

EU-TYPE EXAMINATION CERTIFICATE

Inhemeter Co., Ltd.

8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District,
518054 Shenzhen
China

EU-Type Examination

Certificate No.

1459-20

Revision 1



Type i100
Object Electronic single-phase two-wire energy meter.
Direct connected

The object has been assessed and meets the requirements of

EU Directive 2014/32/EU
Module B

The energy meter(s) meet(s) the essential requirements of Annex V of EU Directive 2014/32/EU, on the harmonization of the laws of Member States relating to the making available on the market of measuring instruments (recast).

This Certification is based on the report(s) listed in the report list in this Certificate.

This Certificate is valid until: February 14, 2035.

This Certificate comprises 8 pages in total.

Issued by KEMA B.V.
Klingelbeekseweg 195,
Arnhem, The Netherlands
Notified Body 2290

Alessandro Bertani
Director,
Services & Smart Technologies

Arnhem, February 14, 2025



REVISION OVERVIEW

The edition with the highest revision number always replaces the earlier issued editions.

Rev. No.	Date of issue	Reason
0	November 5, 2020	First issue
1	February 14, 2025	<ul style="list-style-type: none">• Report 1761-24 added• Firmware version added

REPORT LIST

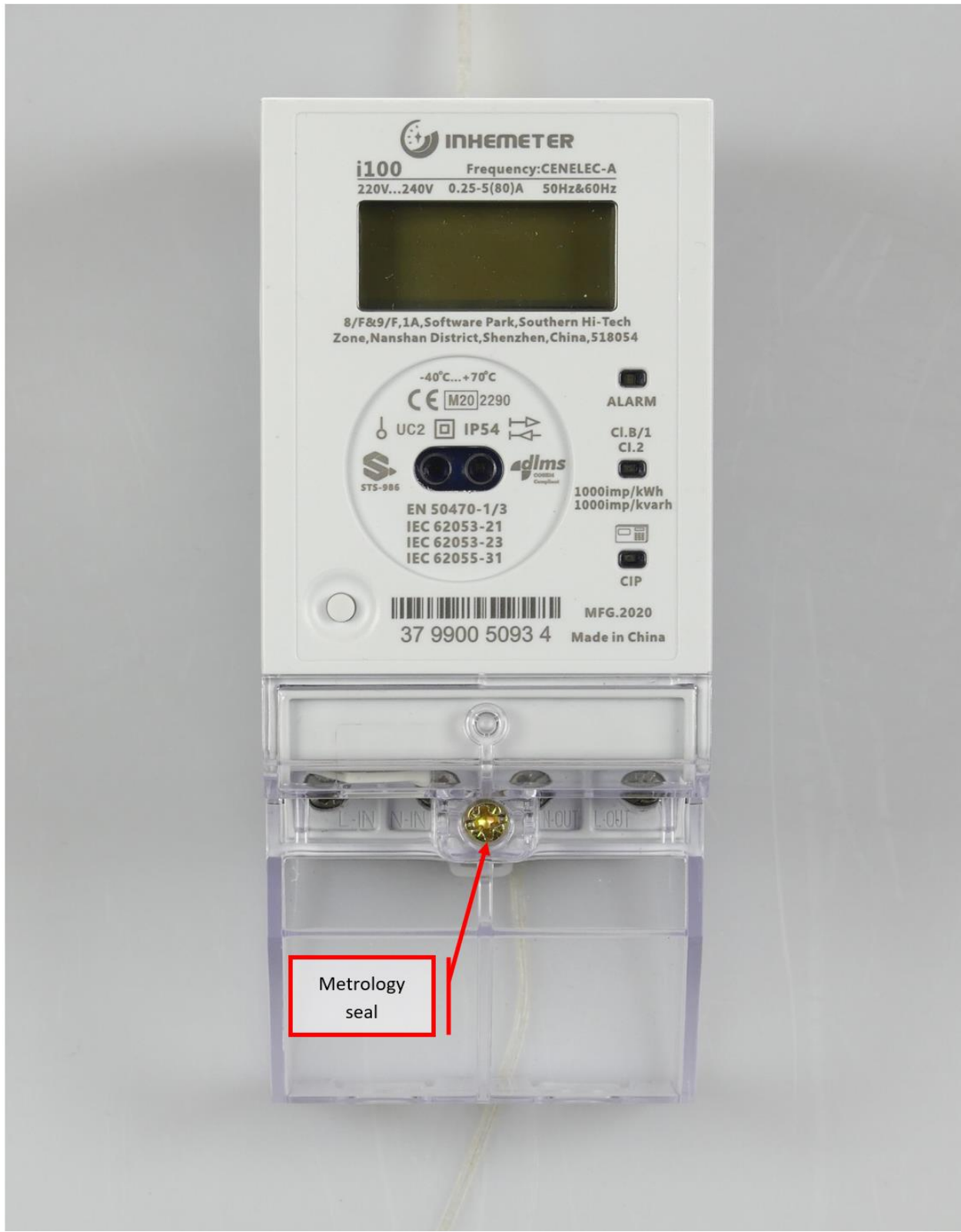
This Certificate is issued based on the following reports.

