



EU Type Examination Certificate Number: **0120/SGS0432**

SIA “Pawbol Baltic”

Katlakalna iela 9
Riga
Latvia

Instrument Identification:
ES3100 Series

Polyphase, Active Import/Export (kWh), Electricity Meter

Instrument Traceable Number
0120/SGS0432

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
EMA270185

Authorised Signature


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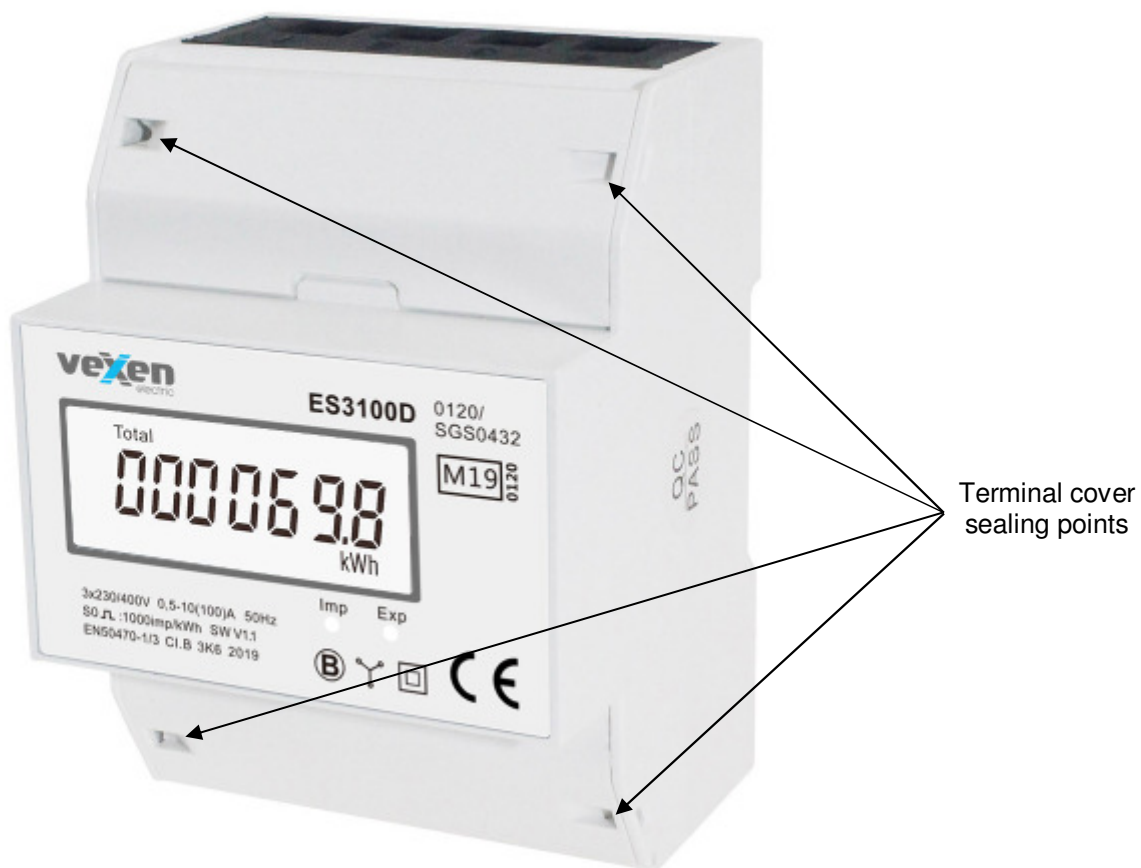
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1. Technical Data

Manufacturer	SIA "Pawbol Baltic"
Meter Type	ES3100D, ES3100DR, ES3100DBi & ES3100D Mod
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	ES3100D, ES3100DR & ES3100DBi: V1.1 ES3100D Mod: V1.2
CRC Checksum	ES3100D, ES3100DR & ES3100DBi: 0X001134D7 ES3100D Mod: 0x00233EC7
Identification Location	LCD
Bill Of Materials Number	ES3100D, ES3100DR & ES3100DBi: V1.2 ES3100D Mod: DH-JS-170016-1.0
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	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	Associated documents

