

EU Type Examination Certificate Number: **0120/SGS0151**

Zhejiang Eastron Electronic Co.,Ltd.

No. 1369, Chengnan Road
Jiaxing
Zhejiang
China
314001

Instrument Identification:
SDM630 Series

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

Instrument Traceable Number
0120/SGS0151

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 to 5th January 2025
Issue 5

Certification is based on report number(s): SHES130800321501 dated 26th December 2014
EMA198278/1 dated 26th December 2014 EMA198278/2 dated 21st June 2016
EMA288737/2 dated 1st April 2021 EMA29036/1 dated 26th June 2021
EMA293203/1 dated 4th August 2021, EMA296034/1 Dated 26th November 2021
EMA302428 dated 20th July 2022, EMA302428/TR50579/1 dated 26th May 2022

Authorised Signature



Mikko Välimäki

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:

0120/SGS0151

Issue Number: 5

Dated: 19th April 2023

1. Technical Data

Manufacturer	Zhejiang Eastron Electronic Co.,Ltd.
Meter Types Version 1 & Version 2	SDM630-Standard, SDM630-MT, SDM630-MODBUS SDM630-Mbus, SDM630-Pulse, SDM630-2T, SDM630-DI, SDM630Mbus-2T, SDM630-MODBUS V2.2
Meter Types Version 3	SDM630WiFi SDM630-Modbus V3 and the SDM630M -DI V3, SDM630-EV
Voltage Rating (<i>Un</i>)	3x230/400V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0.5-10(100)A & 0.5-10(80)A
Frequency (<i>F_n</i>)	50Hz
Active Accuracy Class (<i>kWh</i>) V1 & V2	A or B (kWh)
Active Accuracy Class (<i>kWh</i>) V3	B or C (kWh)
Type of circuit	3p4w, 3p3w, 1p2w
Temperature Range	-40°C to +70°C
Software Version No's. V1 & V2	SDM630-Standard, SDM630-MT, SDM630-Modbus, SDM630-Mbus, SDM630-Pulse : V1.3 SDM630-2T: V1.4 SDM630-DI: V1.5 SDM630Mbus-2T: V1.6 SDM630-Modbus V2.2: V1.3 SDM630 WiFi: V1.1
Checksum No's.	SDM630-Standard, SDM630-MT, SDM630-Modbus, SDM630-Pulse: 0x0000AFF9 SDM630-Mbus.: 0x00003C02 SDM630-2T: 0x0009DF4 SDM630-DI: 0x00000A31 SDM630Mbus-2T: 0x000075BC SDM630-Modbus V2.2: 0x00003C02 SDM630 WiFi: 0x007AD85C
Identification Location	Nameplate & LCD
Software Version No's. V3	SDM630Modbus V3: V1.7 SDM630-2T V3: V1.8 SDM630M-DI V3: V1.9 SDM630-EV: V1.2
Checksum No's.	SDM630Modbus V3: 0x00762C9F SDM630-2T V3: 0x008A04A7 SDM630M-DI V3: 0x007BCB8F SDM630-EV: 0x2A27C8E1
Identification Location	Nameplate & LCD
Bill Of Materials Version 1 No.'s	SDM630-Standard V2.1 SDM630-MT V2.1 SDM630-MODBUS V2.1 SDM630-MBUS V2.1 SDM630-Pulse V2.1
Bill Of Materials Version 2 No.'s	SDM630Modbus: DH-JS-170020-1.5 SDM630-Standard: DH-JS-170021-1.5 SDM630-MT: DH-JS-170022-1.5 SDM630-Pulse: DH-JS-170023-1.5 SDM630-Mbus: DH-JS-170024-1.5 SDM630 WiFi: DH-JS-210007 V1.0
Bill Of Materials Version 3 No.'s	SDM630-Modbus V3: DH-JS-190022-1.0 SDM630-2T V3: DH-JS-190036-1.0 SDM630M-DI V3: DH-JS-210024-1.0 SDM630-EV: DH-JS-210024-1.0 SDM630-EV: DH-JS-220072 V1.0



