



EU Type Examination Certificate Number: **0120/SGS0373**

Biscuit Labs Inc.

399 Fremont St.
#2904 San Francisco
California 94105
United States of America

Instrument Identification:
BUI-0095-Z

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

Instrument Traceable Number
0120/SGS0373

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 29th September 2025
Issue 1

Certification is based on report number(s) SHES141200649301 issued 16th April 2015
EMA207767 issued 9th October 2015
EMA256543

Authorised Signature


SGS United Kingdom Limited, Notified Body 0120
Unit 202B Worle Parkway, Weston-super-Mare, BS22 6WA, UK
t +44 (0)1934 522917 f +44 (0)1934 522137 www.sgs.com

Contact Address
SGS United Kingdom Limited, Units 12A & 12B, South Industrial Estate, Bowburn, Durham, DH6 5AD, UK
t +44 (0)191 377 2000 f +44 (0)191 377 2020 www.sgs.com

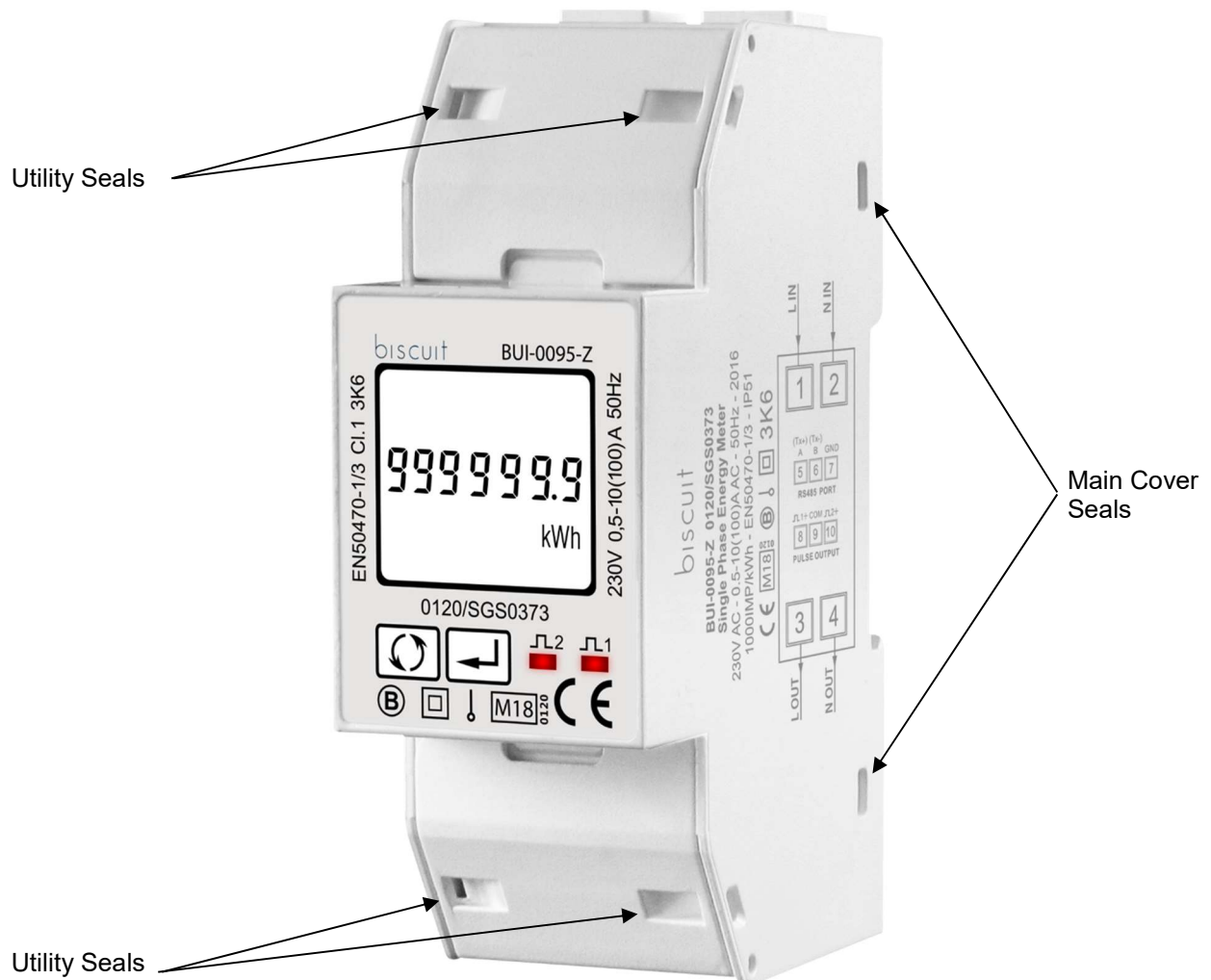
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1. Technical Data

