EU Type Examination Certificate Number: **0120/SGS0206**

Zhejiang Eastron Electronic Co.,Ltd.

No. 52, Dongjin Road
Nanhu, Jiaxing
Zhejiang
China

Instrument Identification:
SDM230 Series

Instrument Traceable Number
0120/SGS0206

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

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 9

Certification is based on report number(s) SHES141200649301 issued 16th April 2015 EMA207767/1 issued 25th August 2015, EMA296595/1 issued 30th November 2021 EMA281302/1, EMA314552/1

Authorised Signature

Mikko Välimäki

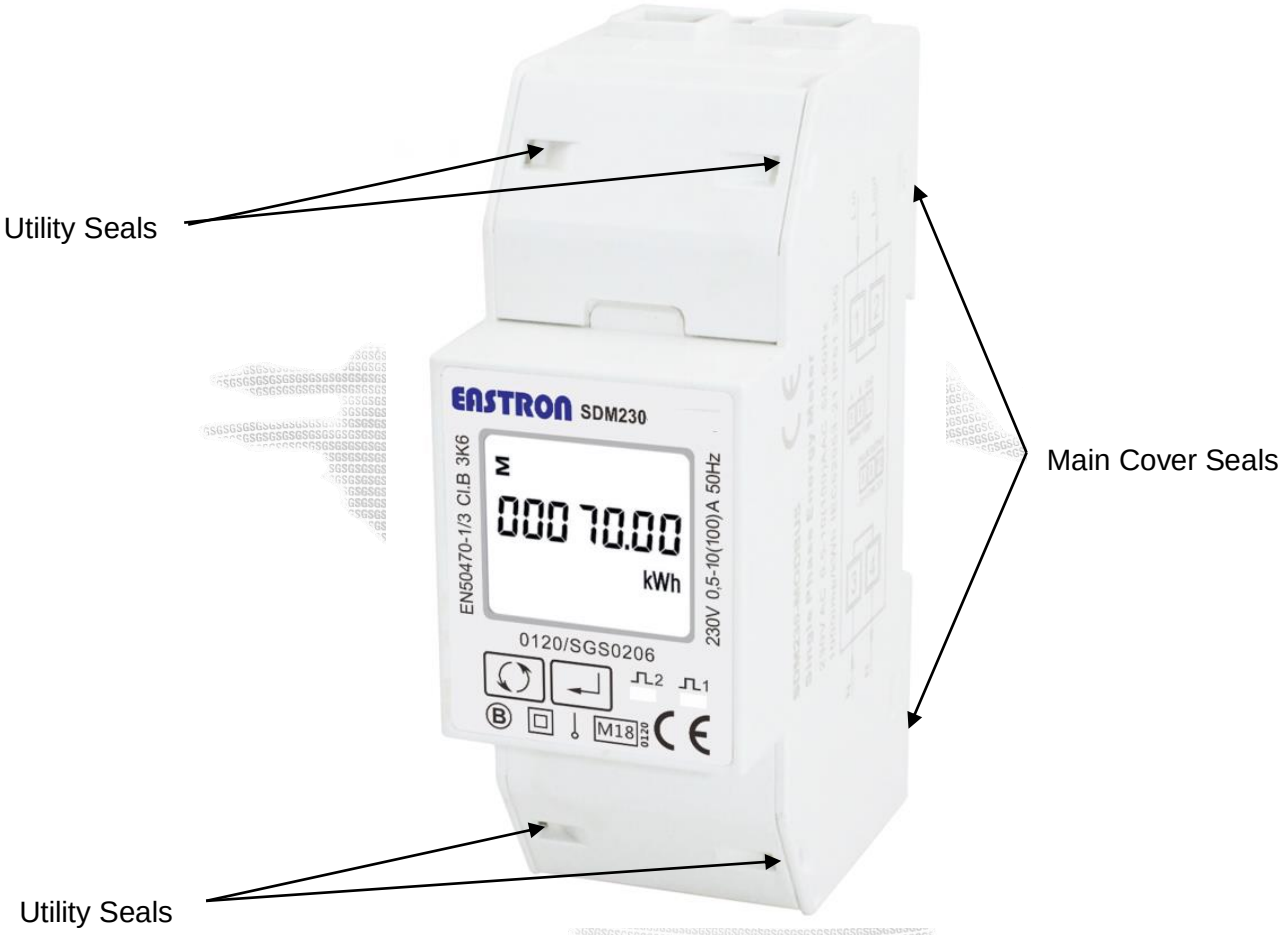
SGS Fimko OY, Notified Body 0598
Takomotie 8, FI-00380 Helsinki, Finland
t +358 9 696 f +358 692 574 www.sgs.com

