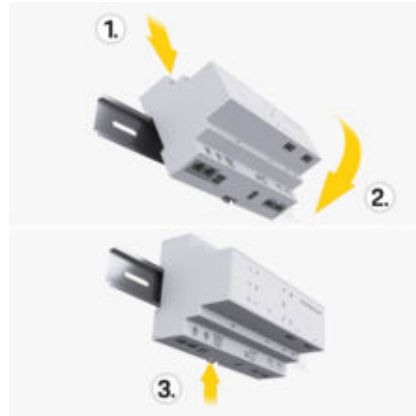

Fig. 12: Assembly in distributor cabinet

4. Check whether the energy manager is firmly locked on the DIN rail.

Installing the current converter

NOTE

Incorrect measuring direction of the current converter

Installing the current converter in the opposite direction of measurement can result in incorrect results and malfunctions.

- ▶ Observe the measuring direction of the current converter (Fig. 15, yellow arrows).

The current converters for measuring the total current of the premises/household must be installed after the main fuse on the respective main phases. No distribution of the energy flows into further sub-circuits may have happened yet.

▷ Refer to chapter “Overview“ on page 5.

- Make sure that all materials protecting against corrosion are removed from the current converter.
- Observe the maximum permissible cable length of 3.0 m per current converter.
- Select installation position with straight line and observe the measuring direction (in the direction of the arrow towards the load) ((Fig.), yellow arrows).
- Insert the installation line into the current converter and close the cap of the current converter ((Fig. 13), yellow arrow).
- Make sure that the current rating of the current converter is actually greater than that of the circuit breaker.
- Insert the current converter cables into the plug connectors first and only then insert the plug connectors into the device interfaces.

Information

Make a note of the type of current converter, the connection position on the energy manager and the phase (e. g. L1 or L2), to which the current converter was attached. You will need this information to configure the current converters in the Web Application.

If measuring cables must be extended, use the same cable type if possible.

If the installation environment requires the use of an optional wall-mounted distributor, the lines must be routed into the wall-mounted distributor through suitable cable routing systems (empty pipes, cable ducts, etc.).

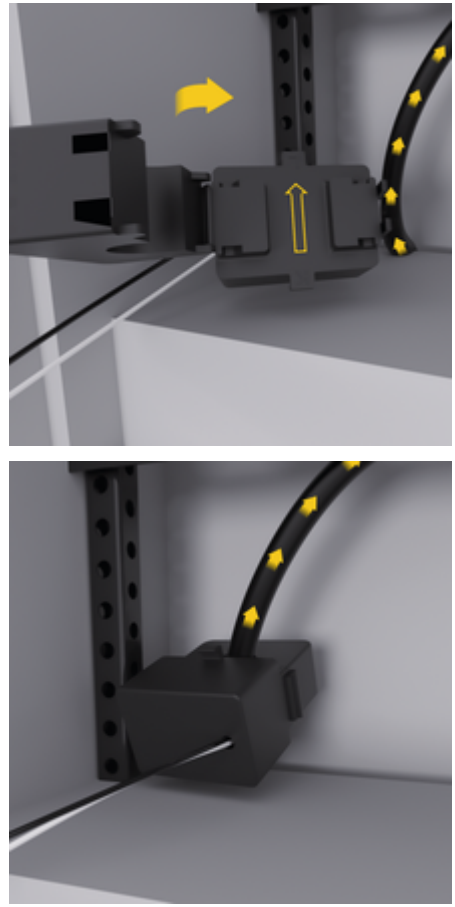

Fig. 13: Current converter installation example

Laying connecting cables

Before installation of all devices, the connecting cables must be laid inside the distributor cabinet in accordance with the locally applicable regulations and all electrical interfaces must be protected from contact.

- Use suitable installation cables that comply with the locally applicable regulations.
- Cut the installation cables to length in accordance with the space and installation positions.
- Observe the product-specific bending radii of the installation lines to avoid defects in lines and hardware.

Connection to the building installation

NOTE

Incorrect assignment of the phases

Incorrectly assigned phases can lead to false results and malfunctions.

In the case of a multi-phase power grid, ensure that there is one phase at the house connection that corresponds to the phase at the Porsche charger connection and, if necessary, to the phase of an inverter of a photovoltaic system. There should be no phase shift at any point, otherwise the phase-specific charging functions will not work. With this installation, current converters can be assigned to the power sources and power consumers inWeb Application in normal phase sequence (e.g. L1-L2-L3) corresponding to the phases of the voltage measurement.

All devices must be connected to the existing building installation in accordance with the locally applicable regulations and standards.

