BMW Wallbox Plus

BMW Wallbox Plus
Instructions for use

Contents

EN

1 Information

1.1 Safety information

Read the safety information carefully and familiarise yourself with the device before you attempt to install, operate or service it.

⚠️
- Electrical danger! The BMW Wallbox Plus must be installed, commissioned and serviced by appropriate trained, qualified and authorized electricians (1) who bear full responsibility for compliance with current standards and installation regulations.

- Please note that an additional overvoltage protector may be required by vehicles or national regulations. Please refer to your national connection and installation standards.

- Before commissioning the device, check that all screw and terminal connections are tight. The terminal panel must never be left open without supervision. Fit the terminal panel cover when you leave the BMW Wallbox Plus.

- Do not make any unauthorized changes or modifications to the BMW Wallbox Plus.

- Repair work to the BMW Wallbox Plus is not permitted and may only be completed by the manufacturer or a trained expert (BMW Wallbox Plus replacement).

- Do not remove any identifiers such as safety symbols, warning instructions, rating plates, labels or cable markings.

- The BMW Wallbox Plus does not have its own mains switch. The residual current operated circuit breaker and circuit breaker on the building installation is used as a mains isolation device.

- Pull the vehicle connector out of the inlet by the plug, not the cable.

- Ensure that the vehicle connector is not mechanically damaged (kinked, jammed or run over) and that the contact area does not come into contact with heat sources, dirt or water.

- Do not touch the contacts of the connector.

- Always conduct a visual inspection for signs of damage before charging. Pay particular attention to dirt and moisture on the plug, cuts on the vehicle connector cable or chafing on the insulation, and also ensure that the cable output from the BMW Wallbox Plus is securely fastened. ◄

(1) People who, as a result of the training, skills and experience and knowledge of the relevant standards can assess the work and identify possible dangers.

- Never clean the BMW Wallbox Plus using a jet of water (hosepipe, pressure washer, etc.)!
- Ensure that the BMW Wallbox Plus is not damaged by incorrect handling (housing cover, internal parts, etc.).
- If it is raining or snowing and the BMW Wallbox Plus is installed outdoors, do not open the terminal panel cover.
- Do not break the plastic housing by use of excessive force.
- Do not use countersunk screws to secure the device.
- Do not tighten the securing screws with excessive torque, follow the instruction on the torque mentioned in the manual.
- The installation area must be completely flat (max. 1 mm difference between the support and securing points). Do not bend the housing.
- For maximum security, the energy meter should be installed/sealed in a secure environment to prevent any unauthorized access and all connection cables and sealing must be checked regularly. If any sealing is broken the security and safety can no longer be ensured and BMW and its affiliates are not liable for damages and/or losses related to such disturbances, security breaches, unauthorized access, interface, intrusion, leakage and/or theft of data or information. ◀

Information for trained personnel who may open the device: Danger of damage. Electronic components may be destroyed if touched. Before handling modules, perform an electrical discharge process by touching a metallic grounded object. A failure to follow the safety information may result in a danger of death, injury and damage to the device. The device manufacturer cannot accept any liability for claims resulting from this.

1.2 Intended use

The BMW Wallbox Plus is a charging station for indoor and outdoor use for charging electric or plug-in hybrid vehicles. Do not connect any other devices such as electric tools. The BMW Wallbox Plus is designed for installation on a wall or a column. Comply with the relevant national regulations for installing and connecting the BMW Wallbox Plus.

The intended use of the device in every case includes compliance with the ambient conditions for which this device was developed.

The BMW Wallbox Plus was developed, manufactured, tested and documented on the basis of the relevant safety standards. If you comply with the instructions and safety information described for its intended use, the product normally will not pose any danger in terms of property damage or to the health of people.

This device must be grounded. In the event of an error, the ground connection will reduce the danger of an electric shock.

The instructions contained in this manual must be followed to the letter. Otherwise sources of danger may be created or safety equipment may be rendered inoperable. In addition to the safety information provided in this manual, the safety and accident prevention regulations relating to the specific device must be followed.

1.3 About this manual

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

BMW Wallbox Plus (BMW part number 61 90 5 A7A 8A1)

This manual is designed exclusively for trained personnel. These are people who, as a result of their training, skills and experience and their knowledge of the relevant standards, can assess the work assigned to them and identify possible dangers.

The illustrations and explanations contained in this manual refer to a typical version of the device. Your device version may differ from this.

Please refer to the operating manual for information and instructions for operating the device.