	EU-Type Examination Certificate Number:	
	0120/SGS0206	
	Issue Number: 9	Dated: 20th October 2023

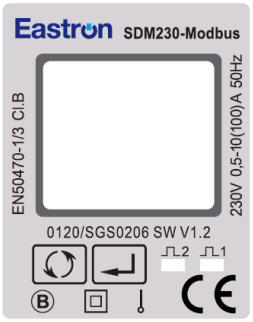
1. Technical Data

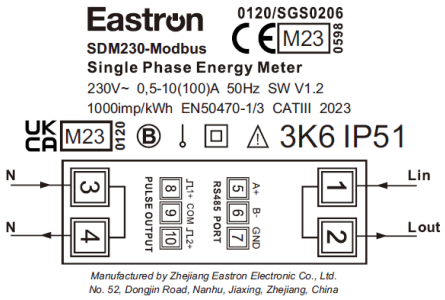
Manufacturer	Zhejiang Eastron Electronic Co.,Ltd
Meter Type(s)	SDM230-Modbus, SDM230-Bi, SDM230-DR, SDM230-Pulse, SDM230-Mbus V1, SDM230-Mbus V2, SDM230-2T, SDM230M-DI, SDM230-LoRa, SDM230-WIFI, SDM230-NMI, SDM230-NMI-2
Voltage Rating *(Un)*	230V
Current Rating *(Imin – Iref (Imax))*	0.5-10(100)A
Frequency *(Fn)*	50Hz
Active Accuracy Class *(kWh)*	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software Version No's	SDM230-Modbus, SDM230-Bi, SDM230-DR, SDM230-Pulse:V1.2 SDM230-2T: V1.3 SDM230-Mbus V1, SDM230-Mbus V2: V1.2 SDM230M-DI: V1.1 SDM230-LoRa: V2.3 SDM230-WIFI: V4.4 SDM230-NMI: V1.3 SDM230-NMI-2: V1.6
Checksum No's	SDM230-Modbus, SDM230-Bi, SDM230-DR, SDM230-Pulse: 0x000052F2 SDM230-2T: 0x00001AD5 SDM230-Mbus V1, SDM230-Mbus V2: 0x00004D23 SDM230M-DI: 0X2547 SDM230-LoRa: 0XB1F2 SDM230-WIFI: 0XD712 SDM230-NMI: 07FA97E4 SDM230-NMI-2: 6F81DBED
Identification Location	Nameplate
Bill of Materials No.'s	SDM230-Modbus: DH-JS-150040 V1.6 SDM230 Bi, SDM230 DR, SDM230 Pulse: DH-JS-150051 V1.6 SDM230-2T: DH-JS-180009 V1.0 SDM230-Mbus V1: DH-JS-180017 V1.0 SDM230-Mbus V2: DH-JS-180029-V1.0 SDM230M-DI: DH-JS-200012 V1.3 SDM230-LoRa: DH-JS-200016 V1.6 SDM230-WIFI: DH-JS-190042 V1.6 SDM230-NMI: DH-JS-210017 V1.2 SDM230-NMI-2: DH-JS-210027 V1.3
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Terminal Cover Sealing Type	4 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD

