

## **BMW Wallbox Connect**

Instructions for use



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#### Legal notice

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#### About this manual

We are delighted that you have decided to buy a BMW Wallbox.

Read the manual for this device carefully before you charge your vehicle. Keep this document to hand at all times near the Wallbox since it contains important information for charging the high voltage batteries found in electric or plug-in hybrid vehicles.

Use the installation manual to install the Wallbox and to store and transport it. The manual contains all the technical data and details of the ambient conditions.

Have fun and enjoy your BMW Wallbox.

BMW AG

#### **Pictograms**

You will find information and warnings about possible dangers at various points in the manual. The symbols used in the manual have the following meanings:



#### WARNING

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



#### CAUTION

Means that property damage or minor physical injury may occur if the appropriate precautions are not taken.



#### IMPORTANT

Means that property damage may occur if the appropriate precautions are not taken.



#### ESD

This warning points out the possible consequences of touching electrostatically sensitive components.



#### Note

Indicates procedures which do not involve any danger of injury.



This lightning symbol means a danger of electric shock. Access for trained, authorised electricians only.

## INFORMATION

#### Safety information

#### WARNING

▷ Electrical danger.

The Wallbox must be installed, commissioned and serviced by appropriately trained, qualified and authorised electricians<sup>(1)</sup> who bear full responsibility for compliance with current standards and installation regulations. See installation manual for details.

Electrical danger/Danger of fire.
 Never use defective, worn or dirty charging cable plugs.

#### ▷ Electrical danger.

If the status LED is permanently lit in red, the Wallbox must be disconnected from the supply until the device has been replaced. The voltage on the charging cable cannot be switched off.

- The owner (end customer) must ensure that the Wallbox is operated only if it is in perfect condition.
- The Wallbox must be checked at regular intervals for defects on the socket or charging cable plug (including charging cable) and for signs of damage to the housing (visual inspection).
- ▷ Repair work to the Wallbox is not permitted, and may be completed only by the manufacturer or a trained expert (Wallbox replacement).
- ▷ A damaged Wallbox must be switched off and replaced without delay.
- > Do not make any unauthorised changes or modifications to the Wallbox.
- Do not remove any identifiers such as safety symbols, warning instructions, rating plates, labels or cable markings.
- ▷ The Wallbox does not have a main switch. The device plug or, if there isn't one, the output fuse in the distributor can be used as a mains isolation device.
- Do not use an extension cable for connecting an electric or plug-in hybrid vehicle to the Wallbox.
- Connect only electric or plug-in hybrid vehicles or their chargers. Do not connect any other loads (electric tools, etc.).
- $\triangleright$  Pull the charging cable out of the connector by the plug, not the cable.
- ▷ Ensure that the charging cable 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.
- Always conduct a visual inspection for signs of damage before charging. Pay particular attention to dirt and moisture on the charging plug, cuts on the charging cable or chafing on the insulation, and also ensure that the cable output from the Wallbox is securely fastened.

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



#### CAUTION

- Ensure that the Wallbox is not damaged by incorrect handling (housing cover, internal parts, etc.).
- ▷ Pull the charging cable out of the connector using only the charging cable plug, not the cable.
- ▷ Ensure that the charging cable 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.



#### IMPORTANT

- If it is raining or snowing and the Wallbox is installed outdoors, do not open the terminal panel cover.
- ▷ Wait until a current charging cycle has been finished and the vehicle has been disconnected before you open the covers.

#### Intended use

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

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

The Wallbox 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 will therefore not normally pose any danger in terms of property damage or to the health of people.

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

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

As a result of technical or statutory restrictions, not all versions/options are available in all countries.

#### About this manual

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

▷ BMW Wallbox Connect

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

This manual is aimed at the following target groups:

- ▷ End customers (users of the Wallbox)
- > Commissioning technicians, service technicians

#### 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 installation instructions.
- Defects or damage caused by the product not being used as specified in the BMW Wallbox operating manual.

## **OPERATION**

#### **Displays and controls**

#### **BMW Wallbox Connect**



Functions:

- ▷ Charging electric or plug-in hybrid vehicles
- Network connection using LAN, WLAN/WiFi (2.4 GHz)
- ▷ Local smartphone app
- ▷ RFID functionality
- Domestic connection monitoring (post-meter fuse) using a directly connected Modbus RTU (RS485) or Modbus TCP electricity meter
- Communication module for BMW DCS (BMW Digital Charging Service)
- Switchover between immediate charging and smart charging (only possible when connected to BMW DCS)
- 1 Status LED
- 2 Online connection indicator
- 3 RFID status indicator
- 4 RFID reading area
- 5 Charging mode indicator (Immediate charging/
- Smart charging indicator)
- 6 Capacitive touch key
- 7 Charging cable plug holder
- 8 Charging cable plug

## Start the charging cycle

	<b>RFID authorisation required:</b> If your Wallbox has active RFID functionality, please refer to the instructions in the section entitled <u>RFID authorisation</u> .
blue	The status LED is permanently lit in <b>blue</b> when the device is not in use and after successful authorisation. Connect the vehicle to the Wallbox if it is not already connected.
► A ✓	The status LED will be lit in <b>orange</b> for several seconds whilst the internal self-tests are being conducted.
blue	After the self-test has been completed successfully, the status LED will be lit again in <b>blue</b> . The vehicle has been successfully connected and authorised. The charging cycle can then be started from the vehicle.
> Å ∢	The status LED will flash in <b>blue</b> whilst the charging cycle is active. The charging cycle is started by the vehicle and the start can also be delayed depending on the setting in the vehicle.

#### End the charging cycle

The charging cycle is ended by releasing the vehicle and disconnecting the charging cable. Details of this are described in the manual provided by the vehicle manufacturer. The charging cycle can also be ended by logging off using the RFID card used for the authorisation process.

1. Disconnect the charging cable from the vehicle and coil the charging cable around the Wallbox.

#### Storing the charging cable



- 1. Coil the charging cable around the Wallbox.
- 2. Place the charging cable plug in its holder **1** for safekeeping.



#### Note

The form of the illustration may differ depending on the version of the Wallbox.

