

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.

1158-20

Revision 13



Type S34U18
Object Electronic three-phase four-wire energy meter.
Direct connected

The object has been assessed and meets the requirements of

EU Directive 2014/32/EU,
Module B

a CESI brand

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 14, 2034.

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, March 14, 2024



REVISION OVERVIEW

The highest revision always replaces the earlier issued versions.

Rev. No.	Date of issue	Reason
0 (V1)	24 April 2020	First issue
1 (V2)	4 September 2020	Report revised
2 (V3)	4 September 2020	Report revised
3 (V4)	24 September 2020	Report revised
4 (V5)	13 October 2020	Report revised
5 (V6)	4 August 2021	Report revised
6 (V7)	4 August 2021	Report revised
7 (V8)	16 November 2021	Report revised
8 (V9)	-	Skipped due changing from Version to Revision
9	20 May 2022	Report revised
10	31 May 2022	Report revised
11	30 May 2022	Report revised (date of issue earlier than R10 due to archiving issues)
12	2 June 2023	Report revised
13	March 14, 2024	Report 1553-24 added

REPORT LIST

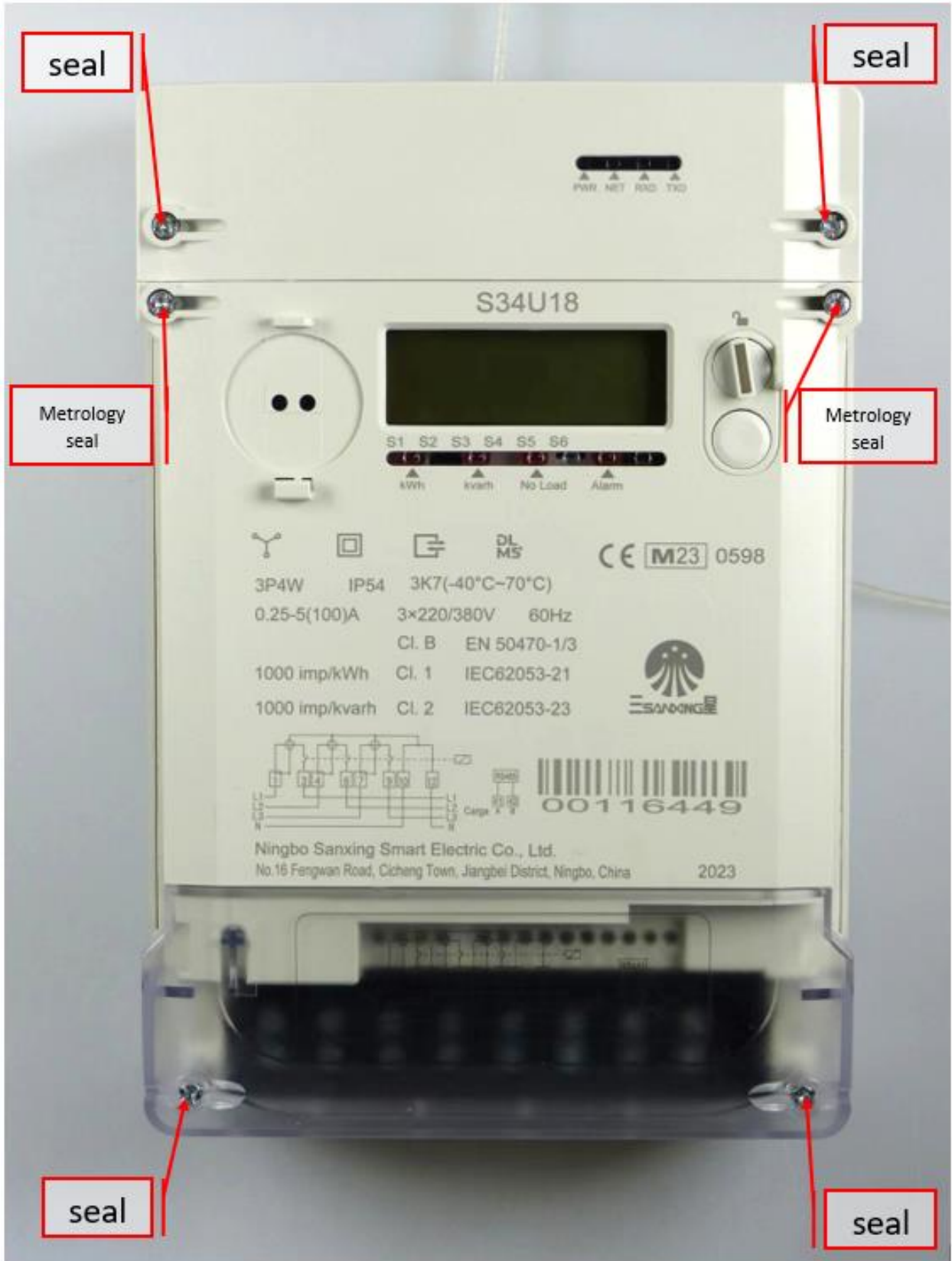
This Certificate is issued based on the following reports.

