



EU Type Examination Certificate Number: **0120/SGS0335**

SIMET Spółka Akcyjna

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

Instrument Identification:
LS-3 Series

Poly phase, Active Import/Export (kWh), Electricity Meter

Instrument Traceable Number
0120/SGS0335

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 20th April 2026
Issue 1

Certification is based on report number(s): SHES151000648101 dated 19th April 2016
EMA222590/1
EMA246589

Authorised Signature


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1. Technical Data


Manufacturer	SIMET Spółka Akcyjna
Meter Type	LS-3FD, LS-3F, LS-3FB
Voltage Rating (U_n)	3 x 230/400V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0,5-10(100)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	B (kWh)
Type of circuit	3p4w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No	V1.1
CRC Checksum	LS-3FD: 0x001134D7 LS-3F: 0x001134D9 LS-3FB: 0x001516EC
Identification Location	LCD
Bill Of Materials Number	LS-3FD: SDM72D V1.2 LS-3F: SDM72DR V1.2 LS-3FB: SDM72Bi V1.2
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000 imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Wire & Crimp on terminal cover Meter case sealed with screws
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN
Location of Manufacturers Address	Side of meter

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2. Photograph of Meters and Sealing Plan



Photograph of LS-3FD


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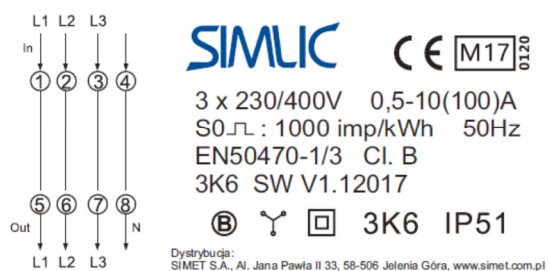
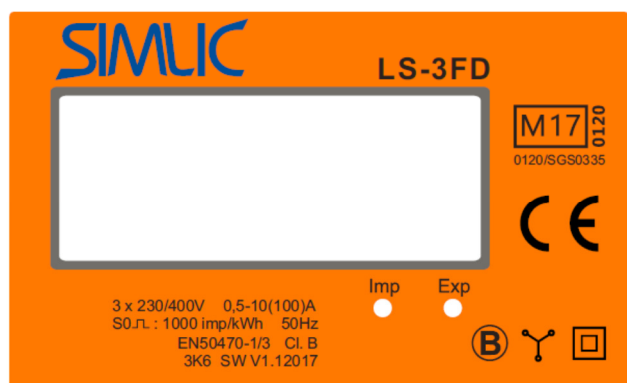
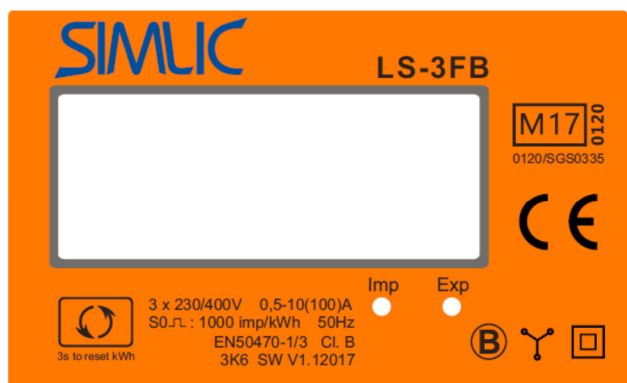
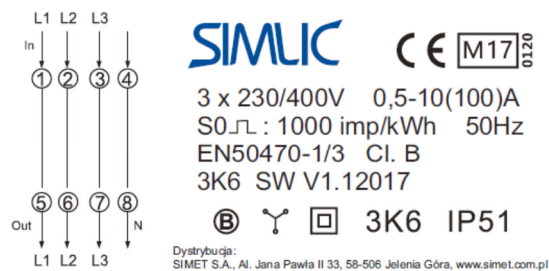
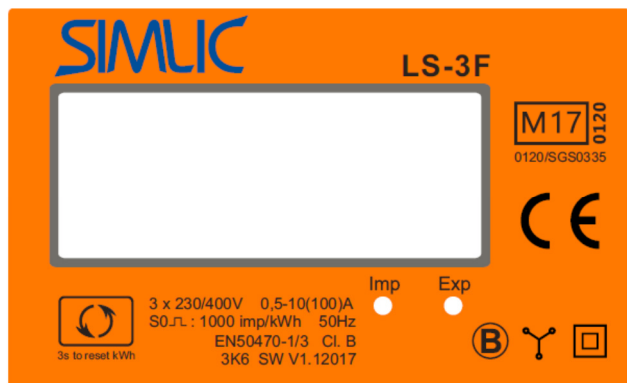
Photograph of LS-3F