#### **Status LED information**



#### Status LED segments

The status LED provides information on the current state of the Wallbox. It consists of 4 segments, S1 to S4, which may be lit or flash in various colours together or individually. The status LED will only be visible when the power supply is active and will be hidden when the Wallbox has not been authorised. Unless otherwise stated, all 4 segments will be lit together.

► A ✓	Limited charging current due to domestic connection monitoring If the "domestic connection monitoring" function is used, segments <b>S1</b> and <b>S2</b> of the status LED will flash in <b>orange</b> if the connection to the energy meter is lost. The charging current will be reduced to 10 A until the connection to the energy meter is restored.
V A V orange	<b>Temperature cut-out</b> If the maximum temperature limit of the Wallbox is exceeded, the charging cycle will be temporarily stopped, and segments <b>S3</b> and <b>S4</b> of the status LED will flash in <b>orange</b> . After the cooling phase the charging cycle will restart automatically.
► A ✓ ► ▼ orange	<b>Software update</b> During start-up or an update, <b>all four</b> segments will flash in <b>orange</b> . No charging cycle is possible during this time.
orange	Commissioning mode When commissioning mode is active, segments S2 and S3 of the status LED will be lit in orange.
	<b>Faults</b> If faults occur, they will be indicated by the status LED and special colour codes. For further details, see section <u>Troubleshooting</u> .

### BMW Digital Charging Service (BMW DCS)

#### Availability

The availability of the BMW Digital Charging Service is country-specific. Further information is available on <u>https://charging.bmwgroup.com/web/360electric-international/home</u>.

#### Synchronising the Wallbox with the BMW Digital Charging Service

A vehicle must not be connected.

The BMW Digital Charging Service server must be accessible; indicator **1** described in the next section must be **lit in white** or the BMW Digital Charging Service must be shown as "Reachable" in the web interface, see section entitled <u>CONFIGURATION</u>. Synchronisation must first be activated in the charging portal.

After the synchronisation has been started using the portal, the capacitive touch-sensitive key **3** on the Wallbox, which is described in the next section, lights up in **white** and must then be confirmed on the Wallbox. After the synchronisation has been completed, indicator **1**, which is described in the next section, is **lit** in **green**. Follow the further instructions for the charging portal in detail.



#### Indicators for BMW DCS functions

 Online connection indicator
 Charging mode indicator (Immediate charging/ Intelligent charging indicator)
 Capacitive touch key

#### **Online connection (intelligent charging)**

In "intelligent charging" mode, the charging current is defined by the server, on the basis of the customer's preferences, in the form of a so-called charging schedule.

	<b>No connection to the BMW Digital Charging Service possible</b> If no symbol is visible the communication module has not yet been started (the communication module takes around three minutes to power up) or the BMW Digital Charging Service this is not available in your region.
white	Server reachable, but not logged in If the communication module in the Wallbox has been started correctly and there is a connection to the internet, (BMW DCS server reachable), indicator <b>1</b> will <b>light</b> up <b>white</b> .
green	Connection to the server established Indicator <b>1</b> will <b>flash</b> in <b>green</b> whilst the connection to the server is being established. When the connection has been established, indicator <b>1</b> will be <b>lit</b> in <b>green</b> .
Crange	Internet connection not available         If a connection to the BMW Digital Charging Service is not possible, although the Wallbox         has already been synchronised with the server, indicator 1 will be lit in orange. This may         have the following causes:         ▷       The server is not working.         ▷       There is no connection to the internet.

#### **Charging mode**

After connection and authorisation, the charging cycle starts at low charging current. "Intelligent charging" will be active as soon as an enhanced charging schedule has been received by the Wallbox via the online connection. If no enhanced charging schedule is received, the Wallbox automatically goes to "immediate charging" mode.

white	Intelligent charging is active Indicator <b>2</b> will be lit in <b>white</b> .
white	Intelligent charging is required for the BMW DCS Indicator <b>2</b> flashes in <b>white</b> until the BMW DCS has transferred a charging schedule.
green	Immediate charging is active Indicator <b>2</b> will be lit in green.
blue	<b>Communication module ready</b> If there is no vehicle connected to the Wallbox, it will only indicate that the communication module is ready, but not that it is synchronised with the BMW DCS. Indicator <b>2</b> will be lit in <b>blue</b> .
	Internal error If there is no connection to the integrated communication module, the indicator lights up orange.



#### Note

The charging schedule is enhanced only in "intelligent charging" mode. ◀

#### Switching charging mode



#### Capacitive touch key

1. During an active charging session, press the capacitive touch key **3** to switch between "immediate charging" and "intelligent charging".



#### Note

- Switching between "immediate charging" and "intelligent charging" is only possible during a current charging session and successful vehicle mapping (correct RFID card used, vehicle charging).
- > The charging current limit must be disabled in the vehicle for "intelligent charging".
- ▷ The key is visible only if it is possible to switch charging mode. ◀

#### **BMW iV App**

The BMW Wallbox can be controlled via the BMW iV App after the integration into a network. This function is available only within the local network; control over the internet is not possible.

Among other things, the BMW iV App can be used to start or stop charging processes. It is also possible to vary the current of a running charging process.

There is no direct exchange of data or information between the BMW iV App and the BMW Digital Charging Service (BMW DCS). Manual interventions in controlled charging processes and/or charging schedules may lead to a reduction in efficiency of the DCS functionality.

The latest features and descriptions can be found in the respective app stores. The BMW iV App has been developed for iOS and Android operating systems and is available in the iTunes Store and Google Play Store.

Additional or updated information about the BMW iV App is available on the BMW Service page for charging products at <a href="https://charging.bmwgroup.com/web/wbdoc/bmw-iv-app">https://charging.bmwgroup.com/web/wbdoc/bmw-iv-app</a>.



#### Note

A special operating mode is available for this device in the showroom mode. The charging function is disabled in this operating mode. Further information about this can be found in the installation instructions.

#### Perform restart

#### Service button



Notes on opening the cover:

Danger of damage. Electronic components may be destroyed if touched.

Before handling modules, perform an electrical discharge process by touching a metallic earthed object.

Wait until a current charging cycle has been finished and the vehicle has been disconnected before you open the covers.