1.4 Package
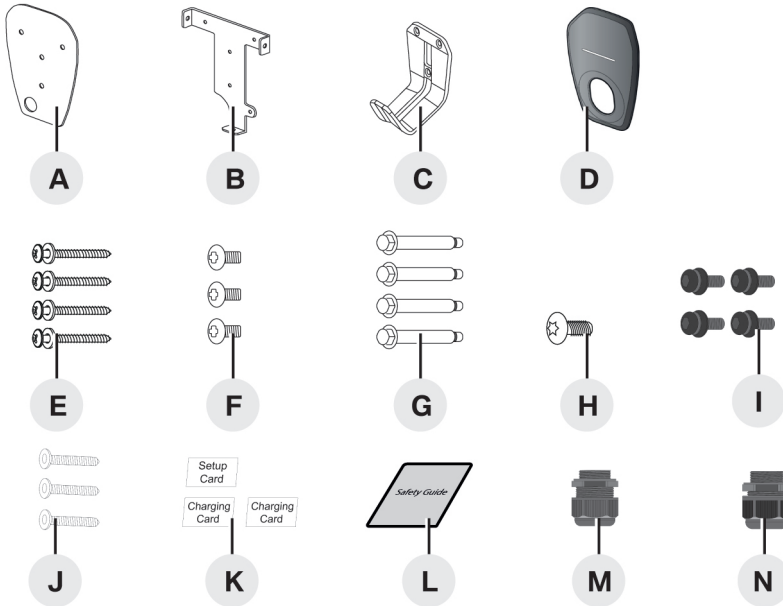
|	
A Mounting template	H Torx T20 anti-theft screw
B Mounting bracket	I Middle cover screw (4X)
C Cable holder	J M6 Hex Socket Cable holder screw (3X)
D Cosmetic cover	K Setup Card, Charging Card (2X)
E No.8 wood screws (4x)	L Safety Guide
F Torx T30 mounting bolts (3x)	M M32 Cable gland
G 1/4' expansion bolts (4x)	N M25 Cable gland

1.5 Warranty

BMW Service can provide more information on the terms of the warranty. However, the following cases are not covered by the warranty.

- Defects or damage caused by installation work which was not carried out as specified in the BMW Wallbox Plus installation instructions.
- Defects or damage caused by the product not being used as specified in the BMW Wallbox Plus operating manual.
- Costs and damage caused by repair work not carried out by a specialist electrician authorized by a BMW sales outlet or authorized service workshop.

2 Overview

2.1 Display and controls
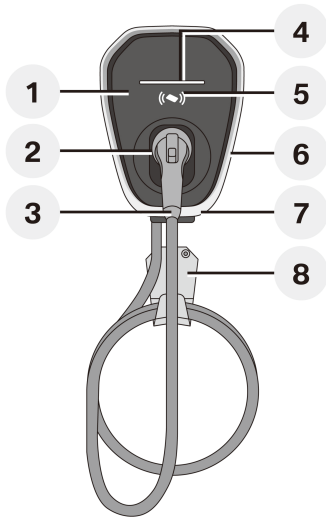
1. Cosmetic cover
2. Vehicle connector inlet
3. Vehicle connector
4. LED indicator
5. RFID Reader
6. Middle cover
7. Mounting bracket
8. Cable holder

3 Specifications

3.1 General criteria for selecting an installation site

The BMW Wallbox Plus has been designed for indoor and outdoor use. It is therefore necessary to ensure the correct installation conditions and protection for the device at the installation site.

- Take into account the local electrical installation regulations, fire prevention regulations and accident prevention regulations as well as the rescue routes at the site.
- Do not install the BMW Wallbox Plus at locations:
  - Which are used as escape and rescue routes.
  - Which are inside potentially explosive zones.
  - At which the BMW Wallbox Plus is exposed to ammonia or ammonia gases.
  - At which the BMW Wallbox Plus may be damaged by falling objects.
  - At which the BMW Wallbox Plus is on a direct personnel route and people could stumble over the connected vehicle connector.
  - At which the Wallbox Plus may be struck by jets of water.
  - At which the installation surface does not have sufficient strength to withstand the mechanical stresses.
- If possible, install the BMW Wallbox Plus so that it is protected from direct rainfall so as to avoid the effects of weather, icing, damaged by hailstones or the like.
- If possible, install the BMW Wallbox Plus so that it is protected from direct sunlight to prevent the charging current being reduced or the charging process being interrupted as a result of excessive temperatures on components of the BMW Wallbox Plus.
- Comply with the permitted ambient conditions, see section entitled Technical data.
- Ensure compliance with national and international installation standards and regulations.

3.2 Specifications for the electrical connection

Ensure that the maximum current is set to suit the installed circuit breaker using the Installation Wizard in the BMW Installation App.

Selecting the residual-current-operated circuit breaker

The connection cable must be wired into the existing building installation and comply with the national statutory regulations.

The following considerations must be made:

- Every BMW Wallbox Plus must be connected its own residual-current-operated circuit breaker (RCCB) externally. No other circuits may be connected to this RCCB.
- The RCCB must at least be of type A (30 mA trip current).
- Additional measures have been taken in the EVSE to protect it from an alternating current (AC) error (< 30mA AC) and direct current (DC) error (< 6 mA DC).

Selecting the circuit breaker

When selecting the circuit breaker, the standard value of the rated conditional residual short-circuit current shall be 1500A for the BMW Wallbox Plus. Also take into consideration the increased ambient temperatures in the control cabinet. In certain circumstances this may require a reduction in the charging current settings to increase the system availability.

Set the rated current to suit the model plate details in conjunction with the required charging power and the supply cable.

A circuit breaker of type B (40 A min., 400 V min.) must be used.

Selecting the supply cable

When selecting the supply cable, take into account the possible reduction factors and the increased ambient temperatures in the internal connection area of the BMW Wallbox Plus, see the temperature rating of the supply terminals. In certain circumstances, this may require an increase in the cable cross-section and an adjustment in the temperature resistance of the supply cable.

