

Wallbox basicEVO

Safety instructions

A Safety instructions

Safety instructions	A.1.1
1 Safety instructions "Wallbox basicEVO"	A.1.1
1.1 Note to the owner and operator of the charging system	A.1.1
1.2 Intended use	A.1.1
1.3 Notes for people with a pacemaker (PM) or implantable cardioverter defibrillator (ICD)	A.1.3
1.4 Working on the charging system without risk	A.1.3
1.5 Installation and tests	A.1.4
1.6 Specifications	A.1.7
1.7 Protective devices	A.1.8
1.8 Operator control elements	A.1.8
1.9 Declaration of Conformity	A.1.10

Requirements regarding the qualification of electricians

Knowledge of and compliance with the 5 safety rules for working with electrical installations:

- isolate.
- secure against reactivation.
- check absence of voltage.
- ground and short-circuit.
- cover or block off live parts in the vicinity.

Reactivation is carried out in reverse order.

- Knowledge of the general and special safety regulations and accident prevention regulations.
- Knowledge of the relevant electrotechnical regulations e.g. checks associated with commissioning and the requirements for operating facilities, rooms, and special types of equipment - power supply for electric vehicles.
- Ability to recognize risks and to avoid potential hazards.

When installing and handling the charging system, the user, the operator, and the electrician must comply with the national regulations on safety and accident prevention.

Improper use and non-compliance with the operating manual may jeopardize:

- your life
- your health
- charging system and vehicle.

Safety devices on the charging system

- must not be removed,
- must not be manipulated,
- must not be bypassed,
- before each use, it must be checked that the equipment (e.g. housing, connecting line, charging coupler) is undamaged,
- must be repaired or replaced as necessary, in order to preserve the functional properties.

Ensure that:

- safety identifications, e.g. yellow-colored marks,
- danger signs and
- safety lights

remain easily visible and retain their effectiveness.

- When operating the charging system, do not use any extension cables, cable reels, multisocket power strips, or travel adapters.
- Do not insert any objects into the charging coupler of the charging system.
- Protect the socket-outlets and plug-in connections against moisture and water or other liquids.

- Never immerse the charging system or the charging coupler in water or other liquids.
- Do not disconnect the charging coupler from the vehicle during charging.

The manufacturer of the charging system takes responsibility only for the charging system in its delivered condition and for any work performed by the manufacturer's skilled personnel.

1.3 Notes for people with a pacemaker (PM) or implantable cardioverter defibrillator (ICD)

Charging systems from this manufacturer that are operated as intended, comply with the European guideline on electromagnetic compatibility regarding radiated interference.

Should people with a pacemaker (PM) or implantable cardioverter defibrillator (ICD) wish to conduct activities on charging systems and their devices in the intended manner, the manufacturer of the charging system is not in a position to make any statement regarding the suitability of such medical devices. The manufacturer of the charging system is not able to assess the pacemakers or concerned implantable cardioverter defibrillators with regard to their susceptibility to electromagnetic radiation. This is something that only the manufacturers of the pacemaker or implantable cardioverter defibrillator can do.

The manufacturer of the charging system therefore recommends only allowing the people in question to work on its charging systems after consultation with the manufacturer of the pacemaker/defibrillator and the relevant insurance company. Ensure at all times that no health or safety risks are involved.

► **Note**

People with a pacemaker or defibrillator may not work on or stand near the charging systems and their devices, e.g. to perform maintenance operations or rectify any faults.

1.4 Working on the charging system without risk

Before plugging the charging coupler into the vehicle

- The connecting line of the charging system must be completely unwound.
- Check whether the housing of the charging system, the connecting line, the charging coupler, and the connectors are undamaged.
- Take hold of the plug-in connection of the charging system only on the charging coupler and not on the charging cable.
- Ensure that no-one can trip e.g. over the charging cable.

During the charging process

- Keep unauthorized persons away from the charging system.
- When the charging system is connected, you must not clean or wash the vehicle with a high-pressure cleaner because the plug-in connection is not sealed against pressurized water.

In case of malfunctions or failure of the charging system

- Disconnect the charging system from the power supply by switching off the respective circuit breaker in the building. Leave a sign with the name of the person authorized to switch on the circuit breaker.
- Call in a qualified electrician immediately.