- 1. Remove the housing cover, see section <u>Remove the housing cover</u>.
- 2. Remove the terminal panel cover, see section <u>Remove the terminal panel cover</u>, to gain access to the **service button**.
- 3. When the work is complete, install the terminal panel cover and the housing cover. To do this, follow the instructions in sections Installing the terminal panel cover and Install the housing cover.



1. Press the **service button** until the **1st signal tone** sounds (about two seconds). The device will then perform a restart.



#### IMPORTANT

If the **Service button** is pressed for too long (around 5 seconds), the RFID cards may be deleted. ◀

## AUTHORISATION

#### **RFID** cards



The four supplied RFID cards are used to authorise the users at the Wallbox. **1** RFID master card (white)

2 RFID user card (red, green, blue)

#### **RFID** authorisation



The RFID sensor is designed to provide contactless authorisation of a user for charging at the Wallbox using **RFID cards** which comply with ISO 14443 and ISO 15693.

1 Status LED 2 RFID status indicator 3 RFID reading area

	Authorisation required The RFID status indicator <b>2</b> and the border of the RFID reading area <b>3</b> flash in <b>white</b> .
, Ka	1. Hold the RFID card in front of the RFID reading area <b>3</b> .
(() green	<b>Authorisation successful</b> Successful authorisation is indicated by a rising sequence of tones, and the RFID status indicator <b>2</b> will be lit for 2 seconds in <b>green</b> .
((())) red	<b>Authorisation failed</b> Failed authorisation is indicated by a falling sequence of tones, and the RFID status indicator <b>2</b> will be lit for 2 seconds in <b>red</b> .
blue	<ul> <li>Charging process enabled</li> <li>If the charging cycle is not started within 60 seconds of a successful authorisation, the system enable will be automatically cancelled. During the enable time, the status LED 1 will be lit in blue. During this time it is not possible to enable or disable the system using a different card.</li> <li>1. Now connect the vehicle. The charging process can then be started from the vehicle.</li> </ul>

#### Configure the authorisation function



Note

The authorisation function can be enabled or disabled using the web interface of the Wallbox Connect, see section entitled <u>CONFIGURATION</u>. To disable the programmed user cards completely from the Wallbox, it is necessary to remove the housing cover and the terminal panel cover from the Wallbox to gain access to the **service button**. ◀



#### Note

Before you can configure the RFID function, the indicator for charging mode must be lit in **blue**.  $\blacktriangleleft$ 



#### Note

There must be no electric vehicle connected during the configuration of the authorisation function.  $\blacktriangleleft$ 

#### Service button



Notes on opening the cover:

Danger of damage. Electronic components may be destroyed if touched.

Before handling modules, perform an electrical discharge process by touching a metallic earthed object.

Wait until a current charging cycle has been finished and the vehicle has been disconnected before you open the covers.



- 1. Remove the housing cover, see section Remove the housing cover.
- 2. Remove the terminal panel cover, see section Remove the terminal panel cover, to gain access to the **service button**.
- 3. When the work is complete, install the terminal panel cover and the housing cover. To do this, follow the instructions in sections Installing the terminal panel cover and Install the housing cover.

#### **Enable the RFID function**

The authorisation function can be enabled or disabled using the web interface of the Wallbox Connect without deleting the white list, see section <u>CONFIGURATION</u>. The white list is the list of saved cards.

#### Program the RFID master card

1.	Press the <b>service button</b> until the <b>2nd signal tone</b> sounds (around 6 seconds). All the saved RFID cards (including the master card) will now be deleted and an automatic restart will be performed.
2.	After the restart, as soon as the RFID reading area is displayed, hold the RFID master card in front of the RFID reading area <b>within 60 seconds</b> and wait for the signal tone. The RFID master card is now programmed. Keep it in a safe place. The RFID master card can also be used to authorise a charging cycle.

#### Program an additional RFID user card

$\triangleright$
------------------

#### Note

The following process is not possible when a vehicle is connected.

<b>ا</b> هم	1.	End a current charging cycle and disconnect the vehicle from the Wallbox.
- <i>G</i> /	2.	Hold the RFID master card in front of the RFID reading area and wait for the signal tone.
	3.	Within <b>5 seconds</b> hold the new RFID user card in front of the RFID reading area and wait for the signal tone. The RFID status indicator will change to <b>orange</b> .
((())) orange	4.	Within <b>5 seconds</b> hold the RFID master card in front of the RFID reading area again and wait for the signal tone as confirmation. The RFID user card is now programmed and the RFID status indicator will change back to <b>white</b> .

#### Delete all RFID cards in the memory



#### **Disable the RFID function**



#### Note

The authorisation function can be enabled or disabled using the web interface without deleting the white list, see section entitled <u>Menu - Configuration</u>. ◀

## CONFIGURATION

The Wallbox Connect has an integrated WLAN/Wi-Fi hotspot to make configuration easier. A mobile phone, tablet, laptop, PC or WLAN/Wi-Fi repeater can be connected for the configuration process. The hotspot can be modified for connecting to a WLAN/Wi-Fi client, so that the Wallbox is included in an existing home network. If a LAN connection is used, the WLAN/Wi-Fi can also be completely disabled.

Wallbox Configuration Information		
Ethernet MAC:	00:60:B5:01:02:03	
WLAN MAC:	00:01:02:03:04:05	
Default SSID: Default WLAN password:	16716845 y(qwast9-5rt	
WebUI default username: WebUI default password:	admin 16716845	
Password Recovery: x)@Cy7	jsQb65LD8Hew5wNcUT7oCU-j	
RFID-1 W:01020304 RFID-3 G:01020304	RFID-2 R:01020304 RFID-4 B:01020304	

All the information required to connect the Wallbox using the integral hotspot and configure it ready for use is included on a supplied configuration label. This configuration label is supplied in a bag together with the RFID cards. If you change the default settings, these also have to be kept safely.



#### Note

Keep this label safe. Without this information it is not possible to reset the password if it has been forgotten.  $\blacktriangleleft$ 

#### Web interface

>	$ \land \land$
---	----------------

#### Note

The IP address for connecting using the integral WLAN/Wi-Fi hotspot is provided on the configuration label.



