KEMA Labs

EU-TYPE EXAMINATION CERTIFICATE

Foxytech Sp.z.o.o.
ul.wokulskiego 11 58-100 Swidnica
Poland

EU-Type Examination
Certificate No.
1693-22
Revision 5

Type S12U26

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 12, 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 12, 2024

REVISION OVERVIEW

The highest revision always replaces the earlier issued versions.

Rev. No.	Date of issue	Reason
0	November 1, 2022	First issue
1	November 3, 2022	Typo corrected
2	November 14, 2023	New variant of the meter added
3	December 28, 2023	• Report 1657-23 replaced by 1691-23 • Manufacturer statement removed
4	January 22, 2024	• Registration method corrected • Report 1691-23 revision upgraded
5	March 12, 2024	• Current range added • Reports 1531-24 and 1532-24 added

REPORT LIST

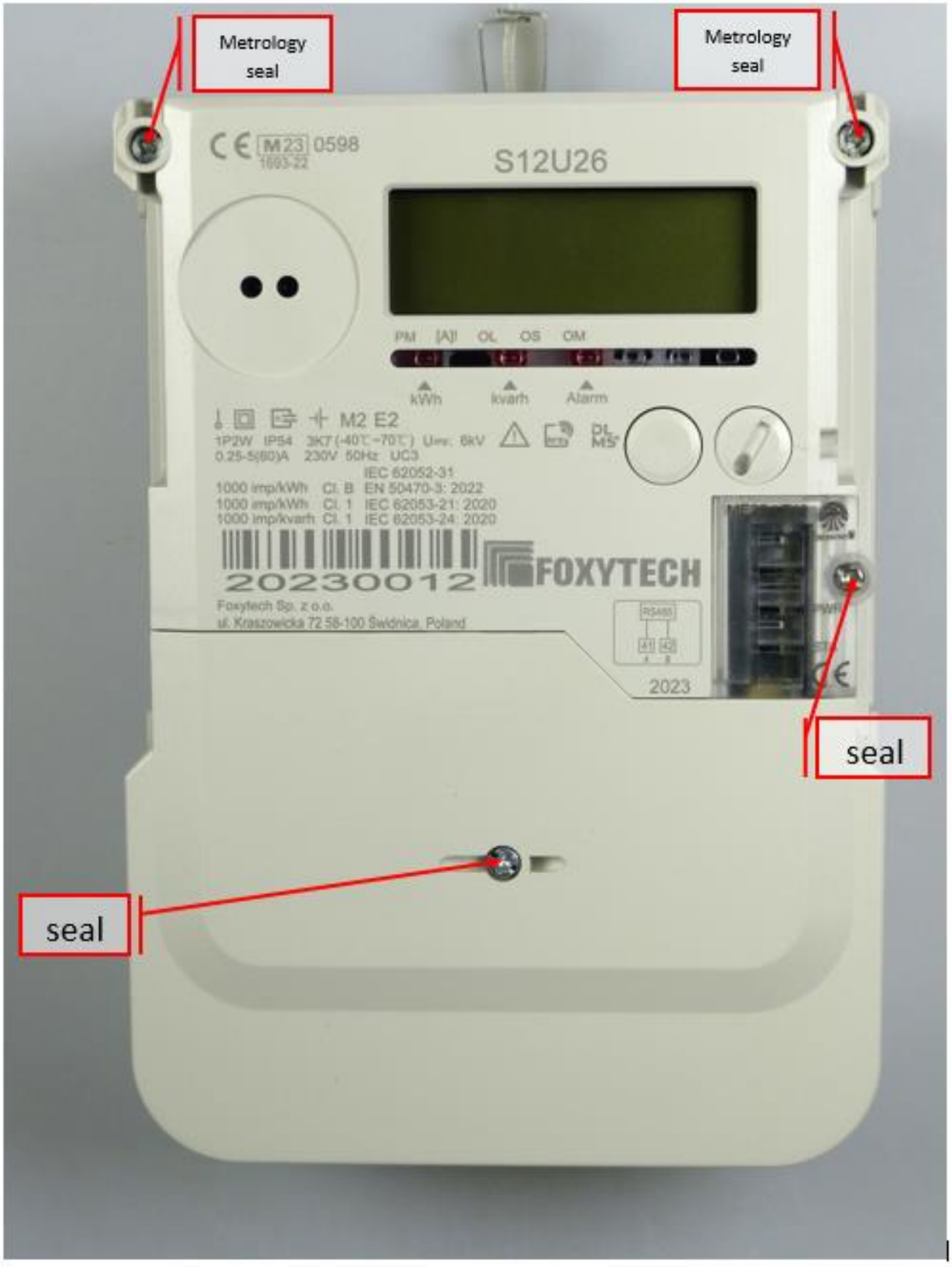
This Certificate is issued based on the following reports.