Electrical devices

- The housing of the charging system must always be kept closed.

1.5 Installation and tests

Information for selecting protective devices for basic and fault protection against touching directly or indirectly

• Electrical circuit breakers

The charging system must be protected with circuit breakers in compliance with the respective national regulations. This depends, for example, on the required tripping time, internal network resistance, conductor cross-section, conductor lengths, and the preset rating of the charging system.

The short-circuit protection of the conductor must have a characteristic that permits 8-10-fold of the I_{nom} value and must not exceed a maximum nominal current of 16 A, depending on the preset rating of the charging system.

• Residual-current circuit breaker

For reasons of personal safety, national regulations may stipulate an upstream RCD with an $I_{\Delta N}$ of 30 mA AC. Choose a suitable RCD that complies with the national regulations. For this, please refer to the comments in the sections *DC and AC residual-current detection*.

• DC residual-current detection

The charging system is equipped with 6 mA DC residual-current detection. The charging system switches itself off if there is a residual current that is greater than or equal to 6 mA DC. Details of this are given in the *Diagnostics* section.

• AC residual-current detection

The charging system is equipped with integrated AC residual-current detection as a convenience function.

This residual-current detection switches off the charging system, at the latest, if there is a residual current greater than 30 mA AC. Details of this are given in the *Diagnostics* section.

Notwithstanding this convenience function, a short-acting RCD must be connected upstream of the charging system, if necessary. The AC residual-current detection is not a substitute for an RCD.

Information on initial inspections after installation and repeat inspections

National regulations may stipulate inspections of the charging system before start-up and at regular intervals. Perform these inspections in accordance with the respective rules and regulations. Information is given below on how these inspections can be performed.

- **PE conductor test**

After the installation and before switching on for the first time, test the continuity of the PE conductor. For this, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. Measure the resistance of the PE conductor between the PE conductor socket of the adapter and the connection point of the PE conductor in the building's electrical cabinet. The value of the PE conductor for a total conductor length (connecting line to the charging system and the vehicle charging cable) of up to 5 m must not exceed 300 mΩ. For longer cables, the value can be increased in accordance with the applicable national regulations. In any case, the resistance must not exceed a value of 1 Ω.

- **Insulation test**

Two insulation measurements are required because the charging system is equipped with a disconnecting relay. The charging system must be disconnected from the power supply for this. Therefore, before the measurement, switch off the supply voltage using the circuit breaker in the building's electrical cabinet.

1. Measurement of the primary side of the charging system.

Measure the insulation resistance on the primary side of the charging system at the connection point of the power supply line to the charging system in the building's electrical cabinet. The value must not exceed 1 MΩ.

▶ **Note**

The Wallbox has a surge protector. This may be considered in the course of making measurements.

2. Measurement of the secondary side of the charging system.

For this, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1.

Measure the insulation via the measuring sockets on the test adapter. The value must not exceed 1 M Ω .

- Alternatively, the differential current method can be used in conjunction with measurement of the PE conductor current. In both cases, the value must not exceed 3.5 mA.

For these measurements, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. The measurements must be carried out with the adapter in the C mode. Measure the differential current at the connection point of the power supply line to the charging system in the building's electrical cabinet.

- **Test of the power-off condition in case of a short-circuit (Z_{L-N})**

For these measurements, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. The measurements must be carried out with the adapter in the C mode. Carry out the measurements on the measuring sockets of the test adapter. The values must comply with those of the selected circuit breaker.

- **Test of the power-off condition in case of a fault (Z_{L-PE})**

For these measurements, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. The measurements must be carried out with the adapter in the C mode. Carry out the measurements on the measuring sockets of the test adapter with a suitable instrument. The values must comply with those of the selected circuit breaker.

- **Test of the integrated DC residual-current detection**

For these measurements, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. The measurements must be carried out with the adapter in the C mode. Carry out the measurements on the measuring sockets of the test adapter with a suitable instrument. If the residual current is greater than 6 mA DC, the charging system must disconnect the charging coupler from the power supply. The fault indicator on the charging system must be activated.

