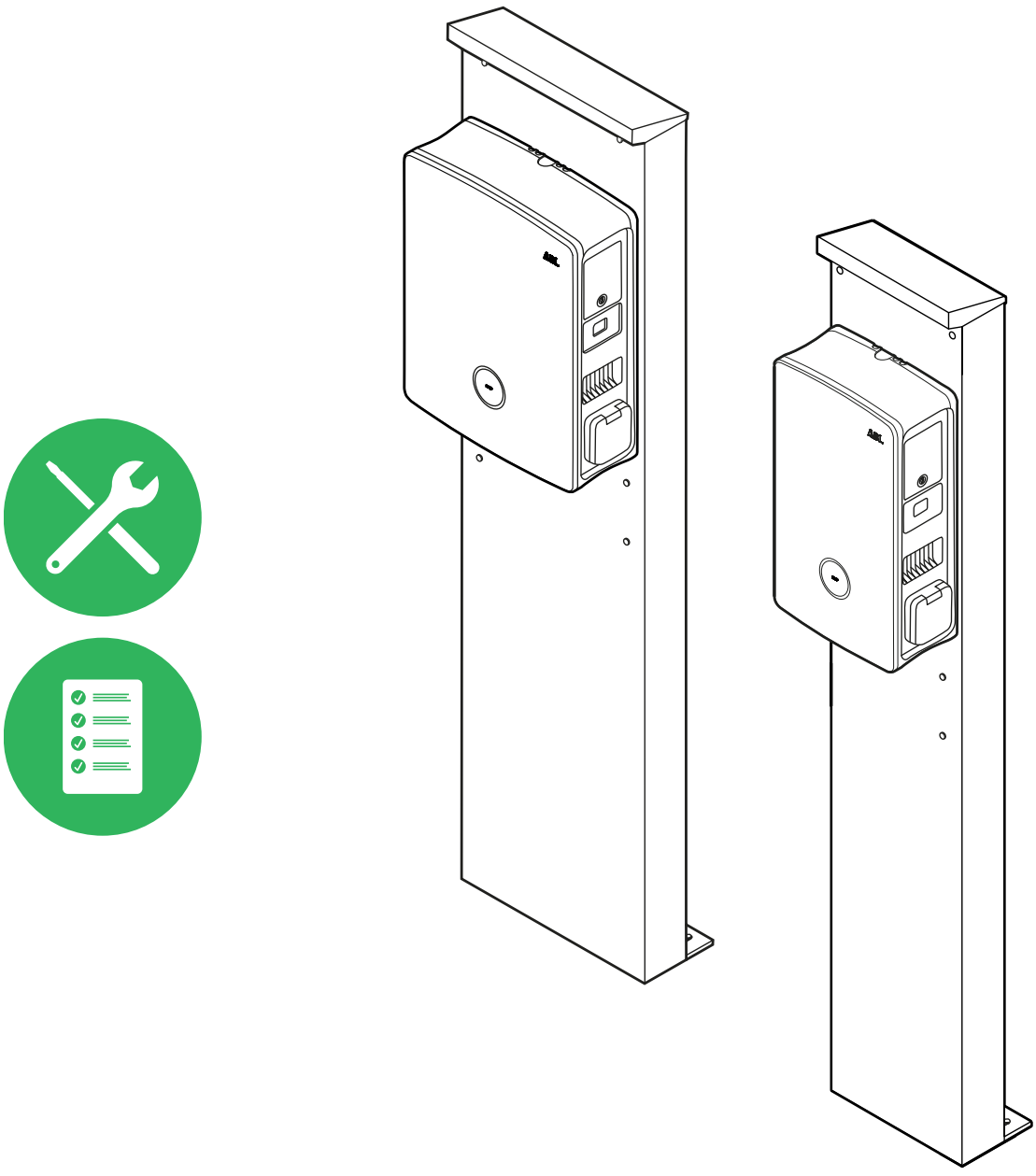
ABL

POLEM4 Single
POLEM4 Twin

Installation manual



Article No.: 0301696_EN_a

NOTE

Please note that the wallboxes shown on the cover sheet are not included with the POLEM4 Single and POLEM4 Twin, but can be ordered separately for a fee.

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Think before you print

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Additional technical information

Additional technical information is required to install your wallbox on the POLEM4 Single and POLEM4 Twin mounting poles, as well as regarding further accessories. It is contained in separate documents.

In addition, the technical data for the mounting poles are collated in product-specific data sheets. You can download these documents from the ABL website using the following link:

https://www.ablmobility.de/en/service/downloads.php

NOTE

Displaying the additional information on a computer, tablet or smartphone

Additional technical information is made available in the Portable Document Format (PDF).

- To display PDF files, you need the free Adobe Acrobat Reader or comparable software.

You can find further information about our product range, as well as about separately available accessory components on our website at **www.ablmobility.de**. Please visit:

https://www.ablmobility.de/en

Intended use

The POLEM4 Twin mounting pole is used for mounting an eMH3 or eM4 Twin Wallbox outdoors. In order to ensure the necessary stability, the POLEM4 Twin can be installed on the separately available EMH9999 concrete foundation or on a self-constructed concrete foundation. To protect the installed wallbox from the weather, ABL offers the compatible WPR36 weather shield. For cable management at the charging point, the CABHOLD cable holder with charging plug receptacle can retrofitted.

Information in this document

This document describes the installation of the POLEM4 Single and POLEM4 Twin mounting poles on the EMH9999 foundation as well as the subsequent mechanical installation and electrical connection of a wallbox to the mounting pole: It is recommended that all working steps described in this document are carried out by qualified specialist electrical contractors only.

Technical information	User	Specialist electrical contractor
• Installation manual (this document)	✗	✓
• Data sheets	✓	✓
• Installation manual Wallbox eM4 Single	✗	✓
• Installation manual Wallbox eM4 Twin	✗	✓
• Installation manual Wallbox eMH1	✗	✓
• Installation manual Wallbox eMH2	✗	✓
• Installation manual Wallbox eMH3	✗	✓
• Installation manual WPR12/36	✓	✓
• Installation instructions CABHOLD	✓	✓

Important information

General

This manual describes all working steps required to install and/or operate the product it concerns.

Certain sections of this manual are specially formatted for quick and easy reference.

- Descriptions listing equally valid options are indicated by bullet points.

1 Descriptions listing operating steps are numbered in chronological order.

→ Descriptions that require an additional step are marked with an arrow.

DANGER

Indicates life-threatening electrical voltages

Sections marked with this symbol indicate electrical voltages that present a danger of loss of life or grievous bodily injury.

- Actions marked with this symbol must not be carried out under any circumstances.

ATTENTION

Indicates important actions and further hazards

Sections marked with this symbol indicate further hazards that may result in damage to the product or to other connected components.

- Actions marked with this symbol must be carried out with special care.

NOTE

Indicates important information for operation or installation

Sections marked with this symbol indicate further important information and features necessary for successful operation.

- Actions marked with this symbol should be carried out as required.
- Passages marked with this symbol contain valuable additional information.

Safety instructions

The safety notices serve to ensure the proper and safe installation, as well as subsequent safe operation of the device.

DANGER

Violation of the safety information

Disregard of or actions contrary to the safety information and instructions contained in this manual may lead to electric shock, fire, severe injury and/or death.

Please pay attention to the following points:

- Please read this manual carefully.
- Heed all warnings and follow all instructions.
- Only use accessories intended and sold for the product by ABL.
- Do not install this device in close vicinity to running water, water jets or areas subject to flooding.
- The product must not be installed in explosive atmosphere areas (EX areas).
- Mechanical installation should be carried out by qualified specialist personnel.
- Electrical installation and testing of the charging stations on the mounting poles must be carried out with reference to local rules by a qualified specialist electrical contractor, who, on the basis of their specialist training and experience, as well as their knowl-

edge of the relevant standards, is able to assess and carry out the working steps described in this manual and recognise potential hazards.

- In case of installation faults, or malfunctions that can be traced back to faulty installation, always contact the contractor who carried out the installation first.
- The product must not be covered with stickers or other objects or materials.
- No liquids or receptacles containing liquids must be placed on the product.
- Please note that the POLEM4 Single and POLEM4 Twin mounting poles must never be installed directly on asphalt! To ensure stable and safe mechanical installation, the optionally available EMH9999 concrete foundation or a functionally equivalent alternative must always be provided.
- Do not under any circumstances make alterations to the product. Any disregard of this instruction represents a safety risk, fundamentally breaches the guarantee provisions and may void the warranty with immediate effect.
- Malfunctions affecting the safety of persons, connected electric devices or the device itself must be resolved by a qualified specialist electrical contractor.
- Should one of the following malfunctions occur, please contact the specialist electrical contractor who has carried out the installation of your wallbox and accessories:
  - The housing of the product has been damaged mechanically, or the housing door has been removed or can no longer be closed.
  - Sufficient protection against splashing water and/or foreign objects is no longer provided.
  - The product or a charging station mounted on it is not working properly or is damaged in some other way.

⚠ ATTENTION

Observation of further safety instructions

Please always observe all further safety instructions in the manuals for the separately available charging stations and other accessories for the POLEM4 Single and POLEM4 Twin.

User information

- Ensure that rated voltage and rated current of the supply cable at the installation location comply with the parameters of your local electricity grid and that the rated output of the wallbox installed on the mounting pole is not exceeded during operation.
- Local safety regulations regarding the operation of electrical devices for the country in which you operate the wallbox installed on the mounting pole always apply.
  - Never install the mounting pole in confined spaces. In particular, it must be ensured that vehicles can be parked at a suitable distance from the mounting pole for charging and can be connected to the charging cable without tension.
- Make sure that the mounting pole is always closed and locked when in use. All authorised users must be aware of the 'unlock' position of the key.
- You must under no circumstances make any changes to the housing or the internal wiring of the mounting pole: Any disregard of this instruction fundamentally breaches the guarantee provisions and voids the warranty with immediate effect.
  - No user-maintainable parts are located inside the device.
- Only have the POLEM4 Single and POLEM4 Twin repaired by a qualified specialist electrical company.
  - The wallbox installed on the mounting pole may only be operated after it has been installed without any technical faults and subsequently approved by a qualified specialist electrical company.

ⓘ NOTE

Changes to functions and design features

Please note that all technical details, specifications and design characteristics of the product may be changed without prior notice.

Introduction to the POLEM4 Single, POLEM4 Twin and the EMH9999

Thank you very much for choosing the POLEM4 Single / POLEM4 Twin mounting pole from ABL!

The POLEM4 Single / POLEM4 Twin is used for mounting an eM4 Single / eM4 Twin Wallbox from ABL. With their internal terminal block, the mounting poles make it particularly quick and easy to connect the charging station to the local power grid. Access is via a rear housing door, which protects the interior against unauthorised access via integrated locks.

Thanks to the powder-coated metal housing, the mounting pole is optimally protected against corrosion and, with housing impermeability in accordance with IP44, it is ideal for outdoor installation. The POLEM4 Single / POLEM4 Twin uses integrated LEDs with a twilight switch to ensure good lighting of the installed wallbox at all times.