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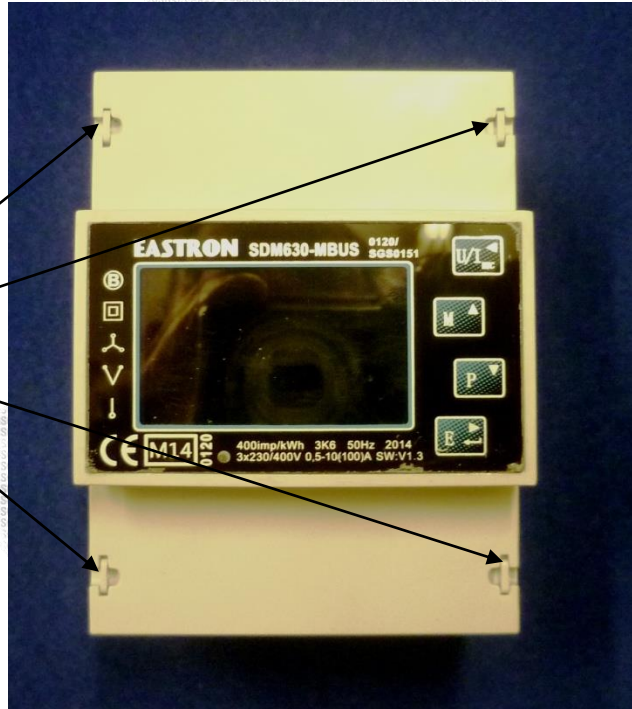
Dated: 19th April 2023

IP Rating	IP51. Must be intalled in an IP rated enclosure
Insulation Protective Class	Class II
LED Pulse Constant	400imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Plastic plug
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Location of Distributors Name and Address	On accompanying documentation

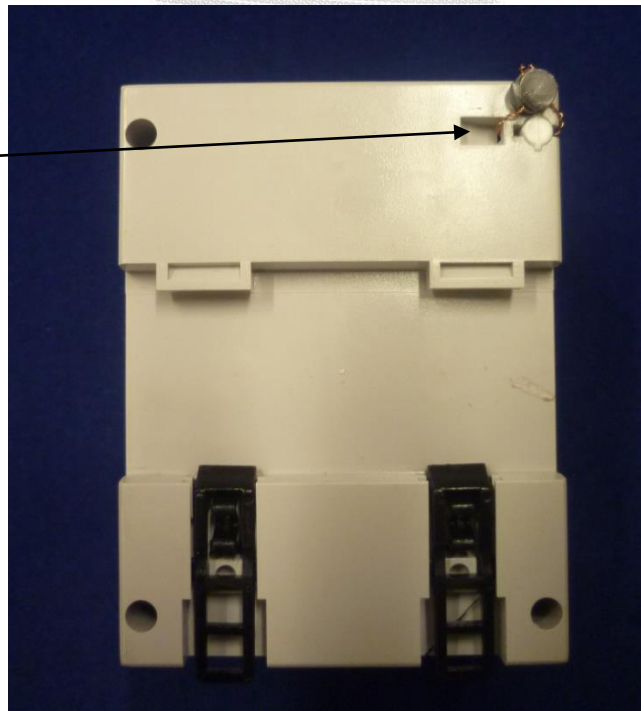
2. Photograph of Meter and Sealing Plan

Photographs of Original Meter Casing – SDM630 V1

Terminal
Covers
Sealing
Points



Main Cover
Sealing Point



Photograph of Redesigned Meter Case – SDM 630 V2





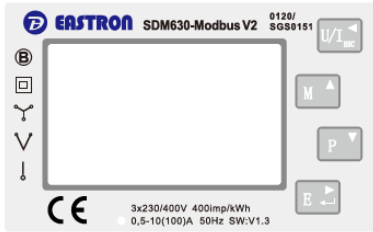
EU-Type Examination Certificate Number:

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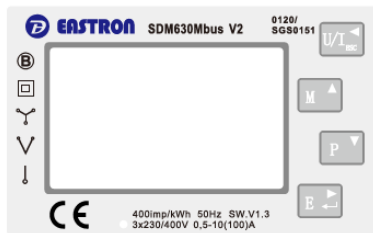
Dated: 19th April 2023