#### Note

The IP address of the BMW Wallbox Connect for the integrated WLANWi-Fi hotspot can be changed via a software update. Observe the release notes of the software.

The IP address **http://11.0.0.1** is valid only for the release version 1.1.8. If you have carried out a software update on your device, use **http://192.168.2.1**.

Please note that these two IP addresses work only with the integrated WLAN/Wi-Fi Hotspot of the BMW Wallbox. If the device is accessed from the home network, the IP address is assigned by the router (DHCP), where the corresponding IP address must also be read out.

	Login
Username:	admin
Password:	•••••
	Login
Forgot	your password?



- Enter the IP address or DNS name of the Wallbox in the address bar of your Internet browser.
   Example DNS name: mywallbox.bmw
   Example IP address: http://192.168.0.10
- 2. Enter the login details to login for the first time: User name: admin Password: Serial number of the Wallbox
- 3. The password must be changed after you have logged in the first time.

# If you have forgotten your password, you can reset the device using the "Forgot your password?" button.

For this purpose you will need the "recovery password" which you can find on the configuration label supplied with the device. Once you have logged onto the web interface, you will also find this password in the user settings.



x)@Cy7jsQb65LD8Hew5wNcUT7oCU-js8

This key can be used to log in if you forget your password.

## User Settings

Curre	nt Username:	admin
New (	Jsername:	admin
New I	Password:	•••••
New F	Password:	******

After entering the password, you will be asked to reset your user settings.

#### Main menu



- Over	lew			
<b>Type</b> WALLBOX	Serial 17140332	IP Address LAN: <u>10.150.39.3</u> WLAN / WIFI: <u>192.168.2.1</u>	MAC Address LAN: 00:60:B5:35:B0:2E WLAN / WiFi: 00:07:80:A9:EF:55	State Idle
BMW DCS:	Unreachable			

- ▷ Type of device
- ▷ Serial number of the Wallbox
- ▷ IP address of the Wallbox which is currently displaying the web interface
  - The address shown in brackets refers to the second available interface (LAN or WLAN/Wi-Fi).
- $\,\triangleright\,\,$  MAC address of the Wallbox (of the interface currently in use)
- ▷ Status of the BMW DCS host connection to the Wallbox (for example Online, Reachable)
- ▷ Synchronisation of the Wallbox with the BMW DCS host

Status	Description	
ldle	Ready for operation, no vehicle plugged in	
Charging	Active charging process; power being transferred to vehicle	
ReadyForCharging	Vehicle is plugged in; currently no active charging process	
Suspended	Charging process paused due to a superordinate system	
RecoverFromError	Recovery of operational readiness after error	
TokenProgrammingMode	Programming mode for RFID user cards active	
UnrecoverableError	Error	
ServiceMode	Device is in commissioning mode	
Degraded	Safety-related power reduction	



#### Note

To synchronise the Wallbox with the BMW Digital Charging Service, follow the instructions in the section entitled <u>BMW Digital Charging Service (BMW DCS)</u>. ◀

#### Menu - System

#### Software update



#### Note

This section refers to the manual update function of the BMW Wallbox itself. In addition, it is possible to carry out a software update via the BMW Digital Charging Service (BMW DCS). ◀

Release Vers	ion: 1.2.7	New Release	Version: 1.2.8	Release Notes:
Component	Version	Component	Version	
PDC	3.09.6	PDC	3.9.5	
CPM	4.12.7	CPM	4.12.8	
KEEP	5.0.1-SNAPSHOT	KEEP	5.0.1	
OS	1.1.0	OS	1.1.0	
WEBUI	1.1.1	WEBUI	1.1.1	

- 1. Download the required software update file (\*.keb file) from the internet.
- 2. In the System Main menu, select the Software Update option.
- 3. Select the downloaded file and press the **Upload & Install** button.

There are two possibilities for updating the software for the BMW Wallbox Connect:

- The Wallbox is connected to the internet: If the device is connected to the internet, it will automatically search for an update and show a corresponding notification and the version information. The update can be initiated via the **Download & Install** button. The internet connection must remain active for the duration of the download.
- The Wallbox is not connected to the internet:
   If the device is not connected to the internet, the software (\*.keb file) must first be manually downloaded and saved to a compatible device (e.g. notebook).
   Connect the device to the network of the Wallbox. Open a browser on your device and navigate in the web interface of the Wallbox to the menu item System Software Update. Select the file by using Choose a file and confirm the installation via Upload & Install.

The duration of the update may take an hour or more depending on its size and scope. Wait until the update process has completed successfully and verify the function of the Wallbox.

The communication module may also restart several times during the update. This restart may, for example, be visualised on the connection symbol on the front of the housing.

The vehicle cannot be charged during the update. During the update, the status LED will flash in **orange**. Other, briefly appearing display variants, e.g. flashing of the status LED in blue/red, are also possible.



#### Note

For further information on downloading the latest software, see the section <u>SOFTWARE</u> <u>UPDATE</u>. ◀

#### **Data logging**

During operation, some data are saved as they may be helpful for analysis purposes in the event of an error. These data can be displayed using the **Data Logging** menu point and downloaded for further use.

■ Logging		
kemove keep WLAN / WIFi	I All Logs	▲ Download Latest
<pre>prover field is a set of a set of</pre>	r radiug to Solit [174032] while logger will to the solution of the solution will to the solution of the solution will to the solution of the solution independent of the solution of the solution is defined and the solution of the solution of the solution operator of the solution of the solution operator of the solution operator of the solution of the solution operator of the solution operator of the solution operator of the solution operator of the solution operator of the solution operator of the solution operator	d = [false] actualStatus = [c ], materialae453401469, mate Viine+14527734209, materialae Viine+14527734209, materialae Viine+14527734209, materialae Viine+14527734209, materialae Viine+14547734200, materialae Viine+1454774200, materialae Viine+14547747400, materialae Viine+14547747400, materialae Viine+1454774200,

1. Press the **Download All** key to save all the logging information in a compressed file.

#### Restart

A restart can be initiated using the **Restart System** button.

When the system is restarted, it may take several minutes until a connection is made with the BMW DCS again.