- **Test of the integrated AC residual-current detection**

For these measurements, connect the charging coupler to a test adapter for vehicle simulation in accordance with EN 61581-1. The measurements must be carried out with the adapter in the C mode. Carry out the measurements on the measuring sockets of the test adapter with a suitable instrument. If the residual current is greater than 30 mA AC, the charging system must disconnect the charging coupler from the power supply. The tripping time must be less than 40 ms. The

fault indicator on the charging system must be activated. If the upstream RCDs are correctly dimensioned, this does not trip.

- **Test of the upstream RCD**

Due to the integrated AC residual-current detection, the upstream RCD must be tested at the connection point of the power supply line to the charging system in the building's electrical cabinet. The RCD must trip in accordance with the national regulations.

1.6 Specifications

Designation	Technical specifications
Regulations	IEC 61851-1
Charging capacity type 3	up to 11 kW
Nominal voltage	230 V / 400 V / 1/3 AC
Nominal current	up to 16 A adjustable from 6 A to 16 A in 2 A increments
Nominal frequency	50 Hz
Connection method	Spring clip method
Charging connection/charging coupler	Type 2
Length of charging cable	5 m or 7.5 m
Operation/status information	Pushbutton with LED
Protection rating	IP54
Residual current detection	AC 30 mA, DC 6 mA
Ambient temperature	-25 °C to +40 °C
Ventilation	No ventilation required
Protection class	I
Overvoltage category	III
Weight	approx. 8 kg

Tab. 1

1.7 Protective devices

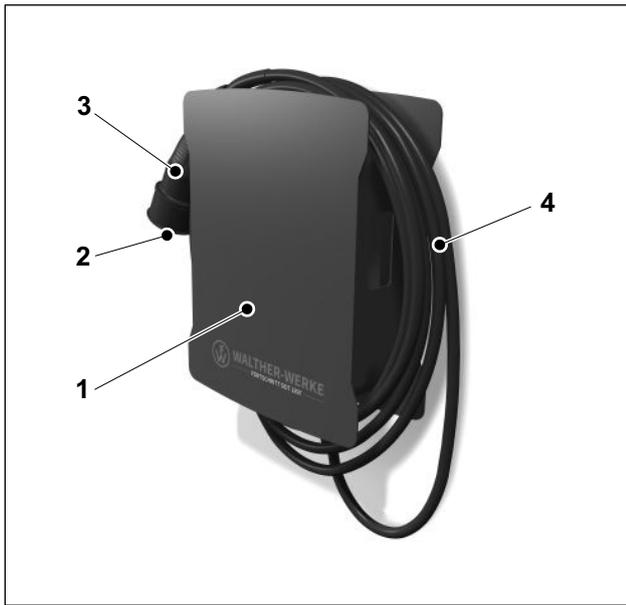


Fig. 1 Charging system

The following components are protective devices:

- 1 Housing
- 2 Protective cover
- 3 Charging coupler
- 4 Charging cable

Checking the protective devices

1. Before every charging process, make a visual inspection of the protective devices for damage.
2. Have a qualified electrician make regular electrical function tests in accordance with the national regulations.

