BMW Wallbox Connect
Installation instructions
Imprint

Bayerische Motorenwerke Aktiengesellschaft
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www.bmw.com
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Violations create an obligation to pay compensation.
Information about this manual

This manual must be retained for the lifetime of the product.

Read these instructions carefully and examine the device, so that you become familiar with it, before you attempt to install, operate or maintain it. The following special messages may be displayed in this documentation or on the device, in order to warn of possible risks or to indicate information which clarifies or simplifies a process.

The operating instructions should be used for the operation of the Wallbox and to explain errors.

Keep these instructions safe for later use. The most current manuals can be downloaded from the Internet at https://charging.bmwgroup.com/web/wbdoc/.

Symbols used

At various points in the manual, you will find instructions and warnings of possible dangers. The symbols used have the following meanings:

⚠️ WARNING
Means that death or serious injury may occur if the appropriate precautions are not taken.

⚠️ CAUTION
Means that material damage or slight injury may occur if the appropriate precautions are not taken.

⚠️ ATTENTION
Means that material damage may occur if the appropriate precautions are not taken.

!” ESD
This warning draws attention to the potential consequences of contact with electrostatically sensitive components.

Note
Refers to procedures which have no danger of creating injury.

⚡ This lightning symbol represents a hazard from electric shock.
Access only for qualified and authorized electricians.

Note
Your BMW dealer will be happy to support you in finding a qualified installation partner.
Safety instructions

Read the safety instructions carefully and examine the device, so that you become familiar with it, before you attempt to install operate or maintain it.

WARNING

▷ Electrical danger!
Installation, commissioning, maintenance and retrofitting of the Wallbox must be carried out by appropriately trained, qualified, and authorized electricians\(^{(1)}\), who bear full responsibility for complying with the applicable standards and installation regulations.
Please note that additional overvoltage protector may be required by vehicles or national regulations.
Comply with the country-specific connection and installation regulations.

▷ In the right hand connection area (Ethernet, terminals for control wiring) connect only voltages and power circuits which can be safely isolated from dangerous voltages (e.g. sufficient insulation).

▷ Before commissioning, confirm that all screwed and clamped connections are tight!

▷ The connector panel must never remain unattended while it is open. Fit the connector panel cover if you leave the Wallbox unattended.

▷ Do not undertake any unauthorized conversions or modifications of the Wallbox!

▷ Repair work on the Wallbox is not permitted, and may be carried out only by the manufacturer or by a specialist qualified for the task (replacement of the Wallbox)!

▷ Do not remove any markings such as safety symbols, warnings, performance rating plates, identification plates, or cable markings!

▷ The Wallbox does not have a power switch of its own! If present, the connector plug serves as a power cut-off device. Otherwise, the line protection in the building installation serves as a power cut-off device.

▷ Use only the plug (and not the cable itself) to pull the charger cable out of the plug holder.

▷ Ensure that the charger cable does not become mechanically damaged (kinked, trapped, or driven over) and that the contact area does not come into contact with heat sources, dirt or water.

▷ Do not insert your fingers into the plug connector.

▷ A visual inspection for damage should always be conducted before a charging process. For this, the contact area of the charging plug in particular should be checked for dirt and moisture, the charger cable checked for cuts or abrasions to the insulation, and the cable outlet of the Wallbox checked for firm seat.◆

\(^{(1)}\) Persons who, on the basis of their specialist training, knowledge, and experience, as well as knowledge of the applicable standards, can assess the tasks assigned to them and recognize possible dangers.
WARNING

Grounding regulations

This product must be grounded. If a malfunction or outage occurs, then grounding provides the electrical current with a path of least resistance, in order to reduce the risk of an electric shock. This product is equipped with a cable which has a device grounding conductor and a grounding plug. The plug must be inserted into a suitable outlet which is correctly installed and grounded in compliance with all local regulations and requirements.

WARNING – Incorrect connection of the device grounding conductor can result in electric shock. Consult a qualified electrician or service technician if you are not sure whether the product is correctly grounded. Do not make any modifications to the plug supplied with the product – if it does not fit the outlet, then have a suitable outlet installed by a qualified electrician.

ATTENTION

▷ Never clean the Wallbox using a water jet (garden hose, high pressure cleaner, etc.)!
▷ Ensure that the Wallbox is not damaged by inappropriate handling (casing cover, internal parts, etc.).
▷ If it is raining or snowing, and the Wallbox is mounted outdoors, do not open the connector panel cover!
▷ Risk of breaking the plastic casing!
    - Do not use countersunk screws for fastening!
    - Do not tighten the attachment screws forcefully.
    - The installation surface must be completely even (max. 1 mm difference between contact and/or attachment points). The casing must not be bent.

Information for specialists who open the device:

Risk of damage! Electronic components may be destroyed by being touched!

