



EU-type examination certificate

Number **T12806** revision 1
Project number 3951153
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Issued by

NMi Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to
conformity assessment procedures mentioned in article 17 of Directive
2014/32/EU, after having established that the measuring instrument meets
the applicable requirements of Directive 2014/32/EU, to:

Manufacturer

Zaptec Charger AS
Vassbotnen 1
4313 Sandnes
Norway

Measuring instrument

A static **Active Electrical Energy Meter integrated in an EV Charging
System**

Type : Zaptec Go2

Manufacturer's mark or name : Zaptec Charger AS

Reference voltage : 3x230/400 V

Reference current : 5 A

Destined for the measurement of : electrical energy, in a
- three-phase four-wire network
- single-phase two-wire network

Accuracy class : B

Environment classes : M1 / E2

Temperature range : -40 °C / +55 °C

Further properties are described in the annexes

- Description T12806 revision 1
- Documentation folder T12806-1

Valid until

13 February 2035

Initially issued

13 February 2025

Remark

This revision replaces the earlier version(s), except for its documentation
folder.

Issuing Authority

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Certification Board

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1 General information about the instrument

All properties of the static active electrical energy meter, whether mentioned or not, shall not be in conflict with the legislation.

1.1 Essential parts

Description	Document	Remarks
measuring sensor	12806/0-05	
printed circuit board	12806/0-09	All parts of the printed circuit boards are essential, except the components which are related to parts as described in paragraph 1.4 and 1.6.

1.2 Essential characteristics

- 1.2.1 See EU-Type examination certificate T12806 revision 1 and the characteristics mentioned below.
- 1.2.2 Approved meter types : Zaptec Go2
- 1.2.3 Frequency : 50 Hz
- 1.2.4 Meter constant : 10.000 imp./kWh
- 1.2.5 Number of registers : 2
- 1.2.6 Error messages : document no. 12806/0-02 shows the possible status and errors.
- 1.2.7 Registration method : the following registration methods are allowed:
measurement of import and export energy
- 1.2.8 Phase sequence : the meter is not sensitive to the direction of the applied phase sequence.
- 1.2.9 Export energy : the meter is capable of measuring energy in 2 directions.
- 1.2.10 Software specification (refer to WELMEC 7.2):
- Software type P;
 - Risk Class C;
 - Extension L, T, S, D while extension O is not applicable.

Identification	Version	Identification number (checksum)
MCU PIC24E	2.4.7	All checksums are embedded in software version.
MCU PIC24E	2.6.7	All checksums are embedded in software version.
eMeter (MAX78615)	Embedded in MCU software version (Vx.x.x)	0x4FC08

The software version is displayed at start-up and in the display sequence.

The software version of the MCU PIC24E is displayed at start-up. The software version of the metering chip is embedded in the software version representation of MCU PIC24E. The 'x' in the second position in Vx.x.x represents the software version of the metering chip.

1.3 Essential shapes

- 1.3.1 The nameplate is bearing at least, good legible, the information as mentioned in the regulations on energy meters. An example of the markings is shown in document no. 12806/0-08.
- 1.3.2 Sealing: see chapter 2.
- 1.3.3 The registration observation is executed by means of a LED.

1.4 Conditional parts

- 1.4.1 Terminal block
The connections for the current cables on the terminal block have a diameter of at least 7 mm. The cables are connected with the terminal block via rail mount connectors. See document no. 12806/0-03.
- 1.4.2 Housing
The charger has got an IP54 compliant housing, which encloses the relevant metrological electronics. The electronics inside are sealed with a transparent plastic cover. The housing is made of synthetic material. An example of housing is presented in document no. 12806/0-01.
- 1.4.3 Terminal cover
The terminal cover is made of transparent plastic.
- 1.4.4 Connection to the car
The EVCS has an AC-Type 2 socket that can be connected to a vehicle through an AC cable assembly.
- 1.4.5 Register
The quantity of measured energy is presented by means of a display with 5 integers and 3 fractional elements. The way of presentation is described in document no. 12806/0-04. For test purposes an indication with a least significant element of at least 0,001 kWh.
- 1.4.6 Tariff control
When the meter is provided with more than one register, a tariff control is available by means of tariff inputs, whereby the EMC-requirements are fulfilled as described in Annex V of Directive 2014/32/EU.
- 1.4.7 Optical communication
The charger is equipped with 4G/LTE, Wi-Fi, Bluetooth and ethernet port. Via communication no legally relevant data can be altered.



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1.4.8 Client Identification

A (billable) charging process is only initiated if the charger has a valid personal identification. The identification can be transmitted through the following method:

- a. RFID Card Reader: A contactless readable card is processed by the built-in card reader of the charging station.

1.4.9 Output Relay

The charger is equipped with either of the mentioned Relay types: The Panasonic HE-R Series switch which closes the circuit after an authorization enabling the current to flow to the car. See document no. 12806/0-07.

1.5 Conditional characteristics

1.5.1 Maximum current:

smaller than or equal to 32 A, and at least 5 times higher than the reference current.

1.5.2 Minimum current: 0,25A

1.6 Non-essential parts

1.6.1 Pulse output

2 Seals

The charger's electronics are under a transparent plastic cover which conceals access to the electronics. This cover is sealed with two metrological seals. This seal cannot be removed without clear tampering evidence.

An example of the sealing is presented in document no. 12806/0-06.

3 Conditions for conformity assessment according to module D or F

The influence factors for temperature, frequency and voltage, which are necessary to perform the conformity assessment according to module D or F, are presented in Annex 1, belonging to this EU-Type examination certificate.

Based on the WELMEC 11.1, section 2.4.6, the sum of the square values is presented

Influence factors for temperature, frequency and voltage

During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The values depicted in the table below present the root sum square values per load point, determined via the following formula:

$$\delta e(T, U, f) = \sqrt{\delta e^2(T, I, \cos \varphi) + \delta e^2(U, I, \cos \varphi) + \delta e^2(f, I, \cos \varphi)}$$

with:

- $\delta e(T, I, \cos \varphi)$ = the additional percentage error due to the variation of the temperature at a certain load;
- $\delta e(U, I, \cos \varphi)$ = the additional percentage error due to the variation of the voltage at the same load;
- $\delta e(f, I, \cos \varphi)$ = the additional percentage error due to the variation of the frequency at the same load.

[illegible]