KEMA Labs

EU-TYPE EXAMINATION CERTIFICATE

Wasion Group Limited
No.468 Tongzipo West Road, Wasion Science Park,
410205 Changsha,
China

EU-Type Examination Certificate No.
1377-20
Revision 2

Type aMeter100

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: March 5, 2035.

This Certificate comprises 11 pages in total.

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

Marten Dekker
Operations Director Netherlands

Arnhem, March 5, 2025

REVISION OVERVIEW

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

Rev. No.	Date of issue	Reason
0	January 21, 2021	First issue
1	January 21, 2021	Typo corrected
2	March 5, 2025	Report 103346901-25 added, upgrade to outdoor

REPORT LIST

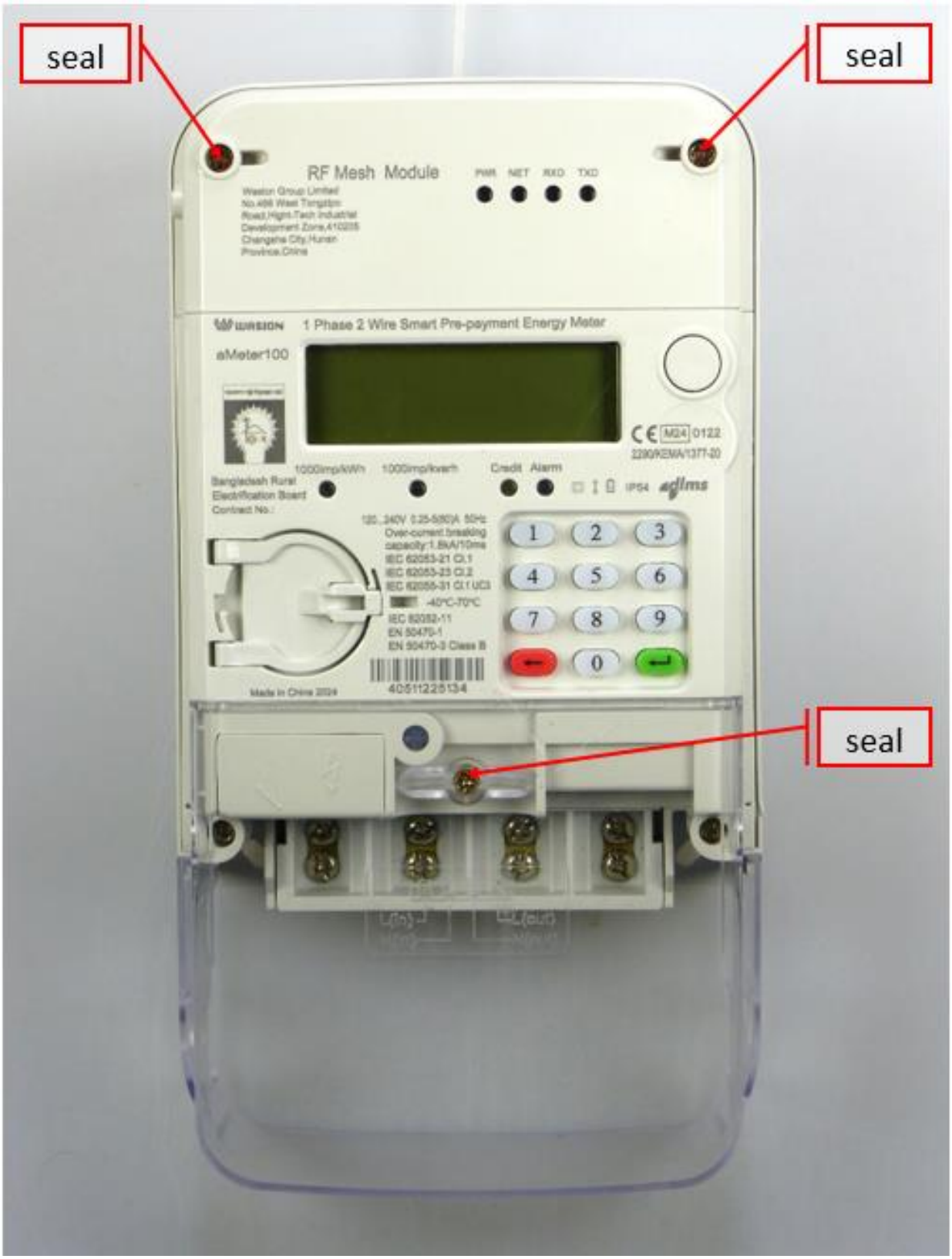
This Certificate is issued based on the following reports.