Before working with assemblies, carry out an electrical discharge by touching a metallic, grounded object!

Failure to comply with the safety instructions may result in danger to life, injuries, and damage to the device! The manufacturer assumes no liability for claims resulting from this!
**Intended use**

The Wallbox is a charging station for indoor and outdoor use, by means of which electric or plug-in hybrid vehicles can be charged. It is not permitted to connect other devices, e.g. electrical tools! The Wallbox is intended to be fitted to a wall or a mounting pillar. For installation and connection of the Wallbox, the applicable national regulations must be complied with.

In all cases, intended use of the device includes compliance with the environmental requirements for which this device was developed.

The Wallbox was developed, manufactured, tested, and documented in compliance with the applicable safety standards. Therefore, if instructions provided for intended use and the safety instructions are complied with, under normal circumstances no risks arise from the product in terms of material damage or the health of persons.

This device must be grounded. In the case of a fault, the ground connection reduces the risk of an electric shock. It is fitted with a connector plug with ground connection, or else optionally has a fixed connection and is connected to a protective conductor. The equipment connector plug must be inserted into the socket which is provided for the purpose and which was installed in compliance with local regulations.

The instructions in this manual must be followed exactly. Otherwise, sources of danger could be created, or safety devices could be made ineffective. Regardless of the safety instructions provided in this manual, the safety and accident prevention regulations corresponding to the individual application case must be complied with.

Because of technical or legal restrictions, not all variants/options are available in all countries.

**About this manual**

This manual and the functions described are valid for devices of the type:

> BMW Wallbox Connect

This manual is intended exclusively for qualified personnel. These are persons who, on the basis of their specialist training, knowledge, and experience, as well as knowledge of the applicable standards, can assess the tasks assigned to them and recognize possible dangers.

The images and explanations in this manual are based on a typical model of the device. The model of your device may be different from this.

Please refer to the operating instructions for the device for information and instructions on operation.

**Transporting the Wallbox**

For transportation of the Wallbox, the device must be packed appropriately so that damage does not arise to the casing.
It should also be ensured that the casing is completely closed for transportation and all screws and bolts are tightened.

The installation material required should be selected on the basis of the construction-related circumstances, and replaced if necessary. Before installation, the device should be inspected, in particular for damage to the casing.

**Scope of delivery**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wallbox</td>
<td>1x</td>
</tr>
<tr>
<td>Installation instructions</td>
<td>1x</td>
</tr>
<tr>
<td>Operating instructions</td>
<td>1x</td>
</tr>
<tr>
<td>Drilling template</td>
<td>1x</td>
</tr>
<tr>
<td>RFID card</td>
<td>4x</td>
</tr>
<tr>
<td>Label with configuration information, to be kept safely</td>
<td>1x</td>
</tr>
<tr>
<td>Double membrane nipple M32 or ¾&quot; NPT (clamping range 14–21 mm)</td>
<td>1x</td>
</tr>
<tr>
<td>Double membrane nipple M16 (clamping range 7–12 mm)</td>
<td>2x</td>
</tr>
<tr>
<td><strong>Attachment set for wall installation</strong></td>
<td></td>
</tr>
<tr>
<td>Plug for M8, Fischer UXR-10</td>
<td>4x</td>
</tr>
<tr>
<td>Wafer-head screw</td>
<td>4x</td>
</tr>
</tbody>
</table>
Guarantee

BMW Service will provide information on the currently applicable guarantee terms. However, the cases listed below are excluded from the guarantee.

- Defects or damage caused by installations which were not carried out as per the requirements in the BMW Wallbox Connect installation instructions.
- Defects or damage caused because the product was not used as per the requirements in the BMW Wallbox Connect operating instructions.
- Costs and damage of repairs not performed by a specialized electrician authorized by a BMW sales outlet or authorized contracted service workshop.
Displays and controls

BMW Wallbox Connect

Functions:
- Charging of electric or plug-in hybrid vehicles
- Network connection using LAN, WLAN/Wi-Fi (2.4 GHz)
- Local smartphone App
- RFID functionality
- Domestic connection monitoring (outlet fuse for meter) using a directly connected Modbus-RTU (RS485) or Modbus-TCP electricity meter
- Communication module for BMW DCS (BMW Digital Charging Service)
- Switching between immediate charging and intelligent charging (possible only in combination with BMW DCS)

1 Status LED
2 Display for online connection
3 RFID status display
4 RFID reading area
5 Charging mode indicator (immediate charging/intelligent charging)
6 Capacitive touch button
7 Holder for charger cable connector
8 Charger cable connector
REQUIREMENTS

General requirements for selecting a location

The Wallbox was designed for indoor and outdoor use. It is therefore necessary to make arrangements for the installation location and protection of the device.

