



5386

# SGS

UKCA Type Examination Certificate Number: **0120/SGS0103/UK**

## EM-Lite Limited

1 Stevern Way  
Peterborough  
Cambridgeshire  
PE1 5EL

Instrument Identification:  
**ECA2.\***

**Single Phase, Active Import/ Export, Electricity Meter**

Instrument Traceable Number  
**0120/SGS0103**

has been assessed and certified as meeting the requirements of

# Measuring Instruments Regulations 2016 (as amended)

**on Active electrical energy meters, Schedule 1B, 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 UK Measuring Instruments Regulations 2016

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 22<sup>nd</sup> March 2030  
Issue 4

Certification is based on report number(s): EMA157563/1 dated 18<sup>th</sup> June 2012  
EMA277439/1 dated 18<sup>th</sup> March 2020  
EMA288609

Authorised Signature

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Dated: 1<sup>st</sup> December 2022**1. Technical Data**

<b>Manufacturer</b>	EM-Lite Ltd
<b>Meter Type</b>	ECA2.*
<b>Voltage Rating (<math>U_n</math>)</b>	220V – 240V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	0,25-5(100)A 0,5-10(100)A 0,75-15(100)A 1-20(100)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (kWh)</b>	A or B (kWh)
<b>Type of circuit</b>	1p2w
<b>Temperature Range</b>	-40°C to +70°C
<b>Firmware Version No's</b>	V1.01-5 Checksum 50787 V1.01-6 Checksum 50814 V1.01-7 Checksum 10446 V1.01-8 Checksum 26153 V1.01-9 Checksum 42819 V1.02-0 Checksum 27098
<b>Identification Location</b>	LCD
<b>Bill Of Materials No's</b>	<b>ECA2.z &amp; ECA2.nz</b> ECA2-4001- 02 REV A, ECA2-4001-03 REV A ECA2-4001-03 REV B, ECA2-4001-04 REV A ECA2-4001-05 REV A, ECA2-4001-06 REV A <b>ECA2.v &amp; ECA.nv</b> ECA2-4002-02 REV A, ECA2-4002-03 REV A ECA2-4002-03 REV B, ECA2-4002-04 REV A ECA2-4002-5 REV A, ECA2-4002-06 REV A
<b>IP Rating</b>	IP52
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000 imp/kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Terminal Cover Sealing Type</b>	Wire & Crimp
<b>Main Cover Sealing Type</b>	Press Fit Non-removable Lasered Plastic Seals
<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>	BS
<b>Location of Manufacturers Address</b>	Nameplate

# SGS

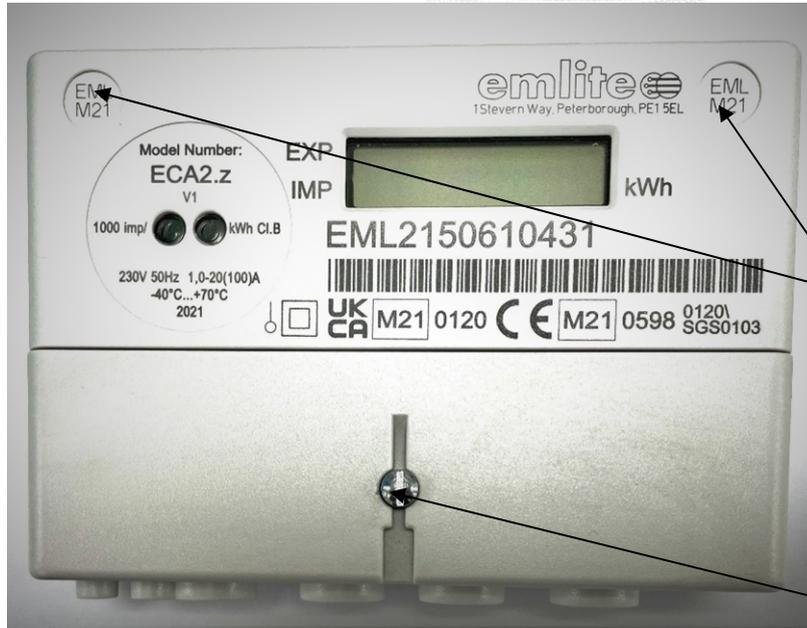
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## 2. Photograph of Meter and Sealing Plan