Mains isolation device

The BMW Wallbox Plus does not have its own mains switch. The residual-current-operated circuit breaker and/or the circuit breaker in the supply cable are used as a mains isolation device.

4 Installation

4.1 Installation requirements

- Follow the local installation regulations.
- Acclimatization: If there is a temperature difference of more than 15 °C between transport and the installation site, the BMW Wallbox Plus must be acclimatized unopened for at least two hours. Opening the BMW Wallbox Plus immediately may result in condensation formation in the interior and cause damage when the device is switched on. In certain circumstances, damage caused by condensation formation may also not appear until a later date after the installation. Ideally, the BMW Wallbox Plus should be stored for a few hours in advance at the installation site. If this is not possible, the BMW Wallbox Plus should not be stored in low temperatures (< 5 °C) overnight outdoors or in a vehicle.

Tool list

- Electro drill (only for masonry walls)
- Torx T30 screw driver
- Torx T20 screw driver
- Phillips #2 screw driver
- Terminal crimpers

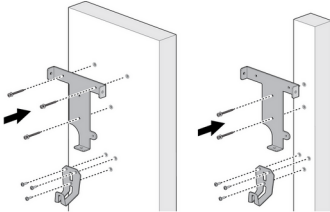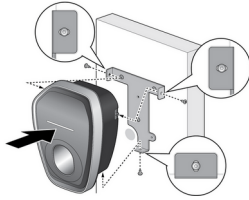## 4.2 Recommended installation positions
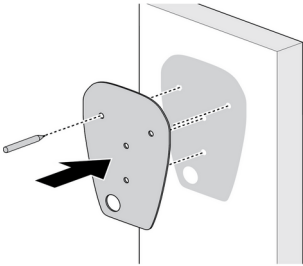
When selecting the installation position, taken note of the position of the charge connector on your vehicle and the direction in which you normally park it.
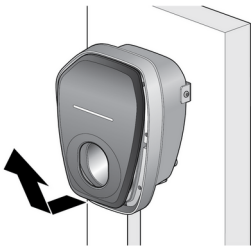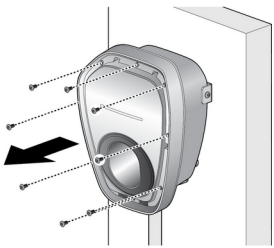
4.3 Required distance

Follow applicable accessibility requirements for the mounting position. The unit must be mounted at a sufficient height from ground such that the storage height is located between 1,000mm (39 inch) and 1.2m (4 ft).
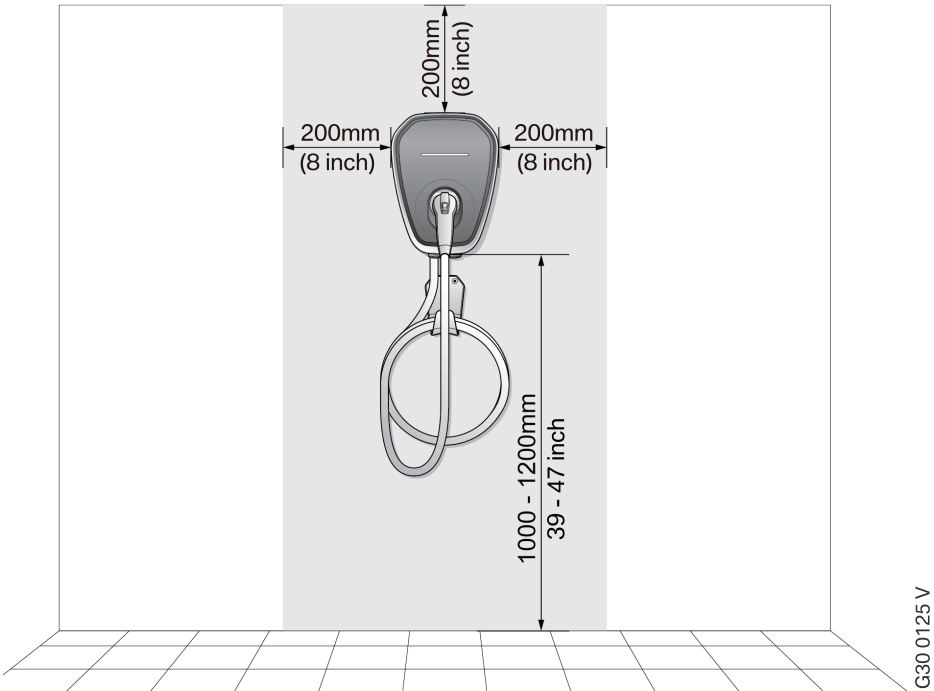
4.4 Mounting the BMW Wallbox Plus

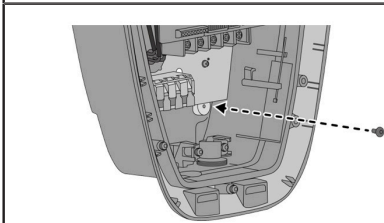|	
	1. The product is a stationary equipment mounted on the wall. It includes a mounting template to mark the screw locations for the mounting bracket and cable holder (optional).
	2. Secure the mounting bracket to the wall. The cable holder is optional and depicted in the figure for demonstration purposes. The following are recommended bolt types: - Masonry walls: 1/4' expansion bolts. Torque: 8.8 Nm (78 lb·in) - Finished walls supported by wood studs: #8 wood screws of 2' or above screw length. Torque: 3 Nm (26 lb·in)
	3. Align the screw holes on the mounting bracket and the product. 4. Install and secure the product on the mounting bracket with the supplied Torx T30 screws. Torque: 1.5 Nm (13 lb·in)

4.5 Removing the covers

	5. Remove the cosmetic cover.
	6. Use a T20 screw driver to remove the screws securing the middle cover. Torque: 1.4 Nm (12 lb·in) 7. Remove the middle cover.