➢ Take into account the locally applicable requirements for electrical installations, measures for fire prevention, and accident prevention regulations, as well as escape routes at the location.
➢ You must not install the Wallbox at locations:
  ➢ Which are used as escape and emergency routes.
  ➢ Which are located in potentially explosive zones (hazardous location).
  ➢ In which the Wallbox will be exposed to ammonia or ammonia gases (e.g. in or adjacent to stables).
  ➢ In which falling objects (e.g. suspended ladders or car tires) could damage the Wallbox.
  ➢ In which the Wallbox is situated directly in pedestrian traffic and where people could trip over inserted charger cables.
  ➢ In which direct water jets could strike the Wallbox (e.g. from adjacent car wash installations, high pressure cleaners, garden hoses).
  ➢ In which the installation surface is of insufficient strength to withstand the mechanical loads.
➢ If possible, install the Wallbox protected from direct rainfall, in order to avoid weathering, icing up, damaging by hail or similar.
➢ If possible, install the Wallbox protected from direct sunshine, in order to prevent the reduction of the charging current or the interruption of charging because of excessive temperatures of Wallbox components.
➢ Comply with the permitted environmental conditions, see section Technical data.
➢ Comply with the nationally applicable installation standards, e.g. NFPA 70 and CSA C22.1, and comply with the nationally and regionally applicable installation standards and regulations, e.g. Electric Code, Building Code, Residential Code, and Fire Code.

Note

For an installation exposed to the weather, e.g. on an open air parking lot, this can result in an impermissible temperature excursion which reduces the charging current specification to 16 A.
Requirements for electrical connection

As delivered, the maximum charging current for the Wallbox is set to 32 A.

Pre-installed connection cable

As delivered, the Wallbox is provided with a pre-installed connection cable with a NEMA 6-50p plug which can be inserted into an appropriate socket.

The following safety measure must be installed:

- Branch circuit breaker: max. 40 A
In order to optimize the functionality of your Wallbox, it is possible to extend this by means of external meters.

1 Public power network
3 Power network operator’s electricity meter
4 Outlet fuse for meter
5 Meter 1 (optional, domestic connection meter)
6 Meter 2 (optional, photo-voltaic meter)

**Note**

The sample circuit diagram provides a system overview, and does not include all additional equipment necessary for safe operation of the system (line protection circuit breaker, RCCB, etc.). The PV power input may also take a different form.
Domestic connection monitoring (post-meter fuse)

With the domestic connection monitoring function, charging of the vehicle is carried out dynamically at any time using the available charging current, according to the other consumers on the domestic connection. This ensures that the domestic connection fuse is not overloaded, and that in principle it is not necessary to choose a lower charging output than the vehicle and the installation allow.

From meter 5, the Wallbox receives the current total amount of energy drawn from the power network. In combination with the value of the post-meter fuse 4 defined by DIP switches, this information allows the Wallbox to control the charging current such that the maximum energy drawn never exceeds the value of the post-meter fuse.

Meter connection for BMW Digital Charging Service (BMW DCS)

If the additional BMW Digital Charging Service (DCS) is used, then it is possible to use the measured values from a domestic connection meter 5 and also from a photo-voltaic meter 6 for the smart charging current calculation and for purposes of visualization. In combination, the previously described domestic connection monitoring function can also be activated. For charging optimization, it is also possible to use only a photo-voltaic meter.

Installation of the external meters

For the Wallbox Plus, the meter can be connected via RS485 (Modbus), and for the Wallbox Connect the meter can be connected either via RS485 (Modbus) or TCP (Modbus-TCP).

For domestic connection monitoring and photo-voltaic operation, it is not possible to use two meters having different communication interfaces. Either Modbus-RTU (RS485) or Modbus-TCP must be selected.

Note

For detailed information on the meter installation, please refer to the installation instructions from the meter manufacturer. ◄

Note

Using the Wallbox web interface, the plausibility of the meter values can be tested after connection. Information on the Wallbox web interface can be found in the operating instructions for the BMW Wallbox in the “Configuration” section. ◄

Meters with Modbus-RTU (RS485) interface

This interface makes it possible to operate several meters from different manufacturers on a single bus. For connection, a separate cable from the Wallbox to the domestic installation is required. In comparison with network-capable Modbus-TCP meters, the benefit is the independence from additional infrastructure such as routers. When correctly wired, this ensures high operational reliability.
You will find a detailed description of the connection of the Modbus-RTU meters via RS485 in section RS485 connection X2.

Note

The setting of the permitted fuse value must be carried out using the DIP switches in the connection area of the Wallbox; see section DIP switch settings.

The current list of supported meters can be found on the BMW Service page for charging products at https://charging.bmwgroup.com/web/wbdoc/.