Communication between the charging cable and the energy manager

– The smart charging cable is multi-phase connected (socket or fixed):

▶ Make sure that the phases on the energy manager and charging cable match.

– The smart charging cable is single-phase connected:

▶ When assigning phases in theWeb Application, use the phase to which the smart charging cable is connected.

Connecting the external power supply unit

▶ Follow the manufacturer's installation instructions.

▷ Refer to chapter “Applicable documents“ on page 3.

▶ Connect the DC output to the energy manager according to the terminal assignment of the connector for the power supply (J102).

▶ The power supply unit is connected to the energy manager with cables. Wiring the cables must be done by a qualified electrician.

Connecting RS485/CAN communication

Information

No application for connection to RS485/ CAN in the software (08/2019). For future functions, please refer to the release information accompanying new software versions.

When connecting the energy manager to the building installation, there is a risk that the DC power supply connector (J102) will be accidentally inserted into the port for RS485/CAN. This can damage the energy manager. By plugging in the six-pin connector without the connecting cable (J1000), which is included in the kit, you eliminate the possibility of confusing the connections.

▶ Plug the connector without connecting cable into the J1000 connection in the energy manager housing.

Connecting relay channels

Information

Does not have an application for connection to relay channels in the software. For future functions, please refer to the release information accompanying new software versions.

The energy manager's scope of delivery includes a corresponding plug connector without connecting cable.

▶ Insert the plug connector without connection line into the connection J900/J901 in the housing of the energy manager.

Connecting current and voltage measurement

The current and voltage measuring channels are connected via several plug connections. The required plug connectors are supplied with the energy manager. If the current converters or the conductors are not connected or are connected incorrectly for voltage measurement, significant function restrictions will follow.

▶ When connecting the current converters and lines for voltage measurement, observe the device labeling. A video for a single-phase installation can be found on the Porsche website at the following URL:

https://tinyurl.com/porsche-e-help

Initial Commissioning by Customer Service

After installing the energy manager, the device must be configured for initial commissioning.

Information

Initial commissioning may only be performed by a qualified electrician.

During initial commissioning, an installation wizard in the Web Application guides you through the necessary settings (e. g. connections, user profile, optimized charging). Some of the settings made here, such as for the system and maintenance, can also be changed later by the home user. The electrician must perform the home setup within the installation wizard. This includes the configuration of the current converters and the addition of EEBus devices.

The energy manager is then ready for operation.

Requirements for initial commissioning

The following information should be available for setting up the energy manager:

- Access data letter for registration to the Web Application
- Private data such as the access data of your home network and the access data of the user profile (for linking with your Porsche ID) do not have to be provided.
- Information on electricity tariffs/prices and, if applicable, feed-in tariffs

Information

Only the letter containing access data is necessary for partial commissioning. All other settings can also be made subsequently.

The following browsers are supported by the Web Application:

- Google Chrome from version 57 (recommended)
- Mozilla Firefox from version 52 (recommended)
- Microsoft Internet Explorer from version 11
- Microsoft Edge (recommended)
- Apple Safari from version 10

▶ The detailed description of the installation assistant with all the steps can be found in the online version of the installation instructions on the Porsche website at the following address:
https://tinyurl.com/porsche-e-help

Connecting to the device

In order to access the Web Application of the energy manager, a connection must first be established between the end device (PC, tablet or smartphone) and the energy manager. For an overview of all connection options, ▷ Refer to chapter "5. Select network connections" on page 19.

▶ Select the appropriate connection type depending on signal strength and availability.

Forward to the Web Application

Information

Depending on the browser you are using, the Web Application is not opened immediately, but rather a message indicating the browser's security settings is displayed first.

1. Select **Advanced** in the warning message displayed in the browser.
2. In the following dialog window, select **Add exception**.
   ➡ The SSL certificate is confirmed and the Web Application is opened.

WiFi

Two options are available for a WiFi connection:

– Hotspot:
  The energy manager offers a wireless access point (hotspot), which is password-protected and requires a manual login. A WiFi-enabled end device can connect to the hotspot and access the Web Application of the energy manager.
– WiFi network via WPS function:
  The energy manager can connect to an existing home network (e. g. network router) can be paired via the WPS function without entering a password.

Web Application Opening via hotspot

✓ Energy manager is turned on. The energy manager automatically opens its WiFi hotspot.