3. Examples of Nameplates



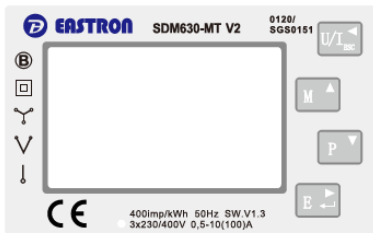
EASTRON
SDM630-Modbus V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K6
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

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SDM630-Modbus V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K7
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



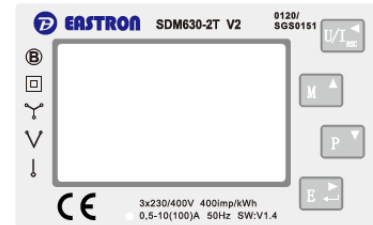
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SDM630Mbus V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
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Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K7
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON
SDM630-MT V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K6
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SDM630-MT V2 0120/SGS0151
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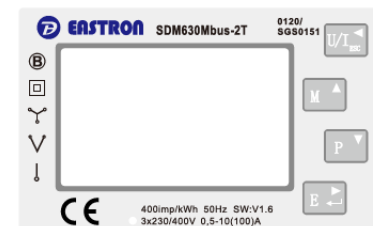
EASTRON
SDM630-2T V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.4 CAT III
CE M22 3K6
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON
SDM630-2T V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.4 CAT III
CE M22 3K7
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON
SDM630-Pulse V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K6
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON
SDM630-Pulse V2 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III
CE M22 3K7
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON
SDM630-Mbus-2T 0120/SGS0151
Three Phase Energy Meter
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.6 CAT III
CE M22 3K6
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

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SDM630-Mbus-2T 0120/SGS0151
Three Phase Energy Meter
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EASTRON

**SDM630Standard V2 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III

CE M22

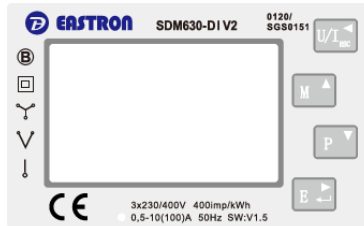
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON

**SDM630Standard V2 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.3 CAT III

CE M22

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON

**SDM630-DI V2 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.5 CAT III

CE M22

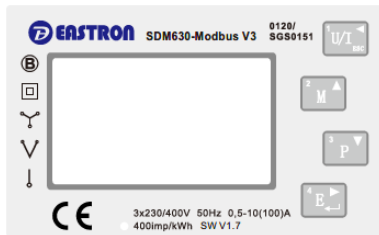
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON

**SDM630-DI V2 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2022
400imp/kWh EN50470-1/3 IP51 SW:1.5 CAT III

CE M22

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON

**SDM630-Modbus-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.7 CAT III

CE M21

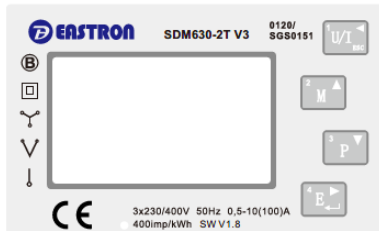
Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON

**SDM630-Modbus-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.7 CAT III

CE M21

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON

**SDM630-2T-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.8 CAT III

CE M21

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON

**SDM630-2T-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.8 CAT III

CE M21

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China



EASTRON

**SDM630M-DI-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.9 CAT III

CE M21

Manufactured by Zhejiang Eastron Electronic Co., Ltd.
No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

EASTRON

**SDM630M-DI-V3 0120/SGS0151
Three Phase Energy Meter**
3x230/400V AC 0,5-10(100)AAC 50Hz 2021
400imp/kWh EN50470-1/3 IP51 SW:V1.9 CAT III

CE M21

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No.1369.Chengnan Rd. Jiaxing, Zhejiang, China

