



EU Type Examination Certificate Number: **0120/SGS0141**

Zhejiang Eastron Electronic Co., Ltd

No 1369 Chengnan Road
Jiaxing
Zhejiang
China

Instrument Identification
SDM120 Series

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

Instrument Traceable Number
0120/SGS0141

has been assessed and certified as meeting the requirements of

EU Directive 2014/32/EU **on Measuring Instruments 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 3

Certification is based on report number(s) SHES130800321401 dated 18th February 2014

Authorised Signature

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Dated: 16th January 2018**1. Technical Data**

Manufacturer	Zhejiang Eastron Electronic Co., Ltd.
Meter Types	SDM120A, SDM120D, SDM120DB, SDM120M, SDM120MB, SDM120P, SDM120CTM, SDM120CTMB, SDM120CTP
Voltage Rating (U_n)	230V
Current Rating (I_{min} – I_{ref} (I_{max}))	Direct Connected: 0.25-5(45)A CT Connected: 0.25-5(6)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No's	SDM120A, SDM120D, SDM120DB: V1.2 SDM120M : V2.4 SDM120MB : V2.4 SDM120P : V2.4 SDM120CTM : V2.5 SDM120CTMB : V2.5 SDM120CTP : V2.5
CRC Checksum	SDM120A, SDM120D, SDM120DB: 0x00008E1E SDM120M, SDM120MB, SDM120P : 0x0000272C SDM120CTM, SDM120CTMB, SDM120CTP: 0x0000B594
Identification Location	Meter Case
Bill Of Materials Number's	SDM120A: DH-JS-150002-1.5 SDM120D & SDM120DB: DH-JS-150003-1.5 SDM120M : DH-JS-170009-1.2 SDM120MB : DH-JS-170026-1.0 SDM120P : DH-JS-170021-1.0 SDM120CTM : DH-JS-170014-1.1 SDM120CTMB : DH-JS-170027-1.0 SDM120CTP : DH-JS-170025-1.0
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000imp/ 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: SDM120D, SDM120DB, SDM120M, SDM120MB, SDM120P, SDM120CTM, SDM120CTMB, SDM120CTP Mechanical: SDM120A

2. Photographs of Meter

Direct Connected Version

CT Connected Version



SGS

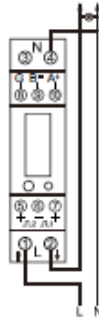
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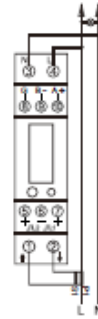
Dated: 16th January 2018

3. Nameplates



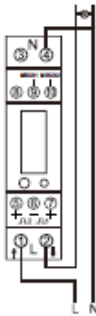
EASTRON
Single Phase Energy Meter
Model: SDM120MB
Input: 230V AC 50Hz
0,25-5(45)A
L1: Configurable
L2: 1000imp/kWh
EN50470-1/3 IP51
0120/SGS0141 3K6

Manufactured in 2017 by
Jiaxing Eastron Electronic Instruments Co., Ltd.
No.1369,Chengnan Rd.,Jiaxing, Zhejiang, China



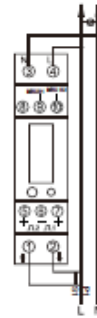
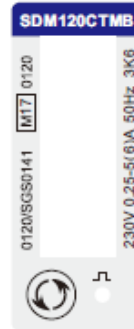
EASTRON
Single Phase Energy Meter
Model: SDM120CTM
Input: 230V AC 50Hz
0,25-5(6)A CT
L1: Configurable
L2: 1000imp/kWh
EN50470-1/3 IP51
0120/SGS0141 3K6

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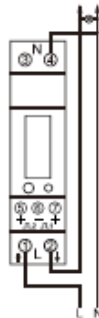
EASTRON
Single Phase Energy Meter
Model: SDM120MB
Input: 230V AC 50Hz
0,25-5(45)A
L1: Configurable
L2: 1000imp/kWh
EN50470-1/3 IP51
0120/SGS0141 3K6

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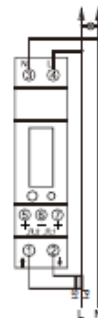
EASTRON
Single Phase Energy Meter
Model: SDM120CTMB
Input: 230V AC 50Hz
0,25-5(6)A CT
L1: Configurable
L2: 1000imp/kWh
EN50470-1/3 IP51
0120/SGS0141 3K6

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EASTRON
Single Phase Energy Meter
Model: SDM120P
Input: 230V AC 50Hz
0,25-5(45)A
L1: 1000imp/kWh (Export)
L2: 1000imp/kWh (import)
EN50470-1/3 IP51
0120/SGS0141 3K6

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



EASTRON
Single Phase Energy Meter
Model: SDM120CTP
Input: 230V AC 50Hz
0,25-5(6)A CT
L1: 1000imp/kWh (Export)
L2: 1000imp/kWh (import)
EN50470-1/3 IP51
0120/SGS0141 3K6

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EASTRON

Single Phase Energy Meter

Model: SDM120A

Input: 230V AC 50Hz

0.25-5(45)A

S0: 1000imp/kWh

EN50470-1/3 IP51

0120/SGS0141 3K6



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EASTRON

Single Phase Energy Meter

Model: SDM120D

Input: 230V AC 50Hz

0.25-5(45)A

S0: 1000imp/kWh

EN50470-1/3 IP51

0120/SGS0141 3K6



Manufactured in 2018 by

Zhejiang Easton Electronic Co., Ltd.
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EASTRON

Single Phase Energy Meter

Model: SDM120DB

Input: 230V AC 50Hz

0.25-5(45)A

S0: 1000imp/kWh

EN50470-1/3 IP51

0120/SGS0141 3K6



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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


		Influence Factors for temperature, frequency and voltage					
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.12	0.12	0.12	0.13	0.12	0.12
I _{tr}	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10I _{tr}	1.0	0.17	0.16	0.16	0.16	0.16	0.16
I _{max}	1.0	0.13	0.13	0.13	0.13	0.13	0.13
I _{tr}	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10I _{tr}	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
I _{max}	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
I _{tr}	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10I _{tr}	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
I _{max}	0.8cap	0.09	0.09	0.09	0.09	0.09	0.09

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5. Annex of Variants

Type Designation	Description of meter
SDM120D	Single Phase, 230V, 0.25-5(45)A,
SDM120DB	Single Phase, 230V, 0.25-5(45)A ,Backlight
SDM120A	Single Phase 230V, 0.25-5(45)A Mechanical register
SDM120MB	Single Phase, 230V, 0.25-5(45)A, 2 Pulse Outputs, M-Bus EN13757-3
SDM120M	Single Phase, 230V, 0.25-5(45)A. RS485 Modbus
SDM120P	Single Phase, 230V, 0.25-5(45)A
SDM120CTP	Single Phase, 230V, 0.25-5(6)A
SDM120CTM	Single Phase, 230V, 0.25-5(6)A. RS245, Modbus
SDM120CTMB	Single Phase, 230V, 0.25-5(6)A., M-Bus EN13757-3

Modifications to the meter(s) described according to approval No. **0120/ SGS0141** 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	18/02/2014	Initial Issue
2	27/11/2015	Version SDM120-Modbus added to approval
3	16/01/2018	Additional included in approval

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END OF CERTIFICATE