EU-type examination certificate

Issued by

NMi Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to conformity modules 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

Itron Indonesia - PT Mecoindo
EJIP Plot 6B-2, Lemah Abang
17550 Bekasi, Jawa Barat
Indonesia

Measuring instrument

A static **Active Electrical Energy Meter**

Type	:	EM512 TYPE 700 JV1
Manufacturer's mark or name	:	Itron
Reference voltage	:	220, 230 or 240 V
Reference current	:	5 A
Destined for the measurement of	:	electrical energy, in a - single-phase two-wire network
Accuracy class	:	B
Environment classes	:	M1 / E2
Temperature range	:	-25 °C / +55 °C

Further properties are described in the annexes:
– Description T10940 revision 0;
– Documentation folder T10940-1.

Valid until

20 February 2027

Issuing Authority

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C. Oosterman
Head 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	10940/0-04	
printed circuit board - A209700 rev AC	10940/0-09, 10940/0-10	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 T10940 revision 0 and the characteristics mentioned below.

1.2.2 Approved meter types : EM512 Type 700 JV1

1.2.3 Frequency : 50 Hz

1.2.4 Meter constant : 1.000 imp./kWh

1.2.5 Number of registers : 1

1.2.6 Error messages : Errors are indicated on the display. See document no. 10940/0-08 for an overview of all error messages.

1.2.7 Export energy : the meter is not capable of measuring energy in 2 directions.

1.2.8 Software specification (refer to WELMEC 7.2):
- Software type P;
- Risk Class C;
- Extension L, D, S and T are not applicable.

Software version	Identification number (checksum)	Remarks
1.1	F6234AD6	The identification (checksum and version) can be presented on the display via a key combination with the user interface (10 for software version and 99 for checksum).

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. 10940/0-02.

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 2 screws. See document no. 10940/0-05.

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 documents no. 10940/0-01 and 10940/0-03.

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. 10940/0-07.
For test purposes an indication with a least significant element of at least 0,01 kWh can be arranged via the user interface.

1.4.5 Optical communication
The meter is provided with optical communication. Via the communication no legally relevant data can be altered.

1.4.6 Breaker
The meter is be equipped with a circuit breaker. See documentation 10940/0-04.

1.5   Conditional characteristics

1.5.1   Maximum current:
smaller than or equal to 80 A, and at least 5 times higher than the reference current.

1.5.2   Minimum current: 0,25 A (0,5 x I_{tr})

2   Seals

Both screws of the meter cover are sealed.
An example of the sealing is presented in document no. 10940/0-06.

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 2.5.6, 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	-25°C [%]	-10°C [%]	+5°C [%]	+23°C [%]	+40°C [%]	+55°C [%]
Imin	1	0,7	0,4	0,2	0,1	0,2	0,3
Itr	1	0,7	0,4	0,2	0,0	0,2	0,2
	0,5 ind.	0,7	0,4	0,2	0,1	0,2	0,3
	0,8 cap.	0,7	0,5	0,2	0,0	0,2	0,3
10 ltr	1	0,8	0,5	0,2	0,0	0,2	0,3
	0,5 ind.	0,8	0,5	0,2	0,0	0,2	0,3
	0,8 cap.	0,9	0,5	0,2	0,0	0,2	0,3
Imax	1	0,7	0,4	0,2	0,1	0,2	0,2
	0,5 ind.	0,7	0,7	0,3	0,3	0,3	0,3
	0,8 cap.	0,6	0,4	0,2	0,1	0,1	0,2

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