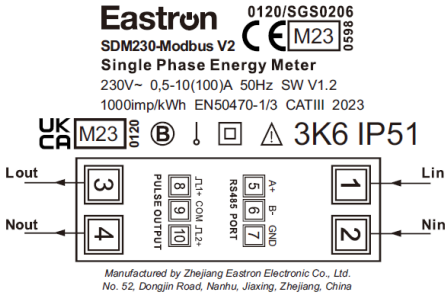
2. Photograph of Meter and Sealing Plan

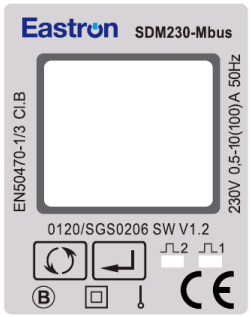


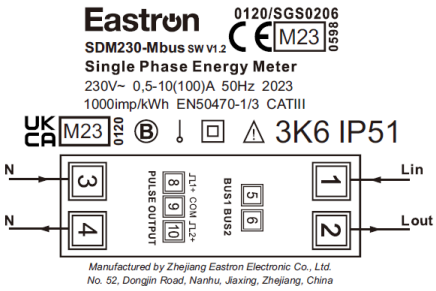
3. Examples of Nameplates

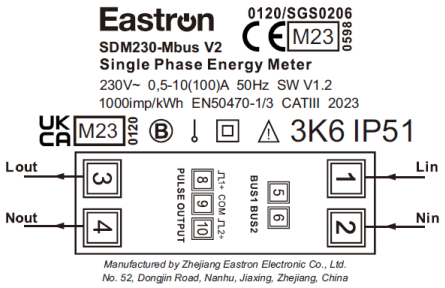


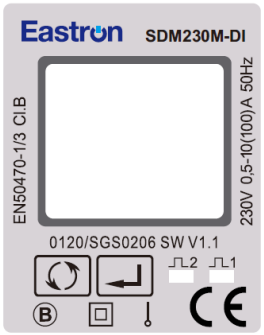


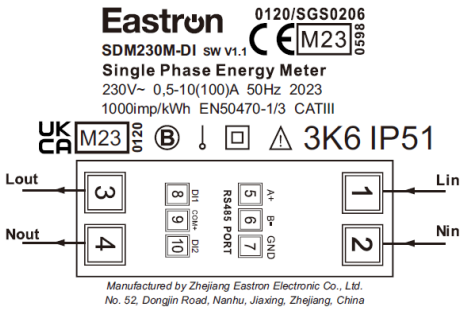


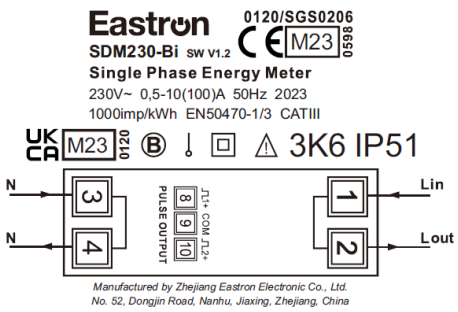


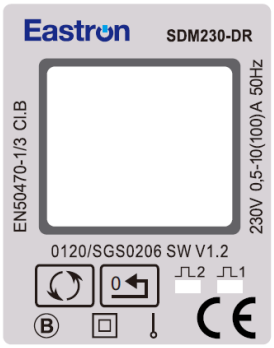








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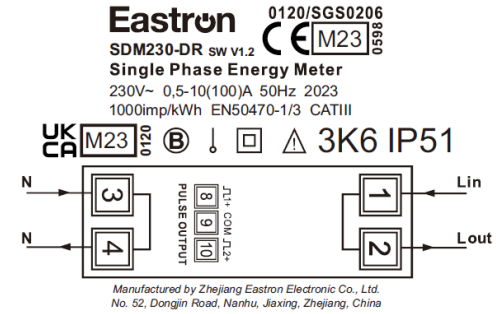
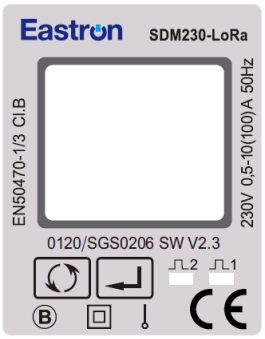
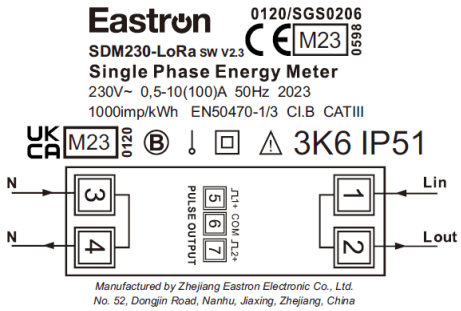
SDM230-DR
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V1.2


Eastron
0120/SGS0206
SDM230-DR SW V1.2
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
N
Lin
Lout
PULSE OUTPUT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron
SDM230-LoRa
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V2.3