NOTE

Compatibility with older wallbox generations

The POLEM4 Single and POLEM4 Twin mounting poles can also be used to mount older generations of wallboxes from ABL.

- **POLEM4 Single:** This mounting pole is designed for the eMH1 Wallbox (with or without mounting plate) and the eMH2 Wallbox.
- **POLEM4 Twin:** This mounting pole is designed for the eMH3 Wallbox

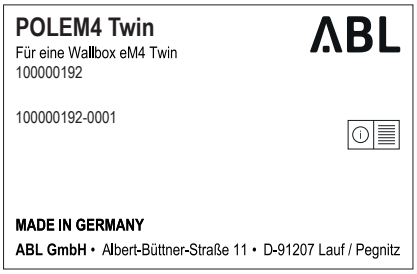
To ensure a stable and secure position outdoors, ABL recommends installing the mounting pole on the optionally available EMH9999 concrete foundation. Alternatively, a self-constructed foundation can be used, but it must meet the same specifications.

Further information on technical data is available in the appendix from page 35.

Identification of the mounting pole

There is a rating plate on the inside of the side wall of the mounting pole for identification purposes. Before installation, open the housing door and check the rating plate to make sure that the model you have is the mounting pole suitable for your wallbox.

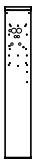
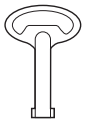
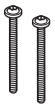
Further information on the POLEM4 Single and POLEM4 Twin mounting poles can be found in the section “Technical specifications” on page 35.



Example: Rating plate on the POLEM4 Twin

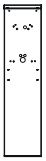
Items supplied

The POLEM4 Single is supplied with the following components:

- POLEM4 Single mounting pole, 1 pc. 
- Download note (multilingual), 1 pc
- Truss-head screw with collar M6 × 16 (Torx), 5 pcs.
- Cylinder-head screw M6 × 16 (hexagon socket), 2 pcs.
- Double-bit key, 3 mm, for unlocking the housing cover, 1 pcs. 
- Truss-head screw with collar M6 × 90, 2 pcs. 
- Truss-head screw with collar M6 × 16 (hexagon socket), 2 pcs.
- Cover plug M6, 11 pcs.

The POLEM4 Twin is supplied with the following components:

- POLEM4 Single mounting pole, 1 pc.

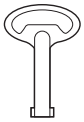


- Download note (multilingual), 1 pc

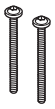
- Truss-head screw with collar M6 × 16, 2 pcs.

- Cover plug M6, 4 pcs.

- Double-bit key, 3 mm, for unlocking the housing cover, 1 pcs.



- Truss-head screw with collar M6 × 90, 2 pcs.



- Rounded-head screw M8 × 25, 4 pcs.

- Cover plug M8, 4 pcs.

NOTE

Checking the components included

Check immediately after unpacking whether all components are included: should any components be missing, please contact the dealer from whom you purchased the mounting pole.

ATTENTION

Storing the original packaging

Keep the original packaging in a safe place. In the event of damage that cannot be repaired on site, the mounting pole may have to be dismantled and sent in for repair. The following requirements must be met for proper shipping:

- The mounting pole must be protected from mechanical damage during transport by means of the original packaging or other packaging.
- To ensure safe shipping, fixed transport on a pallet is recommended.

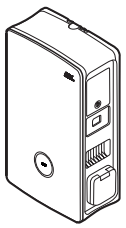
Compatibility of the mounting poles

The POLEM4 Single mounting pole is designed for mounting the following wallboxes from ABL:

- **Wallbox eM4 Single**

  Charging station with one Type 2 charging socket

  h = 516 mm, w = 306.5 mm, d = 145 mm



- **Wallbox eMH1 ***

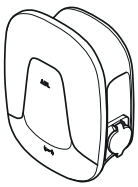
  Charging station with one Type 2 charging socket or one charging cable with Type 2 coupling

  h = 272 mm, w = 221 mm, d = 116 mm

- **Wallbox eMH2 ***

  Charging station with one Type 2 charging socket or one charging cable with Type 2 coupling

  h = 437 mm, w = 328 mm, d = 170 mm

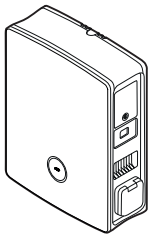


The POLEM4 Twin mounting pole is designed for mounting the following wallboxes from ABL:

- Wallbox eM4 Twin

  Charging station with two Type 2 charging sockets

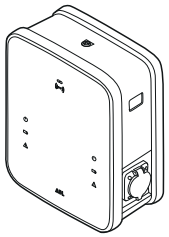
  h = 516 mm, w = 428 mm, d = 145 mm



- Wallbox eMH3 *

  Charging station with one or two Type 2 charging sockets or one or two charging cables with Type 2 coupling

  h = 586 mm, w = 487 mm, d = 381 mm



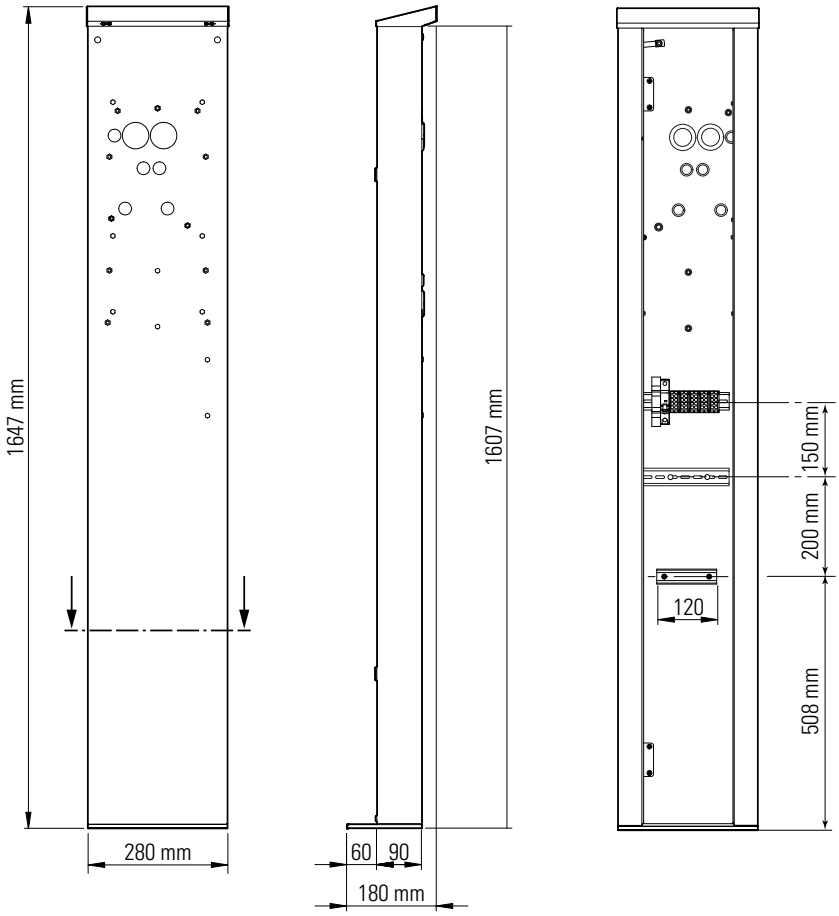
* The ABL eMH1, eMH2 and eMH3 Wallboxes are no longer manufactured.

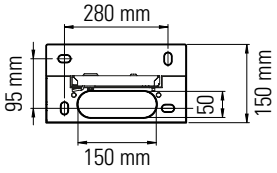
Dimensional drawings and dimensions

The following dimensional drawings show the dimensions of the POLEM4 Single and POLEM4 Twin mounting poles and the separately available EMH9999 foundation.