4.6 Secure the anti-theft screw
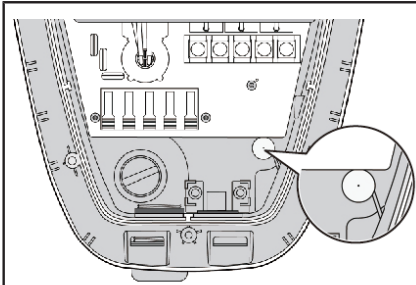
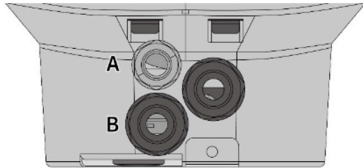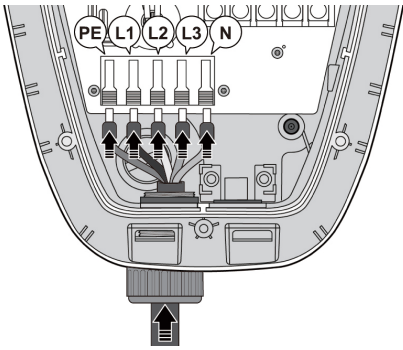|	
	8. The hole for the anti theft screw is covered by a void label.
	9. Tighten the anti theft screw through the void label.

5 Connect Terminal

Use an appropriate copper wire with listed pressure terminal connectors, such as a ring and fork type, on the end of the conductor before attaching to the terminal blocks. Keep enough wire length to facilitate installation.
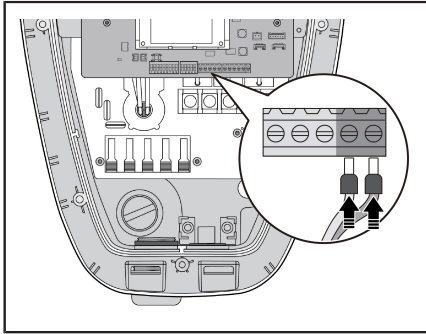
61 90 5 A7A 8A1

	A Conduit of appropriate trade size for signal wires, RS-485 (0.75mm²). Applicable cable diameter: 9 mm to 11mm **B** Power input cable. Applicable cable diameter: 13 mm to 20mm **C** Power outlet cable
  It's also possible to connect the BMW Wallbox on a single phase basis. Connect terminals L1, N, and PE for this purpose. ◀	Connect each terminal to the correct connector in the terminal input block. Then, secure the terminal for the input cable correctly. The stripped length of the input cable shall follow the indication in the wallbox.
■ Conductor cross section solid max = 16mm² (6 AWG) ■ Conductor cross section flexible with ferrule with plastic sleeve max = 10mm² Choose appropriate conduit in accordance with all applicable local, state and national electrical codes and standards. Make sure the circuit breaker is turned off before installation.	

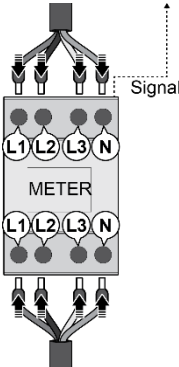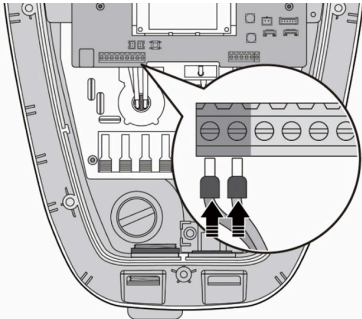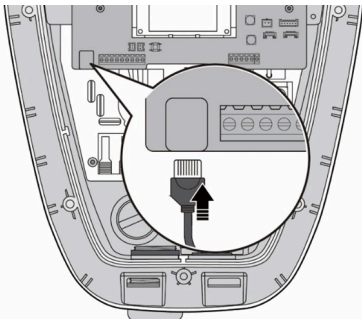Note: Ensure that hazardous voltages are isolated safely.

5.1 Local load management

Connect the external energy meter for monitoring the domestic power connection. Configuration of the energy meter must be done in the installation Wizard in the Wallbox Installation App. Energy meter connection is necessary to enable BMW Connected Home Charging Features.

