



EU Type Examination Certificate Number: **0120/SGS0470**

**SIA “ATTA-1”**

Jurkalnes Street 1  
Riga  
Latvia

Instrument Identification:  
**Thorgeon 01007**

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

Instrument Traceable Number  
**0120/SGS0470**

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 14<sup>th</sup> March 2027  
Issue 1

Certification is based on report number(s) SHES151200818401 Dated 17th March 2017  
EMA234429/1  
EMA280918

Authorised Signature


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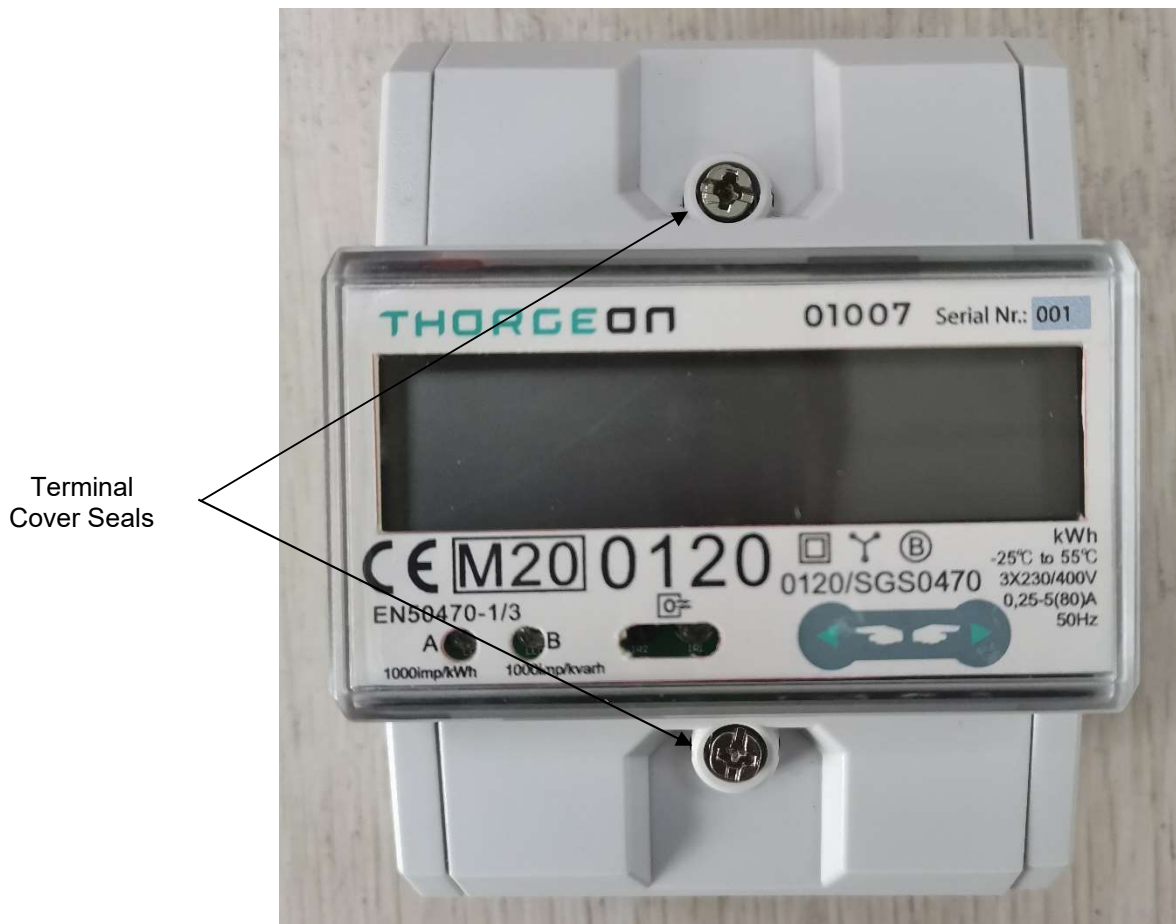
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	Issue Number: 1	Dated: 29 <sup>th</sup> July 2020


## 1. Technical Data

<b>Manufacturer</b>	SIA "ATTA-1"
<b>Meter Type</b>	Thorgeon 01007
<b>Voltage Rating (<math>U_n</math>)</b>	3x230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	0.25-5(80)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (kWh)</b>	A or B (kWh)
<b>Type of circuit</b>	3P4W
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No</b>	V1.02
<b>CRC Checksum</b>	7D5C
<b>Identification Location</b>	LCD
<b>Bill Of Materials Number</b>	D519024
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	Wire & Crimp
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD
<b>Terminal Arrangement(s)</b>	DIN
<b>Location of Manufacturers Address</b>	User Manual