Report number	Revision	Firmware version
1592-20	R0	aM100-N-A0500202
103346901-25	R0	aM100-N-A0500202

1 TECHNICAL DATA

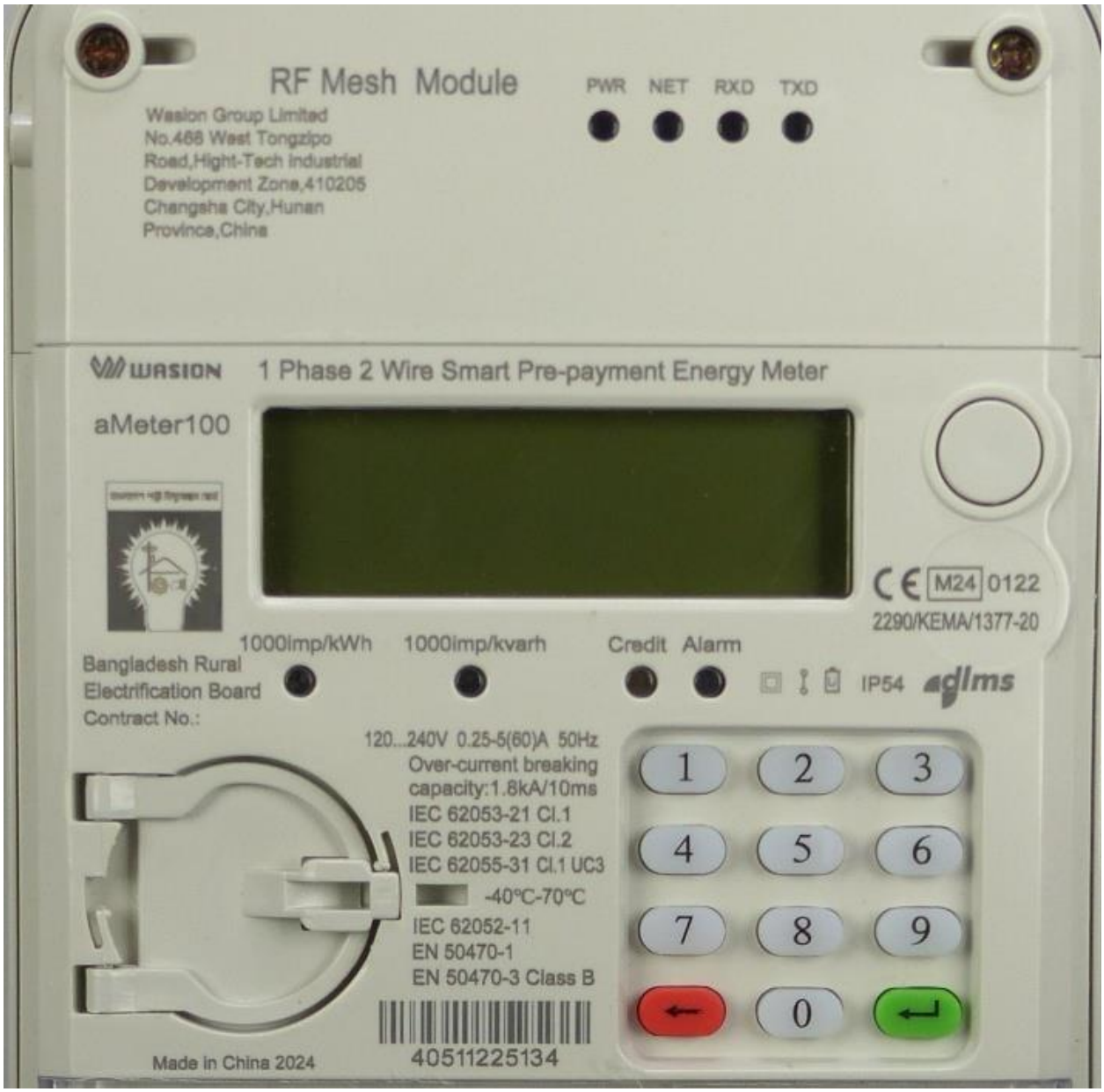
Manufacturer	Wasion Group Limited, No.468 Tongzipo West Road, Wasion Science Park, 410205 Changsha, China
Production location	Wasion Group Limited, No.468 Tongzipo West Road, Wasion Science Park, 410205 Changsha, China
Type	aMeter100
Connection	Direct
Type of circuit	1P2W
Accuracy class Wh	1/B
Accuracy class varh	2
Meter constant	1000 imp/kWh 1000 imp/kvarh
V range	120 - 240 V
I range I_{min}-I_n(I_{max})	0,25..5(60) A and 0,25..5(80) A
Frequency	50 and 60 Hz
Temperature range	-40 .. 70 °C
Use	Outdoor
IP rating	IP54
Protection Class	II
Impulse voltage	6 kV
Internal clock	Crystal controlled
Environmental class	M1, M2, E1 and E2, CISPR32 class B
Utilisation category	UC3
Token interface	Keypad interface / Virtual token carrier interface
Payment type:	kWh
LR Firmware ID	aM100-N-A0500202
LR Firmware CRC	8AA6AA41
Register	LCD
Registry method(s):	Programmable, Bi-directional method separate registers: received- and delivered energy of the whole connection is added in separate registers. At received and delivered energy the amount of energy is deducted from the remain energy