Eastron
0120/SGS0206
SDM230-LoRa SW V2.3
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 Cl.B CATIII
3K6 IP51
N
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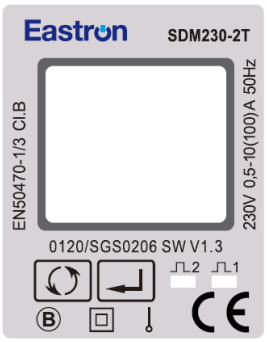
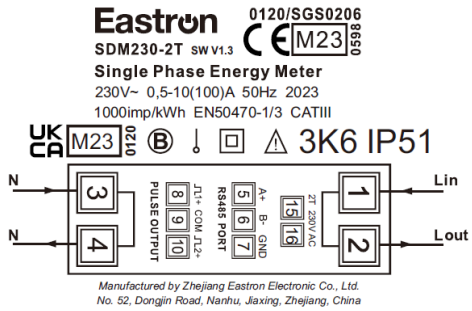
Lout
PULSE OUTPUT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron
SDM230-2T
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V1.3


Eastron
0120/SGS0206
SDM230-2T SW V1.3
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
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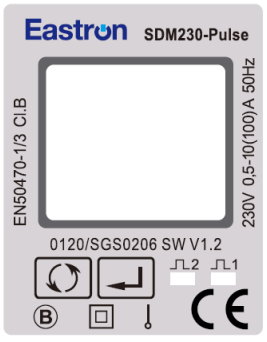
Lout
PULSE OUTPUT
RS485 PORT
2T 230VAC
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China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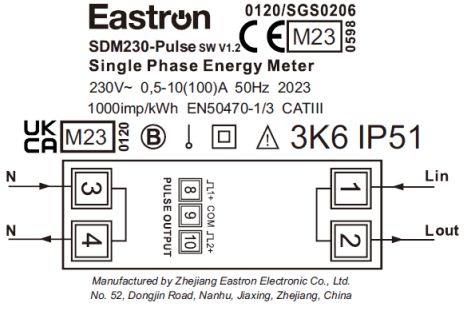
SDM230-Pulse
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V1.2


Eastron
0120/SGS0206
SDM230-Pulse SW V1.2
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
N
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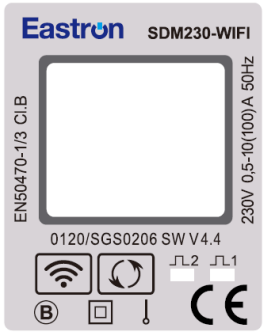
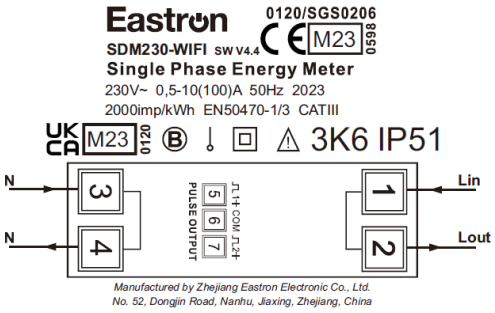
Lout
PULSE OUTPUT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron SDM230-WIFI
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V4.4


Eastron 0120/SGS0206
SDM230-WIFI SW V4.4
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
2000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
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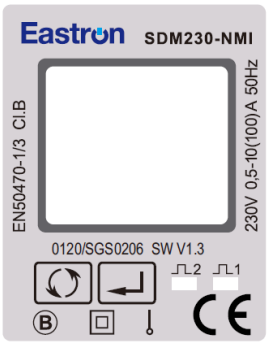
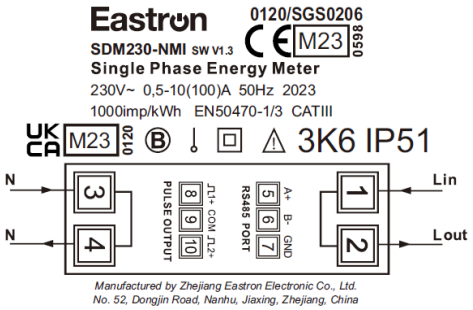
Lin
Lout
PULSE OUTPUT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron SDM230-NMI
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V1.3


Eastron 0120/SGS0206
SDM230-NMI SW V1.3
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
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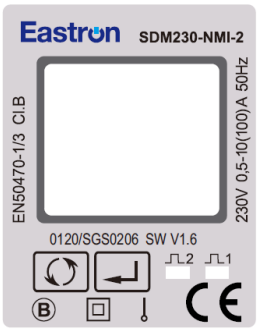
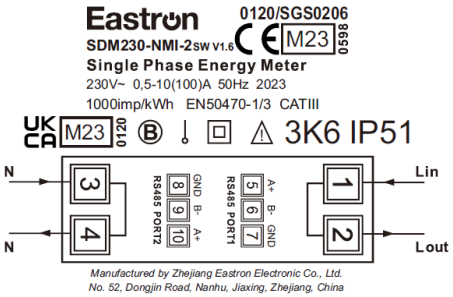
Lout
PULSE OUTPUT
RS485 PORT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron SDM230-NMI-2
EN50470-1/3 Cl.B
230V 0,5-10(100)A 50Hz
0120/SGS0206 SW V1.6