1. If the **WiFi status** does not flash blue or light up, press the **WiFi** button of the energy manager.
2. Open the network symbol or WiFi symbol in the info bar on the end device.
3. Select WiFi network from the list. The name of the WiFi network corresponds to the SSID in the letter containing access data and is displayed as **HEM-########**.
4. Select the **Connect** button.
5. Enter security code. The security code is marked as **WiFi PSK** in the letter containing access data.
   ➡ Establishing a connection to the WiFi network.
   Note: For the Windows 10 operating system, the PIN input of the router is requested first. Select the link **Establish connection with PLC security key** and then enter the key.
6. Open the browser.
7. Enter the IP address of the energy manager in the browser address bar: 192.168.9.11
   – or –
   Enter the DNS address of the energy manager in the browser address bar: https://porsche.hem

▷ Observe the operating instructions for the Porsche Home Energy Manager.

open Web Application via WiFi (WPS function)

1. Press the WPS button on the network router.
2. Press the **WPS**button on the energy manager within 2 minutes.
3. Select the relevant network in the router settings and determine the IP address of the energy manager.
4. Enter the IP address of the energy manager in the browser address bar.

▷ Observe the operating instructions for the Porsche Home Energy Manager.

Information

Some routers provide the ability to reach the Web Application using the host name **Porsche-HEM**(e.g. via https://porsche-hem/).

Ethernet

1. Connect the Ethernet cable to the energy manager (port ETH0).
2. Select the relevant network in the router settings and determine the IP address of the energy manager.
3. Enter the IP address of the energy manager in the browser address bar.

PLC client

The energy manager can be integrated into a PLC network as a client.

Note: A PLC modem with HomePlug standard is required for this purpose (not included in the scope of supply).

- Enter the security code of the energy manager in the PLC modem to register it in the PLC network.
  – or –
  Press the pairing button on the PLC modem and press the **PLC**button on the energy manager within 60 seconds.

Network connections overview

You will find an overview of the network connections at the end of the operating instructions after the last language.

Log in to Web Application

Two users (user roles) are Web Application available for logging into the: **Home users** and **customer service**.

The **customer service** user role may only be used by an electrician or a Porsche service partner. The electrician is responsible for setting up the energy manager. They execute the installation setup wizard, which includes the home installation, and have all the configuration options available in the web application.

Log in to Web Application

✓ Access data is available.

1. Select the user**Customer service**.
2. Enter password (identified as **Tech User password** in the letter containing access data).

Start first installation

The installation wizard guides the electrician through the entire installation process step by step.

- To complete a step in the installation wizard, enter the desired setting and confirm with **Next** .
- To go back a step, select **Back** in the Web Application. **Do not use the browser's Back button**.

Information

If the installation process is interrupted, the session can be resumed after logging in again. After 25 minutes of inactivity, the user is automatically logged out of the Web Application.

The installation wizard can only be started as customer service. When you log in as a home user, the prompt for the logout follows after the welcome.

1. Start installation

- On the start page, select **Next** to initiate the configuration steps of the installation wizard.

2. Set language, country and currency

Field	Explanation
Language	Select the language for the Web Application.
Country	The country of use. The configuration settings are country-specific. If the information differs from the actual place of use, not all settings may be available.
Zip code	Zip code for location of use.
	Specifying the zip code will allow for more accurate weather forecasts in a later software release. This will improve the management of energy generated from photovoltaics.
Date and time	When connected to a network, the date and time are automatically applied. **Time zone**: Must be selected manually. **User-defined time**: Specify the current time if the network time is not available as a reference.
Currency	The desired currency.

3. Agree to data transfer

Carefully read the data protection notice for Web Application of the energy manager.

- Consent with **Next** to the data privacy notice.

Information

Legal notes and privacy policy with information on third-party content and licenses can be called up at any time using the corresponding link from the Web Application.

4. Select update and backup

Automatic software updates

Information

For automatic software updates, the energy manager must have an internet connection.

Software updates are automatically installed when the function is activated.

- Activating the **Automatic software updates** function.

Automatic backups

When this function is activated, the backups are automatically stored on the connected USB storage device.

1. Insert the USB storage medium into one of the two USB ports of the energy manager (USB storage medium has file system ext4 or FAT32).
2. Activate function.
3. **Password assigned**: Enter password.

   The password protects your data and must be entered when importing or restoring the backup.

Information

It is still possible to perform a backup manually.

5. Select network connections

To use the energy manager via the Web Application, the end device (PC, tablet or smartphone) and energy manager should be in the home network (WiFi, PLC, Ethernet). All functions of the Web Application can be used through the internet connection of the home network.

If there is no home network available at the place of use, your end device can log in directly to the energy manager via its WiFi hotspot. However, this means that there is no internet connection and only the locally installed functions are available.

Information

In the Web Application, the hotspot connection should only be disabled if integration into a home network is possible.

▷ Observe the operating instructions for the Porsche Home Energy Manager.

▶ Select the desired network connection (WiFi, Powerline Communication (PLC), Ethernet).