	Connect the TIC interface with the shielded and twisted connection cables (> 0.5 mm², max. 30 m) Definition: TIC_l1: pin 3 (CNB12) TIC_L2: pin 4 (CNB12)

The following meters can be used for local load management:

- Inepro Pro 380-MOD for three phase connections
- Inepro Pro2-MOD for single phase connections
- Janitza B23 312-10 J
- Janitza B21 312-10J for single phase connections
- Schneider Electric A9MEM3150
- Siemens 7KT1665

▪ **61 90 5A7A8A1**	
	Connect the meter with power line according to the instruction on manual of corresponding meter.
	Connect the Peak Shifting interface with the shielded and twisted connection cables (> 0.5 mm², max. 30 m) 61 90 5 A7A 8A1 Definition: PS_2: pin 1 PS_1: pin 2
	Connect the Ethernet interface with RJ45 cables 61 90 5 A7A 8A1

6 Configuration via Wallbox Installation App

6.1.1 Wallbox Installation App

To configure the BMW Wallbox Plus the Installation Wizard in the Wallbox Installation App must be used.

Without finishing the Installation Wizard successfully, charging is not possible .

The installer or BMW service partner must use the service and installation app in order to configure the device, download charging history and diagnostics, update the firmware and trouble shoot.

This manual lists all systems and functions that are currently offered. It therefore also describes systems and functions that may not be available at your location due to specific market conditions or the specific installation and configuration.

Some features might only be accessible using the expert mode of the Wallbox Installation App.

The expert mode is provided for professionals such as qualified electricians to use the Installation wizard, and change grid, meter or backend relevant settings. It is not recommended for general users to use this feature. The password for access to the expert mode is: **1916**
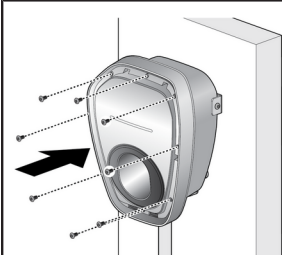
Features

- Installation Wizard
- Diagnostics Data
- Wallbox Status
- Live data
- Wallbox configuration
- RFID card management
- Data connection configuration

- Smart meter configuration
- Electrical configuration
- Wallbox Installation App Password management
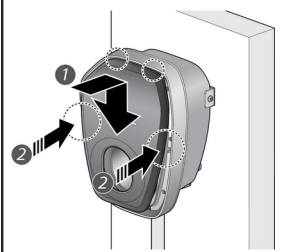- LED indicator brightness
- Installation guide
- Firmware upgrade
- Reset wallbox

The app is available in all relevant app stores.

Wallbox Installation App iOS	Wallbox Installation App Android

7 Commissioning

|	
	Install the middle cover. Torque: 1.0 Nm (8.7 lb·in)
	Install and lock the cosmetic plate. An audible click sounds denotes a closed faceplate. ◀

8 Operation

The BMW Wallbox Plus is factory wise delivered with disabled access control via app. Please adjust configuration in the Wallbox Installation App accordingly if you want to use access control. Please refer to section 6.

For access control via RFID cards, charging cards need to be registered using the Set-Up Card. The BMW Wallbox Plus comes with two RFID cards that can be registered for this purpose.
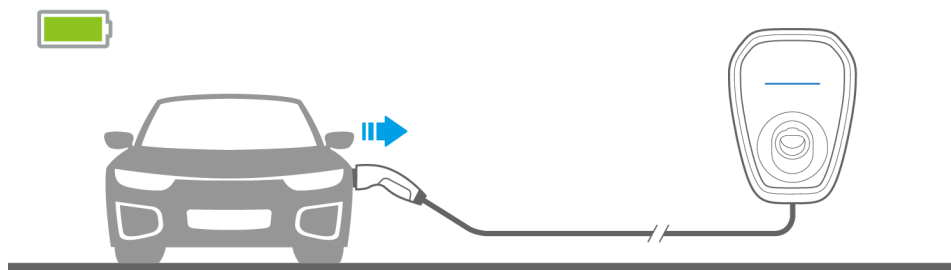
8.1 Start charging with disabled access control

1. Connect the vehicle connector to vehicle inlet.

2. The vehicle will start the charging session automatically.
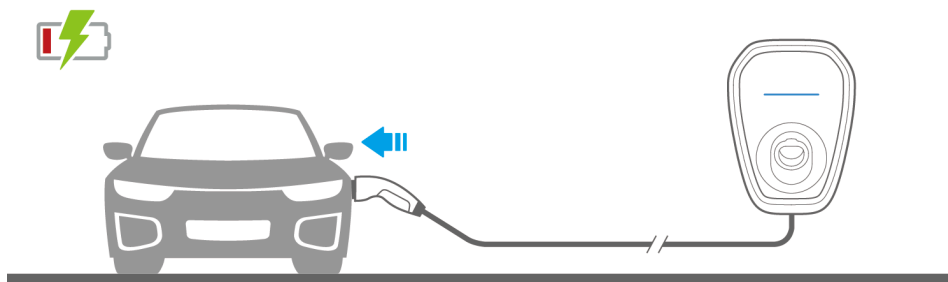
8.2 Stop charging with disabled access control

