EU-TYPE EXAMINATION CERTIFICATE

Ningbo Sanxing Smart Electric Co. Ltd.
No.16 Fengwan Road, Cicheng Town, Jiangbei District,
Ningbo City, Zhejiang Province, 315034
China

EU-Type Examination
Certificate No.
1564-22
Revision 1

Type S34U18 CT

Object Electronic three-phase four-wire energy meter.
Transformer 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: December 29, 2033.

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, December 29, 2023

REVISION OVERVIEW

The highest revision always replaces the earlier issued versions.

Rev. No.	Date of issue	Reason
0	March 19, 2022	First issue
1	December 29, 2023	Report 1696-23 added

REPORT LIST

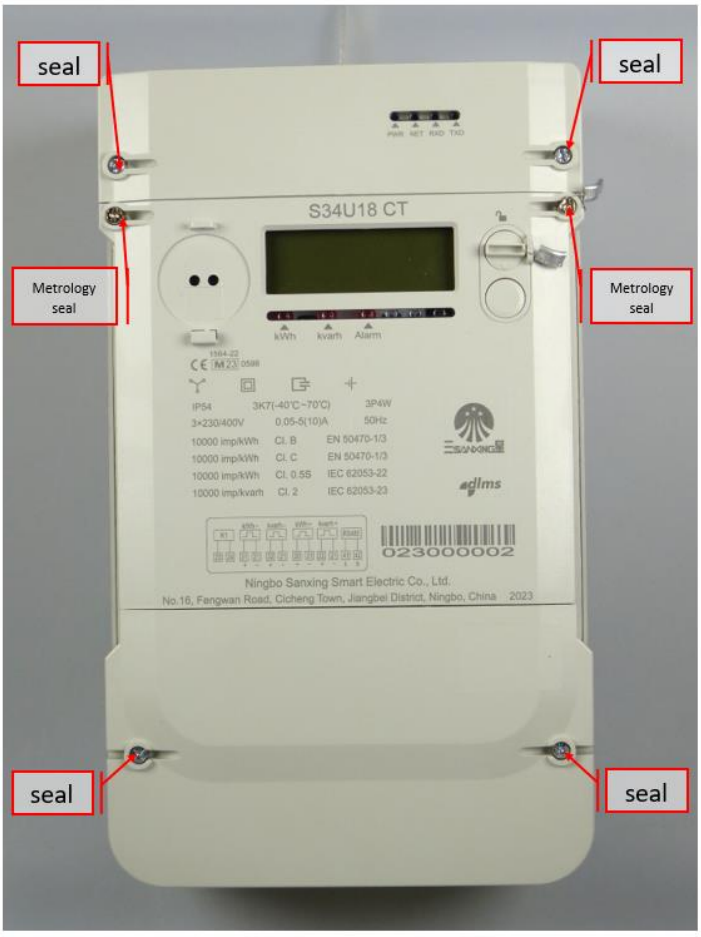
This Certificate is issued based on the following reports.