Report number	Revision
1692-22	1
1694-22	1
1691-23	1
1531-24	0
1532-24	0

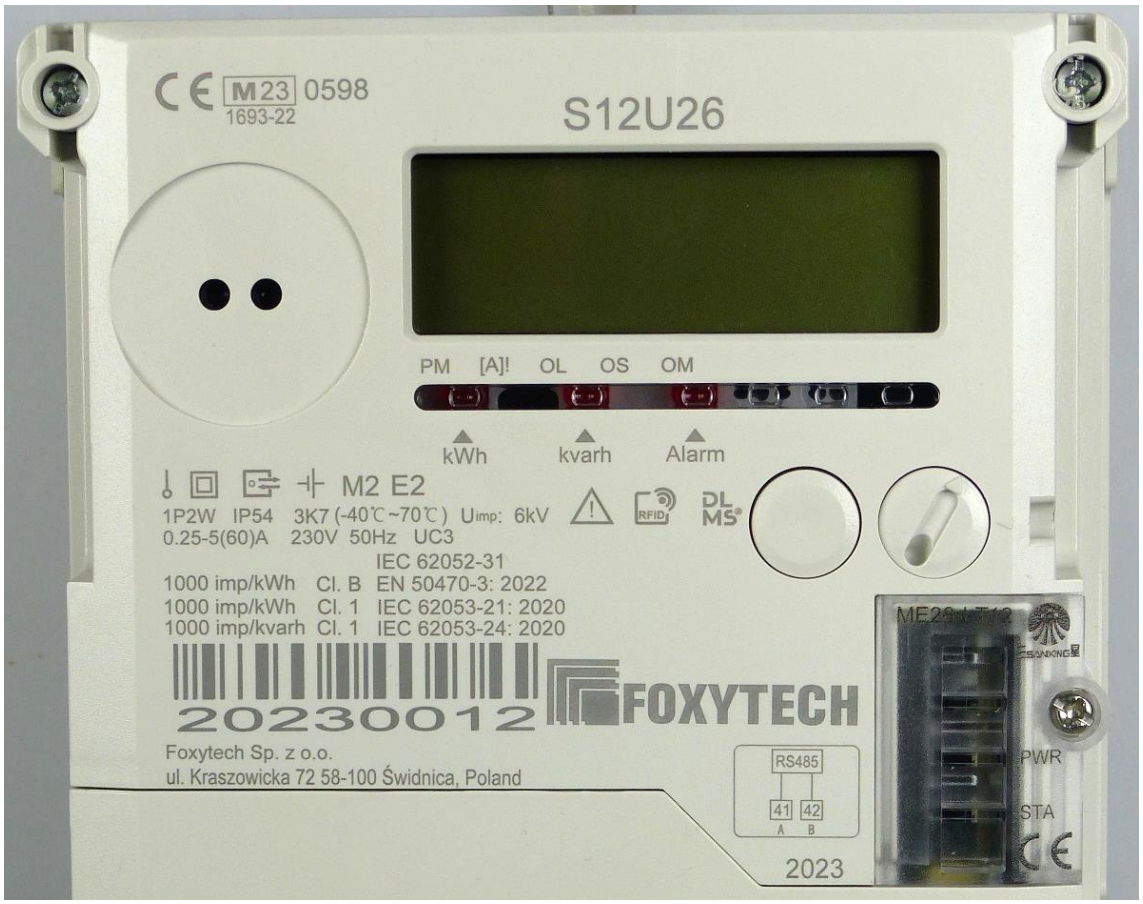
1 TECHNICAL DATA

Manufacturer	Foxytech Sp.z.o.o. ul.wokulskiego 11 58-100 Swidnica, Poland		
Production location	Foxytech Sp.z.o.o. ul.Kraszowicka 72 58-100 Swidnica, Poland		
Type	S12U26		
Connection	Direct		
Type of circuit	1P2W		
Accuracy class Wh	1/B		
Accuracy class varh	1 and 2		
Meter constant	1000 imp/kWh 1000 imp/kvarh		
V range	230 V		
I range I_{min}-I_n(I_{max})	0,25-5(60) A and 0,25-5(40) A		
Frequency	50 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		
Utilisation category	UC3		
LR Firmware ID	V0.02.10		
LR Firmware CRC	E64F		
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:

		Additional % error due to temperature variation							
Current	**cosφ**	**-40°C**	**-25°C**	**-10°C**	**5°C**	**30°C**	**40°C**	**55°C**	**70°C**
Imin	**1**	- 0,74%	- 0,47%	- 0,22%	- 0,07%	0,05%	0,05%	- 0,08%	- 0,26%
Itr	**1**	- 0,75%	- 0,49%	- 0,25%	- 0,12%	0,01%	0,01%	- 0,09%	- 0,29%
Itr	**0,5i**	- 0,78%	- 0,50%	- 0,25%	- 0,09%	0,01%	- 0,01%	- 0,19%	- 0,39%
Itr	**0,8c**	- 0,77%	- 0,48%	- 0,27%	- 0,10%	0,00%	0,01%	- 0,09%	- 0,25%
In	**1**	- 0,73%	- 0,45%	- 0,23%	- 0,09%	0,01%	0,00%	- 0,10%	- 0,28%
In	**0,5i**	- 0,73%	- 0,45%	- 0,24%	- 0,10%	0,01%	- 0,03%	- 0,18%	- 0,40%
In	**0,8c**	- 0,73%	- 0,45%	- 0,23%	- 0,09%	0,00%	0,00%	- 0,08%	- 0,24%
Imax	**1**	- 0,58%	- 0,35%	- 0,17%	- 0,06%	- 0,01%	- 0,02%	- 0,14%	- 0,34%
Imax	**0,5i**	- 0,51%	- 0,31%	- 0,14%	- 0,06%	- 0,01%	- 0,07%	- 0,25%	- 0,49%
Imax	**0,8c**	- 0,48%	- 0,28%	- 0,12%	- 0,03%	0,00%	- 0,03%	- 0,14%	- 0,33%
Requirements									
Any	**1**	3,10%	2,40%	1,60%	0,90%	0,90%	1,60%	2,40%	3,10%
Any	**0,5/0,8**	4,40%	3,40%	2,30%	1,30%	1,30%	2,30%	3,40%	4,40%

5 OPTIONS AND VARIANTS

Overview of options and variants with details

Type designation	Details of the meter
S12U26	• Communication options: optical port RS485 PLC • Supply control switch

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.