WiFi

The energy manager can be connected to an existing WiFi network (e.g. via a network router).

Client mode is activated in the Web Application. The energy manager can be added to the network both manually by entering a password or automatically by using the existing WPS function.

If the energy manager is connected to the network router, it automatically obtains an IP address that can be viewed in the settings of the energy manager and router.

The prerequisite for using a WiFi connection is that the WiFi network is received at the place of use of the device. Does your smartphone, which is logged into your WiFi network, have WiFi reception at the place of use of the energy manager? If reception is weak, it can be improved by changing the WiFi router or using a WiFi repeater.

1. Activate WiFi.
   ➡ Available WiFi networks are displayed.
2. Add the energy manager to the WiFi network:
   - **Option 1:**entering password
     - Select the relevant network from the list and enter the security code.

       Different network: Select if the network should be invisible.
     - Select that the IP address should be assigned automatically (recommended).
   - **Option 2**: through the WPS function
     - Press the WPS button on the network router.
     - Within 2 minutes, select the**WPS** button in the Web Application and select the relevant network from among the available networks.

   ➡ The IP address appears as soon as the connection to the network is established.

   In the list, the network shows the status**Connected**.

Powerline Communication (PLC)

Communication with the Powerline Communication takes place via the power supply network. The existing power grid is used to establish a local network for data transmission.

The energy manager can be linked to a PLC network in two ways:

As PLC client:

The energy manager is registered as a client in a PLC network. The PLC modem assigns an IP address to the energy manager and enables communication via the power grid. The security code of the energy manager must be entered on the PLC modem.

- Note: A PLC modem with HomePlug standard is required for this purpose (not included in the scope of supply).

With DHCP server:

The energy manager can act as a DHCP server. This allows the charger to be connected directly to the energy manager without the need for a PLC modem. This assumes the activation of the DHCP server in the Web Application. Other connections (e.g. WiFi or Ethernet) can be maintained at the same time. Internet can also be made available to the charger via this path.

1. Activate **Powerline Communication** .
2. Add the energy manager to the PLC network:
   - **Option 1**: using the pairing button
     - Press the pairing button on the PLC modem.
     - Within 60 seconds, select the **Connect** button in the Web Application.
   - **Option 2**: entering the security code on the energy manager
     - In the Web Application, select the option **Establish connection with PLC security key**,
     - Enter the security code of the PLC modem.
     - Select the button **Connect**.
   - **Option 3**: entering the security key on the PLC modem

     Note: A PLC modem with HomePlug standard is required for this purpose (not included in the scope of supply). This option is only possible if no other PLC connection has existed before.
     - Enter the security code of the energy manager in the PLC modem to register it in the PLC network.
     - Select whether the IP address should be automatically assigned (recommended) or statically defined.

   ➡ When assigned automatically, the IP address appears as soon as the connection to the network has been established.

Establish direct PLC communication with the charger:

1. Activate the **DHCP server** in the Web Application.
   – or –
   Press the PLC pairing button on the Home Energy Manager for more than 10 seconds to activate the DHCP server.
2. Select the button **Connect** in the Web Application.
   – or –
   Briefly press the PLC pairing button on the Home Energy Manager .
3. Select the **PLC pairing button** on the charger within 60 seconds (**Settings** ▶ **Networks** ▶ **PLC**).

Information

Interfering power consumers, power network equipment or an unsuitable network topology can cause temporary or permanent PLC communication failures.

Ethernet

The data is sent via an Ethernet cable, which connects the energy manager with the network (e. g. network router). When a connection is established, an IP address is automatically assigned to the energy manager.

1. Connect the Ethernet cable to the energy manager (port ETH0).
2. Select whether the IP address should be automatically assigned (recommended) or statically defined.

6. Set up user profiles

Information

If you do not yet have a Porsche ID, you can create one first. The Porsche ID can be linked at a later time. To do this, go to **Connections** > **User profiles**. To transfer data to your Porsche ID account, the device must be connected to the internet.

Information on the energy manager can also be called up in your Porsche ID account. To do this, the energy manager must be linked with the Porsche ID.

✓ The energy manager has an internet connection.

1. Select the button**Link Porsche ID**.
   ➡ The dialog **Link user account** is opened.
2. Depending on whether there is an internet connection, select the following option:

Option	Explanation
To My Porsche	✓ End device with internet connection ▶ You will be forwarded directly to the Porsche ID account login page.
Additional options	✓ End device without internet connection ▶ Scan the displayed QR code or manually enter the displayed URL in the browser using an end device that has an Internet connection.

▶ On the website for the Porsche ID account, enter the login data (Porsche ID, password).