DIP switch settings

The use of the domestic load monitoring function with RS485 meters can be selected by means of a DIP switch setting and becomes active only when the Wallbox is restarted.

If no meter 5 is found when the Modbus is active, then the charging current is reduced to 10 A.

If the meter value is to be used only for BMW DCS, then activation of the monitoring function is not necessary.

- No monitoring: DSW1.2 = OFF (default)
- Monitoring function: DSW1.2 = ON

This reduction is also indicated on the status LED of the Wallbox. You will find further information in the installation manual for the Wallbox.
Meters with Modbus-TCP via network

For configuration of the network-capable meters, see section “Configuration” in the operating instructions for the BMW Wallbox Connect.

Note

The setting of the permitted fuse value must be carried out using the DIP switches in the connection area of the Wallbox; see section DIP switch settings.

The current list of supported meters can be found on the BMW Service page for charging products at https://charging.bmwgroup.com/web/wbdoc/.
INSTALLATION

Note

As delivered, the maximum charging current for the Wallbox is set to 32 A.

Prerequisites for installation

- Comply with the locally applicable installation guidelines.
- The electrical connection (NEMA 6-50p socket) must be prepared.
- Acclimatization: If the temperature difference between transportation and installation location is greater than 15 °C, then the Wallbox should be allowed to acclimatize for at least two hours without being opened.

Under some circumstances, damage from condensate water may not arise until at some point after the installation.

Ideally, the Wallbox should be left at the installation location for a few hours in advance. If this is not possible, then the Wallbox should not be stored overnight in the open air or in a vehicle at low temperatures (< 5 °C).

List of tools

The following tools are needed for the installation:

- Cross-head screwdriver for terminal X2, blade width 3.0 mm
- LSA+ insertion tool, for the connection of the mains cable
- Torx screwdriver T40

Recommended installation positions

When selecting the installation position, please take into account the position of the charging connection on your vehicle and the usual direction of parking. Examples:

BMW i3

BMW/MINI PHEV

1 Recommended installation position
2 Alternative installation position
**Necessary installation space**

The installation space specified below (hatched area) ensures convenient installation and operation of the Wallbox. If several Wallboxes are installed next to each other, then a separation of at least 200 mm (8") must be maintained between the Wallboxes.

- **Note**
  The installation height must be complied with, in order to fulfill the requirements for indoor and outdoor use.

Dimensions in millimeters (inches)
Removing the casing cover

1. On the underside of the Wallbox, push the two locking mechanisms 1 of the casing cover upwards. The casing cover should spring outwards a little at the bottom.

2. On the underside, swing the casing cover forwards a little 2.

3. Now unhook the casing cover upwards 3.

Note
In order to avoid scratches or other damage, store the casing cover in its packaging.
Removing the connector panel cover

The connector panel cover needs to be removed only if the setting of the DIP switches has to be changed, one of the additional functions, e.g. LAN or domestic connection monitoring is used, or the Wallbox is to be permanently connected to the power network.

1. Release the four screws with which the connector panel cover 1 is mounted.

ESD

Risk of damage! Electronic components may be destroyed by being touched!

Before working with assemblies, carry out an electrical discharge by touching a metallic, grounded object!

2. Remove the connector panel cover. The connector panel 2 is now accessible.

WARNING

The cover of connection area 3 for the line voltage may be removed only by a trained electrician.
Installing the Wallbox

The attachment material supplied is suitable for concrete, tiling, and wood (without the use of plugs). If the substructure is not one of the above, then a suitable type of attachment must be selected.

**Note**

If the substructure is not one of the above, then the attachment materials must be provided by the customer. It is essential that the device is fitted correctly, and this is outside the responsibility of the device manufacturer.

Installation preparations

**Drilled holes**

*Note*  
Comply with the installation height.  
Upper edge of the drilling template = 59 to 67 inches.

1. Use the provided drilling template and a spirit level to mark the locations for the four drilled holes 1 to 4.
2. Drill the attachment holes.
3. Insert the plugs.

**Top attachment screws**

1. Screw in the two top wafer-head screws until the remaining distance from the wall is ≥ 0.79 inches.

1 Wall  
2 Plug  
3 Drilled hole  
4 Wafer-head screw
Introduction of additional wiring

1. Direct the necessary additional wiring, e.g. bus line for external electricity meters or for Ethernet, into the connection area of the Wallbox.
2. For sealing, use the M16 double membrane nipples provided.
Attaching the Wallbox

1. Hang the Wallbox from the two top wafer-head screws 1 and 2.

   ![Diagram of Wallbox with screws 1 and 2 highlighted.]

   **Note**
   Ensure that the supply line is correctly laid on the reverse side, and that it is not trapped.

2. Tighten wafer-head screws 1 and 2.
3. Then attach the Wallbox using the two lower wafer-head screws 3 and 4.
4. For safe storage, wind the charger cable around the Wallbox, see operating instructions.