POLEM4 Single

- View from the front, from the side, from behind and from below

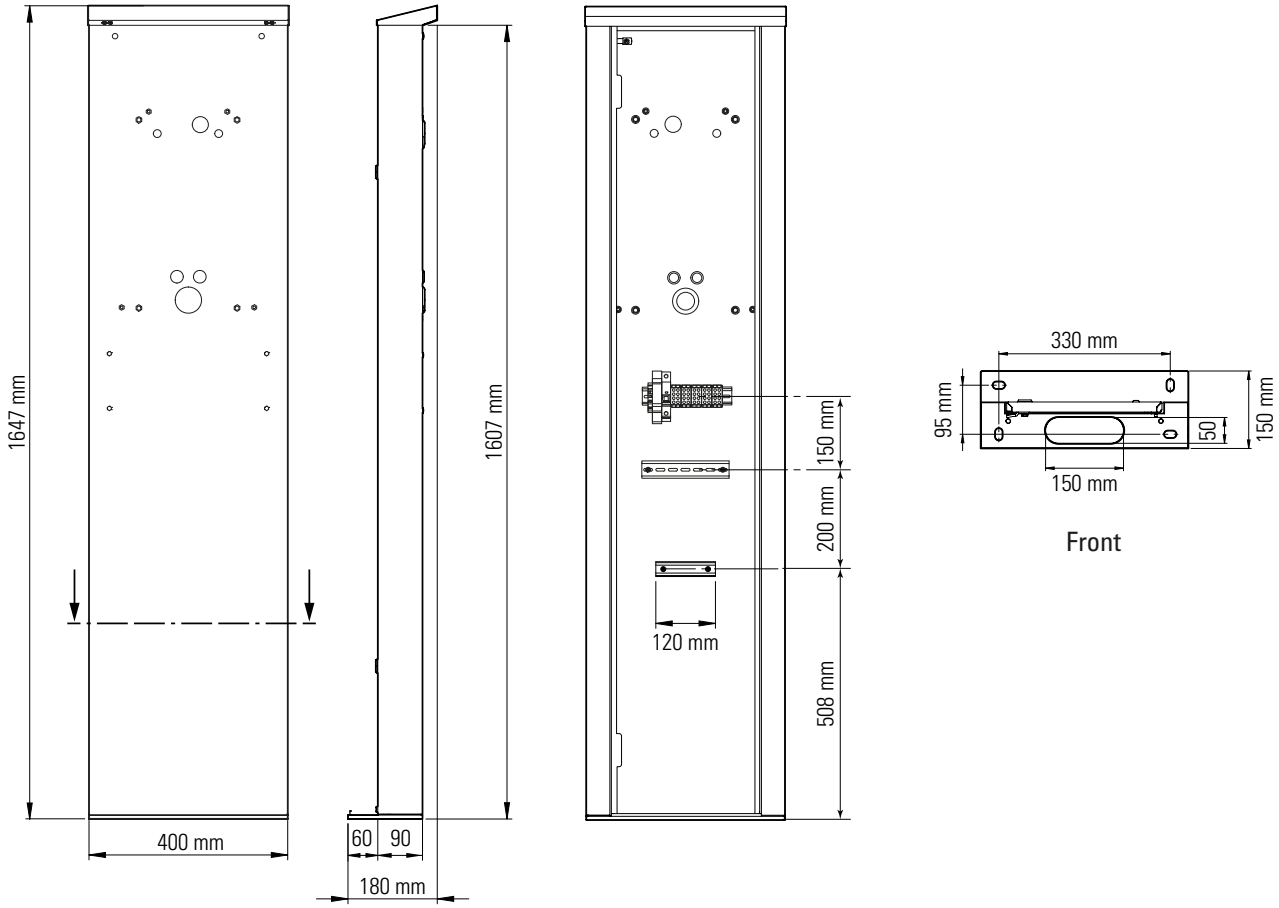




Front

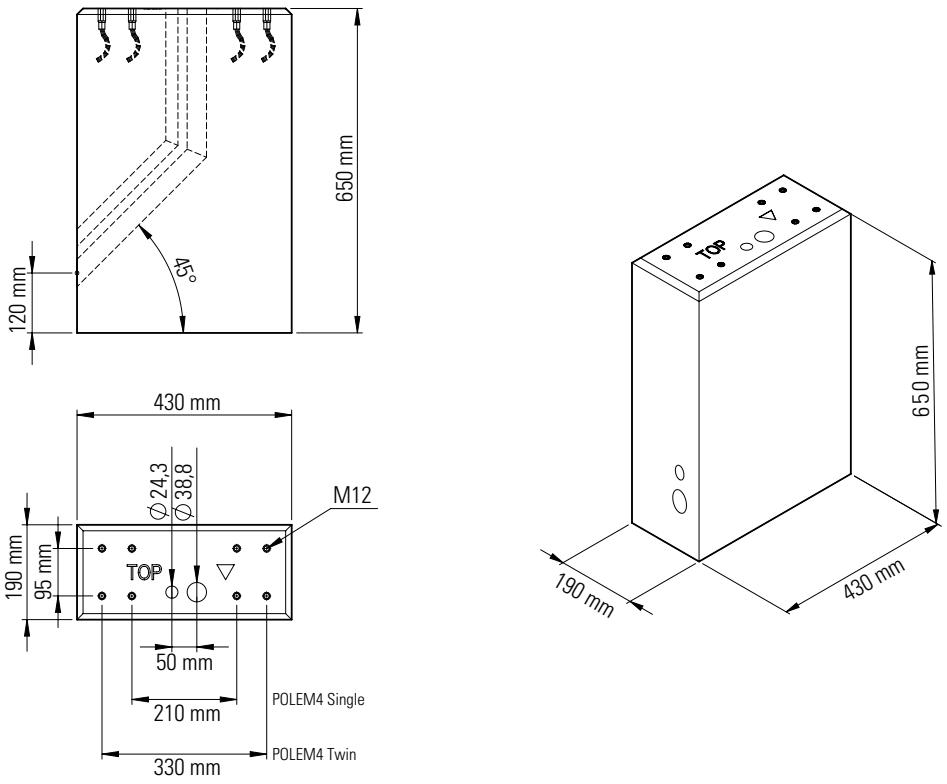
POLEM4 Twin

- View from the front, from the side, from behind and from below



EMH9999

- View from the side, from above and in an isometric view



NOTE

Using a custom foundation

These instructions describe how to install the POLEM4 Single and POLEM4 Twin mounting poles on the EMH9999 concrete foundation. In principle, it is possible to make a custom foundation, but this must be based on the specifications of the EMH9999.

- If you wish to install and operate the mounting pole on a self-made foundation, a stable base and fault-free operation outdoors cannot be guaranteed.

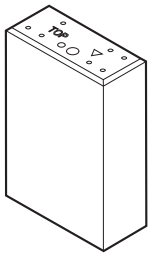
Accessories

The following accessories for the POLEM4 Single and POLEM4 Twin mounting poles are available separately:

- EMH9999

  Concrete foundation for floor mounting the POLEM4 Single and POLEM4 Twin mounting poles

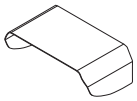
  h = 650 mm, w = 430 mm, d = 190 mm



- WPR12

  Weather shield for installation on an exterior wall or the POLEM4 Single mounting pole

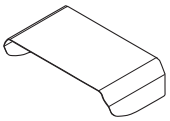
  h = 142 mm, w = 395 mm, d = 225 mm



- WPR36

  Weather shield for installation on an exterior wall or the POLEM4 Twin mounting pole

  h = 142 mm, w = 515 mm, d = 285 mm



- CABHOLD

  Cable holder with charging plug receptacle for installation on an exterior wall or the mounting poles POLEMH1/2/3

  h = 187 mm, w = 76 mm, d = 105 mm

You can find further information on ABL charging stations and accessories at www.ablmobility.de.

Installation

When installing the mounting poles, various specifications regarding the location and the connection technology must be met in order to ensure safe operation.

Requirements for the installation site

The POLEM4 Single and POLEM4 Twin mounting poles were developed for outdoor use. To ensure proper installation, you as the operator must adhere to the following specifications regarding the location and positioning.

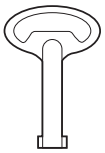
- Be sure to observe all local regulations for electrical installations, fire prevention and accident prevention.
- All guidelines for the installation of low-voltage systems in accordance with IEC 60364-1 and IEC 60364-5-52 apply.
- The installation surface must have sufficient strength to withstand the mechanical loads. It is therefore strongly recommended not to install the mounting pole directly on asphalt or a concrete floor, but to use a concrete foundation such as the ABL EMH9999 with suitable specifications (concrete C20/37 in accordance with EN 206-1:2013).
- A sufficiently dimensioned power cable for the wallbox must be provided at the installation location. The power cable must be laid in the ground so that it lines up with the lower pipe opening in the concrete foundation. If necessary, the power cable must be protected against mechanical influences by a suitable hose or pipe in the area in front of the foundation.
- To connect the wallbox mounted on the mounting pole in accordance with the application rule VDE AR-N 4100 and for integration into a charging group, one control cable and one data cable must also be provided. Both cables must be laid in the floor so that they line up with the upper pipe opening in the concrete foundation and must be protected against mechanical influences by a suitable hose or pipe.
- Suitable collision protection must be provided on site to provide the mounting pole with mechanical protection from possible collisions with the vehicle.
- The minimum distance between the vehicle and the mounting pole should be not less than 50 cm and not more than 150 cm.
- Select the installation location so that the charging cable from the wallbox easily reaches the charging socket on the vehicle: the cable must not under any circumstances be strained when connected to the vehicle.
- For the safe operation of your mounting pole, minimum distances to other technical installations must be observed.
- The mounting pole should not be installed in high-traffic areas or along thoroughfares.
- The mounting poles are designed in principle for operation at high ambient temperatures. However, it is important to ensure that the maximum permissible operating temperature of the installed wallbox is not exceeded due to external influences such as direct sunlight or similar.

Specifications for the mechanical installation of the mounting poles

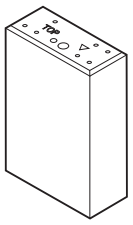
It is recommended to have the entire installation of the mounting pole carried out by qualified personnel. At least two people are required for the mechanical installation.

You will need the following components for mechanical installation:

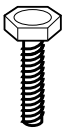
- Double-bit key, 3 mm, for unlocking the housing door (included with the mounting pole)



- EMH9999 concrete foundation for installing the POLEM4 Single/Twin (available as accessory)

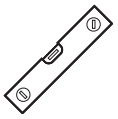
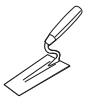


- ISO 4017 hexagon screw, M12×25, 4 pcs. (included with the EMH9999 foundation)



- Washers for hexagon screw, 4 pcs. (included with the EMH9999 foundation)

In addition, you will need the following tools:

- Torque spanner, spanner size 17 mm
- Spirit level 
- Tape measure
- Shovel tool
- Bricklaying tools 
- Concrete screed (mixed)
- Pick tool, straight

Laying the EMH9999 foundation

The optional EMH9999 concrete foundation from ABL provides a level installation surface for all mounting poles and ensures the necessary stability and support via factory-inserted screw anchors.

The following working steps are always identical, regardless of the mounting pole in question.

ATTENTION

Creating a custom foundation

The calculation, design and manufacture of the self-made concrete foundation are the sole responsibility of the operator or the company carrying out the installation on behalf of the operator.

DANGER

Danger from electrical voltages

Always observe the 5 safety rules:

1 Cut power source

2 Secure all cut-off devices

3 Verify absence of voltage

4 Ground and short-circuit

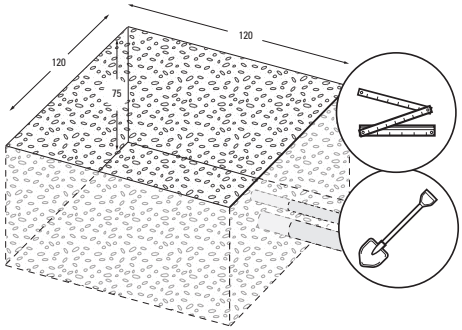
5 Cover or bar access to adjacent components under voltage

The supply cable must not be reconnected to the electricity grid until **Step 4** in the section “Electrical connection in the mounting pole” on page 31!

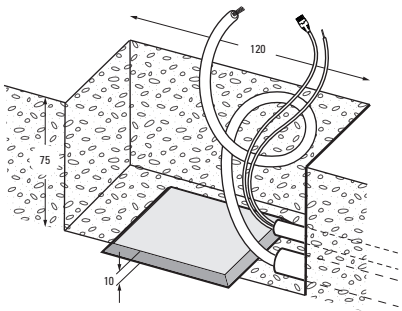
Proceed as follows:

1 Dig a ditch suitable for the EMH9999 foundation (recommended: 120 × 120 cm).

→ Take into account the dimensions of the foundation (H × W × D: 650 × 430 × 190 mm) as well as a levelling layer (crushed rock/gravel) and a cement mortar layer of about 100 mm under the foundation.



2 Apply a first layer of concrete screed with a height of approx. 10 cm at the positioning location of the foundation.



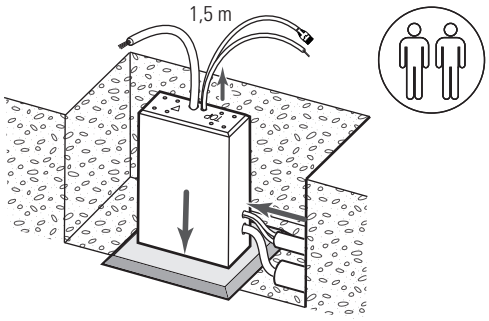
NOTE

Marking for installation

The EMH9999 foundation features markings to prevent errors when setting up: The top side with the ground anchors is marked **TOP**, while the adjacent **arrow** marks the front side of the mounting pole for installing the wallbox.

3 Place the foundation centrally on the concrete screed. Make sure the supply cable can be inserted into the pipe opening on the foundation in this position.