Information

Following the success message on the Porsche website, registration in the HEM can take up to 2 minutes to complete. Do not click anything until the successful link is confirmed in the HEM Web Application.

7. Home setup: Setting mains phases

Set the number of available mains phases for the house connection.

Option	Explanation
Single phase	Only one phase is used.
Split phases	Single-phase three-wire network
Three-phase	Three phases are used.

8. Home setup: Assign current converter

The possible connection positions of the current converters are listed here in tabular form.
The **Connection position** on the device (CTx, where x=1-12) must be set individually for each current converter.

The connection positions for which the current transformer cables were connected to the device must be activated and configured (numbering on the device from right to left 1–12). In addition, it is necessary to define which phase is measured with the current converter.

Information

A maximum of twelve current transformers can be connected and configured. This makes it possible to monitor the main lines and lines to the sub-distribution systems and a solar system.

✓ The connection positions of all connected current transformers were checked on the device.

1. Activate the current converters used for monitoring in the table.
2. Enter the corresponding settings for each current converter:

Column	Explanation
Active	Connection position is active
Connection position	Connection position on the device See designations on device 1 — 12 from right to left.
Phase	Specification of the phase that is measured by the current converter at the specified connection position (CTx).
Current sensor	Designation of the installed current converter.
	If in doubt, check the identification of the installed current converter.
Current limit [A]	Specification of the current limit of the line fuse to which the current converter is connected. The value must not exceed the rated current of the fuse of the line to which the current converter is connected. A 2 A lower value is recommended. The default setting is therefore 30 A for 32 A fuses.
Live analysis*	Visibility in live analysis

*** For live analysis**

The live analysis is used by the electrician to check whether the phase is configured correctly and whether the current transformer was installed correctly. The live analysis shows current values with direction (+/-) from a measured current of 3 A and also gives an estimate of the phase at which the current converter is located. In relation to the current direction, there is a consumption at negative values, and at positive values there is a supply at the measuring point. The measured current of a solar system must be negative.

The live analysis has no claim to complete accuracy. However, it is recommended that the installation and configuration be checked if different information is provided:

- **In the case of an incorrect current direction:** Check the installation of the current converters and the connection of the current converter lines to the device to ensure that individual current transformers have not been connected the wrong way around.
- **If the phase is different:** Check the installation of the current converters, whether the current converters are on the correct phase and, if necessary, adjust the configuration of the phase in the web application for the current converter.

9. Home setup: Configuring power sources

The connected current transformer is specified for each phase of the house connection and for other power sources (e.g. photovoltaic system) available at the place of use.

Home connection

Only the current converters created in step 8 are displayed.

1. Assign a current converter to a phase.
2. If necessary, create additional current converters in step 8.

Photovoltaic system

If there is a photovoltaic system at the place of use, information about the connection type and feed-in compensation is required for energy management.

1. Activate function.
2. Select the connection type for the photovoltaic system:

Option	Explanation
Load side or excess feed	The photovoltaic system is connected to the mains power supply after the house connection. Excess energy from the photovoltaic system flows via the house connection into the grid (the current measured by the energy manager at the house connection can be positive in this case).
Mains side/ full feed	The photovoltaic system is connected to the mains power supply in front of the house connection. The energy from the photovoltaic system is fed directly into the grid.
Example	Shows the two configuration types in an example.

Phases and current converter

If there is a photovoltaic system, the phases can be selected and the current converters assigned here.

1. Select the number of phases.
2. Assign current converter.
3. If necessary, create additional current converters in step 8.

Information

Additional current converters are available as spare parts from your Porsche partner.

Information

In the case of load-side installation or excess feed-in, the assignment of current converters is not mandatory for the use of the self-consumption optimization function. In this case, only the number of phases must be selected. However, this does not guarantee complete energy statistics.

10. Home setup: Specifying power consumers

Existing power consumers (e.g. garage, sauna) and EEBus devices (e.g. chargerPorsche Mobile Charger Connect, Porsche Mobile Charger Plus) are specified here and the current converters are assigned to the phases used.
EEBus is a communication protocol that is integrated with the charger Porsche Mobile Charger Connect, for example. If both the energy manager and an EEBus device are in the same network, the protocol allows pairing of both devices.

Always observe the following requirements when adding a consumer:

- The power consumer or the EEBus device must have a current converter at each phase.
- The number of phases of the supply cable on the EEBus device is known and will be configured accordingly.

The power supply for each of the power consumers listed here can be displayed in the **Overview** and **History**.

Display phases of the house connection as power consumers

Instead of listing power consumers here, the individual phases of the house connection can also be added. This allows phase-accurate consumption to be displayed in the **Overview**.