Connecting the supply line

As supplied, the Wallbox is equipped with a pre-installed connection cable (1).

This can be connected into an appropriate socket, using a NEMA 6-50p plug.

If required, the supply line can also be converted by a specialist into a permanent connection to an existing domestic installation, but the nationally applicable regulations must be complied with.
**ELECTRICS**

**Connection overview (with open connector panel cover)**

**DSW1** DIP switch for configuration

**DSW2** DIP switch

**T1** Service button

**LED** Status LED (internal)

**X2** RS485 connection

**ATTENTION**

The X3 diagnostic connection is suitable only for error analysis and must not be used to connect the device to a network.

**Note**

The connection overview shows all options of the device, but the legend only lists the available options. If necessary, not all connections are available for your device variant.
RS485 connection X2

Note
For a detailed description of the use of the function, refer to section Domestic connection monitoring (post-meter fuse).

Terminal X2

Terminal data for X2
➤ Spring-loaded terminal
➤ Cross-section (min.-max.): 0.08 – 4 mm²/157.88 – 7,894.10 circular mils
➤ AWG (min-max): 28 – 12
➤ Stripping length: 8 mm/320 mils
➤ Cross-head screwdriver: 3.0 mm/118.11 mils

Schematic overview

5 Meter 1 (domestic connection meter)  7 Connection terminal block of the Wallbox  
6 Meter 2 (optional, photovoltaic meter)

The RS485 connection X2 is used for communication with up to two smart electricity meters by means of the Modbus protocol (for supported types and the associated parameters and terminal assignments for the installed meter, see section "Meters with Modbus-RTU (RS485) interface").
Note
For detailed information on the electrical connection of the meter, please refer to the installation instructions of the meter manufacturer.

**Electrical requirements/connection**

1. Connect the wires to the RS485 connection X2 as per circuit diagram. For this control wire, a safe isolation is to be provided from dangerous voltages outside of the device.

2. Set the meters used as per the table; see Meters with Modbus-RTU (RS485) interface. For this, comply with the installation instructions of the meter manufacturer.
**Ethernet1 connection X4**

The Ethernet1 connection is implemented as a terminal block in LSA+® technology. Fixed wired communication can be implemented via the Ethernet1 connection.

**Color coding**

Corresponding to the cabling standard used in the building, the contacts are wired as per **TIA-568A/B** for 100BaseT:

<table>
<thead>
<tr>
<th>Pin</th>
<th>-568A Pair</th>
<th>-568B Pair</th>
<th>-568A Color</th>
<th>-568B Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Tx+)</td>
<td>3</td>
<td>2</td>
<td>white/green line</td>
<td>white/orange line</td>
</tr>
<tr>
<td>2 (Tx−)</td>
<td>3</td>
<td>2</td>
<td>green/white line or green</td>
<td>orange/white line or orange</td>
</tr>
<tr>
<td>3 (Rx+)</td>
<td>2</td>
<td>3</td>
<td>white/orange line</td>
<td>white/green line</td>
</tr>
<tr>
<td>4 (Rx−)</td>
<td>2</td>
<td>3</td>
<td>orange/white line or orange</td>
<td>green/white line or green</td>
</tr>
</tbody>
</table>
Terminal data:

<table>
<thead>
<tr>
<th>Category</th>
<th>Wire diameter</th>
<th>Insulation diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigid cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cat 5e/Cat 6 STP/UTP</td>
<td>14.17 mils (AWG 27)</td>
<td>27.56 – 29.53 mils</td>
</tr>
<tr>
<td></td>
<td>14.75 – 25.20 mils</td>
<td>27.56 – 55.12 mils</td>
</tr>
<tr>
<td></td>
<td>(AWG 26 – AWG 22)</td>
<td></td>
</tr>
<tr>
<td>Cat 6 STP/UTP</td>
<td>20.08 – 31.89 mils</td>
<td>39.37 – 55.12 mils</td>
</tr>
<tr>
<td></td>
<td>(AWG 24 – AWG 20)</td>
<td></td>
</tr>
<tr>
<td>Flexible cable</td>
<td>7 x 7.87 mils</td>
<td>43.31 – 55.12 mils</td>
</tr>
<tr>
<td>Cat 5e/Cat 6 STP/UTP</td>
<td>(AWG 24)</td>
<td></td>
</tr>
</tbody>
</table>

Recommended tool:

KRONE LSA+ ® insertion tool, for connecting wires without the use of solder, screws, or stripping, and for simultaneous trimming of the residual length.

Preparing the connection cable

1. Strip the connection cable to a length of approx. 2.36 inches.
2. Completely fold back approx. 0.39 inches of screening braid, and wind conductive textile adhesive tape around it.