Report number	revision	Firmware version
1545-23	R0	V0.00.05
1553-24	R0	V1.00.01

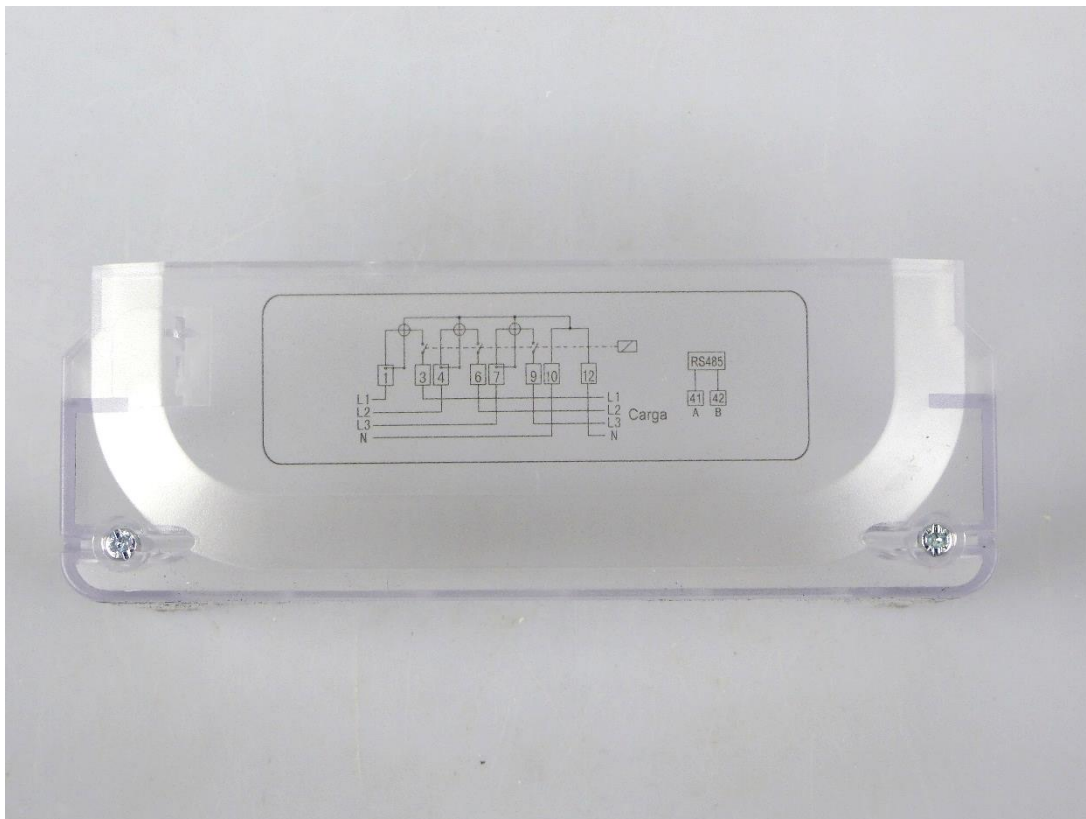
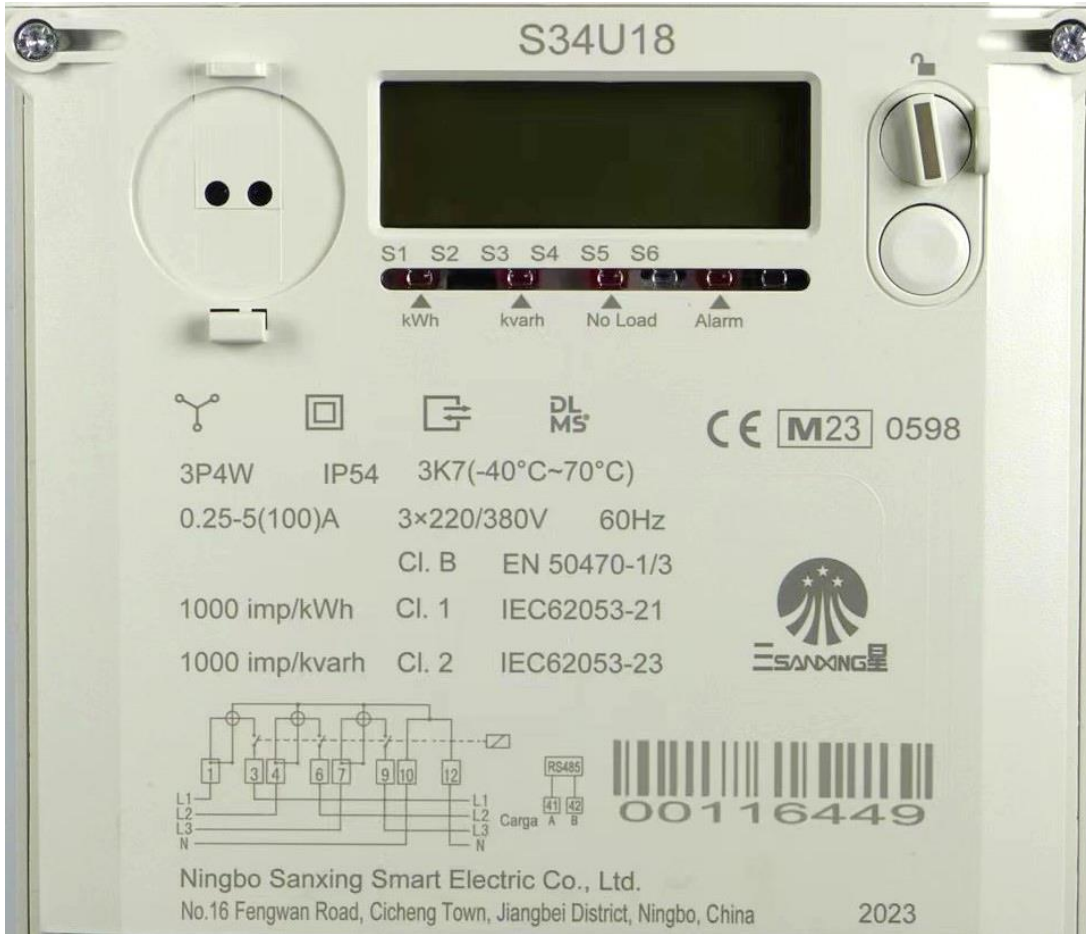
1 TECHNICAL DATA