1.8 Operator control elements

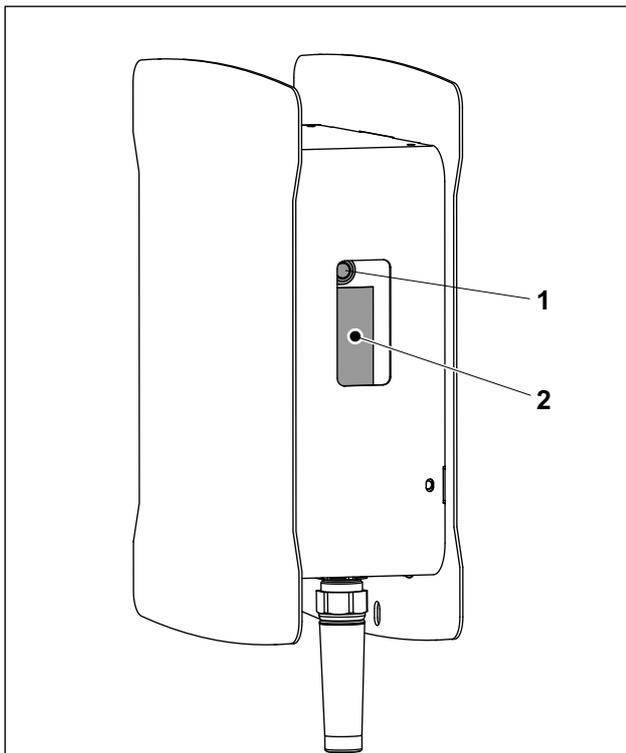


Fig. 2 Pushbutton/LED combination of the charging system

The charging system can be operated with a single button/LED combination (Fig. 2/1). An optional external blocking device (e.g. key switch) can be connected to the internal interface.

Functions of the LED

The LED indicates the operating state of the charging system. Detailed information on the operating states is given in the operating manual.

Functions of the button

The functions of the button are described in the operating manual.

Starting the charging process

The charging process starts automatically as soon as the charging coupler is plugged in and the vehicle requests a charging process.

Stopping the charging process



Note

The charging process cannot be stopped with the button. There are three ways of stopping the charging process:

- Stop the charging process with the operating controls in the vehicle. Instructions on this are given in the vehicle's operating manual.

or

- Disconnect the charging system from the power supply by switching off the respective circuit breaker in the building.

or

- Disable the charging system using the optional external blocking device.

Optional external blocking device

If an external blocking device (e.g. key switch) is connected, the charging process is only started when the Wallbox has been enabled by the external blocking device.

1.9 Declaration of Conformity



WAL-000-0004-00GRAND_00

EG-Konformitätserklärung¹⁾

Name/Anschrift des Ausstellers:

WALTHER-WERKE
Ferdinand Walther GmbH
Ramsener Straße 6
67304 Eisenberg

Produktbezeichnung: Ladesystems Mode 3
Modell/Typ: Wallbox basicEVO

Typenbezeichnung: 981.....

Das bezeichnete Produkt erfüllt die Bestimmungen der

- **Niederspannungsrichtlinie 2014/35/EU**

“ Die Richtlinie des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung elektrischer Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen auf dem Markt (Neufassung) ”.

- **EMV-Richtlinie 2014/30/EU**
- **RoHS-Richtlinien 2011/65/EU**

Die Übereinstimmung des bezeichneten Produktes mit den Anforderungen der Richtlinie wird durch die technische Dokumentation sowie die vollständige Einhaltung folgender Normen nachgewiesen:

- **EN 61851-1**
- **EN 61000-6-2**
- **EN 61000-6-3**

Eisenberg, 10.10.2019

WALTHER-WERKE
Ferdinand Walther GmbH


Kai Kalthoff
Geschäftsleitung


Adelheid Krämer
Qualitätsmanagement

¹⁾ Bezieht sich auf den Auslieferungszustand des Ladesystems.



Wf.000.0005-0006A000_00

EC CERTIFICATE OF CONFORMITY

Issuer's name and address:

WALTHER-WERKE
Ferdinand Walther GmbH
Ramsener Straße 6
67304 Eisenberg

Product: Charging Station Mode 3
Modell/Typ: Wallbox basicEVO

Type designation: 981.....

The designated product is in conformity with the

- **Low Voltage Directive (LVD) 2014/35/EU**

of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits Text with EEA relevance.

- **Directive 2014/30/EU (EMC)**
- **Directive 2011/65/EU (RoHS)**
- **Regulation (EC) No. 1907/2006 (REACH)**
- The technical documentation and full compliance with the standards listed below proves the conformity of the product with the requirements of the above-mentioned EC Directive:
 - **EN 61851-1**
 - **EN 61000-6-2**
 - **EN 61000-6-3**

Eisenberg, 10.10.2019

WALTHER-WERKE
Ferdinand Walther GmbH

Kai Kalthoff
Geschäftsleitung

Adelheid Krämer
Qualitätsmanagement

WALTHER-WERKE Ferdinand Walther GmbH

Ramsener Straße 6

D-67304 Eisenberg

Germany

Fon + (49) 6351 / 475 - 0

Fax + (49) 6351 / 475 - 227

www.walther-werke.de