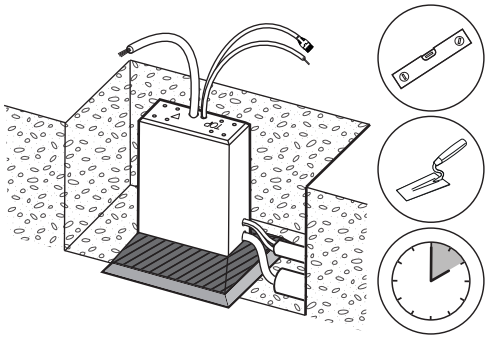
- This step must be performed by two people.



4 Route the power cable and the control and data cables of sufficient length through the pipe openings in the foundation.

- The cables should be routed out of the foundation with a length of approx. 1.5 m.

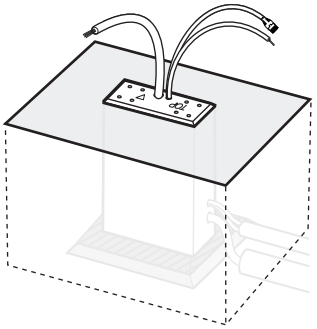
5 Make sure the foundation is level in all planes on the cement screed and then create a supporting structure all the way around the foundation with concrete screed (45° smooth line to around the lower edge of the pipe opening for the supply cables).



6 Allow the concrete to set completely over a reasonable period of time so that the foundation is protected from slipping when the ditch is eventually filled and compacted with compactable soil.

7 Fill the entire ditch around the foundation to ground level with compactable soil.

- The soil must be filled and compacted in layers and evenly on all sides.



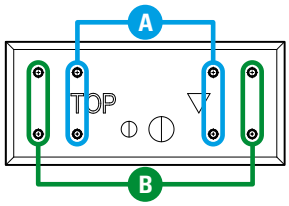
8 Smooth out the surface.

Installing the mounting pole on the foundation

The next step is to mount the mounting pole on the foundation: The procedure is identical for the POLEM4 Single and POLEM4 Twin mounting poles and is described below using the POLEM4 Single mounting pole as an example.

Detailed view of the top of the foundation

The EMH9999 foundation has eight recessed threaded anchors for screwing on the respective mounting pole.

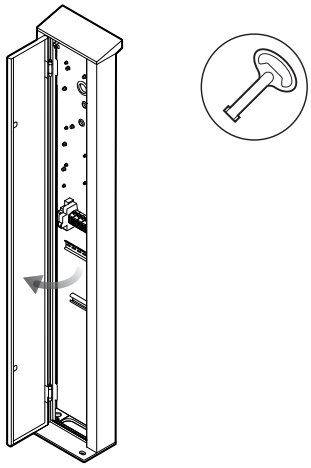


A These four threaded anchors are used to mount the POLEM4 Single mounting pole using the washers and M12 screws supplied.

B These four threaded anchors are used to mount the POLEM4 Twin mounting pole using the washers and M12 screws supplied.

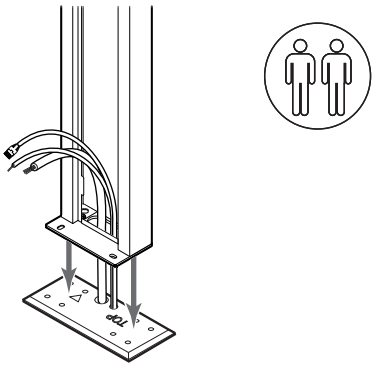
Proceed as follows:

1 Use the double-bit key supplied to open the housing door of the mounting pole and flip it open.

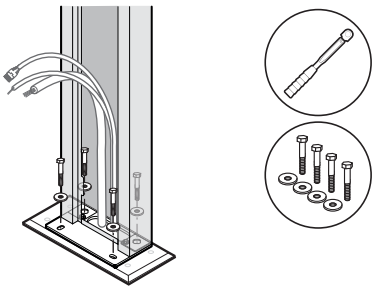


2 Place the mounting pole on the foundation and feed the power and data cables into the mounting pole via the cable opening in the base plate.

→ This step must be performed by two people.



3 Align the mounting pole over the holes on the foundation and screw the four hexagon screws over washers into the ground anchors on the foundation.



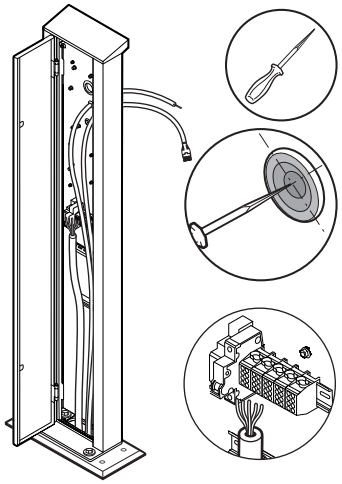
4 Prepare the supply cable area in the upper section of the mounting pole.

→ Open the grommet for the power cable using the pick tool (see section for the respective wallbox: ●).

→ If you also wish to connect a data and/or control cable to the wallbox, open the corresponding grommet using the pick tool (see section for the respective wallbox: ●).

5 Pull the power cable with sufficient length to the terminal block on the upper top hat rail in the mounting pole (recommendation: terminal block plus 15 cm).

6 Tighten the control and data cables and feed them through the respective grommet(s) (min. 50 cm, see section for the respective wallbox).

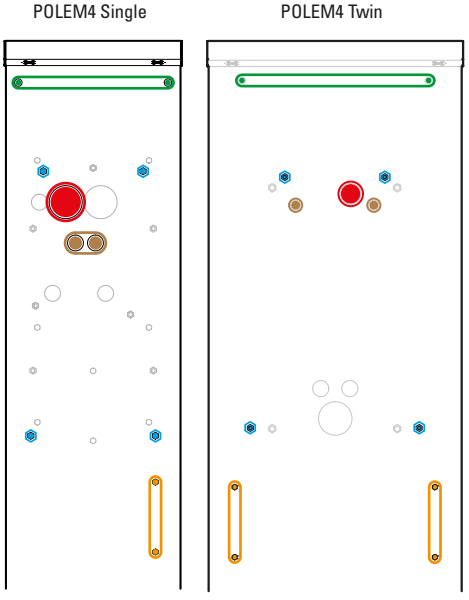


Installing the eM4 Wallbox on the POLEM4

This section describes installation using the example of the eM4 Single Wallbox and the POLEM4 Single mounting pole.

This process is basically identical for the eM4 Single/Twin Wallbox and POLEM4 Single/Twin mounting pole variants: Differences are pointed out.

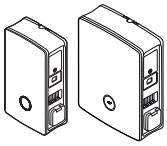
Front of the POLEM4 Single and POLEM4 Twin mounting poles



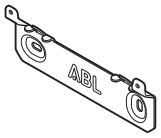
- The two thread points under the top part are used for direct installation of the WPR12/36 weather shield on the POLEM4 (see "Accessories" on page 11, ➞ **Weather shield installation manual**).
- The two upper thread points are used to screw on the mounting strip for suspending the eM4 Wallbox. The two lower thread points are used to screw and finally fix the wallbox to the mounting pole.
- The large opening with grommet is used to feed the power cable from the eM4 Wallbox into the POLEM4.
- The two smaller openings with grommets are used to feed a data cable and/or a control cable from the mounting pole into the wallbox.
- These two thread points are each used for directly mounting one CABHOLD cable holder on the POLEM4 (see "Accessories" on page 11, ➞ **CABHOLD installation manual**).

For installation, you will need the following components which are supplied with the eM4 Single/Twin Wallbox:

- Wallbox eM4 Single / Twin, 1 pc.



- Installation rail, 1 pc.

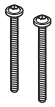


- Key, 2 pcs.

- TX30 half-round head screw, 6 × 60 mm, 2 pcs.

You will also need the following components which are supplied with the POLEM4 Single/Twin mounting pole:

- Truss-head screw with collar M6 × 90, 2 pcs.



- Truss-head screw with collar M6 × 16 (TX30), 2 pcs.

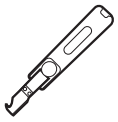
- Cover plug M6, 11 pcs.

In addition, you will need the following tools:

- Torx screwdriver (TX 30)

- Phillips screwdriver

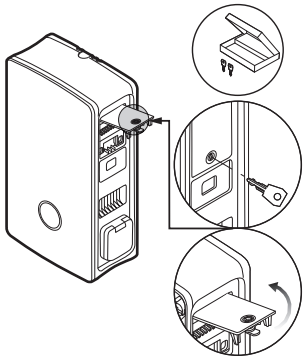
- Stripping tool



- Pick tool, straight

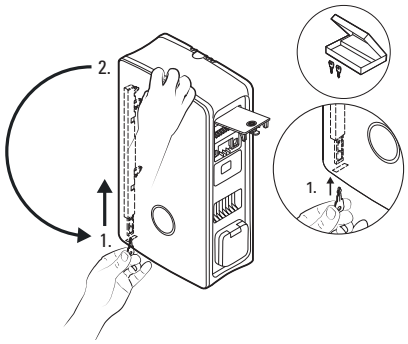
Proceed as follows:

1 Unlock the side RCCB flap using the key supplied and flip it up to unlock the right-hand side of the housing cover.



2 Insert the key through the key opening on the bottom left-hand side and push it upwards to unlock the left-hand side of the housing cover.

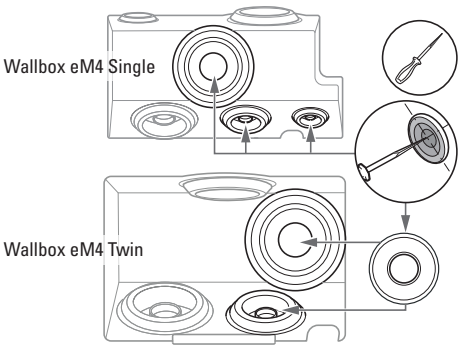
→ Open the housing cover to the front.



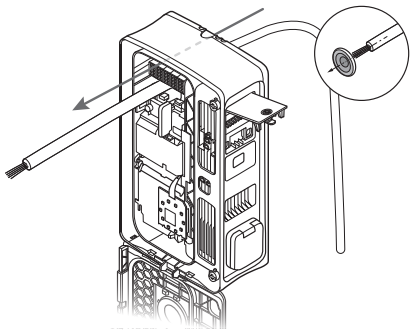
3 Prepare the supply cable area on the back of the wallbox

→ Open the large grommet for the power cable with the pick tool.

→ If you also wish to connect a data and/or control cable to the wallbox, open the two small grommets at the bottom of the supply cable area.



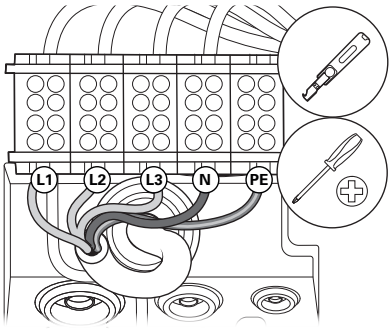
4 Insert the power cable through the supply cable area into the wallbox.



5 Connect the power cable to the terminal block in the wallbox.

→ Shorten the power cable to the required length and remove the sheath from the conductors.