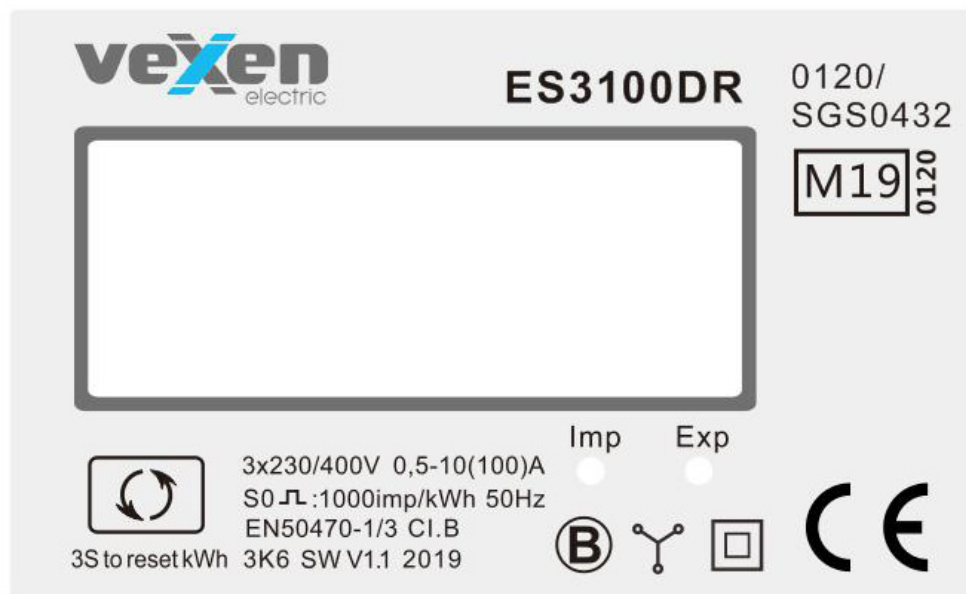
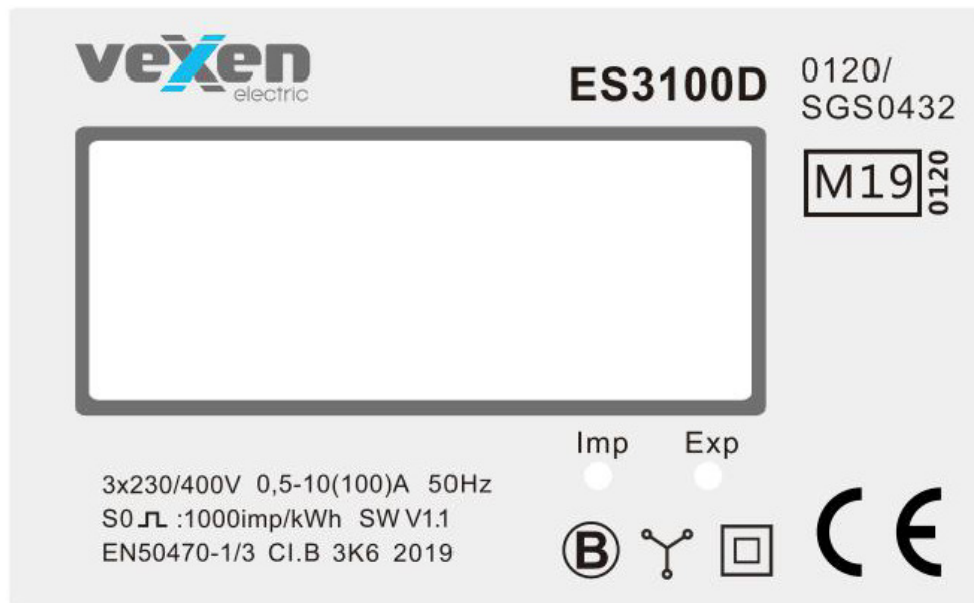
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2. Photograph of Meter and Sealing Plan

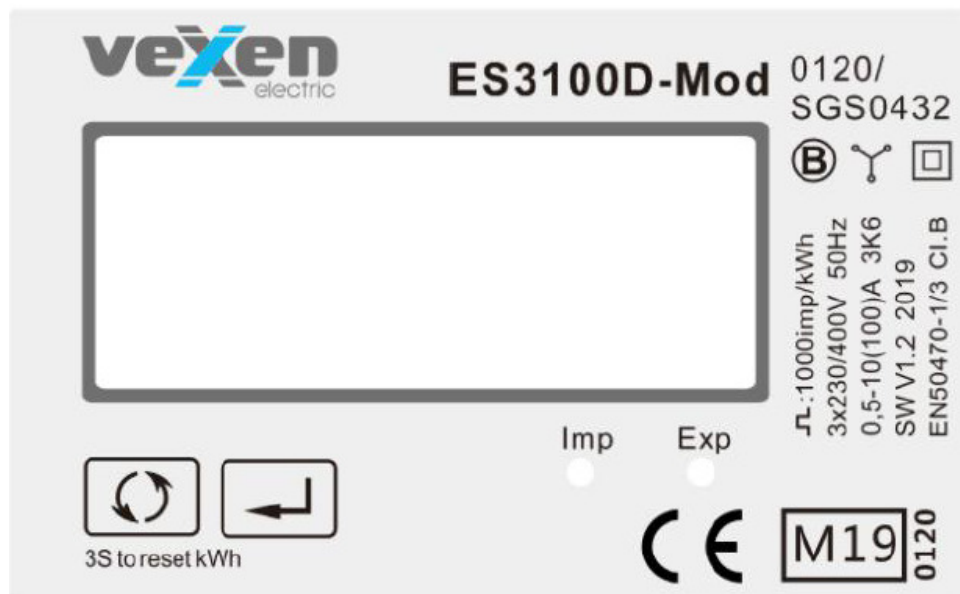



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3. Examples of Nameplates



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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
ES3100D	3x230/400V, 0.5-10(100)A, 1000imp/kWh. Shows only total active energy, without resettable kWh
ES3100DR	3x230/400V, 0.5-10(100)A, 1000imp/kWh. Shows total active energy, resettable kWh, total active power
ES3100D Mod	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. RS485 communication.
ES3100DBi	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/SGS0432** 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	01/10/2019	Initial Issue

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END OF CERTIFICATE