Report number	Revision	Firmware version
1458-20	R0	DKF3-0A-19123001 and HT2X-0A-19122101
1761-24	R0	DKF3-0A-24062401 and HT2X-0A-19122101

1 TECHNICAL DATA

Manufacturer	Inhemeter Co., Ltd. 8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District, 518054 Shenzhen, China	
Production location	Inhemeter Co., Ltd. 8/F & 9/F, 1A, Software Park, Southern Hi-Tech Zone, Nanshan District, 518054 Shenzhen, China	
Type	i100	
Connection	Direct	
Type of circuit	1P2W two-element	
Accuracy class Wh	1/B	
Accuracy class varh	2	
Meter constant	1000 imp/kWh 1000 imp/kvarh	
V range	220 – 240 V	
I range I_{min} - I_n (I_{max})	0,25 – 5(80) A	
Frequency	50 and 60 Hz	
Temperature range	-40 °C to 70 °C	
Use	Indoor	
IP rating	IP54	
Protection Class	II	
Impulse voltage	6 kV	
Internal clock	Crystal controlled	
Environmental class	M1, M2, E1 and E2, CISPR32 class B	
LR Firmware ID	Main control program: DKF3-0A-19123001 Metering program: HT2X-0A-19122101	Main control program: DKF3-0A-24062401 Metering program: HT2X-0A-19122101
LR Firmware CRC	Main control program: 6017001B Metering program: 33353131	Main control program: 780A9D18 Metering program: 33353131
Register	LCD	
Registry method(s):	bi-directional method with separate registers: received- and delivered energy is added in separate registers.	

2 PHOTOGRAPHS AND SEALING



3 EXAMPLES OF NAME PLATES



4 CALCULATION OF THE COMPOSITE ERROR / MPE

During the type approval test the intrinsic errors for temperature, voltage and frequency variation are determined per load point. The composite error is determined with the following formula:

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

Where

$\varepsilon^2(I, \cos\varphi)$ = Intrinsic error of the meter at a certain load

$\delta^2(T, I, \cos\varphi)$ = Additional error due to the variation of the temperature at the same load

$\delta^2(U, I, \cos\varphi)$ = Additional error due to the variation of the voltage at the same load

$\delta^2(f, I, \cos\varphi)$ = Additional error due to the variation of the frequency at the same load

Results are in the table below:

I in % of Iref	cos φ	Composite error %								
		°C	-40	-25	-10	5	30	40	55	70
5	1		0,83%	0,65%	0,45%	0,27%	0,14%	0,28%	0,49%	0,75%
10	1		0,83%	0,65%	0,45%	0,27%	0,15%	0,26%	0,49%	0,74%
10	0,5 ind.		0,83%	0,65%	0,44%	0,26%	0,14%	0,27%	0,49%	0,75%
10	0,8 cap.		0,83%	0,64%	0,45%	0,26%	0,16%	0,28%	0,51%	0,76%
I _{max}	1		0,50%	0,42%	0,31%	0,19%	0,09%	0,21%	0,39%	0,62%
I _{max}	0,5 ind.		0,42%	0,36%	0,27%	0,17%	0,09%	0,18%	0,37%	0,59%
I _{max}	0,8 cap.		0,42%	0,37%	0,27%	0,17%	0,08%	0,18%	0,37%	0,58%

5 OPTIONS AND VARIANTS

Overview of variants with details

Type designation	Details of the meter
i100	<ul style="list-style-type: none">• Communication options: optical port RS485 GPRS G3-PLC• neutral Measurement

END OF DOCUMENT

The laboratories of KEMA Labs are:

- CESI S.p.A., Milan, Italy, accredited by ACCREDIA in accordance with ISO/IEC 17025:2017 under no. 0030L.
- FGH Engineering & Test GmbH, Mannheim, Germany, accredited by DAkKS in accordance with DIN EN ISO/IEC 17025:2018 under no. D-PL-12110-01-00.
- IPH Institut "Prüffeld für elektrische Hochleistungstechnik" GmbH, Berlin, Germany accredited by DAkKS in accordance with DIN EN ISO/IEC 17025:2018 under nos. D-PL-12107-01-00 and D-K-12107-01-00.
- KEMA B.V., Arnhem, The Netherlands, accredited by RvA in accordance with EN ISO/IEC 17025:2017 under nos. L020, L218 and K006 and with EN ISO/IEC 17065:2012 under no. C685.
- KEMA Labs, Zkušebnictví, a.s., Prague, the Czech Republic, testing laboratory no. 1035 accredited by CAI in accordance with ČSN EN ISO/IEC 17025:2018.
- KEMA-Powertest, LLC, Chalfont, United States, accredited by A2LA in accordance with ISO/IEC 17025:2017 under no. 0553.01.

Tests are carried out under the scope of accreditation, unless otherwise indicated in the chapter 'Tests carried out'.