Enter the following settings:

1. Select **Add power consumer**.
2. Enter a name for the fictitious power consumers (e.g. **L1**, **L2** and **L3**).
3. Select **Single-phase** as mains phase.
4. Assign the current converter to the house connection that measures the corresponding phase.

Add EEBus device

✓ EEBus devices (e.g. chargerPorsche Mobile Charger Connect, Porsche Mobile Charger Plus) and energy managers are in the same network.

✓ EEBus device is turned on and not in standby mode.

1. Select **Add EEBus device**.
   ➡ Available EEBus devices are displayed. Only the devices that are not already connected to the energy manager are displayed.
2. Select and configure:

   The EEBus device can be identified with its identification number (SKI). The SKI of the charger Porsche Mobile Charger Connect can be found in the Web Application of the charger (**Connections** ▶ **Energy manager**).

Information

Deactivate the standby mode of the charger Porsche Mobile Charger Connect in the Web Application of the charger.

Option	Explanation
Name	Name of the power consumer
Type	Preset as EEBus device
Mains phases	Specification of the number of phases in the supply cable for the EEBus device
Assign current sensor to a phase.	Select the current converter that is connected to the line to the EEBus device

▶ Start the connection to the charger.
   – ChargerPorsche Mobile Charger Connect: Start the EEBus pairing in the Web Application of the charger (**Connections** ▶ **Energy manager**) or on the charger (**Settings** ▶ **Energy manager**).
   – ChargerPorsche Mobile Charger Plus: Activate the charging status **Energy manager** on the device. The device automatically attempts to connect to the PLC network and the energy manager.

▶ Information on adding the energy manager to Web Application of the charger can be found in the Owner's Manual on the Porsche website at the following address:

https://tinyurl.com/porsche-e-help

Information

Observe the possible phase distortion of the socket to which the charger is connected.

Example:

An EEBus device should be connected to a phase-turned socket that does not use phase 1 as usual, but phase 2 or is multiphase and does not start with phase 1, but with phase 2.

The current converter assigned to phase 2 is selected as the **first current converter in a phase**. The current converter is thus assigned to the line to the EEBus device.

Note: Without an EEBus coupling on both sides with a charger like the Porsche Mobile Charger Connect, the **Optimized charging** function cannot be used.

You can also see a successful pairing by the symbol **Energy manager connected** (house symbol) in the status bar of the charger.

Information

Phase-specific throttling

Porsche Vehicles supplied with energy managers can restrict the charging current in a phase-specific manner. The chargers should therefore always be configured to the correct phase, otherwise the charging process will be throttled to the wrong phase.

Information

Overload protection always protects the fuse on the line where the current converter configured for the EEBus device is located and the main fuse.

If no additional current converters are available at the place of use, the house connection current converters can be used to measure the EEBus device.

Additional current converters are available as spare parts from your authorized Porsche dealer.

11. Change tariff settings

Depending on the tariff, information about possible time differences in the electricity prices can be provided here.

- ▶ Select whether the tariff changes within a given period.
- ➡ Additional information can be provided depending on the selected setting.

Option	Explanation
Static tariff	The electricity price remains unchanged over time. ▶ **Price per kWh**: Enter the agreed electricity price per kilowatt hour.
Variable tariff	The electricity price is subject to time differences. ▶ Select the corresponding variance (seasonal, weekdays or during the day) with **Yes** and define the time intervals and their electricity prices per kilowatt hour. ▶ If necessary, create and set additional intervals.
Feed-in compensation	▶ Enter remuneration when electricity is fed into the grid.

12. Optimized charging

Overload protection

The energy manager is informed about current via existing current converters and thus protects the fuses of your domestic installation from overloading. Current converters located on the house connection only protect the main fuses. For this reason, additional current converters (not included in the scope of supply) are recommended on the lines of the subdistributions that are used for EEBus devices, e.g. chargers. Overload protection intervenes if the rated current of a fuse is exceeded. The charging current is throttled in this case. If the charge current falls below the minimum value (vehicle-specific), the charging process is aborted. If several chargers are used at the place of use, it is recommended that the charging processes be coordinated by the energy manager. The power distribution principle of the energy manager offers the following options.

Option	Explanation
Balanced	The existing charging power is evenly distributed to all vehicles.
Chronologically	The charging equipment that first starts a charging process is prioritized in the energy distribution.
Individually	The first EEBus device in the list is prioritized for power distribution. ▶ To change the sequence, drag the devices to the desired position.

Information

If several charging sessions are carried out simultaneously, the energy is distributed according to the option selected here.