2 PHOTOGRAPHS AND SEALING

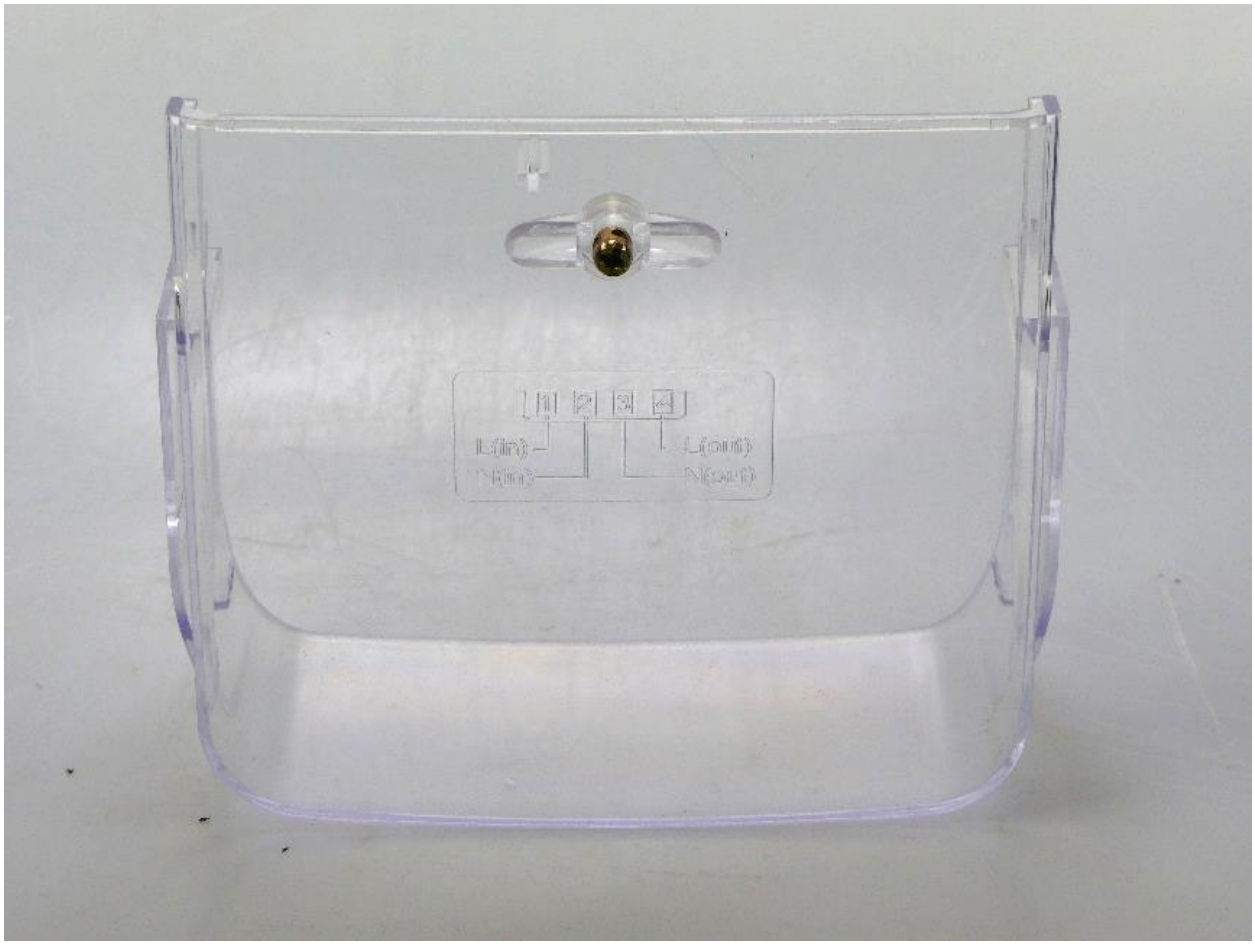



WASION
1 Phase 2 Wire Smart Pre-payment Energy Meter
aMeter100
1000imp/kWh
1000imp/kvarh
Credit
Alarm
IP54
Bangladesh Rural Electrification Board
Contract No.:
120...240V 0.25-5(60)A 50Hz
Over-current breaking capacity:1.8kA/10ms
IEC 62053-21 Cl.1
IEC 62053-23 Cl.2
IEC 62055-31 Cl.1 UC3
-40°C-70°C
IEC 62052-11
EN 50470-1
EN 50470-3 Class B
Made in China 2024
40511225134
Metrology seal
Metrology seal

3 EXAMPLES OF NAME PLATES




Wasion Group Limited
No.468 West Tongzipo
Road,High-Tech Industrial
Development Zone,410205,
Changsha City,Hunan
Province,China
Reserved For Importer Address
WASION
Single-phase 2-wire Smart Energy Meter
aMeter100
Display
Billing
1000imp/kWh
1000imp/kvarh
Credit Alarm
120...240V, 50Hz / 60Hz, 0.25-5(80)A
EN 50470-1
EN 50470-3 Class B
IEC 62052-11
IEC 62053-21 Cl.1
IEC 62053-23 Cl.2
IEC 62055-31 Cl.1 UC3
IEC 62055-41
M20 0122
2290/KEMA/1377-20
dlms
