

Ensto One WM-Bus

Charger for electric vehicles with WM-Bus communication

INTRODUCTION

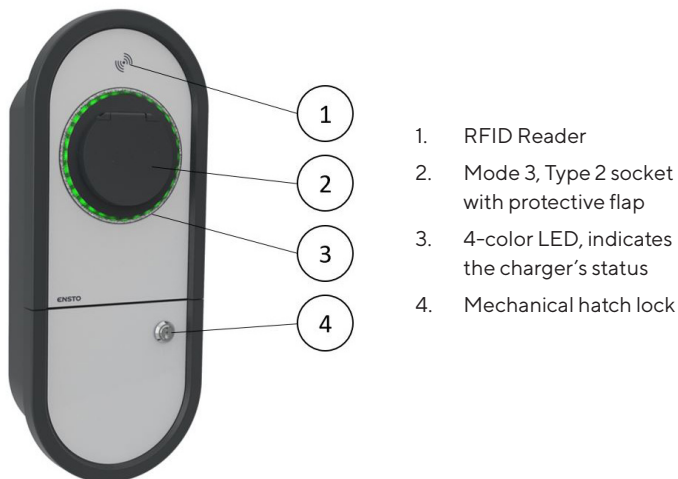
Ensto One WM-Bus is a charger for electric vehicles communicating via wireless M-Bus. Ensto One WM-Bus is a combined solution from Ensto and Elvaco, consisting of an Ensto One charger with an Elvaco CMeX20w and an ABB B21 single-phase electricity meter mounted inside the charger on a DIN rail.

For more information and full product documentation for Ensto One, please visit Ensto's website www.ensto.com.

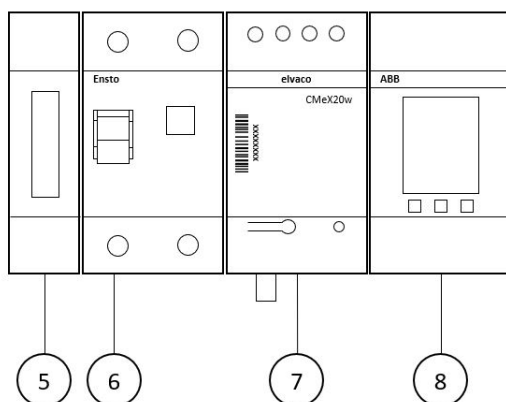
For more information and full product documentation for CMeX20w and ABB B21, please visit Elvaco's website www.elvaco.com.

OVERVIEW

Exterior



Interior



5. Carlo Gavazzi Electricity meter
6. Ensto One Main supply
7. Elvaco CMeX20w
8. ABB B21 Electricity meter

SAFETY INSTRUCTIONS



WARNING: Danger of electric shock, risk of fire

- Installation and maintenance must only be done by an electrically skilled person.
- People who are not able to operate according to the instructions must not use this product.
- Do not use this product if the product appears to be damaged.

INTENDED USE

The charger is intended for charging electric vehicles, both plug-in hybrids and full battery electric vehicles. Do not connect other devices to the charger, such as power tools.

MOUNTING & INSTALLATION

Ensto One WM-Bus is delivered with CMeX20w and ABB B21 already mounted on a DIN-rail inside the charger.

Mount and install charger as described in the Ensto One Installation manual.

GETTING STARTED

1. **Download the Ensto Charger Control app** from Apple Store or Google Play (compatible with iOS version 8.0 and above, and Android version 5.0 and above).
2. **Pair the charger with your mobile device**
 - a) Make sure Bluetooth is activated on your mobile device and the distance between the mobile device and the charger is below 5 meters.
 - b) Turn off the charger from the main switch and turn it on again (start the pairing procedure within 3 minutes).
 - c) Open the Ensto Charger Control app, go to "Devices" and select the charger you want to pair in the list of "Available Devices".
 - d) If the pairing fails the first time, try again starting from step a.
 - e) When the pairing is completed, you will find your charger in the list of "My Devices".

Please note: The charger can only be paired to one mobile device at a time.

3. Installation menu in the Ensto Charger Control app



WARNING: Danger of electric shock, risk of fire

Settings described in this section must only be done by an electrically skilled person.

- a) Open the Ensto Charger Control app on your mobile device.
- b) Go to the "Support" tab
- c) Press the letter "E" on the ENSTO logo until the installation menu appears
- d) The installation menu will show different settings depending on the charger model.

4. Self test

The charger performs a self test automatically at start-up. During the self-test, several components and their proper function is tested. The LED indicator is stable green during the self test. The extent and duration of the self test depend on the charger model. If a critical fault is detected during the self test, the charger will go to error state (for more information, please refer to the Ensto One Installation manual).

5. Commissioning the charger (optional)

The charger is ready to use after the installation is completed. The charger is in "Free charging" operating mode. You can configure the charger's settings in Ensto's EV Manager. EV Manager enables load balancing and authorized access via RFID tags. For more information please refer to the EV Manager User Manual and contact your Ensto representative.

6. WM-Bus communication

CMeX20w will try to communicate with ABB B21 as soon as the supply voltage is connected. The communication is automatically configured between CMeX20w and ABB B21 and via an IR interface.

Until CMeX20w has established communication with ABB B21 the LED will light up red. As soon as communication between CMeX20w and ABB B21 has been established, the LED will light up green (unencrypted) or yellow (encrypted) depending on the encryption. To switch between unencrypted and encrypted mode, press and hold CMeX20w's push button for 5 s.

When a communication between CMeX20w and ABB B21 has been established, CMeX20w will start to send wireless M-Bus messages with meter values in mode wireless M-Bus mode T1. When sending a wireless M-Bus message, the LED is flashing.

For further information about settings, functions and troubleshooting for Ensto One, CMeX20w or ABB B21, please refer to full product documentation, available at www.ensto.com or www.elvaco.com.

TECHNICAL SPECIFICATIONS

Ensto One

Mechanics

Dimensions (w x h x d)	209 x 513 x 134 mm
Weight	5,4 kg
Mounting	Wall mounted
Casing material	Plastic
Protection class	IP54
Impact strength	IK10

Electrical characteristics

Nominal current	1x16A
Rated voltage	≤ 230 V
Current	AC, 50Hz

CMeX20w

Mechanics

Dimensions (w x h x d)	35 x 95 x 65 mm
Weight	100 g
Antenna	Built-in, optionally external via SMA-f

M-Bus

Interfaces	IR, M-Bus slave
M-Bus standard	EN13757-4. Communication by T1.
Frequency	868,95 MHz
Addressing modes	Electricity meter's secondary address
M-Bus information	All fields in the first telegram of the electricity meter
Transmit power	25 mW
Transmit interval	16 s
Encryption	Unencrypted (default) or encrypted

SAFETY

The warranty does not cover damage to the product caused by usage in any other way than described in this manual. Elvaco AB can not be liable for personal injury or property damage caused by usage in any other way than described in this manual.

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