Connecting the cable

1. If using an STP cable, attach the connection cable to the location of the wrapped screening braid in the cable clip 1.

   The cable clip must be screwed to the shield connection Shd of the circuit board.

2. Connect the wires to the Ethernet1 terminal block X4 using the insertion tool.

ATTENTION

Risk of damage!

Ensure that the connection area is clean, so that no contamination, e.g. pieces of wire, gets into the Wallbox.
DIP switch settings

Note
Changes to the DIP switch settings take effect only after a restart of the Wallbox! To do this, press the Service button until the first signal tone sounds (approx. two seconds). Alternatively, you can also switch the supply voltage off and on again.

ATTENTION
If the Service button is pressed for too long (approx. 5 seconds), then this can delete the RFID cards.

Note
Switches which are not described here must be left in the OFF position.

DIP switches
The DIP switches are used for addressing and configuring the Wallbox, and are located underneath the connector panel cover.

DSW1: Configuration, DIP switch upper

DIP switch - example
For more detailed explanation, the illustration shows the position of the DIP switches for the ON and OFF states.
Control functions

<table>
<thead>
<tr>
<th>Function</th>
<th>DIP switch</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic connection monitoring is used (RS485 connection [X2] with Modbus functionality).</td>
<td>DSW1.2</td>
<td>ON = yes</td>
</tr>
<tr>
<td>Activate SmartHome and app interface via UDP (for details see &quot;UDP Programmer’s Guide&quot;).</td>
<td>DSW1.3</td>
<td>ON = yes</td>
</tr>
</tbody>
</table>

(1) Access only via secured networks, in order to prevent access by third parties to the Wallbox.
## Meter outlet fuse of the domestic installation (DSW1 and DSW2)

<table>
<thead>
<tr>
<th>Value of current</th>
<th>DIP switch</th>
<th>Figure (DSW1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSW1.4</td>
<td>DSW1.5</td>
</tr>
<tr>
<td>100 A</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>125 A</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>150 A</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>200 A</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>
Maximum charging current (DSW1)

The following DIP switches can be used to set a maximum value for the charging current. This maximum value applies to each connected phase individually and not as a sum value for all phases together. The current specification is transmitted to the vehicle (Control Pilot Duty Cycle). It is only possible to set a maximum value, which is less than or equal to the operating current defined on the type plate.

<table>
<thead>
<tr>
<th>Current</th>
<th>DIP switch</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSW1.6</td>
<td>DSW1.7</td>
</tr>
<tr>
<td>0 A (showroom mode)</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>10 A</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>13 A</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>16 A</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>20 A</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>25 A</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>32 A</td>
<td>ON</td>
<td>OFF</td>
</tr>
</tbody>
</table>
Showroom mode

The showroom mode is a special operating mode of the device. The charging function as well as the communication with external meters or the BMW Digital Charging Service (BMW DCS) are deactivated. The LED elements are still switched on for presentation purposes.

Activating the showroom mode

1. Set the DIP switches DSW1.6, DSW1.7, and DSW1.8 to ON.
2. Restart the Wallbox.

Deactivating the showroom mode

1. Change the setting of DSW1.6, DSW1.7, and DSW1.8 according to the given connection conditions.
2. Restart the Wallbox.

IP address (BMW Wallbox Connect)

Note

The IP address of the Wallbox Connect is assigned only via DHCP. DIP switches 2.1 to 2.6 have no effect.

The IP address used must not be in the subnet 192.168.25.xxx, since this would result in conflicts with the charging controller and internal firewall policy.
COMMISSIONING

General commissioning process

▷ Clean the connection area (remove material residue and dirt).
▷ Before commissioning, confirm that all screwed and clamped connections are firm!
▷ Confirm that all unused cable glands are correctly closed with blanking plugs or blind caps.
▷ Switch on the supply voltage. The RFID status indicator flashes white slowly after start-up and self-test are completed.
▷ Carry out the prescribed initial testing as per locally applicable guidelines and laws.
▷ Close the connector panel cover of the Wallbox, if this was opened; see section Installing the connector panel cover.
▷ Install the casing cover, see section Installing the casing cover.

RFID authorization

As delivered, the supplied RFID cards are already programmed. However, the authorization function is not yet active.

In order to activate the RFID function or to program additional cards, please follow the programming instructions in the operating instructions.
Installing the connector panel cover

Note
Confirm that a current version of the software is available before you install the connector panel cover. For further information, see section SOFTWARE UPDATE.

Note
The Wallbox must not be used permanently if this cover is absent or damaged. Alternative covers are not permitted.

Attachment bolts
1. Replace the connector panel cover 1.
2. Attach the connector panel cover again using the four bolts.