1. Stop charging session at the vehicle.

2. Disconnect the vehicle connector from the vehicle inlet.

3. Place the vehicle connector back into the vehicle connector inlet of the BMW Wallbox Plus.

8.3 Start charging with enabled access control

1. Connect the vehicle connector to vehicle inlet.

2. Hold the RFID card in front of the RFID reader to authorize and intiate the start of the charging session.
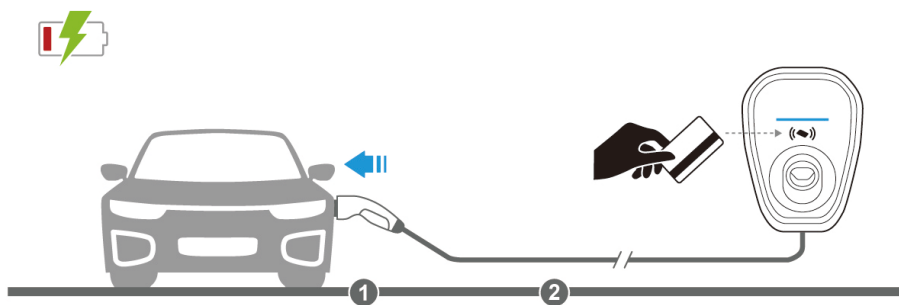
8.4 Stop charging with enabled access control

1. Stop charging session at the vehicle, via the my BMW App or RFID card.

2. Disconnect the vehicle connector from the vehicle inlet.

3. Place the vehicle connector back into the vehicle connector inlet of the BMW Wallbox Plus.
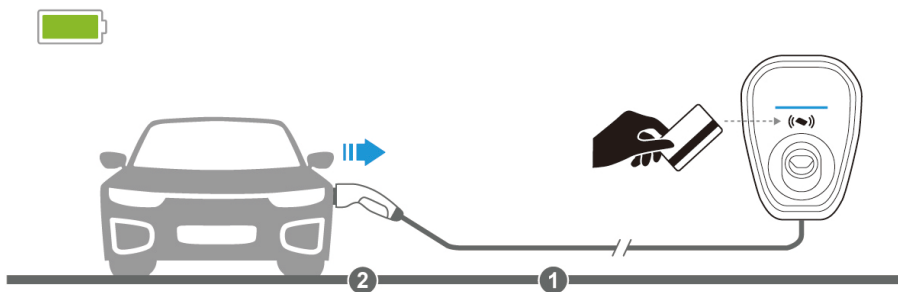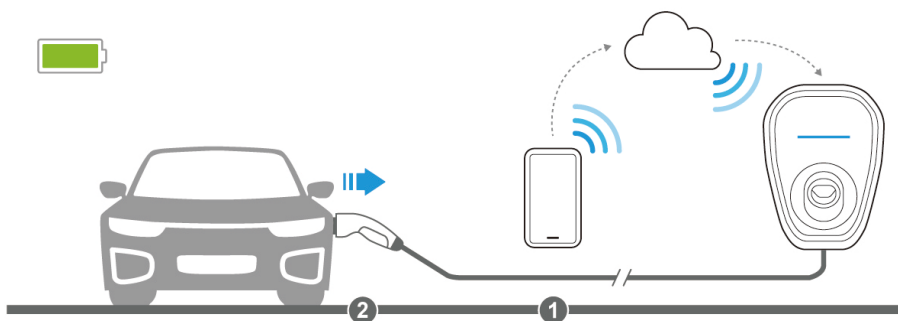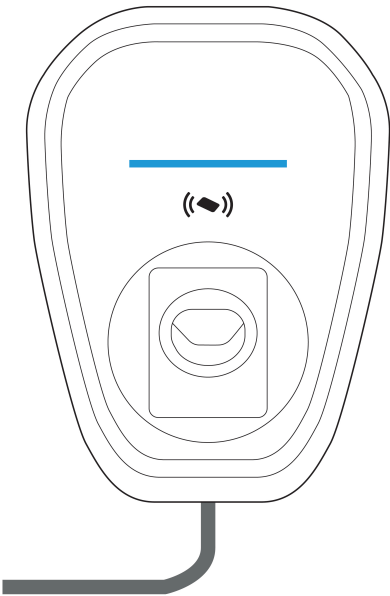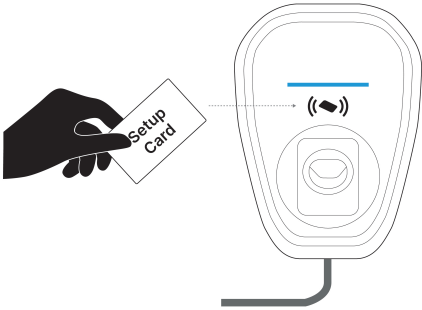
8.5 RFID Card Registration
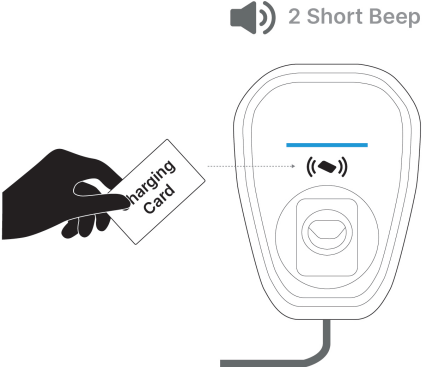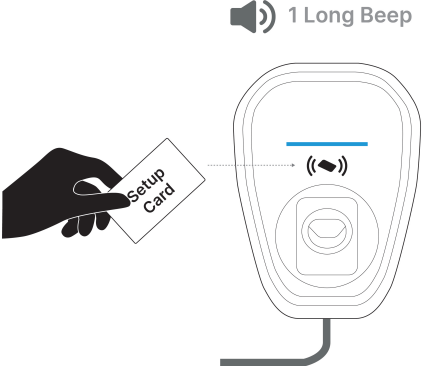
The BMW Wallbox Plus Plus uses two different kinds of RFID Cards:

- A Setup Card to notify Wallbox to turn on/off a registration mode
- Charging Cards to control start/stop charging

Please refer to Chapter 8.1 and 8.2 on how to charge using the charging card.