Information

Update: Phase-specific throttling

When the plug-and-charge function is activated, Porsche vehicles supplied with energy managers can perform phase-specific throttling of the charging current. The limit value of the minimum charging power is then significantly lower and the charging process may no longer be interrupted by throttling.

Self-consumption optimization

The function is deactivated by default.

- ▶ Activate the function via the switch.

When the function is activated, the vehicle can decide whether it will continue charging with the energy offered from the photovoltaic system after the minimum charge has been reached. Until the minimum charge (indication as a percentage of battery capacity) is reached, the vehicle is charged with maximum possible power (if necessary, limited by the overload protection provided). The vehicle then charges in an optimized manner, i.e. it may only charges if there is power available from the photovoltaic system that would otherwise be fed into the power grid as a surplus.

The following conditions must be met for the function **Self-consumption optimization**:

✓ Photovoltaic system (or another own energy generator) is configured in the energy manager.

✓ The charger Porsche Mobile Charger Connect (USA: Wall Charger Connect) is used.

✓ Porsche Taycan: Charging profile, which allows optimized charging, is activated in the vehicle. Minimum charge is reached. Plug and Charge is active.

Cost-optimized charging

▶ Activate the function via the switch.

The energy manager uses your input electricity tariff data to generate tariff and power tables that it sends to the vehicle via the charger. The vehicle uses the tariff settings to detect the time characteristic of the charging current price. The vehicle can calculate a cost optimum and generate a charging plan, taking into account additional conditions, such as timers, preconditioning, etc. This is in turn transmitted to the energy manager, who monitors compliance with the charging current limit.

If several charging processes are carried out at the same time, the energy distribution takes place according to the option selected under **Overload protection**. Porsche Vehicles take priority over other vehicles in terms of the available performance.

▶ Activate function.

A timer must be set to optimize costs. Porsche Taycan: A profile for optimized charging must also be set here.

Information

This function is only suitable if there are time-variable electricity tariffs.

The overload protection of the energy manager can restrict the distribution if necessary.

13. Summary

The summary shows an overview of your settings. The entries should be checked again.

Changing settings

▶ Select the button for the setting to be changed.

➡ The selected installation step is opened and can be edited.

Display of the table overview:

– **Connection position** the current transformer (line 1: CTx, whereby x=1–12) and its assignment to one **Phase** of the in-house power grid (line 2: L1 to L3).

– In lines **Power sources** and **Devices**, the configured current sources (house connection and, if applicable, photovoltaics) and consumers (e.g. charger) are listed among each other and their assignment to the corresponding phase (L1, L2, or L3) or to the current transformer (CTx) is displayed.

Closing activities

1. Check for a software update under**Settings**
   ▶ **Maintenance**.
2. Perform a manual backup under **Settings**
   ▶ **Maintenance**.

After completion of the installation assistant, the is automatically Web Application forwarded to the overview.

Information

If important settings are changed in the home setup, the setup assistant is opened automatically. There, the assistant must be run through to the end from the changed step in order to check all settings again.

Troubleshooting: Problems and solutions

Problem	Possible causes	Remedial action
In the overview of the Web Application no power is displayed at the EEBus device	The EEBus pairing was not successful on the EEBus device (e.g. Porsche charger)	▶ Repeat the EEBus pairing on the EEBus device and strengthen the communication signal (WiFi or PLC) if necessary. ▷ Follow the instructions for the EEBus device.
	No phase assignment in Web Application	▶ In the **HOME INSTALLATION** of the Web Application, assign phases to the EEBus device by means of current converter.
Power sources or configured power consumers do not indicate or indicate incorrect power	No lines connected to the voltage measurement	▶ Electrically skilled person attaches neutral conductor and the phase conductor to the energy manager via plug connector J400.
	Current converter connected the wrong way around	▶ Electrically skilled person checks whether the direction of arrow of the current converter is pointing toward consumption and whether the cable is connected correctly to plug connectors J200, J300 and J301.
	Current converter not configured or configured incorrectly	▶ Check whether the connection positions of the current converters on the energy manager match the configuration in the Web Application of the **HOME INSTALLATION** (CT#). In addition, the configured phases of the current converters must correspond to the phases of the voltage measurement.
	No or wrong current converter configured for power consumers	▶ In Web Application of the **HOME INSTALLATION**, check whether (the correct) current converters have been assigned to the electrical load.
The fuse trips despite active overload protection	Current converters are connected the wrong way around	▶ An electrician checks whether the direction of the arrow of the current converter is pointing toward consumption and whether the cables are connected correctly to plug connectors J200, J300 and J301.
	Current converter not configured or configured incorrectly	▶ Check whether the connection positions of the current converters on the energy manager match the configuration in the Web Application of the **HOME INSTALLATION** (CT#). In addition, the configured phases of the current transformers must correspond to the phases of the voltage measurement.

