

EU Type Examination Certificate Number: 0120/SGS0475

SIA "Pawbol Baltic"

Katlakalna iela 9 Riga Latvia

Instrument Identification:

ES140 Series

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

Instrument Traceable Number 0120/SGS0475

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

EMA241425

EMA282352

Authorised Signature

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DU_CST-ME-002 Rev 2 EU Type Examination Cert.



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1. Technical Data

Manufacturer	SIA "Pawbol Baltic"				
Meter Type	ES140A, ES140D, ES140DB, ES140DM, ES140DMB, ES140DP, ES140DCTM, ES140DCTMB, ES140DCTP				
Voltage Rating (Un)	230V				
Current Rating (Imin – Iref (Imax))	Direct Connected 0.25-5(45)A CT Connected 0.25-5(6)A				
Frequency (Fn)	50Hz				
Active Accuracy Class (kWh)	A or B (kWh)				
Type of circuit	1p2w				
Temperature Range	-25°C to +55°C				
Software/ Firmware Version No	ES140A, ES140D, ES140DB, ES140DM, ES140DMB, ES140DP: V2.4 ES140DCTM, ES140DCTMB, ES140DCTP: V2.5				
CRC Checksum	ES140A, ES140D, ES140DB, ES140DM, ES140DMB, ES140DP: 0x0000272C ES140DCTM, ES140DCTMB, ES140DCTP: 0x0000B594				
Identification Location	Meter Case				
Bill Of Materials Number	ES140A: DH-JS-190006-1.0 ES140D: DH-JS-180033-1.0 ES140DM: DH-JS-170009-1.2 ES140DMB: DH-JS-170026-1.0 ES140DCTM: DH-JS-170014-1.1 ES140DCTP: DH-JS-170025-1.0				
IP Rating	IP51				
Insulation Protective Class	Class II				
LED Pulse Constant	1000imp/ kWh & 100imp/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: ES140D, ES140DB, ES140DM, ES140DMB, ES140DP, ES140DCTM, ES140DCTMB, ES140DCTP Mechanical: ES140A				
Terminal Arrangement(s)	DIN				
Location of Manufacturers Address	Nameplate				



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2. Photograph of Meter and Sealing Plan



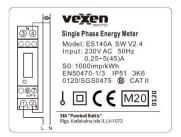


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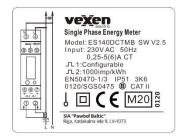
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3. Examples of Nameplates

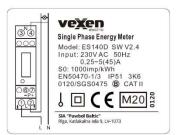


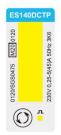


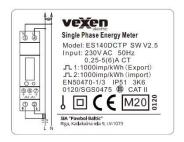




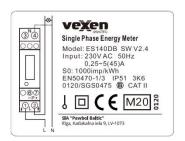




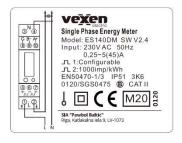




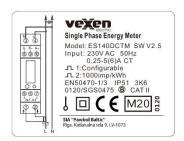




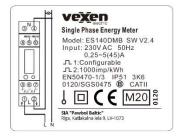




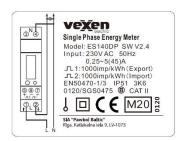














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4. Calculation of the composite error/ MPE

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:-

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

where

 $\delta e(T, I, \cos \varphi) = Additional error due to variation of the temperature at the same load <math>\delta e(J, I, \cos \varphi) = Additional error due to variation of the voltage at the same load <math>\delta e(f, I, \cos \varphi) = Additional error due to variation of the frequency at the same load$

		Influence Factors for Temperature, Voltage & Frequency					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.12	0.12	0.12	0.13	0.12	0.12
Itr	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10ltr	1.0	0.17	0.16	0.16	0.16	0.16	0.16
Imax	1.0	0.13	0.13	0.13	0.13	0.13	0.13
Itr	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10ltr	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
Imax	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
Itr	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10Itr	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
Imax	0.8cap	0.09	0.09	0.09	0.09	0.09	0.09



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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
ES140D	Single Phase, 230V, 0.25-5(45)A
ES140DB	Single Phase, 230V, 0.25-5(45)A, Backlight
ES140A	Single Phase, 230V, 0.25-5(45)A, Mechanical register
ES140DM	Single Phase, 230V, 0.25-5(45)A, RS485 Modbus
ES140DP	Single Phase, 230V, 0.25-5(45)A
ES140DMB	Single Phase, 230V, 0.25-5(45)A, Mbus EN13757-3
ES140DCTP	Single Phase, 230V, 0.25-5(6)A
ES140DCTM	Single Phase, 230V, 0.25-5(6)A, RS485, Modbus
ES140DCTMB	Single Phase, 230V, 0.25-5(6)A, M-Bus EN13757-3

Modifications to the meter(s) described according to approval No.0120/SGS0475 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	09/12/2020	Initial Issue

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END OF CERTIFICATE