#### Menu - Configuration



#### Note

The connection settings for the BMW DCS (BMW Digital Charging Service) are preconfigured and cannot be changed.

The following configuration settings refer exclusively to additional functionalities which can be defined by the user depending on the type of use. In certain circumstances, connection settings (for example proxy settings) can also be made for which a successful internet connection is required.

#### **Operating mode**

III Operating Mode		
Parameter	Setting	Description
Operating Mode	Charging V	Defines the operating mode of the WALLBOX. "Charging" is the default operating mode of the WALLBOX. This mode supports the connection to external meters and the usage BMW DCS features. "Fleet Charging" is a special operating mode of the WALLBOX. This mode blocks the connection to external meters and the BMW DCS features are disabled. This WALLBOX will operate as Manager according to the specifications in the corresponding section of the manual.

The BMW Wallbox supports two operating modes.

#### $\triangleright$ Charging:

This operating mode is the factory default setting and is explicitly recommended for private customers. This setting is necessary for the use of the BMW Digital Charging Service (BMW DCS) and the monitoring of the domestic connection.

▷ Fleet Charging:

This operating mode is necessary only if several BMW Wallboxes are connected together. This BMW Wallbox Connect will assume the task of controlling ("Manager") the devices ("Clients") connected to the BMW Wallbox Plus. In this operating mode, the connections to external meters and to the BMW Digital Charging Service (BMW DCS) are disabled. Detailed instructions for the "Fleet Charging" operation mode are available on the BMW Service page for charging products (https://charging.bmwgroup.com/web/wbdoc/).

#### Phase assignment

#### III Phase Assignment

This section defines the phase connection of the Wallbox in relation to the external meter used for the domestic connection monitoring (post-meter fuse) function. The WALLBOX supports 6 different phase assignment configurations (3 for each installation type). At first, a type of installation (1-phase or 3-phase connection) must be chosen. In the next step the applicable phase assignment configuration must be selected. The illustrations depict the supported configurations. This setting may only be changed after consultation with the responsible electrician. The default setting is "3 phases [1-L2-13 to L1-L2-13".



This setting is used to assign phases between the BMW Wallbox Connect and the connected external meters.

The BMW Wallbox Connect supports three versions each of a 1-phase or 3-phase installation. Other connection variants, e.g. 2-phase installations, are not supported.

If the external meters and the Wallbox are not connected in phase, the corresponding setting must be selected. The default setting is the 3-phase, in-phase connection variant (3 phases I L1-L2-L3 meter to L1-L2-L3 Wallbox). This setting should also be selected if there is no external meter connected.

## A

#### IMPORTANT

This setting is decisive for the correct and safe functioning of the domestic connection monitor. This setting should be changed only by the electrician responsible, a representative or after consultation with the electrician. ◀

#### **Network connection**

#### ↔ Network Connection

Parameter	Setting	Description
WLAN / WiFi Connection	✓ ON ▼	Activates or deactivates the WLAN / WiFi connection to an existing hotspot.
WLAN / WIFI SSID	BMW_NET Available Networks VC	Name (SSID) of the WLAN / WiFi network. Please enter the name of your network.
WLAN / WiFi Password	••••••	Password which is required to connect to the WLAN / WiFi network. Please enter the password for your network.
LAN DHCP Server	X OFF T	Specifies whether this WALLBOX is to act as a local DHCP server. Modify this setting only if you are fully aware of its functionality. The default setting is "OFF".

Parameter	Value	Description
WLAN/Wi-Fi Connection	ON; <b>OFF</b>	Enables or disables the connection of the Wallbox to an existing WLAN/WiFi network.
WLAN/WiFi SSID	String	Name of the WLAN/Wi-Fi network with which a connection is to be established.
Available Networks	Selection dialogue	Shows the available networks. The right-hand button updates the selection.
Password	String	Password to connect to the selected network.
LAN DHCP Server	ON; <b>OFF</b>	Defines whether the Wallbox should act as a local DHCP server at the Ethernet interface.

#### Authorisation & time sync

Authorization & Tir	ne Sync	
Parameter	Setting	Description
Authorization	✓ ON ▼	Activates or deactivates the authorization function of the WALLBOX. Activate this function only if you wish to use the RFID cards. The supplied RFID cards are programmed in the factory.
Browser Time	Get Browser Time	Reads the time of the browser and sets the system date and time of the wallbox. A restart is applied.

 $\triangleright$ 

Note

The values shown in bold in the table are the default settings.  $\blacktriangleleft$ 

Parameter	Value	Description
Authorization	<b>ON</b> ; OFF	Enables or disables the authorisation function for the power charging station. Only enable this function if you wish to use the RFID cards. The RFID cards supplied are programmed at the factory. To program or disable the RFID cards, see section entitled <u>Configure</u> <u>the authorisation function</u> . If the function is enabled, the local white list is used (see section entitled <u>RFID authorisation</u> ) or the enquiries are forwarded to the BMW DCS host. If the function is disabled, it is possible to charge a vehicle without authorisation.
Get Browser Time		If necessary, the BMW Wallbox can be synchronised with the time of your device.

#### WLAN/Wi-Fi hotspot

The hotspot fitted in the Wallbox is enabled as standard. The name of the network is the serial number of the Wallbox, and can be found on the side on the model plate. The preset password is unique to this Wallbox and does not necessarily have to be changed. You will find this information on the enclosed configuration label.

#### ♥ WLAN / WiFi Hotspot

Parameter	Setting	Description
WALLBOX Hotspot	✓ ON ▼	Activates or deactivates the hotspot The hotspot can not be enabled if the WLAN / WiFi Connection is enabled.
Hotspot SSID	12345678	Name of the hotspot network of your WALLBOX. As standard, this value is the serial number, but it can be changed as desired.
Hotspot Password		Password which is required to connect to the hotspot of your WALLBOX. This password is unique for your WALLBOX, but it can be changed as desired.
Channel	11 •	Channel used for the hotspot. Modify this setting only if you are fully aware of its functionality. The default setting is "11".

