



EU Type Examination Certificate Number: **0120/SGS0334**

SIMET Spółka Akcyjna

Al. Jana Pawła II 33
58-506 Jelenia Góra
Poland

Instrument Identification:
LS-1 Series

Single Phase, Active Import (kWh) Indoor, Electricity Meter

Instrument Traceable Number
0120/SGS0334

has been assessed and certified as meeting the requirements of

EU Directive 2014/32/EU **on Measuring Instruments Annex II, Module B**

It is certified that the manufacturer's technical design and specimen for the above instrument has been examined and, based on the evidence submitted, it is considered that the instrument conforms to the requirements of Annex V of EU Directive 2014/32/EU

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex II, Module D or Annex II, Module F


This certificate is valid until 17th February 2024
Issue 1

Certification is based on report number(s): SHES130800321401 dated 18th February 2014
EMA185897/1
EMA246589

Authorised Signature


SGS United Kingdom Limited, Notified Body 0120
Unit 202B Worle Parkway, Weston-super-Mare, BS22 6WA, UK
t +44 (0)1934 522917 f +44 (0)1934 522137 www.sgs.com

Contact Address
SGS United Kingdom Limited, Units 12A & 12B, South Industrial Estate, Bowburn, Durham, DH6 5AD, UK
t +44 (0)191 377 2000 f +44 (0)191 377 2020 www.sgs.com

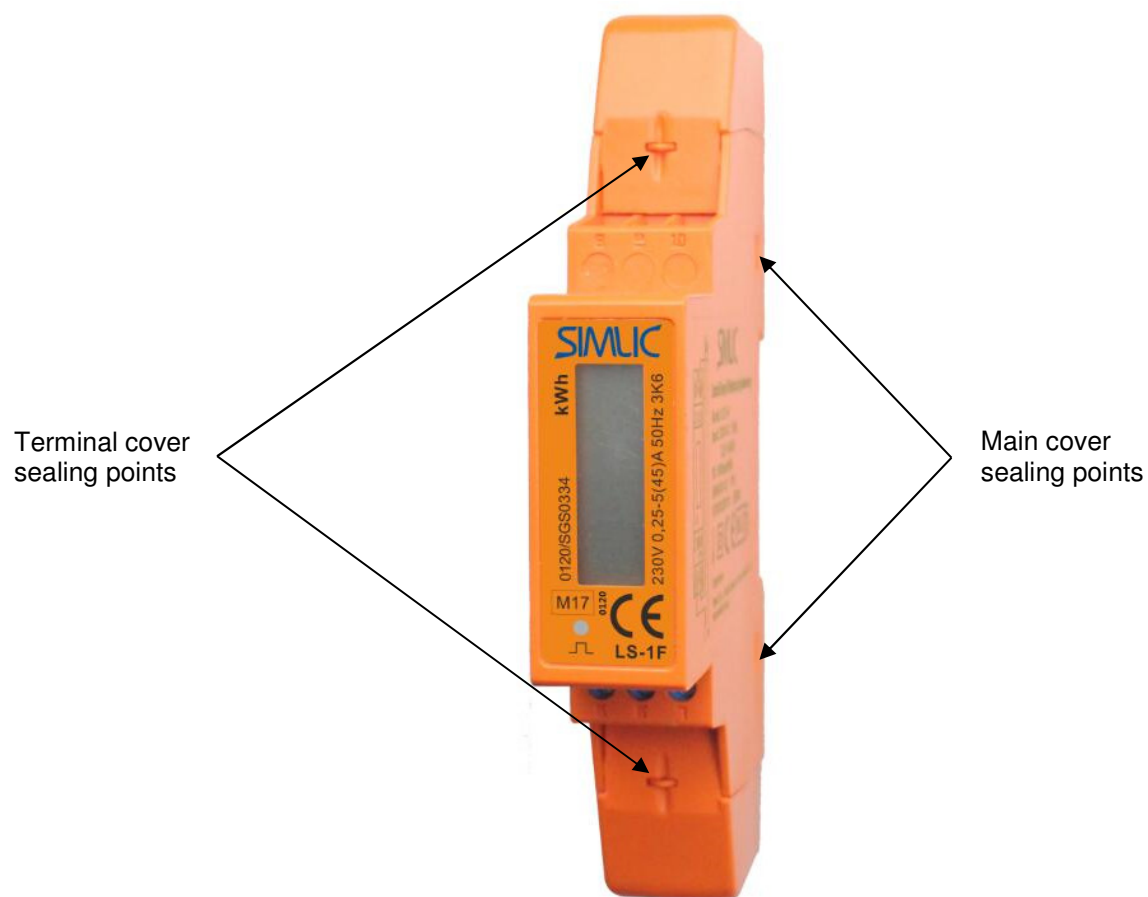
	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

1. Technical Data


Manufacturer	SIMET Spółka Akcyjna
Meter Type	LS-1F, LS-1FA, LS-1FD, LS-1FM
Voltage Rating (U_n)	230V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.25-5(45)A
Frequency (f_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No	LS-1F, LS-1FA, LS-1FD: V1.2 LS-1FM: V2.3
CRC Checksum	LS-1F, LS-1FA, LS-1FD: 0x00008E1E LS-1FM: 0x000038A2
Identification Location	Nameplate
Bill Of Materials Number	SDM120-Measure: V2.1 SDM120-Power: V2.1 SDM120-Pulse: V2.0 SDM120Modbus: V151119
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	4 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD: LS-1FD, LS-1F, LS-1FM Mechanical: LS-1FA
Terminal Arrangement(s)	DIN
Location of Manufacturers Address	Side of meter