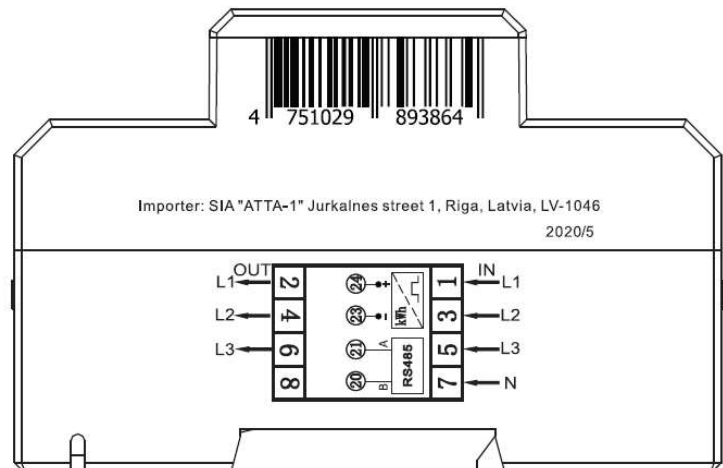
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## 2. Photograph of Meter and Sealing Plan



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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 <sub>min</sub>	1.0	0.38	0.25	0.13	0.08	0.17	0.29
I <sub>tr</sub>	1.0	0.38	0.27	0.14	0.07	0.16	0.31
10I <sub>tr</sub>	1.0	0.37	0.25	0.13	0.08	0.18	0.33
I <sub>max</sub>	1.0	0.32	0.22	0.16	0.06	0.15	0.28
I <sub>tr</sub>	0.5ind	0.38	0.27	0.13	0.06	0.14	0.31
10I <sub>tr</sub>	0.5ind	0.36	0.24	0.11	0.09	0.19	0.35
I <sub>max</sub>	0.5ind	0.30	0.21	0.14	0.05	0.15	0.31
I <sub>tr</sub>	0.8cap	0.37	0.26	0.14	0.07	0.17	0.33
10I <sub>tr</sub>	0.8cap	0.35	0.23	0.11	0.11	0.20	0.36
I <sub>max</sub>	0.8cap	0.30	0.21	0.13	0.07	0.16	0.31
L1					0.00	0.00	0.00
I <sub>tr</sub>	1.0	0.39	0.26	0.12	0.07	0.17	0.26
10I <sub>tr</sub>	1.0	0.39	0.25	0.11	0.09	0.18	0.29
I <sub>max</sub>	1.0	0.30	0.21	0.13	0.06	0.15	0.26
I <sub>tr</sub>	0.5ind	0.39	0.26	0.12	0.09	0.15	0.30
10I <sub>tr</sub>	0.5ind	0.38	0.25	0.11	0.10	0.19	0.33
I <sub>max</sub>	0.5ind	0.30	0.21	0.13	0.06	0.15	0.28
L2							
I <sub>tr</sub>	1.0	0.52	0.37	0.20	0.10	0.24	0.46
10I <sub>tr</sub>	1.0	0.51	0.35	0.17	0.12	0.26	0.49
I <sub>max</sub>	1.0	0.45	0.33	0.21	0.08	0.21	0.42
I <sub>tr</sub>	0.5ind	0.54	0.36	0.20	0.08	0.22	0.44
10I <sub>tr</sub>	0.5ind	0.51	0.35	0.17	0.11	0.25	0.47
I <sub>max</sub>	0.5ind	0.47	0.34	0.22	0.08	0.20	0.41
L3							
I <sub>tr</sub>	1.0	0.17	0.12	0.08	0.07	0.12	0.28
10I <sub>tr</sub>	1.0	0.15	0.12	0.06	0.05	0.13	0.27
I <sub>max</sub>	1.0	0.09	0.09	0.07	0.04	0.10	0.23
I <sub>tr</sub>	0.5ind	0.16	0.12	0.06	0.05	0.09	0.26
10I <sub>tr</sub>	0.5ind	0.12	0.11	0.06	0.08	0.13	0.28
I <sub>max</sub>	0.5ind	0.06	0.08	0.02	0.05	0.11	0.24


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## 5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
Thorgeon 01007	3x230/400V, 0.25-5(80), energy measurement (kWh & kVarh), IR, RS485 (Modbus Protocol), Multi Tariff

Modifications to the meter(s) described according to approval No.**0120/SGS0470** 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	29/07/2020	Initial Issue

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**END OF CERTIFICATE**