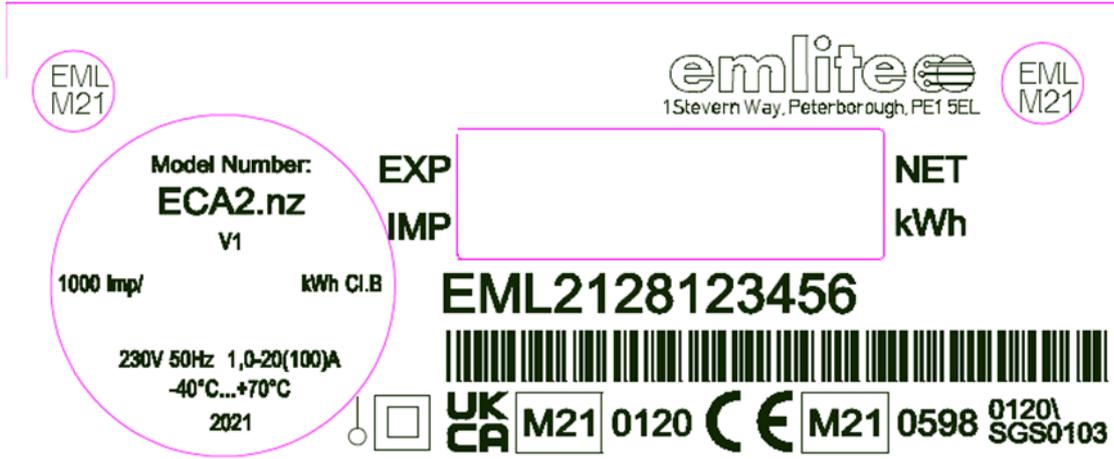


Main Cover

Utility Seal

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### 3. Examples of Nameplates



**EML M21** **emlite** **EML M21**  
 1 Stevern Way, Peterborough, PE1 5EL

**Model Number: ECA2.nz V1**  
**1000 Imp/ kWh Cl.B**  
**230V 50Hz 1,0-20(100)A -40°C...+70°C 2021**

**EXP IMP**  **NET kWh**

**EML2128123456**

 **M21 0120**  **M21 0598 0120/SGS0103**





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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

		Influence Factors for Temperature, Voltage & Frequency							
Current	PF Cos	-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
I <sub>min</sub>	1.0	1.04	1.18	1.00	0.66	0.08	0.24	0.84	0.58
I <sub>tr</sub>	1.0	1.31	1.22	0.95	0.64	0.10	0.19	0.64	0.86
10I <sub>tr</sub>	1.0	1.02	0.79	0.52	0.30	0.17	0.35	0.62	0.82
I <sub>max</sub>	1.0	0.91	0.27	0.15	0.20	0.52	0.68	0.95	0.72
I <sub>tr</sub>	0.5ind	0.88	1.25	0.99	0.63	0.12	0.26	0.75	0.89
10I <sub>tr</sub>	0.5ind	1.06	0.72	0.41	0.20	0.32	0.44	0.71	0.82
I <sub>max</sub>	0.5ind	0.90	0.32	0.52	0.71	1.07	1.24	1.49	0.76
I <sub>tr</sub>	0.8cap	1.03	1.17	0.90	0.57	0.20	0.39	0.80	1.13
10I <sub>tr</sub>	0.8cap	1.06	0.77	0.48	0.27	0.20	0.39	0.63	0.94
I <sub>max</sub>	0.8cap	0.94	0.16	0.13	0.29	0.66	0.83	1.09	0.87



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## 5. Annex of Variants

Product Variant Identification Details:

### Type Designation

### Description of meter

ECA2.z	4 terminal basic variant, no auxiliary connections
ECA2.v	4 terminal with electronic pulsed output variant
ECA2.nz	4 terminal basic variant, no auxiliary connections, including Net Register
ECA2.nv	4 terminal with electronic pulsed output variant, including Net Register

Modifications to the meter(s) described according to approval No. **0120/SGS0103** 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	26/04/2021	Initial Issue
2	28/08/2021	Nameplate with CE mark replaced with nameplate with UKCA mark
3	31/05/2022	Additional BoM versions ECA2-4001-03 REV B, ECA2-4001-04 REV A & ECA2-4002-03 REV B, ECA2-4002-04 REV A. New software version V1.01-8
4	01/12/2022	New software versions V1.01-9 & V1.02-0

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**END OF CERTIFICATE**