Casing marking
1. Tighten the four bolts until the casing markings at right and left on the connector panel cover close flush with the casing.
2. The connector panel cover must be correctly sealed by the casing.

For self-tapping bolts, an increased torque application is required: 2.58 ft-lb.
Installing the casing cover

Note

This cover is not essential for the safe operation of the Wallbox.

Attaching the casing cover

1. Attach the casing cover at the top, and ensure that the hooks of the casing cover are correctly inserted 1.

2. Press the cover downwards, and then tilt the casing cover 2 towards the back. The casing cover must slide into the lower guides with very little resistance.

ATTENTION

Ensure that the casing cover sits correctly into the casing guide on all sides. Only a small uniform gap should be present.

Locking mechanisms

1. Press the lower part of the casing cover onto the Wallbox until the locking mechanisms 1 engage fully.
Dimensions in millimeters
## Technical data

<table>
<thead>
<tr>
<th><strong>Electrical data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Charging mode</td>
<td>Mode 3 per IEC 61851-1</td>
</tr>
<tr>
<td>Cable feed:</td>
<td>Surface or flush-mounted</td>
</tr>
<tr>
<td>Connection cross-section:</td>
<td>As per the branch circuit breaker</td>
</tr>
<tr>
<td>Supply terminals:</td>
<td>Connection line:</td>
</tr>
<tr>
<td></td>
<td>- AWG (min.-max.): 24 – 6</td>
</tr>
<tr>
<td>Temperature rating for supply terminals:</td>
<td>105 °C (221 °F)</td>
</tr>
<tr>
<td>Rated current (configurable connection values):</td>
<td>10 A, 13 A, 16 A, 20 A, 25 A, or 32 A</td>
</tr>
<tr>
<td></td>
<td>1-phase (3 lines)</td>
</tr>
<tr>
<td>Mains voltage:</td>
<td>120/240 V or 120/208 V Y or 127/220 V c.a.</td>
</tr>
<tr>
<td>Mains frequency:</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Overvoltage category:</td>
<td>III in accordance with UL 840</td>
</tr>
<tr>
<td>Branch circuit breaker (control cabinet):</td>
<td>Max. 40 A</td>
</tr>
<tr>
<td>Fault current monitoring:</td>
<td>CCID20</td>
</tr>
<tr>
<td>Ventilation during charging:</td>
<td>Not supported</td>
</tr>
<tr>
<td>Protection class:</td>
<td>I</td>
</tr>
<tr>
<td>IP protection class for device/type rating:</td>
<td>IP54/Type 3R</td>
</tr>
<tr>
<td>Protection against mechanical impact:</td>
<td>IK08</td>
</tr>
</tbody>
</table>
### Interfaces

<table>
<thead>
<tr>
<th>Interface</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS485 connection [X2]:</td>
<td>Extra-low safety voltage &lt;50 V</td>
</tr>
<tr>
<td></td>
<td>Connection line:</td>
</tr>
<tr>
<td></td>
<td>- Cross-section (min.-max.): 157.80 – 7,894.10 circular mils</td>
</tr>
<tr>
<td></td>
<td>- AWG (min.-max.): 28 – 12</td>
</tr>
<tr>
<td>Diagnostics connection [X3]:</td>
<td>RJ45</td>
</tr>
<tr>
<td>Ethernet1 connection [X4]:</td>
<td>LSA+ terminals</td>
</tr>
<tr>
<td>USB connection [X5]:</td>
<td>USB socket type A (max. 500 mA)</td>
</tr>
<tr>
<td>RFID:</td>
<td>MIFARE cards or tags as per ISO 14443 or Tag-It cards or tags as per ISO 15693</td>
</tr>
<tr>
<td>WLAN/Wi-Fi module:</td>
<td>IEEE 802.11 b,g,n (2.4 GHz)</td>
</tr>
</tbody>
</table>

### Mechanical data

<table>
<thead>
<tr>
<th>Data</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x H x D):</td>
<td>15.7 x 25.67 x 7.95 inches (excluding plug)</td>
</tr>
<tr>
<td>Weight:</td>
<td>approx. 10 kg (depending on variant)</td>
</tr>
<tr>
<td>Installation (stationary):</td>
<td>On the wall or mounting pillar</td>
</tr>
</tbody>
</table>
# Ambient conditions

