



EU Type Examination Certificate Number: **0120/SGS0462**

Smappee NV

Evolis 104
8530 Harelbeke
Belgium

Instrument Identification:
i1-EN3 Series

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

Instrument Traceable Number
0120/SGS0462

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 5th January 2025
Issue 1

Certification is based on report number(s) SHES130800321501 dated 26th December 2014
EMA198278/1 dated 26th December 2014
EMA198278/2 dated 21st June 2016
EMA280387

Authorised Signature


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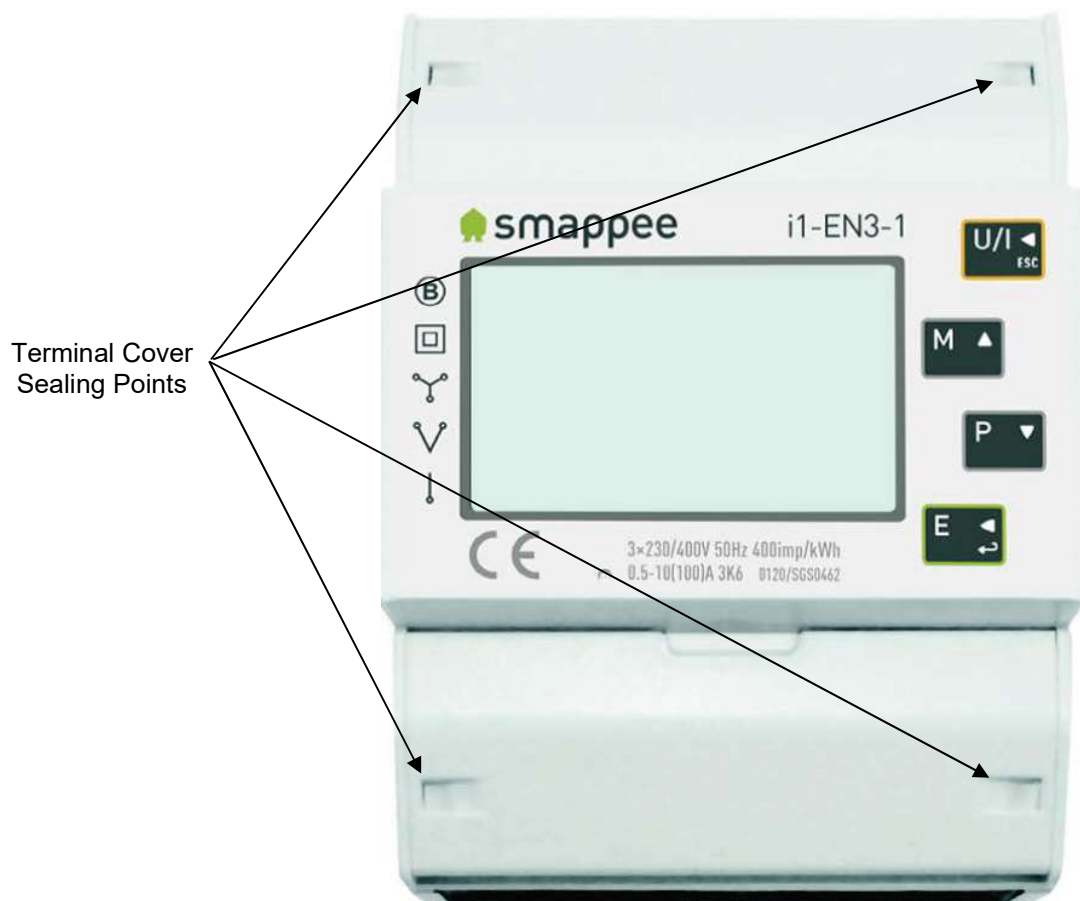
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1. Technical Data

Manufacturer	Smappee NV
Meter Type	i1-EN3-1, i1-EN3-2, i1-EN3-3, i1-EN3-4, i1-EN3-5, i1-EN3-6, i1-EN3-8
Voltage Rating (U_n)	3x230/400V
Current Rating (I_{min} – I_{ref} (I_{max}))	0.5-10(100)A & 0.5-10(80)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	3p4w, 3p3w, 1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No	i1-EN3-1, i1-EN3-2, i1-EN3-3, i1-EN3-4, i1-EN3-5: V1.3 i1-EN3-6: V1.4 i1-EN3-8: V1.6
CRC Checksum	i1-EN3-1, i1-EN3-2, i1-EN3-3, i1-EN3-5: 0x0000AFF9 i1-EN3-4: 0x00003C02 i1-EN3-6: 0x00009DF4 i1-EN3-8: 0x000075BC
Identification Location	Nameplate
Bill Of Materials Number	i1-EN3-1, i1-EN3-2, i1-EN3-3, i1-EN3-4, i1-EN3-5: V1.4 i1-EN3-6: DH-JS-180008-1.0 i1-EN3-8: DH-JS-190020-1.0
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	400imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	1 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	On accompanying documentation

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2. Photograph of Meter and Sealing Plan