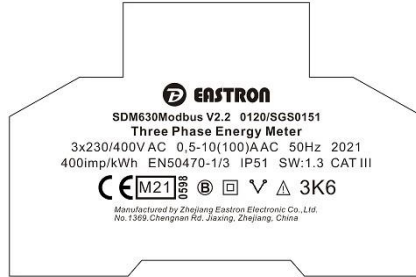
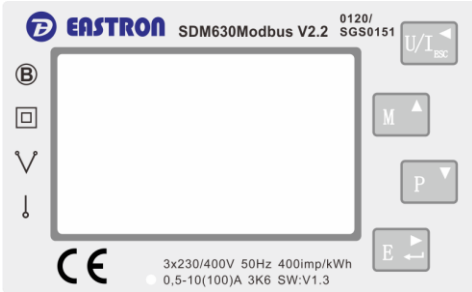
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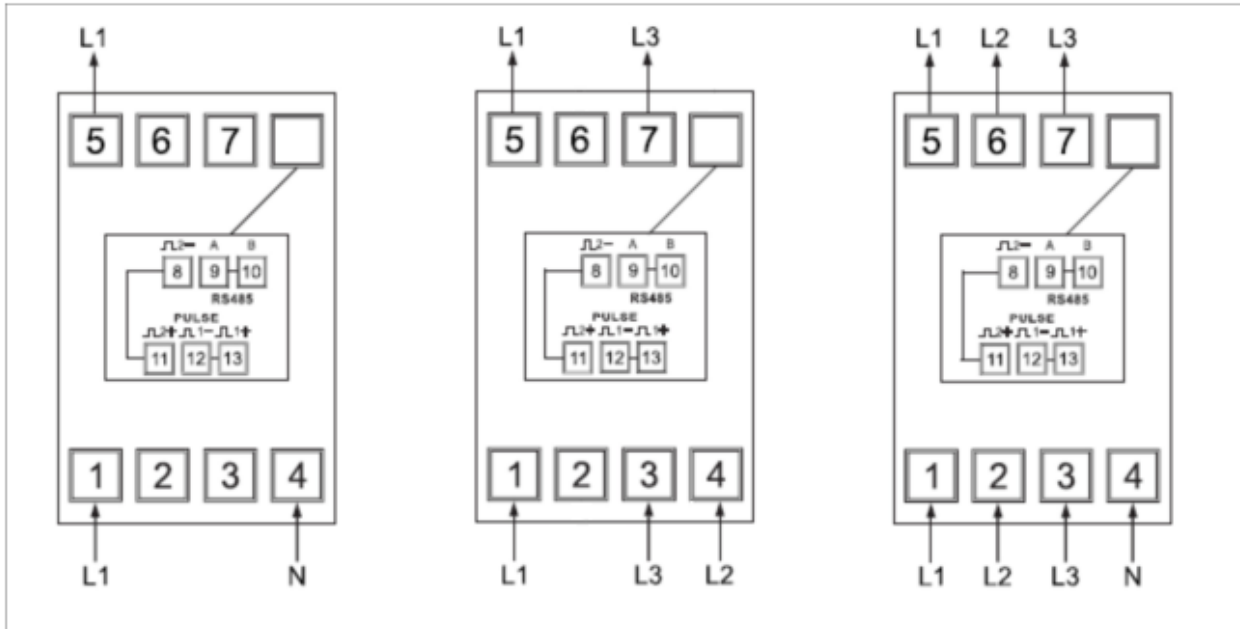
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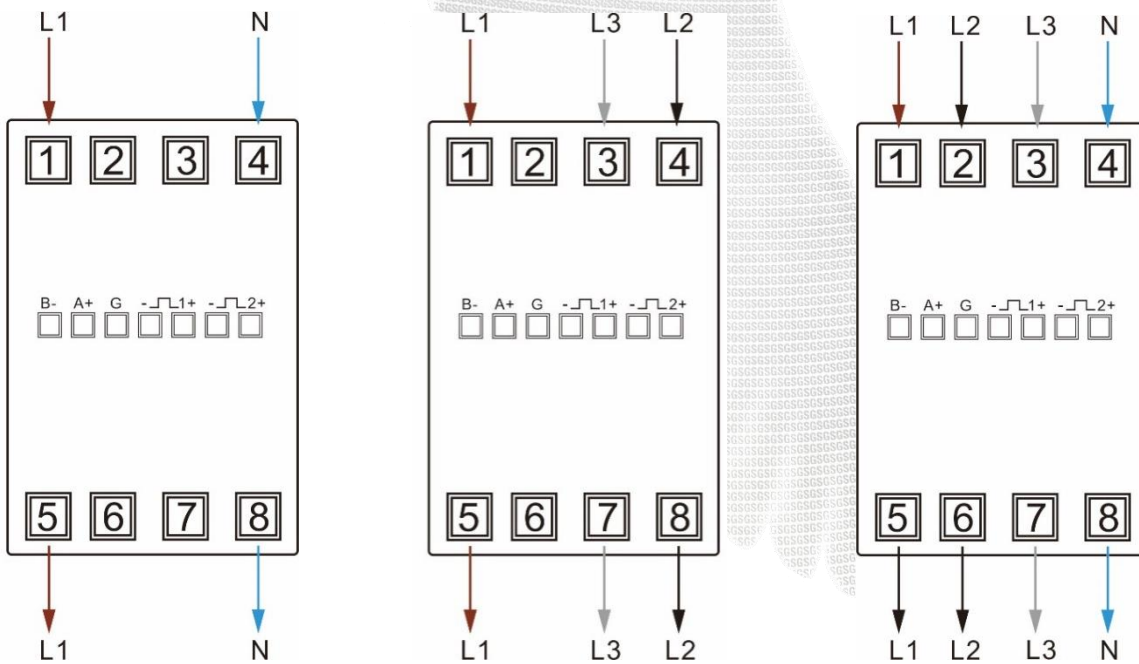