Parameter	Value	Description
Enable Hotspot	<b>ON</b> ; OFF	Enables or disables the hotspot.
Hotspot SSID	Serial number	Name of the WLAN/Wi-Fi network. By default, this value is the serial number, but it can be changed as required.
Hotspot Password	12-character string	This password is unique to your Wallbox, but can be changed as required.
Channel	11	Channel used for the hotspot.

#### External TCP meter for domestic connection monitor

The use of this function is described in detail in the installation instructions.

The function is disabled as default. If meters with a network interface (Modbus TCP) have been installed in your system, they must be configured here. The maximum charging current must be set using the DIP switches in the Wallbox. The description of this, and the meter types supported, can be found in the installation instructions. For other supported meter models, check whether current software and manuals are available, see section entitled <u>SOFTWARE UPDATE</u>.

Parameter	Setting	Description
Domestic Connection Monitoring	✓ ON ▼	Activates or deactivates the function for domestic connection monitoring. 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 loads on the domestic connection. A domestic connection TCP meter must be configured to use this function. Please note that the external TCP meters can be configured without activating this function.
Domestic Connection TCP Meter	✓ ON ▼	Defines whether the specified domestic connection TCP meter is to be used
Manufacturer	B-control   EM300LR V	Manufacturer of the domestic connection TCP meter
IP Address	10.0.0.123	IP address of the domestic connection TCP meter or gateway
TCP Port	502 Test Connection	Port number of the domestic connection TCP meter or gateway
Solar TCP Meter	✓ ON ▼	Defines whether the specified solar TCP meter is to be used
Manufacturer	Janitza   ECSEM114MID V	Manufacturer of the solar TCP meter
IP Address		IP address of the solar TCP meter or gateway
TCP Port	502	Port number of the solar TCP meter or gateway
RS485 Modbus Address	1	RS485-Modbus address of the solar TCP meter. This parameter is only necessary if this is a Modbus gateway, and the connection was made to this gateway using a RS485 Modbus meter with a correspondingly configured address.



#### Note

The meters or, if necessary, the gateway must be configured as described in the manufacturer's manuals. The IP address of the meters must be in the same subnet as the Wallbox. ◀

Parameter	Value	Description
Domestic Connection Monitoring	ON; <b>OFF</b>	Enables or disables the domestic connection monitoring system
Domestic Connection TCP Meter	ON; <b>OFF</b>	Defines whether the specified external domestic connection TCP meter should be used
Manufacturer	Drop-down menu	Manufacturer of the external domestic connection TCP meter
IP Address	IP address	IP address of the external domestic connection TCP meter or gateway
TCP Port	String	Port number of the external domestic connection TCP meter or gateway
Test Connection		The "Test Connection" button allows you to check the connection by using the configured meter.
Solar TCP Meter	ON; <b>OFF</b>	Defines whether the specified external solar TCP meter should be used
Manufacturer	Drop-down menu	Manufacturer of the external solar TCP meter
IP Address	IP address	IP address of the external solar TCP meter or gateway
TCP Port	String	Port number of the external solar TCP meter or gateway
Test Connection		The "Test Connection" button allows you to check the connection by using the configured meter.
RS485 Modbus Address	String	This setting must be set only in the case of a Modbus gateway. Use the corresponding RS485 Modbus address here.

#### Proxy

If a proxy server is used in your network to connect to the internet, the **Proxy Server** parameter must be enabled in the **Proxy** menu point. The additional settings required will then also appear.

🕼 Proxy		
Parameter	Setting	Description
Proxy Server	V ON V	Defines whether the specified proxy server is to be used. Modify this setting only if you are fully aware of its functionality. The default setting is "OFF".
Address	192.168.123.12	IP address of the proxy server
Port	1080	Port number of the proxy server (0-65535). Ports 53,7090 not allowed.
Username	username	Username for the proxy server
Password		Password for the proxy server

Parameter	Value	Description
Proxy Server	ON; <b>OFF</b>	Defines whether the specified proxy server should be used
Address	IP address Example: 192.168.123.23	IP address of the proxy server
Port	Port number Example: 1080	Port number of the proxy server
User name	String	User names for the proxy server
Password	String	Password for the proxy server

#### **USB** settings

#### USB Settings

Parameter	Setting	Description
Allow USB init	✓ ON ▼	Allows the entire current configuration and the log files to be saved to an empty USB stick, if inserted. Modify this setting only if you are fully aware of its functionality. The default setting is "OFF".
Allow USB config	V ON V	Allows the configuration to be changed when a USB stick with a CFG folder and a corresponding configuration file is inserted. If the function "Allow USB init" has been activated, then the folder with the necessary configuration files is created automatically when a USB stick is inserted. Modify this setting only if you are fully aware of its functionality. The default setting is "OFF".
Allow USB update	VON V	Allows to install update files from a USB stick, if inserted into the slot inside the connector panel.

Parameter	Value	Description
Allow USB init	ON; <b>OFF</b>	Allows the entire current configuration and the log files to be saved to an empty USB stick if one is inserted.
Allow USB config	ON; <b>OFF</b>	Allows the configuration to be changed if a USB stick with a CFG folder and a corresponding configuration file is inserted. The folder with the required configuration files is automatically created when a USB stick is inserted if the function "Allow USB init" is enabled.

#### Menu - Configuration Wizard (Wallbox Connect)

The Configuration Wizard is a guided configuration process to provide fast and easy access to the configuration of the BMW Wallbox Connect. Once the configuration is complete, you can adjust advanced settings in the "Configuration" menu.

## FAULTS



#### Note

Additional or updated information such as operating and installation instructions are available on the portal page at <a href="https://charging.bmwgroup.com/web/wbdoc/">https://charging.bmwgroup.com/web/wbdoc/</a>.



Note

If the displayed error code is not listed here, please contact BMW Service.