8.5.1 Registration of new Charging Cards

	1. The BMW Wallbox Plus needs to be powered on, DO NOT connect the charging cable with the vehicle. The LED bar should display a steady blue light.
	2. Hold the setup card in front of the RFID reader to start the registration mode of new Charging Cards. The start of the process is confirmed by a short beep.

2 Short Beep	3. Hold the new card in front of the RFID reader to register it with the BMW Wallbox Plus. The mapping is confirmed with a short beep. Repeat the process for additional RFID cards that should be added.
1 Long Beep	4. Hold the setup card in front of the RFID reader to end the registration mode. The end of the process is confirmed with a long beep.

The BMW Wallbox Plus comes with a preregistered Set-Up card that can be used to register new Charging Cards. A new Set-Up Card can be registered via the Wallbox Installation App (see section 6) .

8.6 BMW Connected Home Charging Services

This manual lists all systems and functions that are currently offered. It therefore also describes systems and functions that may not be available at your location due to specific market conditions or the specific installation and configuration.
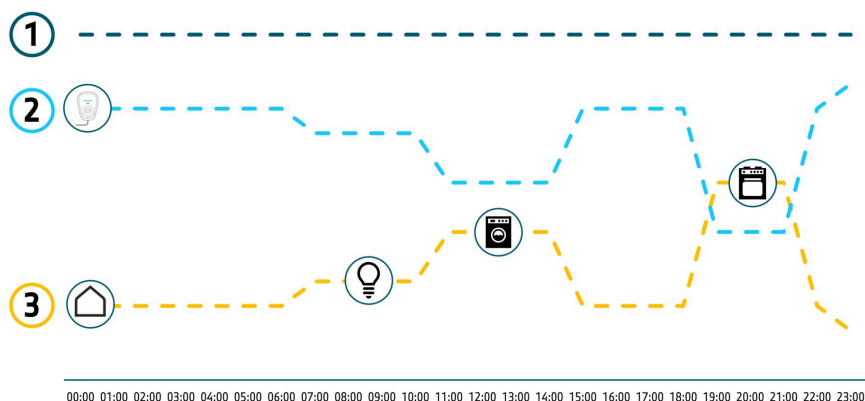
From the moment of activation, the service is included for a market specific term. To ensure continued convenience and seamless usage of the service beyond this initial period, it is necessary to extend the service through the BMW Connected Drive Store.

Prerequisites: BMW Connected Home Charging Services can only be used with BMW xEV, a BMW ID account and the My BMW app. Furthermore, the installation of a Smart Energy Module is required. This is already part of the BMW Connected Home Charging package or can be retrofitted when purchasing a BMW Wallbox Plus individually. The Smart Energy Module monitors and communicates current power consumption, enabling holistic optimization of energy use. The current list of supported Smart Energy Modules can be found in chapter 6.2. ◀

8.6.1 Load-optimized charging

Optimizing the charging power of the BMW Wallbox Plus while taking the household load into account ensures that the total available load at the grid connection point is not exceeded. Dynamic control of load distribution is particularly important in regions with low local grid point capacities.

Load-optimized charging is activated once during installation or configuration and remains permanently as a safety function.

00:00 01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00

Electrical consumers in the household that might typically be added during the day, such as illumination, or devices used for washing and cooking limit the available charging power. The curve of the BMW Wallbox Plus charging power dynamically adjusts to the remaining consumption in the house, thus preventing an overload at the grid connection point.

8.6.2 Solar-optimized charging

By adjusting the charging speed, the electricity drawn from the grid is minimized and the local self-consumption of the photovoltaic system is maximized. This reduces charging costs and increases the degree of self-sufficiency.
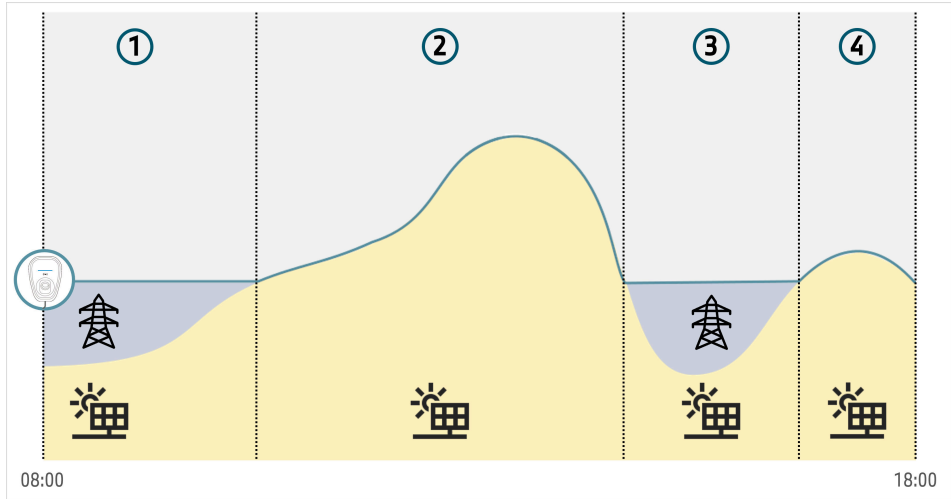
On an exemplary day there are periods with more and less available solar power, resulting in a combined charging power for the BMW Wallbox Plus (displayed by the blue line). When sufficient solar power is available, like in the displayed periods 2 and 4, charging is done exclusively with electricity from the photovoltaic system. The maximum charging power is defined by the total available power. When solar power is not sufficiently available, like in the displayed periods 1 and 3, charging takes place with a combination of solar and grid electricity. To minimize the amount of electricity drawn from the grid, the charging power is intentionally limited during these periods.