STS ASSOCIATION
IP54 -40℃ to 70℃
Made in china 2020
2010 1214 2001


1
2
3
4
L(in)
N(in)
L(out)
N(out)


2
3
4
L (In)
N (In)
N (Out)

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 I_{ref}	cos φ		Composite error %							
		ºC	-40	-25	-10	5	30	40	55	70
5	1		0,43%	0,38%	0,30%	0,24%	0,21%	0,23%	0,27%	0,34%
10	1		0,37%	0,31%	0,22%	0,15%	0,11%	0,14%	0,22%	0,31%
10	0,5 ind.		0,47%	0,40%	0,33%	0,27%	0,25%	0,27%	0,31%	0,37%
10	0,8 cap.		0,37%	0,31%	0,23%	0,15%	0,12%	0,16%	0,23%	0,32%
Imax	1		0,59%	0,46%	0,32%	0,19%	0,14%	0,20%	0,29%	0,41%
Imax	0,5 ind.		0,68%	0,51%	0,35%	0,20%	0,12%	0,19%	0,29%	0,40%
Imax	0,8 cap.		0,62%	0,48%	0,33%	0,19%	0,15%	0,21%	0,32%	0,44%

5 OPTIONS AND VARIANTS

Overview of variants with details

Type designation	Details of the meter
aMeter100	• Communication options: optical port G3-PLC RS485 • Supply control switch • BS and DIN terminal connection • Pre-payment • keypad

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'.