Problem	Possible causes	Remedial action
	EEBus pairing was not successful or there was a brief disconnection	▶ Repeat the EEBus pairing on the EEBus device and strengthen the communication signal (WiFi or PLC) if necessary. ▷ Follow the instructions for the EEBus device.
	The phase assignment of the EEBus device is incorrect	▶ In the Web Application of the **HOME INSTALLATION**, check whether (the correct) current transformers have been assigned to the electrical load.
	A fuse has tripped that the energy manager does not protect	▶ Current converters to protect other fuses of lines in the direction of the EEBus device can be purchased from your Porsche partner. ▶ Have this installed and configured by an electrician.
The vehicle does not charge the available surplus solar power	Current converters are connected the wrong way around	▶ Electrically skilled person checks whether the direction of arrow of the current converter is pointing toward consumption and whether the cables are connected correctly to the plug connectors J200, J300 and J301.
	Current converter not configured or configured incorrectly	▶ Check whether the connection positions of the current converters on the energy manager match the configuration in the Web Application of the **HOME INSTALLATION** (CT#). In addition, the configured phases of the current converters must correspond to the phases of the voltage measurement.
	EEBus pairing was not successful or there was a brief disconnection	▶ Repeat the EEBus pairing on the EEBus device and strengthen the communication signal (WiFi or PLC) if necessary. ▷ Follow the instructions for the EEBus device.
	The phase assignment of the EEBus device is incorrect	▶ In Web Application of the **the HOME INSTALLATION**, check whether (the correct) current converters have been assigned to the EEBus device or whether there is a phase rotation when connecting the EEBus device. If necessary, an electrician may change the configuration or the wiring.
	Configuration of photovoltaic system incorrect	▶ An electrician checks whether the photovoltaic system is connected on the mains side or the load side and checks the corresponding configuration in the Web Application of the **HOME INSTALLATION**as well as the assignment of the phases and current transformers.

Problem	Possible causes	Remedial action
	The software version of the Porsche charger and/or vehicle does not support the function	▶ Perform an update on the Porsche charger. ▶ Contact your Porsche partner regarding a software update for the vehicle.
	Self-consumption optimization function inactive	▶ Activate the **self-consumption optimization** function and observe the instructions.
	PV current too low	At least 2 A of excess current per phase is required.

Technical Data

Description	Value
Interfaces	2 x USB, 1 x PLC, 2 x WiFi, 2 x Ethernet, 12 x CT input,1 x RS485/CAN (not assigned)
Space requirement	11.5 pitch units (1 pitch unit corresponds to 17.5-18 mm/0.7 in.)
Current measurement	0.5 A to 600 A (depending on current converter), maximum cable length 3.0 m
Voltage measurement	100 V to 240 V (AC)
Maximum cable length for USB interface	3.0 m
Energy manager input	24 V (DC)/0.75 A
External power supply (input)	100 V to 240 V (AC)
External power supply (output)	24 V (DC)/18 W
Relay (voltage/load)	Maximum 250 V (AC), maximum 3 A ohmic load
Storage temperature range	-40 °C to 70°C
Operating temperature range	-20 °C to 45 °C (at 10% to 90% humidity)
Type of the tested item	Control unit
Description of the device function	Charging management for households
Connection to the power supply	External power supply unit
Installation/overvoltage category	III
Measuring category	III
Degree of contamination	2
Protection type	IP20

Description	Value
Degree of protection to IEC 60529	Built-in unit
Protection class	2
Operating conditions	Continuous operation
Overall size of the device (width x depth x height)	159.4 mm x 90.2 mm x 73.2 mm
Weight	0.3 kg
External current converters (accessories and removable part)	ECS1050-L40P (EChun; 50 A input; 33.3 mA output) TT 100-SD (LEM, 100 A input; 33.33 mA output) ECS24200-L40G (EChun; 200A input; 33.3 mA output) ECS36400-L40R (EChun; 400A input; 33.3 mA output) ECS36600-L40N (EChun; 600A input; 33.3 mA output)
Antenna (accessories and removable part)	HIRO H50284
Transmission frequency bands	2.4 GHz
Transmission power	58.88 mW

Production information

Declaration of Conformity

CE

The Energy Manager has a radio system. The manufacturers of this radio equipment declare that it complies with the specifications for its use in accordance with Directive 2014/53/EU. The full text of the relevant EU Declaration of Conformity is available on the Porsche website at the following address:

https://tinyurl.com/porsche-docs

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