Eastron 0120/SGS0206
SDM230-NMI-2 SW V1.6
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
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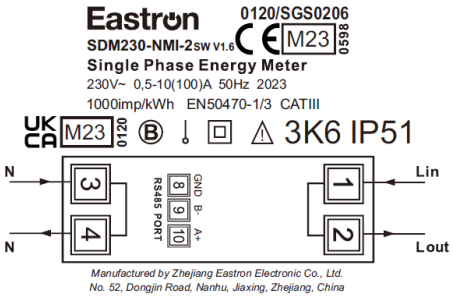
Lin
Lout
RS485 PORT2
RS485 PORT1
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China


Eastron 0120/SGS0206
SDM230-NMI-2 SW V1.6
Single Phase Energy Meter
230V~ 0,5-10(100)A 50Hz 2023
1000imp/kWh EN50470-1/3 CATIII
3K6 IP51
N
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Lin
Lout
RS485 PORT
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No. 52, Dongjin Road, Nanhu, Jiaxing, Zhejiang, China

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:-

$$\delta e\,(T, U, f) = \sqrt{(\delta e^2\,(T, I, \cos\varphi)\,,\ \delta e^2\,(U, I, \cos\varphi)\,,\ \delta e^2\,(f, I, \cos\varphi))}$$

where

$\delta e(T, I, \cos\varphi)$ = Additional error due to variation of the temperature at the same load
$\delta e(U, I, \cos\varphi)$ = Additional error due to variation of the voltage at the same load
$\delta e(f, I, \cos\varphi)$ = 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
Imin	1.0	0.45	0.33	0.23	0.15	0.17	0.23
Itr	1.0	0.44	0.31	0.19	0.07	0.10	0.18
10Itr	1.0	0.42	0.29	0.18	0.03	0.08	0.16
Imax	1.0	0.27	0.19	0.12	0.03	0.06	0.12
Itr	0.5ind	0.48	0.36	0.27	0.17	0.18	0.22
10Itr	0.5ind	0.41	0.28	0.17	0.03	0.08	0.17
Imax	0.5ind	0.27	0.18	0.12	0.04	0.07	0.13
Itr	0.8cap	0.45	0.31	0.20	0.09	0.12	0.18
10Itr	0.8cap	0.40	0.27	0.16	0.04	0.10	0.19
Imax	0.8cap	0.26	0.19	0.11	0.05	0.08	0.15

5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
SDM230-Modbus:	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
SDM230-Modbus V2:	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. Alternative wiring conguration
SDM230-Mbus	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, Mbus communication
SDM230-Mbus V2	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, Mbus communication. Alternative wiring conguration
SDM230-Pulse:	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.
SDM230-DR:	Single tariff, total active energy, resettable energy, active power
SDM230-Bi:	Single tariff, import active energy, export active energy, import active power, export active power
SDM230-2T:	Two 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
SDM230M-DI	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, digital inputs.
SDM230-LoRa	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 with built in LoRaWAN Communications
SDM230-WIFI	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 with built in WIFI Communications
SDM230-NMI	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, pulse output
SDM230-NMI-2	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, 2 RS485 Modbus communication ports

Modifications to the meter(s) described according to approval No.**0120/SGS0206** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

6. Document Revision History

Issue	Date	Comments
1	09/10/2015	Initial Issue
2	23/11/2015	Meter types SDM230-Pulse, SDM230-DR and SDM230-Bi added to approval
3	06/06/2018	Meter type SDM230-2T and SDM230-Mbus added to approval
4	29/11/2018	Meter type SDM230-Mbus V2 added to approval
5	09/09/2020	Meter type SDM230M-DI & SDM230-LoRa added to approval
6	25/02/2021	Meter type SDM230-WiFi added to approval and change of Notified Body reference
7	04/11/2022	Correction on Issue date for EMA207767/1 to 25th August 2015
8	17/06/2023	Meter types SDM230-NMI and SDM230-NMI-2 added to approval New nameplates with “AC” removed
9	20/10/2023	Updated BoM versions and nameplates with UKCA mark SW/CRC of SDM230-NMI-2 changed to the correct number

END OF CERTIFICATE