

EU Type Examination Certificate Number: **0120/ SGS0549**

# Zhejiang Yongtailong Electronic Co., Ltd.

No. 320 Tongsheng Road,  
Tongxiang,  
Jiaxing,  
Zhejiang  
P.R. China

Instrument Identification:  
**DEM1A Series**

**Single phase, Active Import/Export (kWh), Electricity Meter**

Instrument Traceable Number  
**0120/ SGS0549**

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 for 10 years from 23<sup>rd</sup> May 2022 until 22<sup>nd</sup> May 2032  
Issue 1

Certification is based on report number(s) SHES220300395901 dated 19<sup>th</sup> May 2022  
EMA304043/1/TR50579 dated 18<sup>th</sup> May 2022  
EMA304043/1

Authorised Signature



Tuomas Hänninen

SGS Fimko OY, Notified Body 0598  
Takomtie 8, FI-00380 Helsinki, Finland  
t +358 9 6963 61 [www.sgs.fi](http://www.sgs.fi)





EU-Type Examination Certificate Number:

**0120/SGS0549**

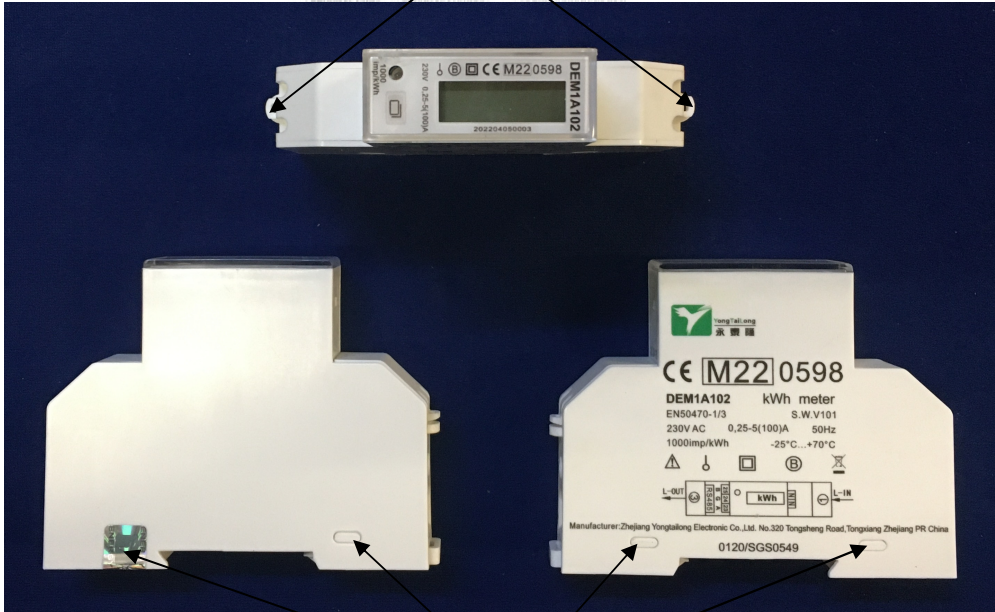
Issue Number: 1

Dated: 23<sup>rd</sup> May 2022**1. Technical Data**

<b>Manufacturer</b>	Zhejiang Yongtailong Electronic Co., Ltd.
<b>Meter Types</b>	DEM1A001, DEM1A002, DEM1A102 DEM1A102-1
<b>Voltage Rating (<math>U_n</math>)</b>	230V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A, 0.25-5(50)A, 0.25-5(60)A 0.25-5(80)A, 0.25-5(100)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B ( $kWh$ )
<b>Type of circuit</b>	1p2w
<b>Temperature Range</b>	-25°C to +70°C
<b>Software/ Firmware Version No's</b>	DEM1A001:V101 CRC:5A8E DEM1A002:V101 CRC:B6C9 DEM1A102:V101 CRC:6B8D DEM1A102-1:V112 CRC: ED76
<b>Identification Location</b>	LCD & Nameplate
<b>Bill of Materials No's</b>	DEM1A001: D118089-BOM V1.0 DEM1A002: D118090-BOM V1.00 DEM1A102: D118091 BOM V1.00 DEM1A102-1: D118091-01 BOM V1.00
<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>	Main cover clipped in place and sealed with tamper proof sealing tape
<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 Name &amp; Address</b>	Side of the meter and associated documentation