#### Troubleshooting

PROBLEM	Possible cause	
Status LED not lit	<ol> <li>No voltage supply – check the residual-current circuit breaker and power circuit breaker, and switch on if necessary.</li> <li>Fault on the Wallbox – contact your service partner if necessary.</li> </ol>	
Charging cycle not started	<ol> <li>The charging cable plug has not been inserted correctly – remove the charging cable plug and reconnect it.</li> </ol>	
	2. The vehicle does not require any energy or has a fault – check the vehicle.	
	<ol> <li>Authorisation not completed correctly – follow the instructions in the manual.</li> </ol>	
	4. The vehicle has been programmed for a later starting time for the charging cycle.	
Vehicle not fully charged / extended charging time	1. Local domestic connection monitoring of the Wallbox is active due to increased domestic current consumption.	
	2. No enable, delayed charging start, or limited charging current due to iV app.	
	<ol> <li>No enable or limited charging current, due to SmartHome domestic controller.</li> </ol>	

Vehicle not fully charged / extended charging time	4. 5.	Vehicle settings incorrect, for example charging mode or departure time. Power reduction due to high temperature on the vehicle or Wallbox – protect the vehicle and Wallbox from direct sunlight during the charging cycle (carport, garage). Conduct a visual inspection of the plug
		connector for dirt, wear, or damage. Contact your service partner if necessary.
Charging cable plug cannot be disconnected	1.	The charging cycle has not been ended by the vehicle – end the charging cycle as described in the manual provided by the vehicle manufacturer.
	2.	The charging cable plug may not be released when pulled – push in the charging cable plug and release it again on the vehicle.
Status LED flashes in red (all parts of the status LED flash in red combined with white or blue)	1.	Fault – first check the possible causes of the fault, see section entitled <u>Possible causes of faults</u> . Switch off the supply voltage to the Wallbox using the appropriate mains cut-off device. Disconnect the charging cable and switch on the supply voltage again.
Status LED permanently lit in red	1.	The Wallbox cannot shut down the voltage on the charging cable – restart the Wallbox. If the problem persists, disconnect the Wallbox from the mains and replace it.
	2.	The protective conductor is not connected – connect the protective conductor correctly.
	3.	The protective conductor connection has too high a resistance – connect the protective conductor correctly.
	4.	The CCID test was not successful. If the problem persists, replace the Wallbox.

#### **Reset an error**

If an interruption occurs during a connection or charging cycle, the Wallbox will attempt to restart the cycle automatically (a maximum of five times).

If the charging cycle cannot be restarted, this must be acknowledged by correctly ending the charging cycle or, if necessary, by restarting the Wallbox. If an error occurs repeatedly or for no obvious reason, contact your service partner.

#### Possible causes of faults

### General errors (displayed in red and white)

	Error 1 [0001]
"white/white/red"	<ol> <li>The vehicle was disconnected again during the Wallbox self-tests (status LED lit in orange).</li> <li>The charging cable plug was disconnected during the charging process: The charging cable plug was not correctly locked – disconnect the charging cable plug and reconnect correctly, ensuring that it locks properly.</li> </ol>
	Error 3 [0011]
"white/white/orange/orange"	Temperature cut-out: The maximum temperature in the Wallbox was exceeded. After briefly displaying the error code, status LED segments S3 and S4 will flash in orange until the Wallbox has cooled down.
	Error 5 [0101]
"white/red/white/red"	The Wallbox has not detected an electric or plug-in hybrid vehicle, but instead an unauthorised load: Only electric vehicles which comply with the standard may be charged. Remove the unauthorised load and restart the charging process.

	Error 8 [1000]
"red/white/white"	The charging cable plug on the Wallbox is emitting an invalid state: Cable hardware error – disconnect the charging cable plug and reconnect properly, if necessary replace the cable.

Errors on the power unit (displayed in red and blue)

	Error 8001 [0001]
"blue/blue/red"	The charging voltage cannot be switched on; internal error or hardware defective: Reconnect the vehicle or restart the Wallbox. If the error occurs again, contact your service outlet.

	Error 8002 [0010]
"blue/blue/red/blue"	Input voltage outside permitted range. Cross-section too low or cable too long: Reduce the preset current, or have the supply cable upgraded by an electrician. Voltage limits (minmax.): 160 V – 280 V If necessary, ask your energy supplier about the maximum voltage tolerances in the mains.

	Error 4003 [0011]
"blue/blue/red/red"	Overcurrent detected in the vehicle: The vehicle has not complied with the permitted maximum current and was shut down – if the problem continues, have the vehicle inspected in a workshop.

	Error 8005 [0101]
"blue/red/blue/red"	Residual current monitor: An error was identified during the self-test or the monitor has tripped as a result of an excessive fault current. Check your charging cable for signs of damage or water accumulation in the plug. The monitor may also trip due to a lightning strike in the surrounding area.

	Error 8007 [0111]
"blue/red/red"	Safety monitor: A problem relating to the internal safety circuit has been identified. It is possible that the contacts on the charging contactor can no longer be opened. In this state the Wallbox cannot perform an automatic restart attempt. The Wallbox must be restarted at the mains. In certain cases the error may relate to a problem in this software. A software update may rectify the error, see section entitled <u>SOFTWARE</u> <u>UPDATE</u> . If the device continues to display the error after the software has been updated, please contact your service partner.

## MAINTENANCE

#### Cleaning



#### IMPORTANT

Danger of damage. Avoid possible damage through the following:

- ▷ Aggressive solvents and cleaning products
- ▷ Scouring materials
- ▷ Cleaning with water jets, for example a pressure cleaner
- ▷ Excessive pressure

Comply with the instructions on the cleaning product. <

Clean the housing of the Wallbox Pure using a damp cloth as required. Stubborn dirt can be removed using a mild, solvent-free, non-scouring cleaning product.



#### Note

We recommend using cleaning and care products which have been tested by BMW:

Special matt paint cleaner for the housing, number 83 12 2 285 244. Glass cleaner for high gloss surfaces, number 83 12 2 288 901. ◀

#### Maintenance and repair work



If you have any questions or problems, please contact your electrical installation contractor. Repair work may only be carried out by trained personnel. Before you contact your service partner:

- Check the troubleshooting guide in this manual and in the manual supplied with your vehicle.
- 2. Make a note of the model version and serial number. The model plate **1** is on the right-hand side of the Wallbox.

## DISPOSAL



After proper decommissioning of the device, please have the device disposed of by service or dispose of it in compliance with all currently valid disposal regulations.



#### **Disposal information**

The symbol of the waste bin with a line through it indicates that 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.