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

2. Photograph of Meters and Sealing Plan



Photograph of LS-1F

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017




Photograph of LS-1FA



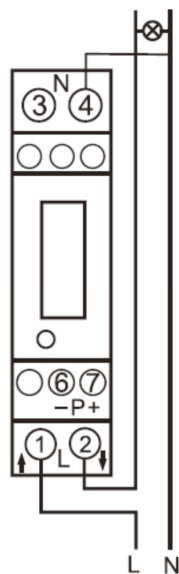
Photograph of LS-1FD









Photograph of LS-1FM

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

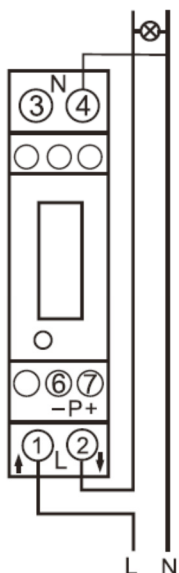
3. Examples of Nameplates









SIMLIC LS-1F
 230V AC 0,25-5(45)A
 S0 \blacksquare : 1000 imp/kWh 50Hz
 EN50470-1/3 3K6 IP51
 0120/SGS0334







0120


Dystrybucja:
 SIMET S.A., Al. Jana Pawła II 33, 58-506 Jelenia Góra, www.simet.com.pl

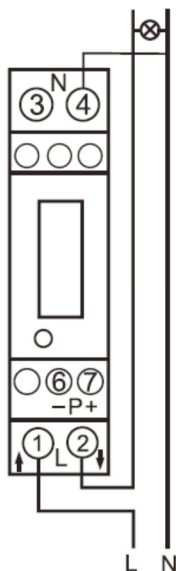


SIMLIC LS-1FD
 230V AC 0,25-5(45)A
 S0 \blacksquare : 1000 imp/kWh 50Hz
 EN50470-1/3 3K6 IP51
 0120/SGS0334







0120

Dystrybucja:
 SIMET S.A., Al. Jana Pawła II 33, 58-506 Jelenia Góra, www.simet.com.pl

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017



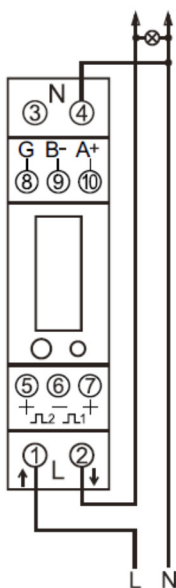
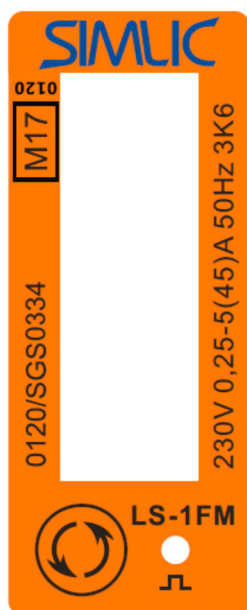
SIMLIC

LS-1FA

230V AC 0,25-5(45)A
 S0 Λ : 1000 imp/kWh 50Hz
 EN50470-1/3 3K6 IP51
 0120/SGS0334



Dystrybucja:
 SIMET S.A., Al. Jana Pawła II 33, 58-506 Jelenia Góra, www.simet.com.pl




SIMLIC

LS-1FM

230V AC 50Hz 0,25-5(45)A
 Λ 1: configurable
 Λ 2: 1000 imp/kWh
 EN50470-1/3 3K6 IP51
 0120/SGS0334



Dystrybucja:
 SIMET S.A., Al. Jana Pawła II 33, 58-506 Jelenia Góra, www.simet.com.pl

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

4. Calculation of the composite error/ MPE


During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table below represents the sum of the square values per load, determined via the following formula:-

$$\delta e(T, U, f) = \sqrt{(\delta e^2(T, I, \cos\phi) + \delta e^2(U, I, \cos\phi) + \delta e^2(f, I, \cos\phi))}$$

where

$\delta e(T, I, \cos\phi)$ = Additional error due to variation of the temperature at the same load
 $\delta e(U, I, \cos\phi)$ = Additional error due to variation of the voltage at the same load
 $\delta e(f, I, \cos\phi)$ = Additional error due to variation of the frequency at the same load

		Influence Factors for Temperature, Voltage & Frequency					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.12	0.12	0.12	0.13	0.12	0.12
I _{tr}	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10I _{tr}	1.0	0.17	0.16	0.16	0.16	0.16	0.16
I _{max}	1.0	0.13	0.13	0.13	0.13	0.13	0.13
I _{tr}	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10I _{tr}	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
I _{max}	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
I _{tr}	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10I _{tr}	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
I _{max}	0.8cap	0.09	0.09	0.09	0.09	0.09	0.09


	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
LS-1FD	Single phase 230V, 0.25-5(45)A, LCD register
LS-1F	Single phase 230V, 0.25-5(45)A, LCD register with backlight
LS-1FA	Single phase 230V, 0.25-5(45)A, Mechanical register
LS-1FM	Single phase 230V, 0.25-5(45)A, LCD register, 2 pulse outputs, RS485 communication port, modbus

Modifications to the meter(s) described according to approval No.**0120/SGS0334** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

	EU-Type Examination Certificate Number:	
	0120/SGS0334	
	Issue Number: 1	Dated: 27 th November 2017

6. Document Revision History

Issue	Date	Comments
1	27/11/2017	Initial Issue

This document is issued by the Company subject to its General Conditions for Certification Services, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested *and such sample(s) are retained for 28 days only*.

END OF CERTIFICATE