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3. Examples of Nameplates

 <p>smappee i1-EN3-1</p> <p>3×230/400V 50Hz 400imp/kWh 0.5-10(100)A 3K6 0120/SGS0462</p>	 <p>smappee</p> <p>i1-EN3-1 0120/SGS0462</p> <p>3×230/400V AC 0.5-10(100)A AC 50Hz 2020 400imp/kWh EN50470-1/3 IP51 SW:1.3 CATIII</p> <p>CE M20 0120 B □ Y ⚠ 3K6</p> <p>Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.</p>
 <p>smappee i1-EN3-2</p> <p>3×230/400V 50Hz 400imp/kWh 0.5-10(100)A 3K6 0120/SGS0462</p>	 <p>smappee</p> <p>i1-EN3-2 0120/SGS0462</p> <p>3×230/400V AC 0.5-10(100)A AC 50Hz 2020 400imp/kWh EN50470-1/3 IP51 SW:1.3 CATIII</p> <p>CE M20 0120 B □ Y ⚠ 3K6</p> <p>Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.</p>
 <p>smappee i1-EN3-3</p> <p>3×230/400V 50Hz 400imp/kWh 0.5-10(100)A 3K6 0120/SGS0462</p>	 <p>smappee</p> <p>i1-EN3-3 0120/SGS0462</p> <p>3×230/400V AC 0.5-10(100)A AC 50Hz 2020 400imp/kWh EN50470-1/3 IP51 SW:1.3 CATIII</p> <p>CE M20 0120 B □ Y ⚠ 3K6</p> <p>Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.</p>

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smappee
i1-EN3-4 0120/SGS0462
3×230/400V AC 0.5-10(100)A AC 50Hz 2020
400imp/kWh EN50470-1/3 IP51 SW:1.3 CATIII
CE M20 0120 B 3K6
Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.




smappee
i1-EN3-5 0120/SGS0462
3×230/400V AC 0.5-10(100)A AC 50Hz 2020
400imp/kWh EN50470-1/3 IP51 SW:1.3 CATIII
CE M20 0120 B 3K6
Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.



smappee
i1-EN3-6 0120/SGS0462
3×230/400V AC 0.5-10(100)A AC 50Hz 2020
400imp/kWh EN50470-1/3 IP51 SW:1.4 CATIII
CE M20 0120 B 3K6
Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.



smappee
i1-EN3-8 0120/SGS0462
3×230/400V AC 0.5-10(100)A AC 50Hz 2020
400imp/kWh EN50470-1/3 IP51 SW:1.6 CATIII
CE M20 0120 B 3K6
Manufactured by Smappee nv. Evolis 104, 8530 Harelbeke, Belgium.

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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	-10	5	30	40	55
I _{min}	1.0	0.46	0.34	0.14	0.18	0.29	0.52
I _{tr}	1.0	0.57	0.39	0.19	0.11	0.24	0.46
10I _{tr}	1.0	0.64	0.45	0.25	0.06	0.20	0.42
I _{max}	1.0	0.75	0.60	0.44	0.26	0.23	0.30
I _{tr}	0.5ind	0.56	0.40	0.20	0.14	0.24	0.49
10I _{tr}	0.5ind	0.60	0.43	0.23	0.11	0.23	0.45
I _{max}	0.5ind	0.62	0.47	0.30	0.05	0.10	0.28
I _{tr}	0.8cap	0.65	0.46	0.27	0.11	0.21	0.43
10I _{tr}	0.8cap	0.62	0.44	0.24	0.12	0.24	0.46
I _{max}	0.8cap	0.69	0.55	0.37	0.16	0.14	0.28
L1							
I _{tr}	1.0	0.84	0.60	0.32	0.08	0.20	0.48
10I _{tr}	1.0	0.97	0.71	0.46	0.10	0.13	0.36
I _{max}	1.0	0.93	0.70	0.48	0.16	0.06	0.25
I _{tr}	0.5ind	0.60	0.32	0.09	0.25	0.42	0.66
10I _{tr}	0.5ind	0.79	0.56	0.29	0.12	0.27	0.53
I _{max}	0.5ind	0.84	0.63	0.40	0.10	0.11	0.33
L2							
I _{tr}	1.0	0.40	0.26	0.09	0.08	0.16	0.37
10I _{tr}	1.0	0.42	0.31	0.19	0.08	0.17	0.36
I _{max}	1.0	0.44	0.36	0.25	0.08	0.08	0.23
I _{tr}	0.5ind	0.20	0.09	0.24	0.27	0.35	0.53
10I _{tr}	0.5ind	0.43	0.30	0.17	0.10	0.20	0.40
I _{max}	0.5ind	0.46	0.35	0.25	0.09	0.06	0.20
L3							
I _{tr}	1.0	0.55	0.37	0.15	0.14	0.30	0.51
10I _{tr}	1.0	0.51	0.33	0.11	0.20	0.33	0.56
I _{max}	1.0	0.55	0.39	0.21	0.10	0.21	0.52
I _{tr}	0.5ind	0.41	0.24	0.06	0.32	0.46	0.66
10I _{tr}	0.5ind	0.41	0.22	0.04	0.31	0.46	0.67
I _{max}	0.5ind	0.43	0.30	0.34	0.17	0.30	0.53


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
i1-EN3-1:	Three phase, multi-function, 2 pulse outputs and 1 RS485 communication port
i1-EN3-2:	Three phase, 2 pulse outputs and 1 RS485 communication port
i1-EN3-3:	Three phase, multi-function, multi-tariff, 2 pulse outputs and 1 RS485 Modbus communication port
i1-EN3-4:	Three phase, multi-function, 2 pulse outputs and 1 Mbus communication port
i1-EN3-5:	Three phase, multi-function, 2 pulse outputs
i1-EN3-6:	Three phase, multi-function, dual tariffs, 2 pulse outputs and 1 RS485 communication port
i1-EN3-8	Three phase, multi-function, dual tariffs, 2 pulse outputs and 1 Mbus communication port

Modifications to the meter(s) described according to approval No.**0120/SGS0462** 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	08/07/2020	Initial Issue

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END OF CERTIFICATE