## SOFTWARE UPDATE

The software can be updated using this web interface. Further information can be found in the section <u>CONFIGURATION</u>.

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 associated instructions can be downloaded from the internet at <u>https://charging.bmwgroup.com/web/wbdoc/</u>. A new software version may, for example, take account of changed standards or improve compatibility with new electric or plug-in hybrid vehicles.



#### Note

It is also possible to complete a remote software update for the BMW Wallbox Connect, using the BMW DCS.  $\blacktriangleleft$ 

## **PRODUCT INFORMATION PAGE**

# CE

This telecommunications equipment complies with the NTC requirement.

## HOUSING



Note

This section is relevant only if explicit reference is made to it in this manual. ◀

#### Remove the housing cover



 Press the two locks **1** for the housing cover on the underside of the Wallbox upwards. The housing cover should then jump out slightly at the bottom.



- 2. Swing the housing cover forwards a little on the underside **2**.
- 3. Then release the housing cover by raising it **3**.



Note

Keep the housing cover in the packaging to prevent it being scratched or suffering other damage.

#### Remove the terminal panel cover



#### ESD

Danger of damage. Electronic components may be destroyed if touched.

Before handling modules, perform an electrical discharge process by touching a metallic earthed object.  $\blacktriangleleft$ 



1. Undo the four screws used to secure the terminal panel cover **1**.



#### WARNING

Electrical danger.

The terminal cover **3** next to the terminal panel **2** may be removed only by appropriately trained, qualified and authorised electricians.



2. Remove the terminal panel cover. The terminal panel **2** is now accessible.

#### Installing the terminal panel cover



#### Note

Confirm that an up-to-date version of the software is available before you install the terminal panel cover. For further information see section <u>SOFTWARE UPDATE</u>. ◀



#### Note

The Wallbox must not be permanently commissioned if this cover is missing or damaged. Alternative covers must not be used.  $\blacktriangleleft$ 



#### Fastening screws

- 1. Insert the terminal panel cover **1** again.
- 2. Install the terminal panel cover again using the four screws.



#### Housing marking

- 1. Tighten the four screws until the housing markings on the right and left of the terminal panel cover are flush with the housing.
- 2. The terminal panel cover must correctly seal the housing.

Increased force is required for the self-tapping screws: 3.5  $\ensuremath{\mathsf{Nm}}$  .

#### Install the housing cover



#### Note

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



#### Attaching the housing cover

- 1. Attach the housing cover at the top, and ensure that the hooks on the housing cover are correctly attached **1**.
- Press the cover downwards and then swing the housing cover 2 backwards. The housing cover must slide into the bottom guides without any major resistance.



#### IMPORTANT

Ensure that the housing cover is correctly positioned in the housing guide on all sides. There must be only a uniform minimum gap.



#### Locks

 Press the bottom section of the housing cover on to the Wallbox until the locks 1 fully engage.

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## **EU Declaration of Conformity**

We declare that the following product(s)

Name of product	Wallbox Plus 22kW T2
BMW part number	61 90 2420905
Model / Type Ref.	BMW-10-EC240522-E1R
Type of product	Electric vehicle conductive charging system
	٠ •
Name of product	Wallbox Plus 22kW T2S
BMW part number	61 90 2420913
Model / Type Ref.	BMW-10-ESS40022-E1R
Type of product	Electric vehicle conductive charging system
Name of product	Wallbox Plus 22kW T2S
BMW part number	61 90 272423
Model / Type Ref.	MIN-10-ESS40022-E1R
Type of product	Electric vehicle conductive charging system
Name of product	Wallbox Connect 22kW T2
BMW part number	61 90 2420912
Model / Type Ref.	BMW-10-EC2405B2-E1R
Type of product	Electric vehicle conductive charging system
1	

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Registered in Germany München HRB 42243

is/are in conformity with the following European Council Directive(s):

- EU-Directive 2014/53/EU
- EU-Directive 2011/65/EU •

Conformity to the directive 2014/53/EU is assured by the compliance with the applicable parts of the following harmonized European standards:

- EN 300 330 V2.1.1 .
- EN 300 328 V2.1.1 (1) •

Conformity to the directive 2011/65/EU is assured by the compliance with the applicable parts of the following harmonized European standards:





## • EN 50581:2012

The conformity to the directive 2014/53/EU is not impaired by the removal or the installation of the BMW communications module (WLAN/WiFi functionality). The BMW communications module itself is also in conformity with 2014/53/EU.Conformity to the essential requirements defined in Art. 3 No. 1 Lit. (b) 2014/53/EU concerning 2014/30/EU is assured by the compliance with the applicable parts of the following harmonized European standards:

- EN 61000-6-2:2005
- EN 61000-6-3:2007 + A1:2011
- EN 61000-3-11:2000
- EN 61000-3-12:2011
- EN 301 489-1 V1.9.2

Conformity to the essential requirements defined in Art. 3 No. 1 Lit (a) 2014/53/EU concerning 2014/35/EU is assured by the compliance with the applicable parts of the following harmonized European standards:

- EN 61851-1:2011
- EN 61851-22:2002
- EN 61439-1:2011
- EN 50364:2010
- EN 62479:2010 (1)

The assessment and testing concerning human exposition was performed according to the following requirements:

• Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) 1999/519/EC

The following operating parameters are specified for the RFID module of the device:

- Frequency: 13,553 13,567 MHz
- EIRP: 0,200 µW

The following operating parameters are specified for the WLAN/WiFi module of the device:

- Frequency: 2400 2483,5 MHz (<sup>1</sup>)
- EIRP: 100 mW (<sup>1</sup>)

#### Important notes:

Any modification on the product(s) that is performed without the consent of BMW will render this declaration invalid. This declaration certifies the conformity with the directives mentioned, but does not imply any warranty of the features of the product(s). The safety instructions contained in the documentation supplied with the product(s) must be followed.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

<sup>(1)</sup> Only applicable if the BMW communication module is installed.





München, 11.04.2019

Place, Date

Michael Fischmann CP-152, Product Management Accessories

#### Mehr über BMW



www.bmw.de www.bmw.com

Freude am Fahren



Doc #100673 - Mat #108125