→ Screw the wires into the individual terminals using the Phillips screwdriver (torque: 2.5 Nm).



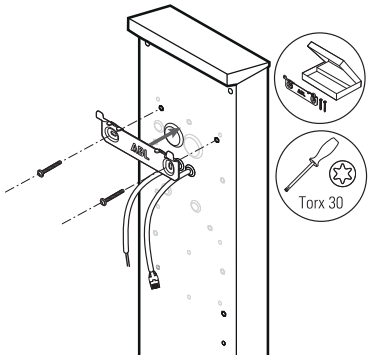
NOTE

Detailed information in the installation manual

The installation manual for the Wallbox eM4 Single contains detailed information on preparing for the electrical connection.

→ eM4 Single installation instructions

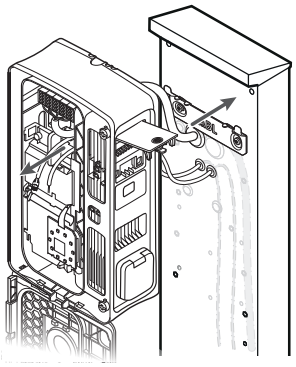
6 Switch to the mounting pole and screw the mounting rail into the two upper mounting points using two TX30 half-round head screws and the Torx screwdriver.



7 Insert the power supply cable from the wallbox through the large grommet into the mounting pole.

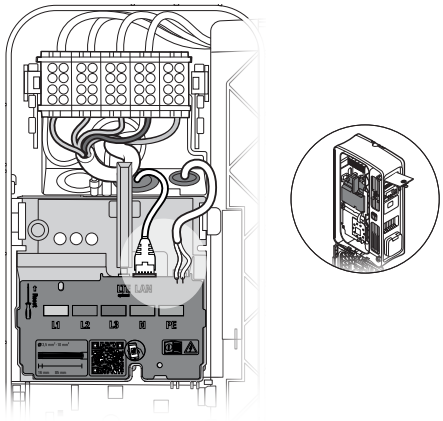
8 Feed the control and data cables from the mounting pole through the two small grommets into the wallbox.

9 Hang the wallbox in the two tabs on the mounting rail on the mounting pole using the suspension points on the back.



10 Connect the RJ45 plug of the data cable to the LAN interface of the communication module in the wallbox.

11 Connect the control cable to terminal **EN1** in the wallbox.

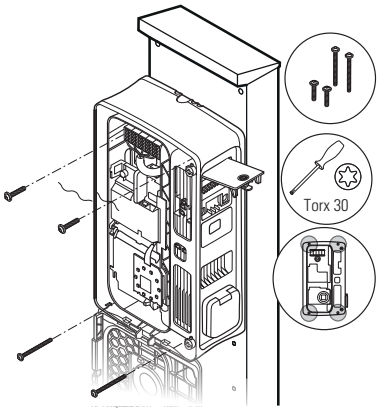


> **NOTE**
>
> **Detailed information in the installation manual**
>
> Read the detailed information on connecting the data and control cables in the installation manual for the eM4 Single/Twin Wallbox.
>
> **→ eM4 Single installation manual, → eM4 Twin installation manual**

12 Fix the wallbox in place with the four screws supplied with the mounting pole.

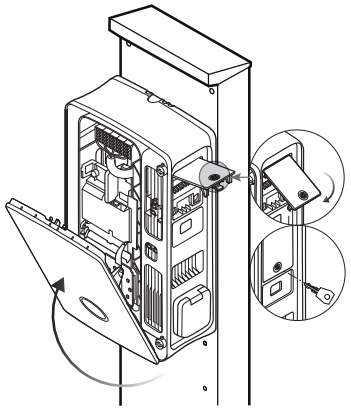
→ Screw the two TX30 (M6 × 16) truss-head screws through the upper attachment points in the mounting rail.

→ Screw the two TX30 (M6 × 90) truss-head screws into the lower thread points on the mounting pole via the lower attachment points.

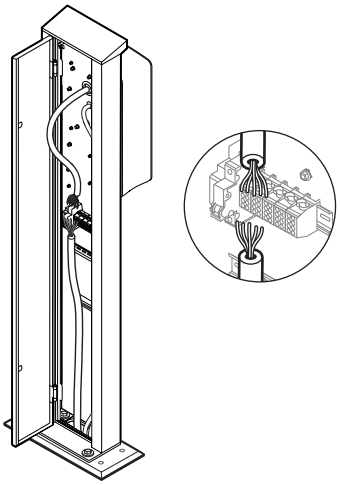


13 Fold the housing cover upwards so that it locks into the housing.

14 Fold down the side RCCB flap and lock it with the key.



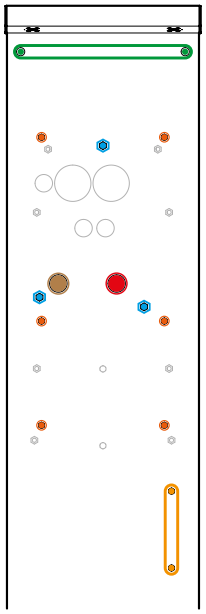
15 Switch to the rear of the opened mounting pole and pull the supply cable of the wallbox to the terminal block of the upper top-hat rail.



This completes the installation of the wallbox on the mounting pole. Go to the section “Electrical connection in the mounting pole” on page 31.

Installing the eMH1 Wallbox on the POLEM4 Single

This section describes how to install the eMH1 Wallbox on the POLEM4 Single. If using an optional WHEMH10 or 1W0001 mounting plate, please refer to the instructions for mounting plates.



- The two thread points under the top part are used for direct installation of the WPR12 weather shield on the POLEM4 Single (see “Accessories” on page 11, ➞ **Weather shield installation manual**).
- The upper thread point is used to screw a truss-head screw M6 × 16 to suspend the eMH1 Wallbox; the wallbox is fixed to the POLEM4 Single via the two lower thread points.
- The right-hand opening with grommet is used to feed the power cable from the eMH1 Wallbox into the POLEM4 Single.
- The left-hand opening with grommet is used to feed a data cable from the POLEM4 Single into the eMH1 Wallbox.
- These six thread points are used to screw an optionally available WHEMH10, 1W0001 or PVEMH10 mounting plate to the POLEM4 Single (➞ **Mounting plates installation manual**).
- These two thread points on the right-hand side are each used for directly mounting one CABHOLD cable holder on the POLEM4 Single (see “Accessories” on page 11, ➞ **CABHOLD installation manual**).

For installation, you will need the following components which are supplied with the eMH1 Wallbox:

- Wallbox eMH1, 1 pc

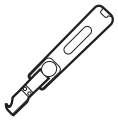
- Key, 2 pcs.

You will also need the following components which are supplied with the POLEM4 Single mounting pole:

- Truss-head screw with collar M6 × 16 (hexagon socket), 3 pcs.

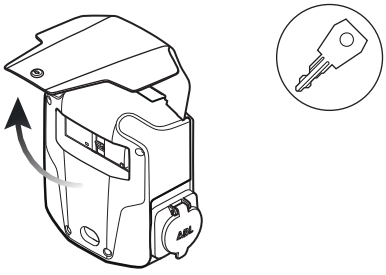
- Cover plug M6, 11 pcs.

In addition, you will need the following tools:

- Allen key
- Phillips screwdriver
- Stripping tool 
- Pick tool, straight

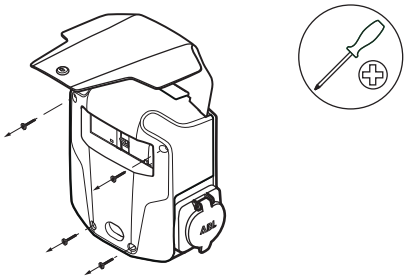
Proceed as follows:

1 Open the housing cover of the wallbox using the key supplied and flip it up.

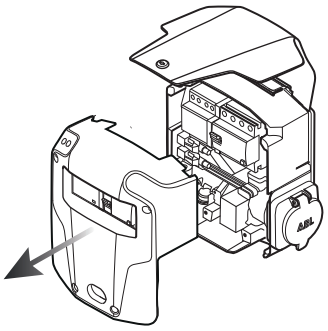


2 Loosen the four screws of the upper part of the housing using the Phillips head screwdriver.

→ Keep the four screws in a safe place.



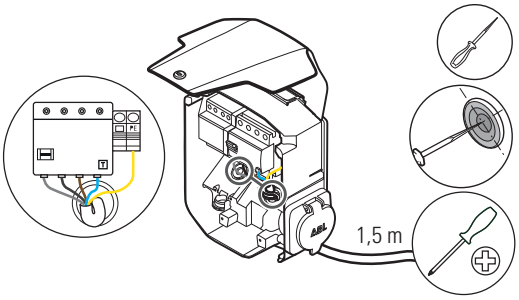
3 Remove the upper part of the housing from the housing base.



4 Connect a power cable measuring approximately 1.5 metres in length to the internal RCCB or terminal block (basic models) of the eMH1.

→ To establish the connection, the grommet of the wallbox must be opened with the pick tool and the power cable inserted into the interior of the housing.

→ If you also wish to connect a data cable to the wallbox, open the grommet on the left-hand side of the wallbox with the pick tool.



NOTE

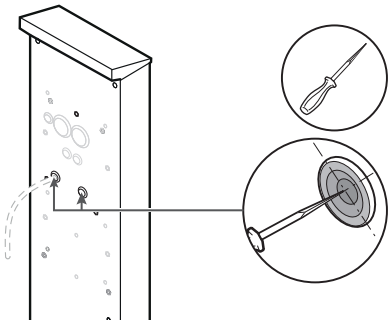
Detailed information in the installation manual

The installation instructions for the eMH1 Wallbox contain detailed information on preparing for the electrical connection.

→ eMH1 installation manual

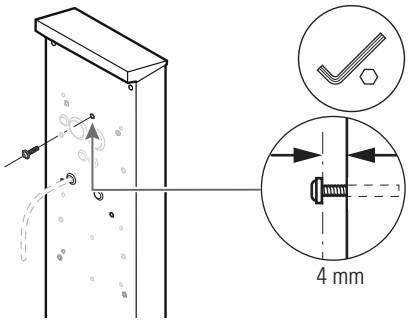
5 Open the right-hand grommet for the power cable with the pick tool.

→ If you also wish to connect a data cable to the wallbox, open the left-hand grommet with the pick tool, too.

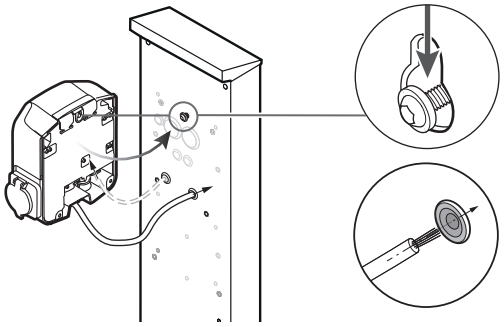


6 Screw a truss-head screw M6 × 16 (hexagon socket) into the upper mounting point of the POLEM4 Single using the Allen key.

