



EU Type Examination Certificate Number: 0120/SGS0525

SOCOMEK S.A.S

1 Rue de Westhouse 67230 BENFELD
FRANCE

Instrument Identification:
48C03104, 48C03106

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

Instrument Traceable Number
0120/SGS0525

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 2

Certification is based on report number(s): SHES130800321401 dated 18th February 2014
EMA241425
EMA288737/1 dated 1st April 2021
EMA295592/1

Authorised Signature

Tuomas Hänninen

SGS Fimko OY, Notified Body 0598
Takomotie 8, FI-00380 Helsinki, Finland
t +358 9 6963 61 www.sgs.fi





EU-Type Examination Certificate Number:

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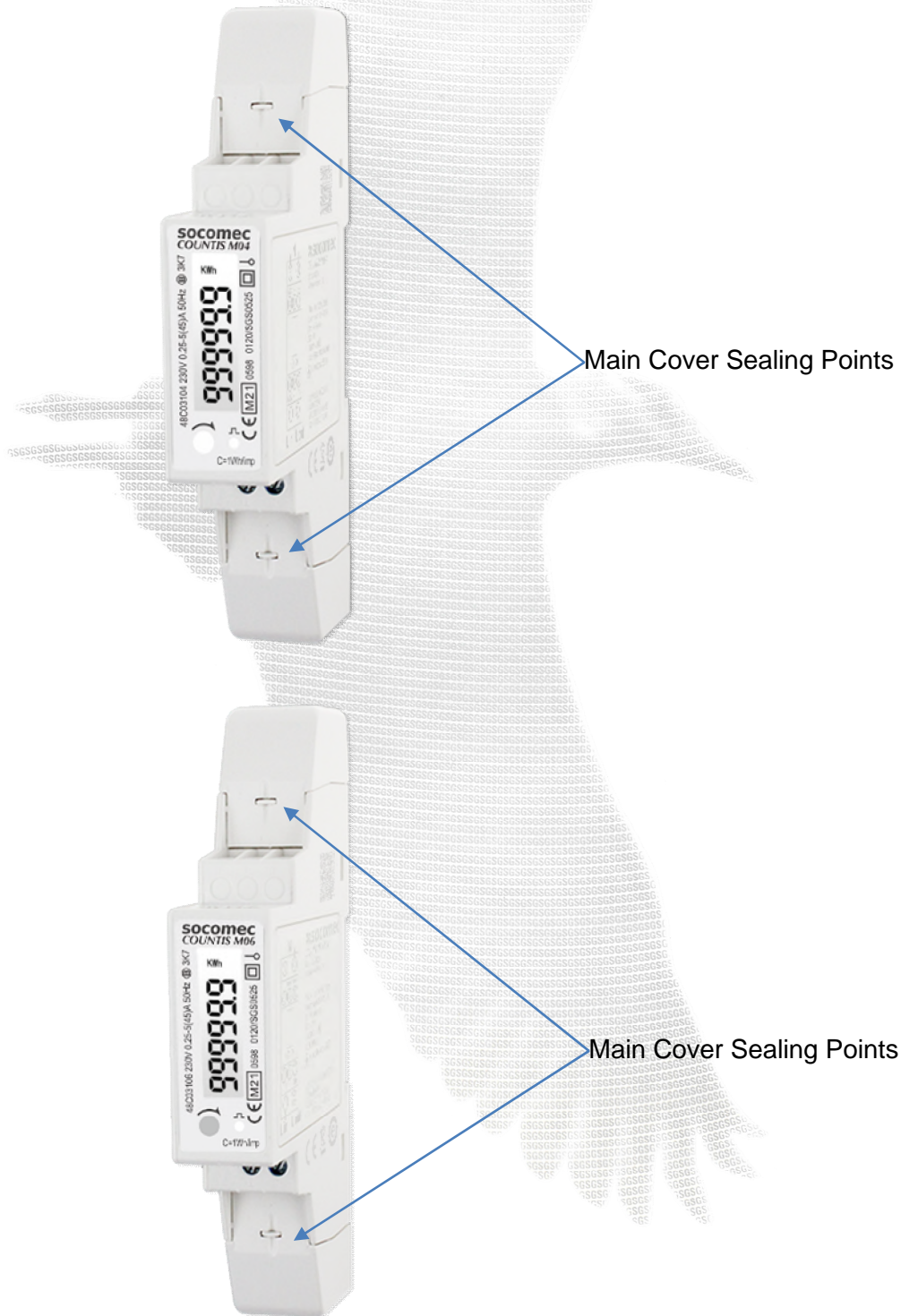
Issue Number: 2