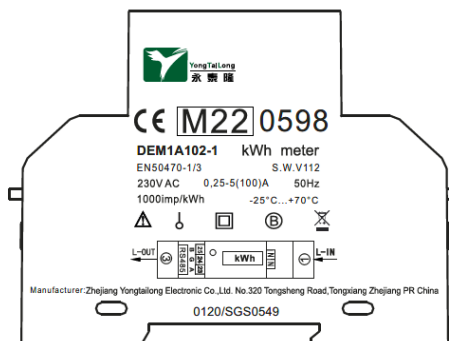
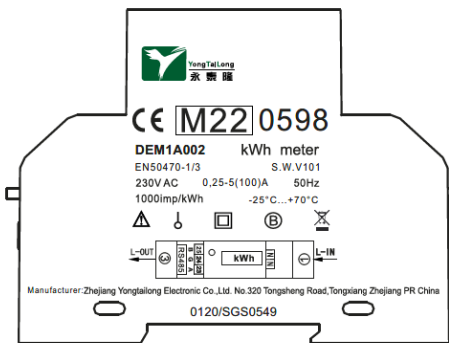
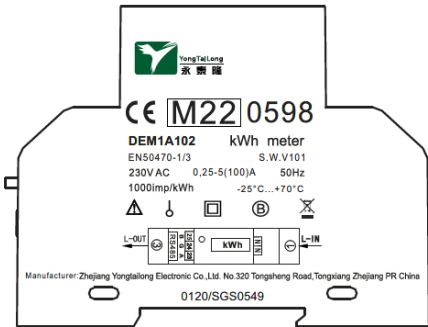
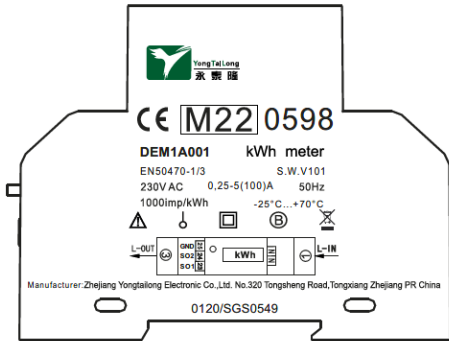
**2. Photograph of Meter and Sealing Plan**

Terminal Cover Sealing Points



Main Cover Sealing Points

**3. Examples of Nameplates**



**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	70 °C
Imin	1.0	0.94	0.73	0.45	0.15	0.34	0.45	0.72
Itr	1.0	0.87	0.61	0.35	0.20	0.31	0.48	0.76
10Itr	1.0	0.89	0.64	0.37	0.24	0.23	0.47	0.72
Imax	1.0	1.38	1.20	1.01	0.71	0.72	0.70	0.76
Itr	0.5ind	0.89	0.75	0.48	0.36	0.32	0.48	0.69
10Itr	0.5ind	0.71	0.65	0.37	0.31	0.30	0.51	0.75
Imax	0.5ind	1.38	1.35	1.14	0.85	0.86	0.82	0.84
Itr	0.8cap	0.95	0.74	0.52	0.25	0.28	0.49	0.73
10Itr	0.8cap	0.92	0.69	0.45	0.19	0.25	0.47	0.73
Imax	0.8cap	1.68	1.52	1.36	1.08	1.06	1.01	1.01

	EU-Type Examination Certificate Number:	
	<b>0120/SGS0549</b>	
	Issue Number: 1	Dated: 23 <sup>rd</sup> May 2022

**5. Annex of Variants**

Product Variant Identification Details:

Model No.	DEM1A102	DEM1A102-1	DEM1A002	DEM1A001
Voltage range	230V			
Current range	0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A, 0.25-5(50)A, 0.25-5(60)A, 0.25-5(80)A, 0.25-5(100)A			
Frequency range	50Hz			
RS485	●	●	●	
Battery	●	●		
Tariff	●			
SO				●

Modifications to the meter(s) described according to approval No. **0120/SGS0549** 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/SGS0549**

Issue Number: 1

Dated: 23<sup>rd</sup> May 2022

**6. Document Revision History**

Issue	Date	Comments
1	23/05/2022	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**