With the BMW Connected Home Charging Services, the functional scope of the My BMW app has also been expanded. The app also enables remote management of the Connected Home Charging Services and the BMW Wallbox Plus. In addition, the charging status can be viewed and managed, providing information about the currently charged energy, charging histories, and charging statistics, for example.

9 Status LED information

LED Indicator	Status
Blue, flashing from left to right	BMW Wallbox Plus initialization in progress. BMW Wallbox Plus is suspended temporarily.
Blue	Vehicle is not connected, standby.
Blue, breathing	Vehicle is charging.
Red	Error
Blue (S1/S2/S3), Red (S4)	Communication module is damaged or defective on standby. (The control pilot is in the state A1, A2, B1, B2 or C1)
Blue (S1/S2/S3) breathing, Red (S4)	Communication module is damaged or defective on charging. (The control pilot is in the state C2)
Blue (S1/S2/S3) flashing from left to right, Red (S4)	Communication module is damaged or defective when suspended temporarily.

10 Maintenance

10.1 Troubleshooting

Situation	Action
LED indicator is not powered.	1. No supply voltage – check the residual current breaker and power circuit breaker and switch on if necessary. 2. Error on the BMW Wallbox Plus – contact your local dealership.
Charging session is not started.	1. The Vehicle connector has not been inserted correctly – remove the Vehicle connector and reconnect it. 2. The vehicle has been programmed to start the charging session at a later point of time. 3. The vehicle does not require any energy – check the vehicle status. 4. App connection is not working correctly – follow the instructions in the manual.
Vehicle connector cannot be disconnected.	The charging session has not been ended by the vehicle.
LED indicator illuminated in red.	1. Check the possible causes of the error in the Wallbox Installation App. 2. Switch off the supply voltage to the BMW Wallbox Plus using the appropriate mains isolation device. 3. Disconnect the vehicle connector and switch on the supply voltage again. 4. If the situation persists, contact your local dealership or support.

11 Technical data

Electrical data

Part number	61 90 5 A7A 8A1
Vehicle connector	Type 2 plug
Input/output rating	380-415V~, 32A, 50/60Hz, three phases 100-240V~, 32A, 50/60Hz, single phase
Input wiring	PE, L1, L2, L3, N
Grounding system	TN/ IT/ TT
Rated current (Adjustable rated current via Wallbox Installation App)	0A, 6A, 10A, 12A, 16A, 20A, 24A, 32A
Cable length	6m
Cable feed	Surface-mounted
Minimum connection cross-section	3 x 6mm²
Internal residual current detection	AC: 15~30mA DC: 3~6mA
Protection against electric shock	Class I
Ingress protection(for indoor and outdoor use)	IP65
Dimensions (W x H x D)	270x370x185mm
Weight	6.5kg
Electrical protection	Over current, short circuit, over voltage, under voltage, ground fault, over temperature protection and surge protection, relay welding protection

Interfaces

Indicator	LED bar indicator
Communication	Bluetooth, RFID, Ethernet, ISO15118, OCPP, 4G, WiFi

Ambient conditions

Operating temperature	-40 °C ~+50 °C
Temperature properties	This is not a safety device, it is just an operating function. The specified operating temperature range must not be exceeded. The device supplies the charging current continuously at the specified operating temperature ranges. When over temperature protection occurred, the EVSE will stop charging. The charging will continue automatically after the EVSE cooling.
Storage temperature	-40°C to +80°C
Humidity	95% related humidity, non-condensing
Altitude	3,000m
Cooling	Natural cooling
Impact protection	IK09
Overvoltage category	OVC III
Cold load pick-up	Randomized delay between 1 and 120 seconds before charging restart after power outage

▷ The available charging capacity is depending on the vehicle, the infrastructure and general settings. ◁

12 Disposal

After correctly decommissioning the device, please have it disposed of by the service department in compliance with current waste disposal regulations.

The electrical and electronic devices including accessories must be disposed of separately from general household waste. There are instructions on the product, in the instructions for use or on the packaging.

The materials can be recycled as shown by their labelling. You can make a significant contribution to protecting our environment by reusing, recycling the material or other forms of recycling of end-of-life devices.

RACCOLTA CARTA
Verifica le disposizioni
del tuo Comune.