Dated: 21 February 2022

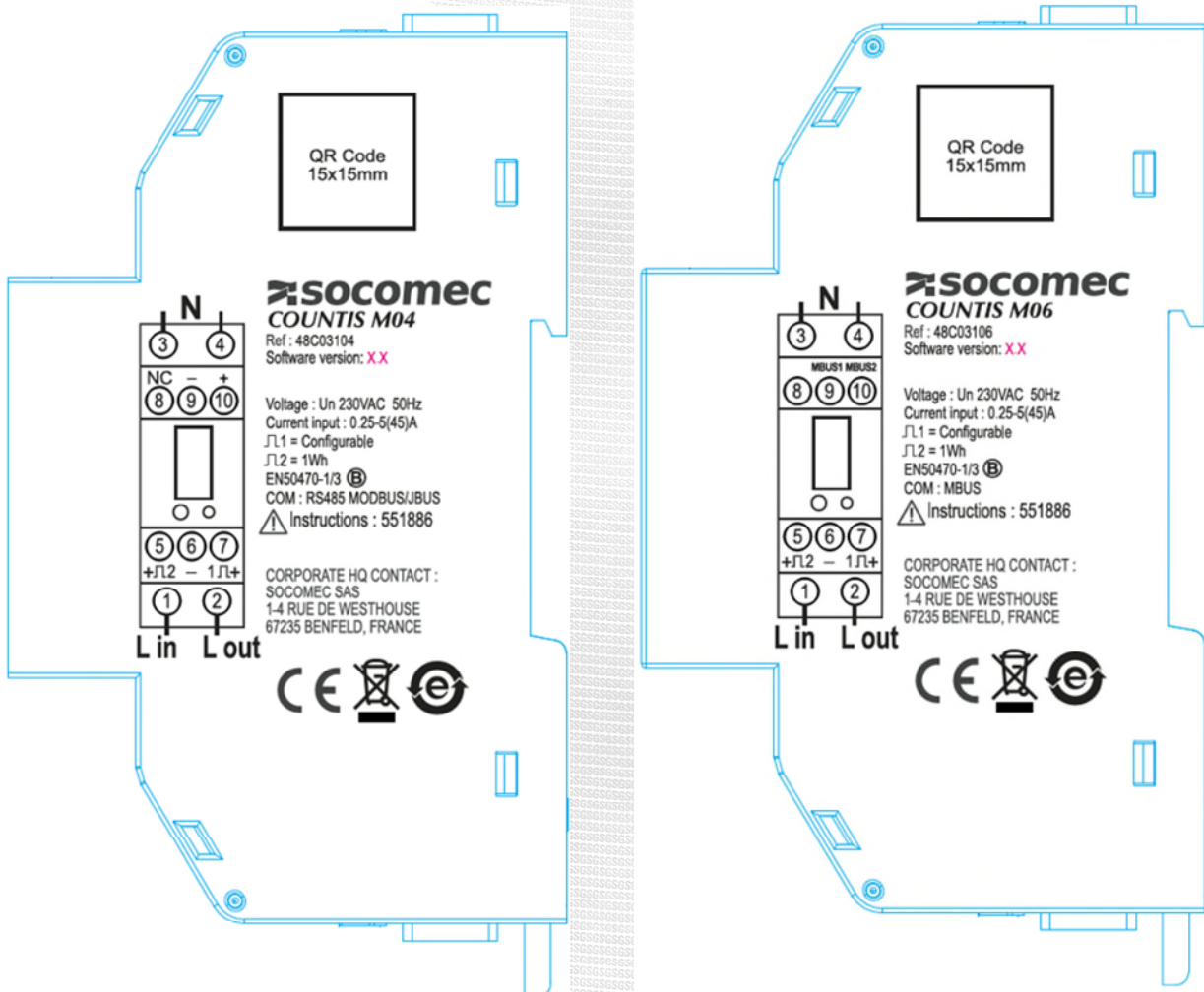
1. Technical Data

Manufacturer	SOCOMEK S.A.S
Meter Types	48C03104 48C03106
Voltage Rating (<i>Un</i>)	230V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	Direct Connected 0.25-5(45)A CT Connected 0.25-5(6)A
Frequency (<i>Fn</i>)	50Hz
Active Accuracy Class (<i>kWh</i>)	A or B (<i>kWh</i>)
Type of circuit	1p2w
Temperature Range	-40°C to +70°C
Software/ Firmware Version No's	48C03104: V2.4 48C03106: V2.4
CRC Checksum No's	48C03104: 0x0000272C 48C03106: 0x0000272C
Identification Location	Nameplate
Bill Of Materials No's	48C03104: DH-JS-170009-1.2 48C03106: DH-JS-170026-1.0
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

2. Photograph of Meter and Sealing Plan



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. Frequency & Voltage							
Current	PF Cos	-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
Imin	1.0	0.75	0.12	0.12	0.12	0.13	0.12	0.12	0.21
Itr	1.0	0.30	0.16	0.16	0.16	0.16	0.16	0.16	0.28
10ltr	1.0	0.30	0.17	0.16	0.16	0.16	0.16	0.16	0.27
Imax	1.0	0.42	0.13	0.13	0.13	0.13	0.13	0.13	0.29
Itr	0.5ind	0.53	0.29	0.29	0.29	0.29	0.29	0.29	0.31
10ltr	0.5ind	0.55	0.40	0.40	0.40	0.40	0.40	0.40	0.43
Imax	0.5ind	0.62	0.16	0.16	0.16	0.16	0.16	0.16	0.20
Itr	0.8cap	0.32	0.24	0.24	0.24	0.24	0.24	0.24	0.39
10ltr	0.8cap	0.38	0.31	0.31	0.31	0.31	0.31	0.31	0.40
Imax	0.8cap	0.45	0.09	0.09	0.09	0.09	0.09	0.09	0.25



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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
48C03104	Single Phase 230V, 0.25-5(45)A, RS485 Modbus
48C03106	Single Phase, 230V, 0.25-5(45)A, Mbus EN13757-3

Modifications to the meter(s) described according to approval No. **0120/SGS0525** 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	24/01/2022	Initial Issue
2	21/02/2022	Photo with incorrect SGS TEC number corrected

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END OF CERTIFICATE