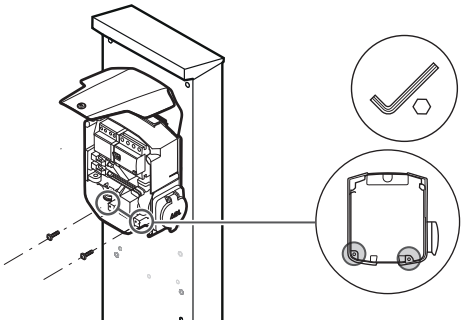
→ The distance between the bottom of the screw head and the mounting pole must be 4 mm.



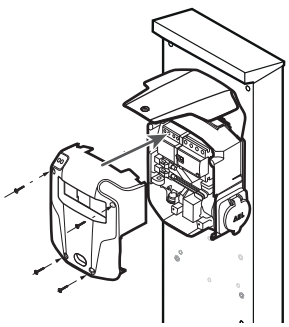
7 Insert the supply cable through the right-hand grommet into the housing of the wallbox and hang it on the screw in the upper fixing point.



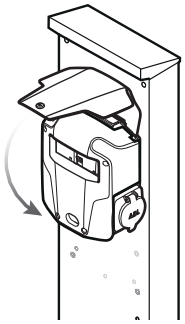
8 Screw the wallbox into the two lower mounting points using two truss-head screws M6 × 16 (hexagon socket) and the Allen Key.



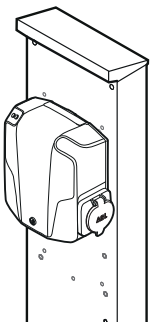
9 Place the upper part of the housing on the rear shell of the housing and screw it on with the screws loosened in Step 2.



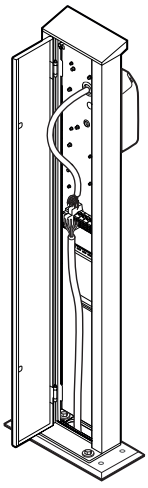
10 Now lock the housing cover using the key.

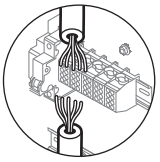


11 Seal all exposed threaded holes with cover plugs.



12 Switch to the rear of the opened mounting pole and pull the supply cable of the wallbox to the terminal block of the upper top-hat rail.

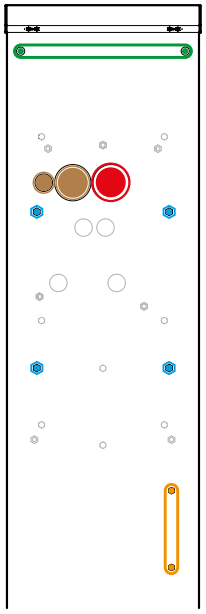




This completes the installation of the eMH1 wallbox on the POLEM4 Single mounting pole. Go to the section “Electrical connection in the mounting pole” on page 31.

Installing the eMH2 Wallbox on the POLEM4 Single

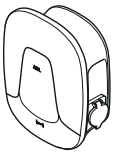
This section describes how to install the eMH2 Wallbox on the POLEM4 Single.



- The two thread points under the top part are used for direct installation of the WPR12 weather shield on the POLEM4 Single (see "Accessories" on page 11, ➞ **Weather shield installation manual**).
- These four thread points are used for hanging and securing the eMH2 Wallbox on the POLEM4 Single.
- The right-hand opening with the large grommet is used to feed the power cable from the eMH2 Wallbox into the POLEM4 Single.
- The left-hand large opening and the small opening with grommets are used to feed a data cable and/or control cable from the POLEM4 Single into the eMH2 Wallbox.
- These two thread points on the right-hand side are each used for directly mounting one CABHOLD cable holder on the POLEM4 Single (see "Accessories" on page 11, ➞ **CABHOLD installation manual**).

For installation, you will need the following components which are supplied with the eMH2 Wallbox:

- Wallbox eMH2, 1 pc.



- Key, 1 pcs.

You will also need the following components which are supplied with the POLEM4 Single mounting pole:

- Truss-head screw with collar M6 × 16 (hexagon socket), 2 pcs.

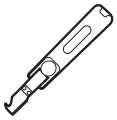
- Cover plug M6, 11 pcs.

In addition, you will need the following tools:

- Torx screwdriver (TX 30)

- Allen key

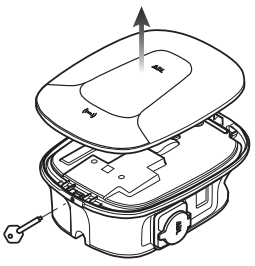
- Stripping tool



- Pick tool, straight

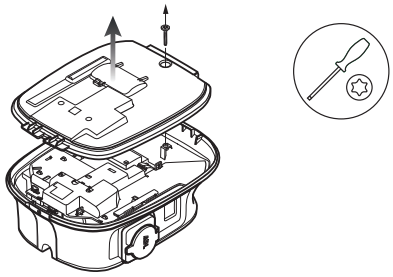
Proceed as follows:

1 Open the housing cover of the wallbox with the key and put it aside.



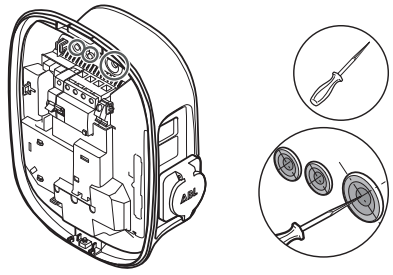
2 Loosen the screw holding the internal electronic components cover in place using a Torx screwdriver and put it aside.

→ Keep the screw in a safe place.



3 Open the right-hand large grommet for the power cable with the pick tool.

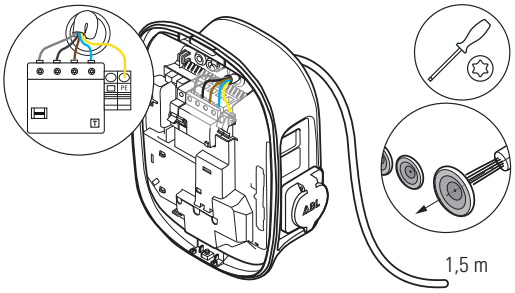
→ If you also wish to connect a data and/or control cable to the wallbox, open the two small grommets with the pick tool, too.



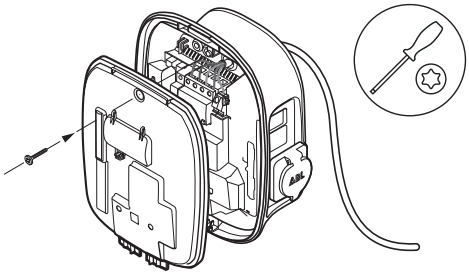
4 Insert a power cable measuring approximately 1.5 metres in length through the large grommet into the wallbox and connect it to the internal RCCB.

→ Shorten the power cable to the required length and remove the sheath from the conductors.

→ Screw the wires into the individual terminals using the Torx screwdriver (torque: 2.5 Nm) and fasten the protective conductor in the spring mechanism of the PE terminal.



5 Replace the electronic components cover onto the rear shell of the housing and fix it into place with the screw you removed in **Step 2** and the Torx screwdriver.



NOTE

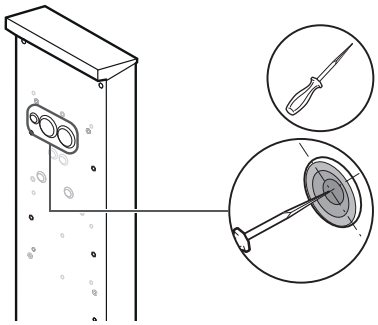
Detailed information in the installation manual

The installation instructions for the eMH2 Wallbox contain detailed information on preparing for the electrical connection.

➞ eMH2 installation manual

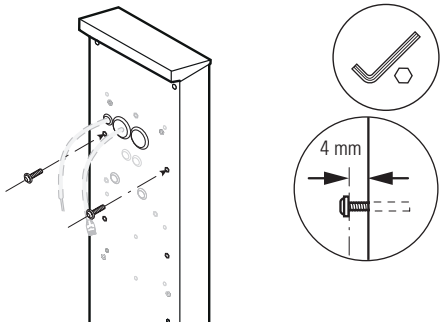
6 Open the right-hand large grommet for the power cable with the pick tool.

→ If you also wish to connect a data and/or control cable to the wallbox, open the left-hand large and the small grommets with the pick tool, too, and feed the cable(s) out of the mounting pole.



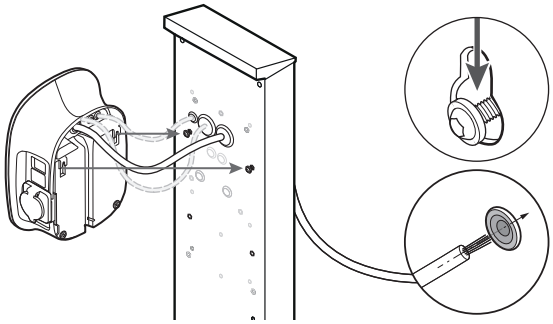
7 Use the hexagon screwdriver to screw the two truss-head screws M6×16 (hexagon socket) supplied into the two upper mounting points of the mounting pole.

→ The distance between the bottom of the screw head and the mounting plate must be 4 mm each.

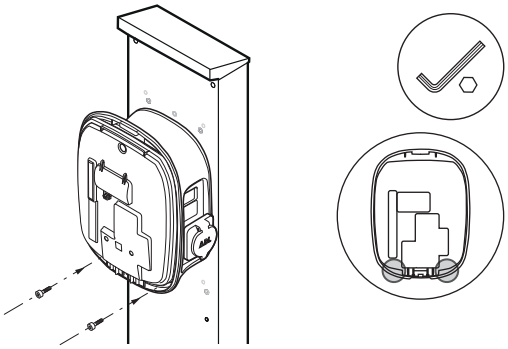


8 Insert the supply cable through the right-hand large grommet into the housing of the mounting pole and hang the wallbox on the two screws.

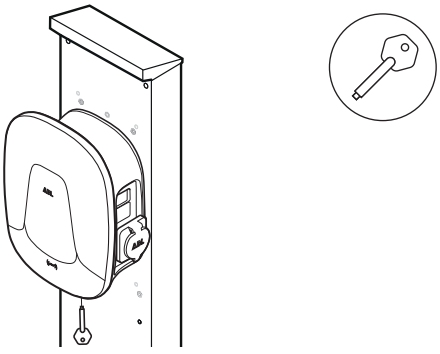
→ If you also wish to connect a data and/or control cable, feed it from the mounting pole through the left-hand grommet(s) into the wallbox.