Photograph of LS-3FB

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3. Examples of Nameplates



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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

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		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.32	0.24	0.15	0.12	0.15	0.26
I _{tr}	1.0	0.34	0.24	0.15	0.10	0.15	0.30
10I _{tr}	1.0	0.37	0.28	0.17	0.10	0.15	0.28
I _{max}	1.0	0.30	0.24	0.19	0.15	0.17	0.24
I _{tr}	0.5ind	0.51	0.45	0.37	0.30	0.30	0.36
10I _{tr}	0.5ind	0.40	0.32	0.25	0.18	0.22	0.32
I _{max}	0.5ind	0.66	0.62	0.58	0.52	0.51	0.50
I _{tr}	0.8cap	0.44	0.34	0.26	0.16	0.17	0.24
10I _{tr}	0.8cap	0.37	0.25	0.15	0.09	0.15	0.27
I _{max}	0.8cap	0.48	0.42	0.38	0.33	0.31	0.32
L1							
I _{tr}	1.0	0.37	0.33	0.29	0.26	0.28	0.38
10I _{tr}	1.0	0.30	0.21	0.15	0.10	0.17	0.29
I _{max}	1.0	0.23	0.18	0.17	0.11	0.14	0.23
I _{tr}	0.5ind	0.44	0.38	0.35	0.34	0.38	0.44
10I _{tr}	0.5ind	0.31	0.24	0.22	0.19	0.26	0.38
I _{max}	0.5ind	0.29	0.26	0.25	0.22	0.24	0.34
L2							
I _{tr}	1.0	0.61	0.61	0.61	0.61	0.61	0.61
10I _{tr}	1.0	0.19	0.19	0.19	0.19	0.19	0.20
I _{max}	1.0	0.16	0.14	0.12	0.12	0.12	0.12
I _{tr}	0.5ind	0.76	0.77	0.77	0.76	0.77	0.77
10I _{tr}	0.5ind	0.31	0.30	0.30	0.30	0.31	0.32
I _{max}	0.5ind	0.30	0.28	0.27	0.27	0.27	0.27
L3							
I _{tr}	1.0	0.80	0.52	0.38	0.27	0.37	0.54
10I _{tr}	1.0	0.86	0.64	0.50	0.42	0.48	0.63
I _{max}	1.0	1.09	0.97	0.90	0.87	0.89	0.95
I _{tr}	0.5ind	1.04	0.92	0.82	0.79	0.82	0.92
10I _{tr}	0.5ind	1.03	0.88	0.78	0.74	0.78	0.88
I _{max}	0.5ind	1.02	0.92	0.92	0.83	0.87	0.94


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
LS-3FD	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows only total active energy, without resettable kWh
LS-3F	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows total active energy, resettable kWh, total active power
LS-3FB	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows total active energy, total active power, import and export energy, resettable import and export energy.

Modifications to the meter(s) described according to approval No.**0120/SGS0335** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

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6. Document Revision History

Issue	Date	Comments
1	27/11/2017	Initial Issue

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END OF CERTIFICATE