Report number	Revision
1563-22	R0
1696-23	R0

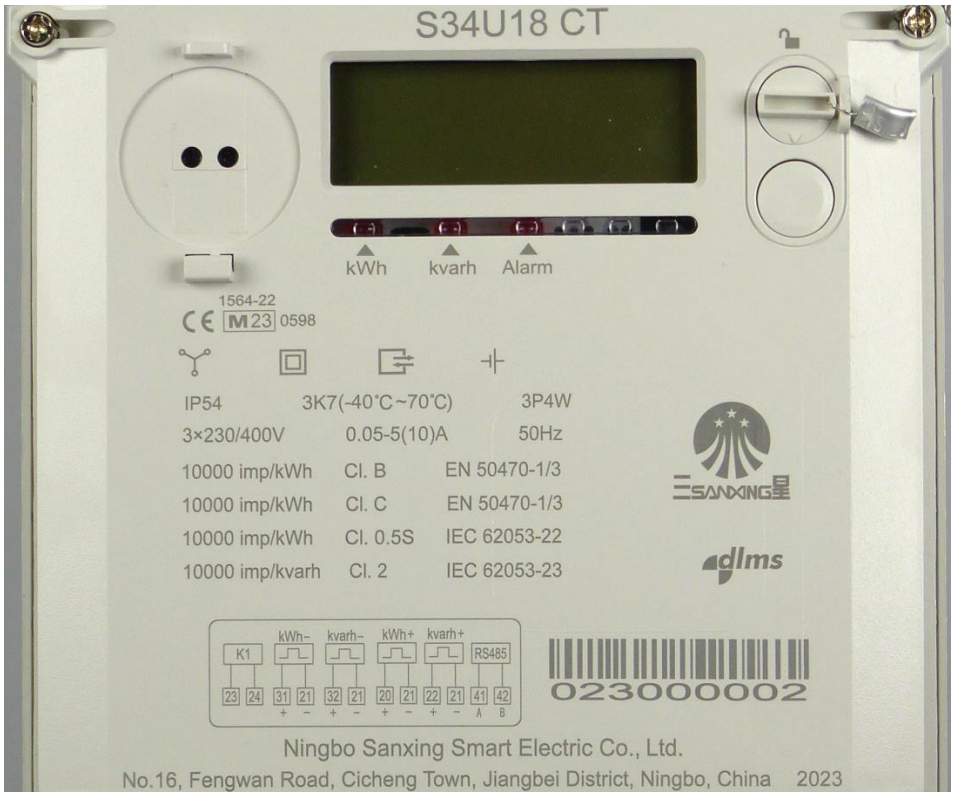
1 TECHNICAL DATA

Manufacturer	Ningbo Sanxing Smart Electric Co. Ltd., No.16 Fengwan Road, Cicheng Town, Jiangbei District, Ningbo City, Zhejiang Province, 315034 China		
Production location	Ningbo Sanxing Smart Electric Co. Ltd., No.16 Fengwan Road, Cicheng Town, Jiangbei District, Ningbo City, Zhejiang Province, 315034 China		
Type	S34U18 CT		
Connection	Transformer		
Type of circuit	3P4W		
Accuracy class Wh	0,5S/B/C		
Accuracy class varh	2		
Meter constant	10000 imp/kWh 10000 imp/kvarh		
V range	3x230/400 V		
I range I_{min}-I_n(I_{max})	0,05–5(10) A		
Frequency	50 Hz		
Temperature range	-40 °C .. 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	V0.00.03		
LR Firmware CRC	FB46		
Register	LCD		
Registry method(s):	Bi-directional method separate registers: received- and delivered energy of the whole connection 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 I_{ref}	cos φ	Phase	Composite error %							
			-40 ºC	-25 ºC	-10 ºC	5 ºC	30 ºC	40 ºC	55 ºC	70 ºC
1	1	RST	0,41%	0,25%	0,11%	0,04%	0,02%	0,02%	0,02%	0,07%
5	1	RST	0,42%	0,26%	0,12%	0,04%	0,01%	0,01%	0,02%	0,08%
5	0,5 ind.	RST	0,48%	0,32%	0,18%	0,12%	0,10%	0,10%	0,11%	0,16%
5	0,8 cap.	RST	0,40%	0,25%	0,13%	0,08%	0,06%	0,06%	0,06%	0,09%
5	1	R	0,40%	0,24%	0,12%	0,04%	0,01%	0,01%	0,04%	0,10%
5	0,5 ind.	R	0,47%	0,31%	0,19%	0,14%	0,13%	0,13%	0,14%	0,17%
5	1	S	0,45%	0,28%	0,13%	0,05%	0,01%	0,01%	0,02%	0,07%
5	0,5 ind.	S	0,49%	0,33%	0,18%	0,10%	0,08%	0,08%	0,10%	0,19%
5	1	T	0,42%	0,25%	0,12%	0,04%	0,02%	0,02%	0,02%	0,07%
5	0,5 ind.	T	0,49%	0,15%	0,16%	0,10%	0,09%	0,09%	0,10%	0,15%
100	1	RST	0,41%	0,25%	0,11%	0,04%	0,03%	0,03%	0,04%	0,09%
100	0,5 ind.	RST	0,42%	0,25%	0,11%	0,03%	0,01%	0,01%	0,04%	0,11%
100	0,8 cap.	RST	0,40%	0,24%	0,12%	0,05%	0,04%	0,04%	0,05%	0,08%
I_{max}	1	RST	0,41%	0,25%	0,12%	0,05%	0,03%	0,03%	0,04%	0,09%
I_{max}	0,5 ind.	RST	0,40%	0,24%	0,14%	0,09%	0,08%	0,08%	0,10%	0,14%
I_{max}	0,8 cap.	RST	0,41%	0,25%	0,12%	0,04%	0,02%	0,01%	0,02%	0,08%
I_{max}	1	R	0,38%	0,22%	0,11%	0,05%	0,04%	0,04%	0,06%	0,12%
I_{max}	0,5 ind.	R	0,37%	0,24%	0,17%	0,14%	0,14%	0,14%	0,15%	0,19%
I_{max}	1	S	0,42%	0,26%	0,12%	0,01%	0,02%	0,02%	0,02%	0,06%
I_{max}	0,5 ind.	S	0,41%	0,25%	0,13%	0,06%	0,04%	0,04%	0,05%	0,11%
I_{max}	1	T	0,40%	0,25%	0,12%	0,06%	0,05%	0,05%	0,06%	0,09%
I_{max}	0,5 ind.	T	0,41%	0,26%	0,15%	0,11%	0,10%	0,10%	0,11%	0,14%

5 OPTIONS AND VARIANTS

Overview of variants with details

Type designation	Details of the meter
S34U18 CT	- Communication options: optical port RS485 4G - Pulse output 4x - external relay

END OF DOCUMENT

The laboratories of KEMA Labs are:

- CESI S.p.A., Milan, Italy.
- FGH Engineering & Test GmbH, Mannheim, Germany.
- IPH Institut “Prüffeld für elektrische Hochleistungstechnik” GmbH, Berlin, Germany.
- KEMA B.V., Arnhem, The Netherlands.
- KEMA Labs, Zkušebnictví, a.s., Prague, the Czech Republic.
- KEMA-Powertest, LLC, Chalfont, United States.