4. Wiring Diagrams

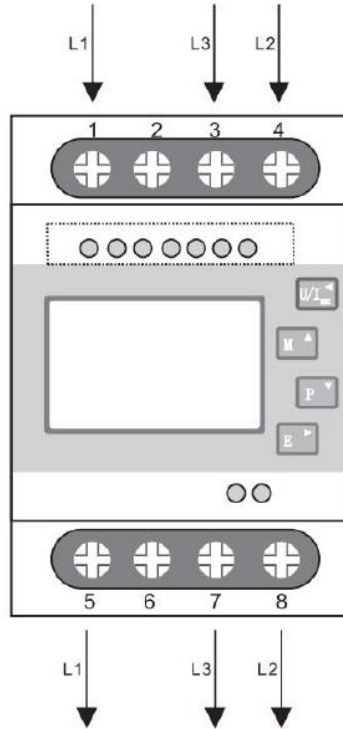
SDM 630 V1 Wiring Diagram



SDM 630 V2 & V3 Wiring Diagram



SDM 630 V2.2 Wiring Diagram





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5. 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
I _{min}	1.0	1.10	0.46	0.34	0.14	0.18	0.29	0.52	0.10
I _{tr}	1.0	1.03	0.57	0.39	0.19	0.11	0.24	0.46	0.21
10I _{tr}	1.0	0.97	0.64	0.45	0.25	0.06	0.20	0.42	0.29
I _{max}	1.0	0.96	0.75	0.60	0.44	0.26	0.23	0.30	0.25
I _{tr}	0.5ind	1.08	0.56	0.40	0.20	0.14	0.24	0.49	0.15
10I _{tr}	0.5ind	0.89	0.60	0.43	0.23	0.11	0.23	0.45	0.36
I _{max}	0.5ind	0.81	0.62	0.47	0.30	0.05	0.10	0.28	0.06
I _{tr}	0.8cap	1.06	0.65	0.46	0.27	0.11	0.21	0.43	0.12
10I _{tr}	0.8cap	0.93	0.62	0.44	0.24	0.12	0.24	0.46	0.30
I _{max}	0.8cap	0.94	0.69	0.55	0.37	0.16	0.14	0.28	0.17
L1									0.00
I _{tr}	1.0	0.23	0.84	0.60	0.32	0.08	0.20	0.48	0.18
10I _{tr}	1.0	1.19	0.97	0.71	0.46	0.10	0.13	0.36	0.12
I _{max}	1.0	1.16	0.93	0.70	0.48	0.16	0.06	0.25	0.24
I _{tr}	0.5ind	1.14	0.60	0.32	0.09	0.25	0.42	0.66	0.18
10I _{tr}	0.5ind	1.26	0.79	0.56	0.29	0.12	0.27	0.53	0.10
I _{max}	0.5ind	1.25	0.84	0.63	0.40	0.10	0.11	0.33	0.25
L2									
I _{tr}	1.0	0.93	0.40	0.26	0.09	0.08	0.16	0.37	0.67
10I _{tr}	1.0	1.13	0.42	0.31	0.19	0.08	0.17	0.36	0.48
I _{max}	1.0	1.09	0.44	0.36	0.25	0.08	0.08	0.23	0.20
I _{tr}	0.5ind	0.88	0.20	0.09	0.24	0.27	0.35	0.53	0.78
10I _{tr}	0.5ind	1.17	0.43	0.30	0.17	0.10	0.20	0.40	0.51
I _{max}	0.5ind	1.20	0.46	0.35	0.25	0.09	0.06	0.20	0.16
L3									
I _{tr}	1.0	0.73	0.55	0.37	0.15	0.14	0.30	0.51	0.10
10I _{tr}	1.0	0.77	0.51	0.33	0.11	0.20	0.33	0.56	0.04
I _{max}	1.0	0.59	0.55	0.39	0.21	0.10	0.21	0.52	0.32
I _{tr}	0.5ind	0.30	0.41	0.24	0.06	0.32	0.46	0.66	0.26
10I _{tr}	0.5ind	0.41	0.41	0.22	0.04	0.31	0.46	0.67	0.23
I _{max}	0.5ind	0.32	0.43	0.30	0.34	0.17	0.30	0.53	0.18