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		
Model	P34S02, SX5A2-SELS-04 and SX631		
Connection	Direct		
Type of circuit	3P4W		
Accuracy class Wh	1/B		
Accuracy class varh	2		
Meter constant	1000 imp/kWh 1000 imp/kvarh		
V range	220/380, 230/400 and 240/415 V		
I range I_{min} - I_n (I_{max})	0,25-5(100), 0,25- 5(60), 0,5-10(60) and 0,5-10(100) A		
Frequency	50 and 60 Hz		
Temperature range	-40 .. 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	V1.00.01	V0.00.05	
LR Firmware CRC	4368	ECD3	
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 °C	-25 °C	-10 °C	5 °C	30 °C	40 °C	55 °C	70 °C
5	1	RST	0,23%	0,13%	0,08%	0,04%	0,04%	0,04%	0,10%	0,18%
10	1	RST	0,26%	0,16%	0,09%	0,04%	0,04%	0,06%	0,10%	0,18%
10	0,5 ind	RST	0,26%	0,15%	0,07%	0,02%	0,02%	0,05%	0,13%	0,20%
10	0,8 cap	RST	0,26%	0,16%	0,08%	0,06%	0,05%	0,06%	0,09%	0,17%
10	1	R	0,30%	0,18%	0,09%	0,04%	0,04%	0,04%	0,08%	0,14%
10	0,5 ind	R	0,32%	0,20%	0,09%	0,03%	0,02%	0,03%	0,06%	0,14%
10	1	S	0,26%	0,16%	0,08%	0,06%	0,06%	0,06%	0,10%	0,18%
10	0,5 ind	S	0,26%	0,16%	0,07%	0,04%	0,03%	0,06%	0,14%	0,24%
10	1	T	0,21%	0,10%	0,03%	0,02%	0,03%	0,04%	0,11%	0,20%
10	0,5 ind	T	0,21%	0,13%	0,06%	0,05%	0,05%	0,08%	0,19%	0,22%
I _{max}	1	RST	0,28%	0,19%	0,13%	0,11%	0,11%	0,12%	0,14%	0,21%
I _{max}	0,5 ind	RST	0,41%	0,36%	0,34%	0,33%	0,33%	0,34%	0,36%	0,40%
I _{max}	0,8 cap	RST	0,28%	0,18%	0,10%	0,07%	0,07%	0,08%	0,12%	0,18%
I _{max}	1	R	0,34%	0,24%	0,18%	0,15%	0,15%	0,15%	0,18%	0,22%
I _{max}	0,5 ind	R	0,56%	0,50%	0,47%	0,46%	0,46%	0,46%	0,47%	0,49%
I _{max}	1	S	0,29%	0,19%	0,14%	0,12%	0,12%	0,13%	0,16%	0,21%
I _{max}	0,5 ind	S	0,38%	0,31%	0,29%	0,28%	0,28%	0,29%	0,31%	0,38%
I _{max}	1	T	0,21%	0,13%	0,09%	0,09%	0,09%	0,10%	0,16%	0,25%
I _{max}	0,5 ind	T	0,32%	0,29%	0,28%	0,28%	0,28%	0,29%	0,33%	0,40%

5 OPTIONS AND VARIANTS

Overview of variants with details

Type designation	Details of the meter
P34S02, S34U18, SX631 or SX5A2-SELS-04	<ul style="list-style-type: none">• Communication options:<ul style="list-style-type: none">optical portRS485NB-IoTWiFi 2G-4GEthernet• Pulse output (active energy)• external relay• Mbus

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.
- 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'.