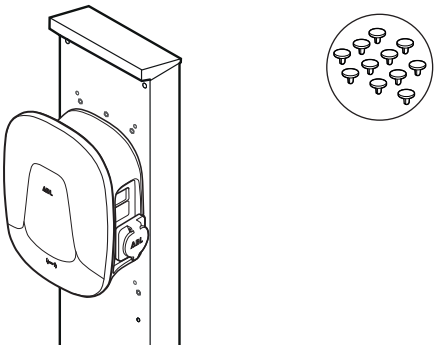
9 Use the two supplied M6×16 cylinder-head screws (hexagon socket) and the hexagon screwdriver to screw the wallbox into the two lower fixing points.



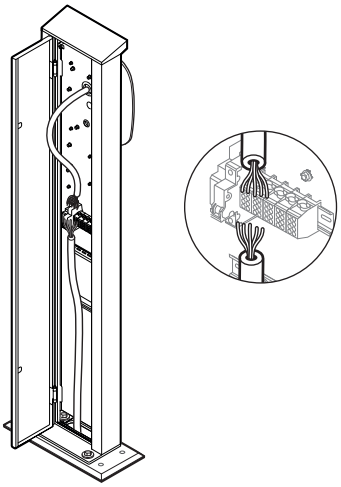
10 Hook the housing cover onto the upper edge of the housing base and lock it using the housing cover key.



11 Seal all exposed threaded holes with cover plugs.



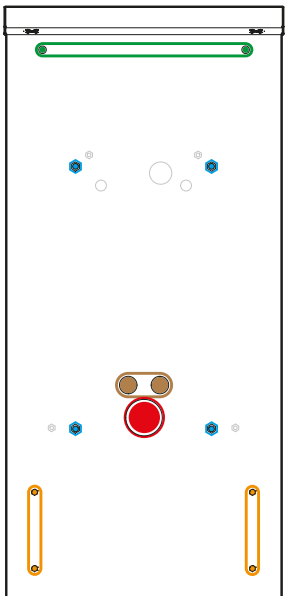
12 Switch to the rear of the opened mounting pole and pull the supply cable of the wallbox to the terminal block of the upper top-hat rail.



This completes the installation of the eMH2 Wallbox on the POLEM4 Single mounting pole. Go to the section “Electrical connection in the mounting pole” on page 31.

Installing the eMH3 Wallbox on the POLEM4 Twin

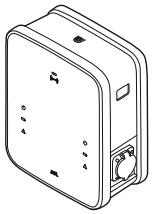
This section describes how to install the eMH3 Wallbox on the POLEM4 Twin.



- The two thread points under the top part are used for direct installation of the WPR36 weather shield on the POLEM4 Twin (see “Accessories” on page 11, ➞ **Weather shield installation manual**).
- The mounting plate of the eM4 Twin Wallbox is screwed to the POLEM4 Twin at these four thread points.
- The large opening with grommet is used to feed the power cable from the eMH3 Wallbox into the POLEM4 Twin.
- The two smaller openings with grommets are used to feed a data cable and/or control cable from the POLEM4 Twin into the eMH3 Wallbox.
- These two thread points for each side are used for directly mounting one CABHOLD cable holder each on the POLEM4 Twin (see “Accessories” on page 11, ➞ **CABHOLD installation manual**).

For installation, you will need the following components which are supplied with the eMH3 Wallbox:

- Wallbox eMH3, 1 pc.



- Triangular key, 1 pc.

- TX25 wafer head screws, 6 × 25 mm, 4 pcs.

You will also need the following components which are supplied with the POLEM4 Twin mounting pole:

- Rounded-head screw M8 × 25 (hexagon socket), 4 pcs.

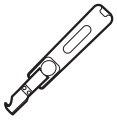
- Cover plug M6, 4 pcs.

In addition, you will need the following tools:

- Torx screwdriver (TX 25)

- Allen key

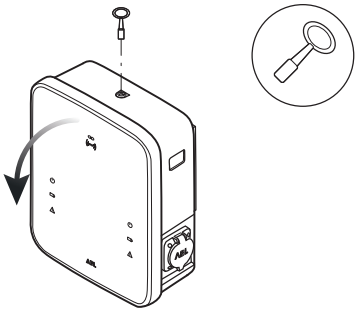
- Stripping tool



- Pick tool, straight

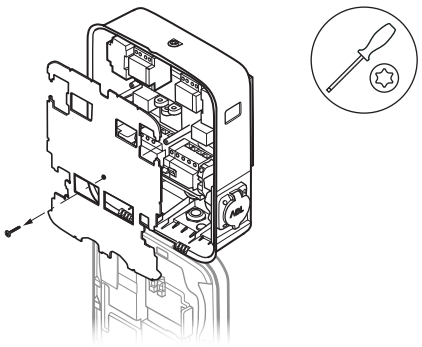
Proceed as follows:

1 Open the housing cover of the wallbox using the triangular key and lower it.



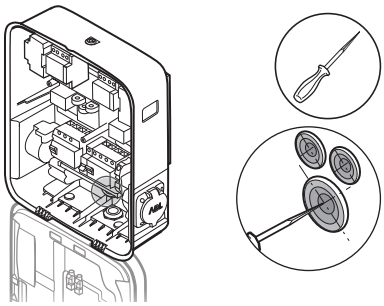
2 Loosen the screw holding the internal electronic components cover in place using a Torx screwdriver and put it aside.

→ Keep the screw in a safe place.



3 Open the large grommet for the power cable with the pick tool.

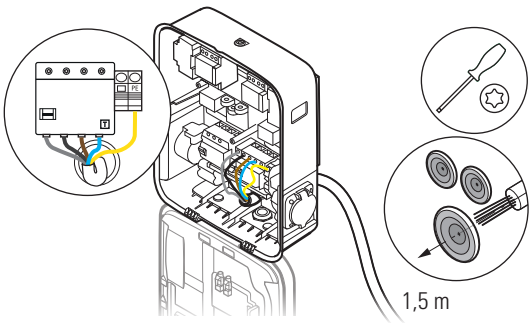
→ If you also wish to connect a data and/or control cable to the wallbox, open the two small grommets with the pick tool, too.



4 Insert a power cable measuring approximately 1.5 metres in length through the large grommet into the wallbox and connect it to the internal RCCB.

→ Shorten the power cable to the required length and remove the sheath from the conductors.

→ Screw the wires into the individual terminals using the Torx screwdriver (torque: 2.5 Nm) and fasten the protective conductor in the spring mechanism of the PE terminal.



NOTE

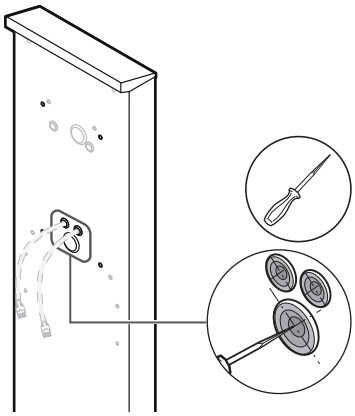
Detailed information in the installation manual

The installation instructions for the eMH3 Wallbox contain detailed information on preparing for the electrical connection.

→ eMH3 installation manual

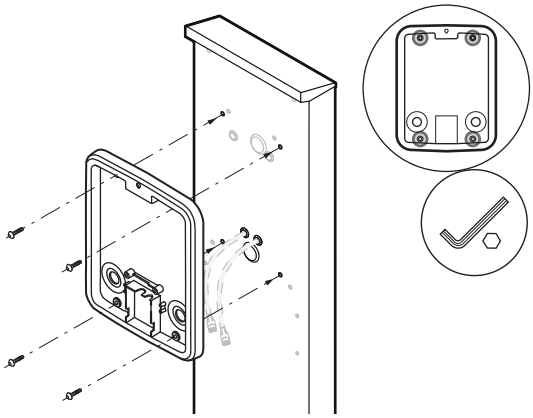
5 Open the lower large grommet for the power cable with the pick tool.

→ If you also wish to connect a data and/or control cable to the wallbox, open the small grommet(s) with the pick tool, too, and feed the cable(s) out of the mounting pole.

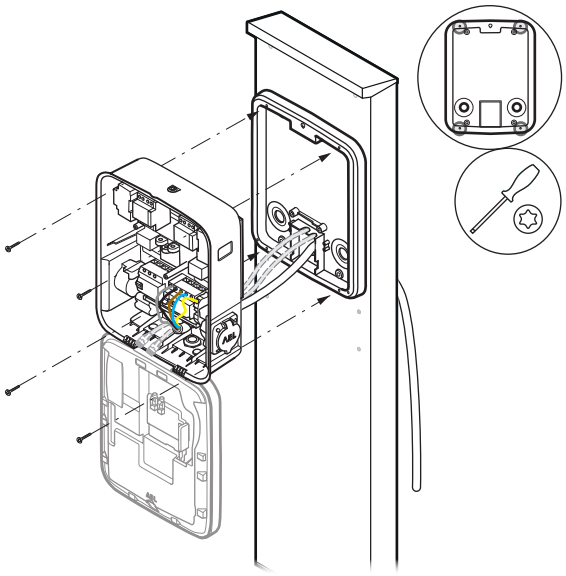


6 Screw the mounting plate of the eMH3 Wallbox into the four threaded holes of the mounting pole using the four rounded-head screws M8 × 25 (hexagon socket) and the hexagon screwdriver.

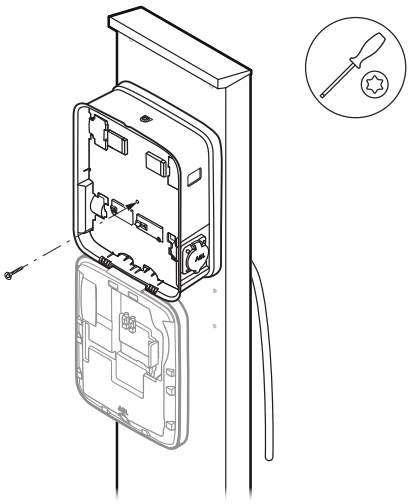
→ If you wish to connect a data and/or control cable, open the pre-stamped inlets on the mounting plate and feed the cable(s) through the plate.



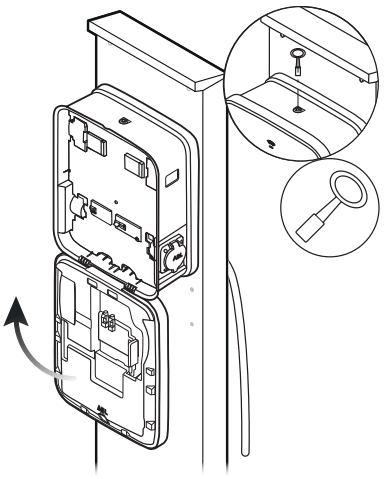
7 Insert the supply cable through the large grommet into the housing of the mounting pole and screw the wallbox into the mounting plate using the screwdriver and the screws supplied with the wallbox.



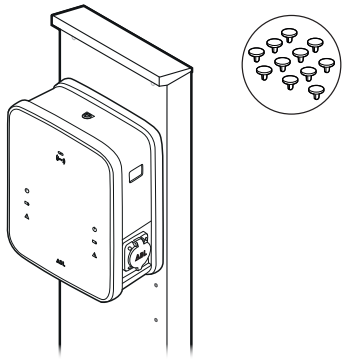
8 Replace the electronic components cover onto the wallbox housing and fix it into place with the screw you removed in Step 2.