Manufacturer	Biscuit Labs Inc.
Meter Type	BUI-0095-Z
Voltage Rating (U_n)	230V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.5-10(100)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No	V1.2
CRC Checksum	0x000052F2
Identification Location	Nameplate
Bill Of Materials Number	20150929
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	4 x Wire & Crimp
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

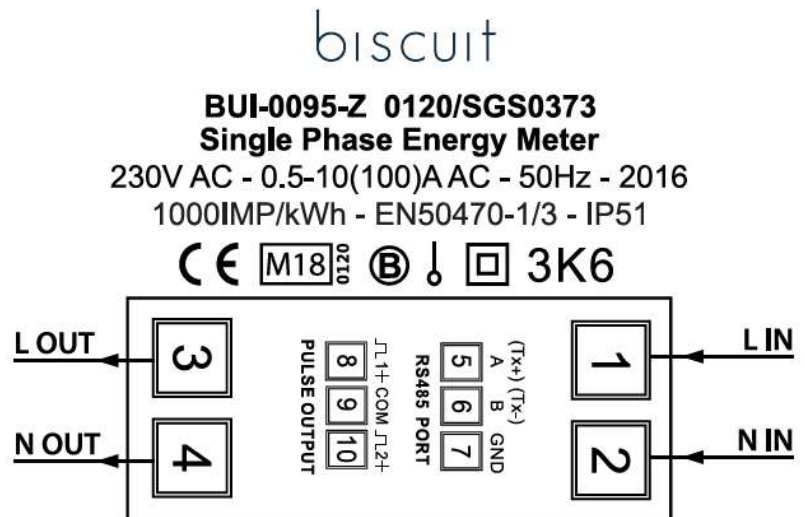
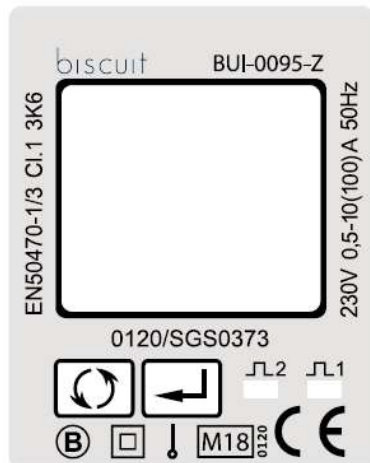
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2. Photograph of Meter and Sealing Plan



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3. Example of Nameplate



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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	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.45	0.33	0.23	0.15	0.17	0.23
I _{tr}	1.0	0.44	0.31	0.19	0.07	0.10	0.18
10I _{tr}	1.0	0.42	0.29	0.18	0.03	0.08	0.16
I _{max}	1.0	0.27	0.19	0.12	0.03	0.06	0.12
I _{tr}	0.5ind	0.48	0.36	0.27	0.17	0.18	0.22
10I _{tr}	0.5ind	0.41	0.28	0.17	0.03	0.08	0.17
I _{max}	0.5ind	0.27	0.18	0.12	0.04	0.07	0.13
I _{tr}	0.8cap	0.45	0.31	0.20	0.09	0.12	0.18
10I _{tr}	0.8cap	0.40	0.27	0.16	0.04	0.10	0.19
I _{max}	0.8cap	0.26	0.19	0.11	0.05	0.08	0.15


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
BUI-0095-Z	Single tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, RS485 Modbus communication

Modifications to the meter(s) described according to approval No.**0120/SGS0373** 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	08/08/2018	Initial Issue

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END OF CERTIFICATE