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6. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
SDM630-MT:	Polyphase, multi-function, multi-tariff, 2 pulse outputs and 1 RS485 Modbus communication port
SDM630-Modbus:	Polyphase, multi-function, 2 pulse outputs and 1 RS485 communication port
SDM630-Mbus:	Polyphase, multi-function, 2 pulse outputs and 1 Mbus communication port
SDM630-Pulse:	Polyphase, multi-function, 2 pulse outputs
SDM630-Standard:	Polyphase, 2 pulse outputs and 1 RS485 communication port
SDM630-2T:	Polyphase, multi-function, dual tariffs, 2 pulse outputs and 1 RS485 communication port
SDM630-DI:	Polyphase, multi-function, 1 RS485 Modbus communication port, Digital inputs
SDM630Mbus-2T:	Polyphase, multi-function, dual tariffs, 2 pulse outputs and 1 Mbus communication port
SDM630 M-DI:	Polyphase, multi-function, 1 RS485 Modbus communication port, Digital inputs
SDM630-Modbus V2.2:	Polyphase, Three Wire, multi-function, 2 pulse outputs and 1 RS485 communication port
SDM630 WiFi	Polyphase, multi-function, two pulse outputs and built-in WIFI communication
SDM630-EV	Polyphase, Multi-function, dual Modbus RS485 modbus communication port with built in crypto chip

Modifications to the meter(s) described according to approval No.**0120/SGS0151** 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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7. Document Revision History

Issue	Date	Comments
1	06/01/2015	Original Issue
2	21/06/2016	Addition of redesigned meter case with new terminal layout and wiring diagrams. Updated EC Directive to 2014/32/EU
3	24/05/2018	Meter type SDM630-2T added to approval
4	08/05/2019	Additional variants 0.5-10(80)A added to approval
5	07/08/2019	Meter types SDM630-DI and SDM630Mbus-2T added to approval
6	07/05/2021	Temperature range extended to -40°C to +70°C and change of Notified Body reference
7	05/08/2021	Meter types SDM630 Modbus V3, SDM630-2T V3, SDM630M-DI V3, SDM630-Modbus V2.2 added to approval
1	31/08/2021	Issue 1 for SGS Fimko NB 0598 The original approval certificate issued 06/01/2015 The modifications listed above were made prior to the transfer to SGS Fimko
2	29/11/2021	New model SDM630 WiFi added to approval
3	21/07/2022	New model SDM630 EV added to approval
4	27/02/2023	New nameplate with German NB number 1948 for Eichrecht approval
5	19/04/2023	New nameplate for SDM630-EV with corrected German NB number 0122 for Module D. New software version V1.2 and CRC 0x2A27C8E1 for SDM630-EV

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