<table>
<thead>
<tr>
<th>Usage:</th>
<th>Indoor and outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature range</td>
<td>-30 °C to +50 °C (-22 °F to 122 °F) without direct sunlight</td>
</tr>
<tr>
<td>Temperature behavior:</td>
<td>This is not a safety device, merely an operating function. The specified operating temperature range must be complied with. Within the specified operating temperature ranges, the device provides the charging current continuously. To increase the charging availability, the charging current specification is reduced to 16 A in the event of prohibited exceeding of temperature. A further consequence may be the shut-off of the charging process. After cooling, the charging process is continued, and the charging current specification is increased again.</td>
</tr>
<tr>
<td>Temperature range for storage:</td>
<td>-30 °C to +80 °C (-22 °F to 176 °F)</td>
</tr>
<tr>
<td>Rate of temperature change:</td>
<td>max. 0.5 °C/min (max. 32.9 °F/min)</td>
</tr>
<tr>
<td>Permissible relative air humidity:</td>
<td>5 % to 95 % non-condensing</td>
</tr>
<tr>
<td>Altitude:</td>
<td>max. 6560 ft above sea level</td>
</tr>
</tbody>
</table>
## Standards and guidelines

### National regulations (USA)

<table>
<thead>
<tr>
<th>Standards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCC Title 47, Part 15</td>
<td>Digital Device Class B</td>
</tr>
<tr>
<td>NEC Article 625</td>
<td>Electric vehicle charging systems</td>
</tr>
</tbody>
</table>

### National regulations (Canada)

<table>
<thead>
<tr>
<th>Standards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Code CSA C22.1 No. 280</td>
<td>Electric Vehicle Supply Equipment</td>
</tr>
<tr>
<td>ICES-003</td>
<td>Class B</td>
</tr>
</tbody>
</table>

### Recognized standards

<table>
<thead>
<tr>
<th>Standards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL 2594</td>
<td>Electric vehicle supply equipment</td>
</tr>
<tr>
<td>CSA C22.2 No. 280</td>
<td>NMX-J-677-ANCE</td>
</tr>
<tr>
<td>UL 2231-1</td>
<td>Personnel protection systems for electric vehicle (EV)</td>
</tr>
<tr>
<td>CSA C22.2 No. 281.1</td>
<td>NMX-J-668/1-ANCE</td>
</tr>
<tr>
<td>UL 2231-2</td>
<td>Supply circuits: General requirements</td>
</tr>
<tr>
<td>CSA C22.2 No. 281.2</td>
<td>NMX-J-668/2-ANCE</td>
</tr>
<tr>
<td>UL 991</td>
<td>Tests for Safety-related controls employing solid-state devices</td>
</tr>
<tr>
<td>UL 1998</td>
<td>Software in programmable components</td>
</tr>
<tr>
<td>UL 61010</td>
<td>Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements</td>
</tr>
<tr>
<td>CSA C22.2 No. 107.1</td>
<td>NMX-J-677-ANCE</td>
</tr>
</tbody>
</table>
After correctly decommissioning the device, please have the device disposed of by Service or else in compliance with all currently applicable disposal regulations.

Disposal information
The symbol of the "crossed-out" waste bin means that electrical and electronic devices, including accessories, must be disposed of separately from general household garbage. Instructions are to be found on the product, in the instructions for use, or on the packaging.
The materials can be recycled according to their designation. Through re-use, material recycling, or other forms of recycling old equipment, you will be making an important contribution to the protection of our environment.
SOFTWARE UPDATE

The software can be updated using this web interface. Further information can be found in the “Configuration” section of the operating manual.

The software can also be updated using the USB connection inside the device. Detailed instructions for the recommended procedure can be found on the BMW Service page for charging products (https://charging.bmwgroup.com/web/wbdoc/).

The latest software and the corresponding instructions can be downloaded from the Internet at https://charging.bmwgroup.com/web/wbdoc/. A new software version may, for example, take into account modified standards, or improve the compatibility with new electric or plug-in hybrid vehicles.
This product is UL-certified.
It complies with the applicable UL, CSA, and ANCE standards for
North America, Canada, and Mexico. For further information, see
https://charging.bmwgroup.com/web/wbdoc/.

FCC INFORMATION
This device complies with part 15 of the FCC Rules. Operation is subject to the following two
conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause
undesired operation.
ATTENTION:
Changes or modifications which were not expressly approved by the responsible authority may
impede the right to use the device.
NOTE:
This device was tested, and it complies with the limits for a digital device of class B as per part
15 of the FCC regulations. This limit is intended to provide appropriate protection against harmful
interference in a residential situation. This device generates and uses high frequency energy,
and if it is not installed in compliance with the instructions, it can result in interference to radio
communication. However, there is no guarantee that there will be no interference in a specific
installation. If this device causes interference to radio or television reception (this can be determined
by switching the device off and on), then the user should attempt to prevent the interference through
one or more of the following measures:
- Align the reception antenna differently.
- Increase the distance between device and receiver.
- Connect the devices to a different power circuit than the one to which the receiver is connected.
- Request assistance from the dealer or from an experienced radio/television technician.

CANADA
This class B digital apparatus complies with Canadian ICES-003.
This product is NOM-certified.

**MEXICO**

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
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