

EU Type Examination Certificate Number: 0120/SGS0142

# Zhejiang Eastron Electronic Co., Ltd.

No. 1369, Chengnan Road,  
Jiaxing,  
Zhejiang,  
China,  
314001

Instrument Identification:  
**SDM 630M CT Series**

**Polyphase, Active Import/ Export kWh, Indoor, Multi-Function, Transformer Operated,  
Electricity Meter**

Instrument Traceable Number  
**0120/SGS0142**

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 9<sup>th</sup> March 2024  
Issue 1

Certification is based on report number(s) EMA174647/1/MID dated 30<sup>th</sup> January 2014  
EMA174647/1/MID/iss 2 dated 9<sup>th</sup> October 2019  
EMA281302/1 dated 14<sup>th</sup> January 2022

Authorised Signature

Tuomas Hänninen

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Dated:21st January 2022

**1. Technical Data**

<b>Manufacturer</b>	Zhejiang Eastron Electronic Co., Ltd.
<b>Meter Type</b>	SDM630M CT V1, SDM630M CT V2, SDM630M CT-Mbus V2, SDM630M CT-2T V2, SDM630MCT-E, SDM630MCT-DI, SDM630MCT-2T-Mbus, SDM630MCT-MT, SDM630MCT-LoRa
<b>Voltage Rating (<math>U_n</math>)</b>	3x230/400V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	0.05-5(6)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B or C ( $kWh$ )
<b>Type of circuit</b>	3p4w, 3p3w, 1p2w
<b>Temperature Range</b>	-40°C to +70°C
<b>Software/ Firmware Version No's</b>	SDM630M CT: V1.3 SDM630M CT-2T: V1.4 SDM630M CT-Mbus: V1.5 SDM630MCT-E: V1.6 SDM630MCT-DI: V1.8 SDM630MCT-2T-Mbus: V1.9 SDM630MCT-MT: V1.7 SDM630MCT-LoRa: V3.4
<b>CRC Checksum No's</b>	SDM630MCT: 0x0000D5C8 SDM630MCT-2T: 0x0000D279 SDM630MCT-Mbus : 0x00001516 SDM630MCT-E: 0x000080FA SDM630MCT-Di : 0x005D2CB2 SDM630MCT-2T-Mbus: 0x0000147B SDM630MCT-MT: 0x00597DE9 SDM630MCT -LoRa: 0x7227CB
<b>Identification Location</b>	LCD
<b>Bill Of Materials No's</b>	SDM630MCT V1: SDM630-1 V1.5 SDM630MCT V2: DH-JS-150046-1.4 SDM630MCT-Mbus V2: DH-JS-160008-1.4 SDM630MCT-2T V2: DH-JS-160004-1.4 SDM630MCT-E: DH-JS-150046-1.4 SDM630MCT-DI: DH-JS-190005-1.0 SDM630CT-2T-Mbus: DH-JS-190019-V1.1 SDM630MCT-MT: DH-JS-190004-V1.1 SDM630MCT-LoRa: DH-JS-200013-V1.0
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	3200imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	2 x Wire & Crimp



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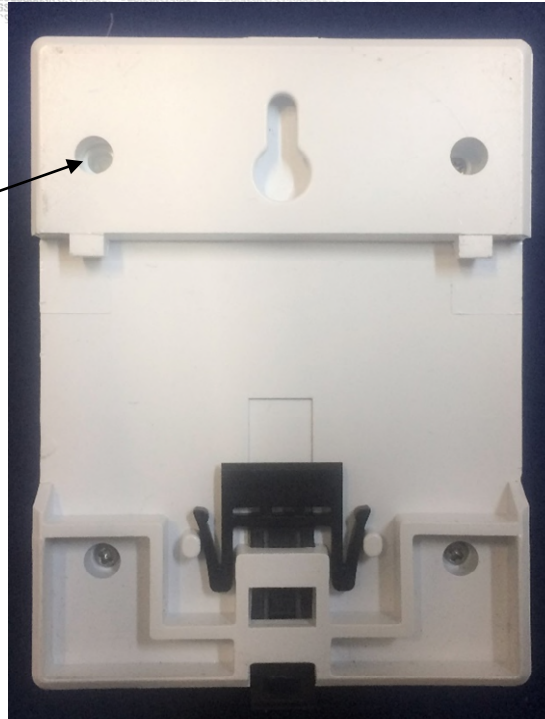
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD
<b>Terminal Arrangement(s)</b>	DIN
<b>Location of Manufacturers Address</b>	Side of meter



**2. Photograph of Meter and Sealing Plan**



Main cover seal





# SGS

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### 3. Examples of Nameplates



**EASTRON**  
SDM630MCT V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.3 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.3 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-MT V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.7 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-MT V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.7 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-Mbus V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.5 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-Mbus V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.5 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-2T V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.4 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-2T V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.4 CAT III  
CE M22 0588 © □ ∩ △ 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No. 1369, Chengnan Rd., Jiaxing, Zhejiang, China

# SGS

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**EASTRON**  
SDM630MCT-2T-Mbus 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.9 CAT III  
CE M22 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-2T-Mbus 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.9 CAT III  
CE M22 3K7  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-DI V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.8 CAT III  
CE M22 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-DI V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.8 CAT III  
CE M22 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-E V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.6 CAT III  
CE M22 3K6  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-E V2 0120/SGS0142  
**Three Phase Energy Meter**  
3x230/400V AC 0,05-5(6)A 50Hz IP51 2022  
3200imp/kWh EN50470-1/3 SW:1.6 CAT III  
CE M22 3K7  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**  
SDM630MCT-LoRa 0120/SGS0142  
**Three Phase Energy Meter**  
1Φ2W, 1Φ3W, 3Φ3W, 3Φ4W  
3x230/400V AC 0,25-5(6)A 50Hz SW V3.4  
3200imp/kWh EN50470-1/3 Cl.B CAT III Y2022  
CE M22 3K6 IP51  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China

