

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 Loxone Electronics GmbH
Smart Home 1
4154 Kollerschlag
Austria

Measuring instrument A static **Active Electrical Energy Meter**

Type : Energy Meter 1-Phase Tree (100566)
Manufacturer's mark or name : Loxone
Reference voltage : 230 V
Reference current : 10 A
Destined for the measurement of : electrical energy, in a
- single-phase two-wire network

Accuracy class : A or B

Environment classes : M1 / E2

Temperature range : -40 °C / +70 °C

Further properties are described in the annexes:

- Description T12776 revision 0;
- Documentation folder T12776-1.

Valid until 18 July 2034

Initially issued 18 July 2024

Issuing Authority **NMI Certin B.V., Notified Body number 0122**
18 July 2024

Certification Board

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	12776/0-02	
printed circuit board DH-JS-220112 V1.0	12776/0-13, 12776/0-14	All parts of the printed circuit boards are essential, except the components which are related to parts as described in paragraph 1.4 or 1.6.

1.2 Essential characteristics

- 1.2.1 See EU-type examination certificate T12776 revision 0 and the characteristics mentioned below.
- 1.2.2 Approved meter types : Energy Meter 1-Phase Tree (100566)
 An explanation of all type designations is presented in document no. 12776/0-07.
- 1.2.3 Frequency : 50 Hz
- 1.2.4 Meter constant : 400 imp./kWh
- 1.2.5 Number of registers : 2 registers
- 1.2.6 Error messages : 12776/0-12
- 1.2.7 Registration method : The following registration methods are allowed:
 A specific symbol is stated on the nameplate.
- 1.2.8 Export energy : The meter is capable of measuring energy in 2 directions.
- 1.2.9 Software specification (refer to WELMEC 7.2):
- Software type P;
 - Risk Class C;
 - Extension L, T while extensions O, D and S are not applicable.

Software version	Identification number (checksum)	Remarks
20.01.05	0xCDDA72F8	

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

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. 12776/0-03
- 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 1 screw. See documents no. 12776/0-01, 12776/0-08, 12776/0-09 and 12776/0-10.

1.4.2 Housing

The meter has got a dustproof housing, which has sufficient tensile strength. The cover is made of synthetic material. An example of the housing is presented in document no. 12776/0-01, 12776/0-04 and 12776/0-05.

1.4.3 Terminal cover

The terminal cover is made of synthetic material.

1.4.4 Register

The quantity of measured energy is presented by means of a display with at least 6 elements. The way of presentation is described in document no. 12776/0-11. For test purposes an indication with a least significant element of at least 0,01 kWh, can be arranged via display or the CAN bus output.

1.4.5 CAN bus communication

The meter is provided with CAN bus communication. Via the communication no legally relevant data can be altered.

1.5 Conditional characteristics

1.5.1 Maximum current:

smaller than or equal to 100 A, and at least 5 times higher than the reference current.

Terminal block:

Maximum current	Document no.	Remarks
100 A	12776/0-01, 12776/0-08, 12776/0-09, 12776/0-10	

1.5.2 Minimum current: 0.5 A

2 Seals

The housing and meter cover are sealed.
 An example of the sealing is presented in document no. 12776/0-06.



Description

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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.

Current	Power factor	-40°C [%]	-25°C [%]	-10°C [%]	+5°C [%]	+23°C [%]	+40°C [%]	+55°C [%]	+70°C [%]
I _{min}	1	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,2
I _{tr}	1	0,2	0,2	0,1	0,0	0,2	0,0	0,1	0,2
	0,5 ind. 0,8 cap.	0,2 0,2	0,2 0,2	0,1 0,1	0,0 0,0	0,1 0,2	0,1 0,1	0,1 0,1	0,2 0,2
10 I _{tr}	1	0,2	0,2	0,2	0,1	0,3	0,1	0,1	0,2
	0,5 ind.	0,2	0,2	0,1	0,0	0,2	0,1	0,1	0,2
	0,8 cap.	0,2	0,2	0,2	0,1	0,3	0,1	0,1	0,2
I _{max}	1	0,4	0,4	0,3	0,2	0,3	0,1	0,2	0,4
	0,5 ind.	0,6	0,5	0,3	0,2	0,2	0,1	0,2	0,6
	0,8 cap.	0,7	0,5	0,4	0,2	0,4	0,1	0,3	0,7