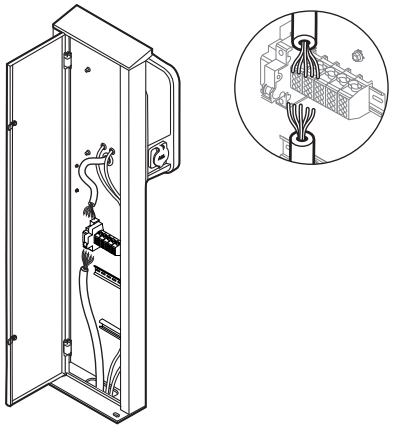
9 Flip the housing cover up so that it clicks into the housing and lock it with the triangular key.



10 Seal all exposed threaded holes with cover plugs.



11 Switch to the rear of the opened mounting pole and pull the supply cable of the wallbox to the terminal block of the upper top-hat rail.



This completes the installation of the eMH3 Wallbox on the POLEM4 Twin mounting pole.

Electrical connection in the mounting pole

The following section describes how to connect to the terminal block in the mounting pole: This process is identical for the POLEM4 Single and POLEM4 Twin.

DANGER

Danger from electrical voltages

Always observe the 5 safety rules:

1 Cut power source

2 Secure all cut-off devices

3 Verify absence of voltage

4 Ground and short-circuit

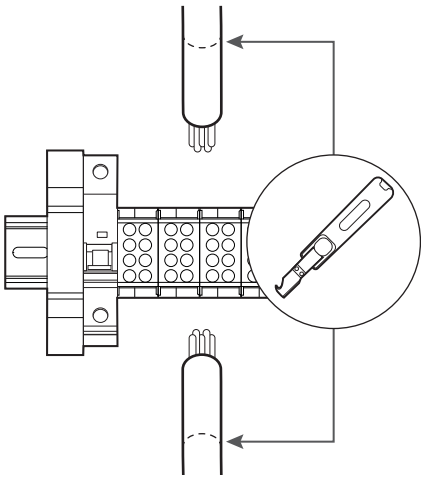
5 Cover or bar access to adjacent components under voltage

The supply cable must not be reconnected to the electricity grid until **Step 4** in this section!

Proceed as follows to connect the wallbox supply cable and the power supply cable from the house connection to the main line branch terminal of the mounting pole:

1 Shorten the wallbox power cable to the required length for connection to the terminal block.

→ Remove the sheath from the conductor.



2 Shorten the power supply cable to the required length for connection to the terminal block.

→ Remove the sheath from the conductor.

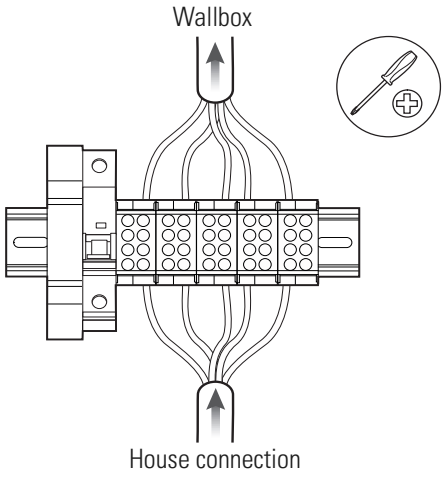
NOTE

Strain relief of the supply cable

It is advisable for the power supply cable be attached to the lower C-rail of the mounting pole via a suitable strain relief.

3 Insert the individual conductors of the two power cables into the terminals and tighten them using a Phillips-head screwdriver.

→ End ferrules must be fitted on flexible conductors.
→ Use the connection patterns listed below to allocate the individual conductors.



Connection pattern for 1-phase TN system

Designation	Conductor colour	Labelling
Phase 1 current-carrying conductor	Brown	L1
Neutral	Blue	N
Protective earth	Green-Yellow	PE

Connection pattern for 3-phase TN system

Designation	Conductor colour	Labelling
Phase 1 current-carrying conductor	Brown	L1
Phase 2 current-carrying conductor	Black	L2
Phase 3 current-carrying conductor	Grey	L3
Neutral	Blue	N
Protective earth	Green-Yellow	PE

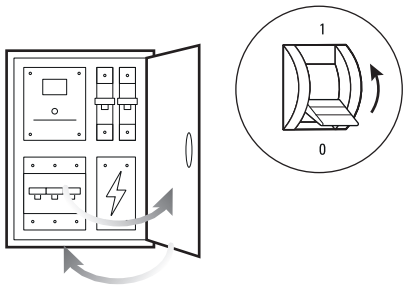
⚠ ATTENTION

Checking the connection

Please ensure that the conductors that are pre-fixed to the terminal block remain attached correctly after connecting the power supply cable.

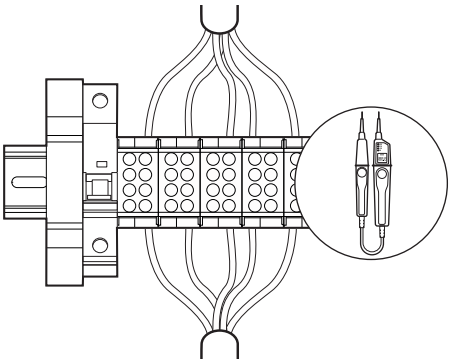
4 Connect the supply cable to the mains.

- As soon as the wallbox is connected to the electricity grid, it will initiate the start-up procedure.

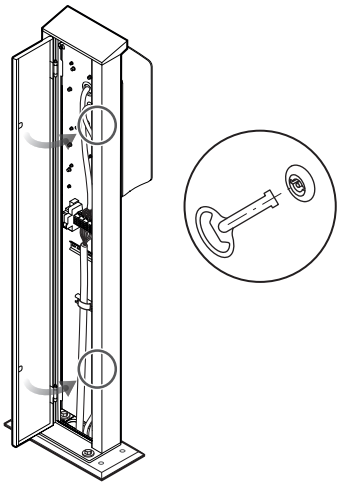


5 Measure the voltage at the individual terminals using a voltage tester.

→ In single phase installations, the voltage is measured between the phase and neutral conductors.
→ In 3-phase systems, all phases are measured against each other (400 V) and all phases are measured against the neutral conductor (230 V).



6 Close the mounting pole housing door and lock it with the double-bit key.



Safety instructions for start-up and operation

Before initial operation of the wallbox installed on the POLEM4 Single / POLEM4 Twin, you must observe the following safety notices:

- Ensure that the mounting pole is installed according to the instructions in this document.
- Make sure the respective wallbox has been installed on the mounting pole and connected in accordance with the relevant installation manual and the information in this document.
- Ensure that the mounting pole is freely accessible and that an electric vehicle can be connected to the charging cable without tension.
- Ensure that the mounting pole is properly connected to the power supply cable and to the protective conductor.
- Ensure that the mounting pole housing door is always locked during normal operation.

Troubleshooting and maintenance

If a malfunction should occur during operation, first check the points mentioned below. If the error cannot be rectified, contact your local sales partner and jointly determine how to proceed.

The following malfunctions may occur:

Malfunction	Possible cause and suggested solution
The installed wallbox is not functioning.	The power cable to the wallbox and/or the supply cable has not been correctly connected to the terminal block in the mounting pole. • Check the connection.
	The RCCB/MCB for the house connection are not switched on. • Check the upstream RCCB/MCB in the domestic power installation.
	The internal RCCB/MCB of the wallbox are not switched on. • Check the RCCB/MCB on the wallbox.
The lighting on the mounting pole does not switch on at dusk or remains permanently lit.	The twilight switch is dirty. • Clean the LEDs in the head of the mounting pole with a dry cloth.
	The integrated power supply unit is not connected to the supply cable. • Make sure the conductors that are pre-fixed to the terminals are correctly fastened.
	The integrated MCB is switched off. • Set the toggle lever of the MCB to position I.
	The LEDs are defective. • Contact your local distributor to have the LEDs replaced.

Maintenance

The POLEM4 Single and POLEM4 Twin mounting poles are essentially maintenance-free. However, we still recommend the mounting pole is regularly cleaned and its function checked:

- Use a dry or slightly damp, well-wrung cloth to clean the mounting pole.
- Do not use aggressive cleaning agents, waxes or solvents (such as cleaning fluid or paint thinner) as they can cloud the LEDs or damage the paintwork.
- Never clean the mounting pole with a high-pressure cleaner or similar device that applies liquid at high pressure to the surface of the housing.
- Check the housing of the mounting pole regularly for signs of damage.
- Check the locks on the housing door and ensure that they move freely if necessary.

Appendix

Technical specifications

Model code	POLEM4 Single	POLEM4 Twin
Compatibility (wallbox)	eM4 Single *	eM4 Twin **
External power supply	For supply cable sizes up to 5 × 25 mm²	
Rated voltage (power supply)	230/400 V	
Rated current (power supply)	up to 32 A, 3-phase	
Rated frequency	50 Hz	
Ambient temperature	-30 to 40°C	
Storage temperature	-30 to 85°C	
Max. internal temperature	-30 to 55°C	
Relative humidity	5 to 95%, no condensation	
IP rating	IP44	
Maximum elevation	≤ 2,000 m above mean sea level	
Material (mounting pole)	Electro galvanised sheet metal (DC01+ZE25/25-0)	
Mounting pole finish	Fine-textured, satin powder coated	
Material (base plate)	Plate metal (DD11)	
Housing colour	RAL 9011	
Integrated components	Upper top hat rail with 5-pole main line branch terminal for conductors with max. 25 mm², 12 V power supply unit and circuit breaker (6 A, 1-pole, C characteristic); Lower top-hat rail; C-profile rail	
Lighting control	8 LEDs, with integrated twilight switch	
Rated voltage (lighting)	230 V	
Locking mechanism	Twist lock, double bit, 3 mm mandrel, 2 pcs.	
Dimensions (H × W × D)	1,647 × 285 × 180 mm	1,647 × 400 × 180 mm
Weight per unit (net)	Approx. 20 kg	Approx. 26 kg
Weight per unit (gross)	Approx. 23 kg	Approx. 29 kg

* The POLEM4 Single can be used to install the eMH1 and eMH2 Wallboxes from ABL.

** The POLEM4 Twin can be used to install the eMH3 Wallbox from ABL.

Model code	EMH9999	
Compatibility (mounting poles)	POLEM4 Single	POLEM4 Twin
Material	Reinforced concrete	
Grade	C30/37	
Exposure class	XC4 and XF1	
Dimensions (H × W × D)	650 × 430 × 190 mm	
Weight per unit	Approx. 130 kg	

Protection classes & degrees of protection

Protection class / Degree of protection	Explanation
	Protection class I: All electrically conducting parts of the device are connected at low resistance with the protective earth system of the fixed installation.
IP44	Protection class of the unit (protection against penetration of solid foreign bodies with a diameter greater than 1 mm and against splashing water).

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