**EASTRON**  
SDM630MCT-LoRa 0120/SGS0142  
**Three Phase Energy Meter**  
1Φ2W, 1Φ3W, 3Φ3W, 3Φ4W  
3x230/400V AC 0,25-5(6)A 50Hz SW V3.4  
3200imp/kWh EN50470-1/3 Cl.B CAT III Y2022  
CE M22 3K7 IP51  
Manufactured by Zhejiang Eastron Electronic Co., Ltd.  
No.1369, Chengnan Rd., 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:-


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

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 and voltage							
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	1.01	0.85	0.50	0.07	0.12	0.13	0.15	0.11
I <sub>tr</sub>	1.0	1.07	0.91	0.54	0.25	0.10	0.14	0.16	0.12
10I <sub>tr</sub>	1.0	1.18	0.85	0.50	0.23	0.03	0.09	0.12	0.14
I <sub>max</sub>	1.0	1.19	0.86	0.51	0.24	0.05	0.08	0.12	0.16
I <sub>tr</sub>	0.5ind	1.34	1.08	0.70	0.37	0.16	0.16	0.17	0.33
10I <sub>tr</sub>	0.5ind	1.15	0.79	0.43	0.17	0.09	0.13	0.18	0.16
I <sub>max</sub>	0.5ind	1.17	0.79	0.43	0.18	0.10	0.15	0.17	0.21
I <sub>tr</sub>	0.8cap	1.12	0.85	0.48	0.21	0.06	0.10	0.15	0.12
10I <sub>tr</sub>	0.8cap	1.14	0.87	0.51	0.24	0.02	0.06	0.11	0.13
I <sub>max</sub>	0.8cap	1.16	0.89	0.51	0.26	0.03	0.06	0.10	0.14
L1									
I <sub>tr</sub>	1.0	1.26	0.92	0.38	0.20	0.11	0.13	0.13	0.15
10I <sub>tr</sub>	1.0	1.17	0.85	0.48	0.22	0.05	0.12	0.17	0.17
I <sub>max</sub>	1.0	1.19	0.87	0.50	0.24	0.05	0.10	0.16	0.13
I <sub>tr</sub>	0.5ind	1.01	0.90	0.48	0.17	0.31	0.21	0.13	0.14
10I <sub>tr</sub>	0.5ind	0.85	0.88	0.50	0.22	0.05	0.15	0.16	0.12
I <sub>max</sub>	0.5ind	0.87	0.88	0.50	0.24	0.05	0.10	0.14	0.18
L2									
I <sub>tr</sub>	1.0	0.98	0.86	0.51	0.23	0.04	0.09	0.13	0.17
10I <sub>tr</sub>	1.0	1.00	0.82	0.47	0.21	0.04	0.08	0.12	0.14
I <sub>max</sub>	1.0	1.01	0.83	0.48	0.22	0.04	0.08	0.11	0.15
I <sub>tr</sub>	0.5ind	0.79	1.03	0.61	0.26	0.14	0.22	0.23	0.20
10I <sub>tr</sub>	0.5ind	1.23	0.69	0.35	0.10	0.15	0.21	0.24	0.21
I <sub>max</sub>	0.5ind	1.20	0.67	0.32	0.06	0.18	0.24	0.28	0.26
L3									
I <sub>tr</sub>	1.0	1.29	0.87	0.50	0.24	0.05	0.10	0.12	0.16
10I <sub>tr</sub>	1.0	1.27	0.85	0.48	0.22	0.04	0.09	0.11	0.15
I <sub>max</sub>	1.0	1.27	0.84	0.48	0.22	0.05	0.09	0.12	0.16
I <sub>tr</sub>	0.5ind	2.02	0.97	0.56	0.27	0.09	0.13	0.13	0.20
10I <sub>tr</sub>	0.5ind	1.67	0.83	0.47	0.21	0.06	0.08	0.11	0.16
I <sub>max</sub>	0.5ind	1.66	0.83	0.47	0.21	0.04	0.09	0.11	0.15


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**5. Annex of Variants**

Product Variant Identification Details:

Type Designation	Description of meter
SDM 630MCT	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated (Terminal 7 and 8 used as power output for next meter in daisy connection)
SDM 630MCT 2T	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated (Terminal 7 and 8 is used as signal input for two tariff shifting)
SDM 630MCT Mbus	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated, Mbus communication
SDM630MCT-E	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated
SDM630MCT-DI	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated. Digital inputs
SDM630MCT-2T-Mbus	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated, Mbus communication (Terminal 7 and 8 is used as signal input for two tariff shifting)
SDM630MCT-MT	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Multi-tariff, Transformer Operated, Modbus communication
SDM630MCT-LoRa	0.25-5(6)A – Polyphase, 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, LoRa communication.

Modifications to the meter(s) described according to approval No. **0120/SGS0142** 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	10/03/2014	Initial Issue
2	11/10/2016	SDM630MC -2T and SDM630MCT-Mbus added to approval
3	21/12/2018	SDM630MCT-E added to approval
4	08/08/2019	SDM630CT-DI, SDM630MCT-2T-Mbus, SDM630MCT-MT added to approval
5	31/10/2019	Meter accuracy improved to meet Class C limits
6	14/09/2020	SDM630MCT-LoRa added to approval
1	18/01/2022	Issue 1 for SGS Fimko NB 0598 The original approval certificate issued 10/03/2014 The modifications listed above were made prior to the transfer to SGS Fimko  Temperature range extended to -40°C - +70°C

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**END OF CERTIFICATE**