



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 17<sup>th</sup> February 2024  
Issue 3

Certification is based on report number(s) SHES130800321401 dated 18<sup>th</sup> February 2014

Authorised Signature


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	EU-Type Examination Certificate Number:	
	<b>0120/ SGS0141</b>	
	Issue Number: 3	Dated: 16 <sup>th</sup> 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

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## 2. Photographs of Meter

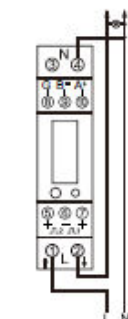
**Direct Connected Version**



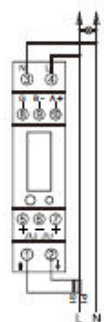
**CT Connected Version**



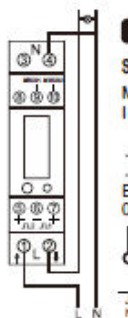
### 3. Nameplates



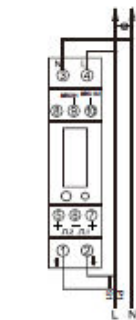
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120MB  
Input: 230V AC 50Hz  
0.25-5(45)A  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 @ 3K6  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



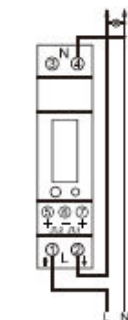
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120CTM  
Input: 230V AC 50Hz  
0.25-5(6)A CT  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 @ 3K6  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



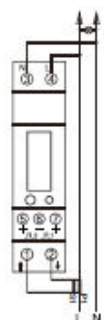
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120MB  
Input: 230V AC 50Hz  
0.25-5(45)A  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 @ 3K6  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



**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  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China



**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  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
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  
M17 0120  
Manufactured in 2017 by  
Jiaxing Eastron Electronic Instruments Co., Ltd.  
No.1369, Chengnan Rd., Jiaxing, Zhejiang, China

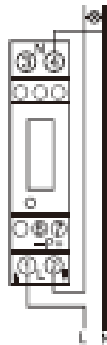
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EU-Type Examination Certificate Number:

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**EASTRON**

Single Phase Energy Meter

Model: SDM120A

Input: 230V AC 50Hz

0.25-5(45)A

SD: 1000imp/kWh

EN50470-1/3 IP51

0120/SGS0141 3K6



Manufactured in 2018 by

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No.1388 Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**

Single Phase Energy Meter

Model: SDM120D

Input: 230V AC 50Hz

0.25-5(45)A

SD: 1000imp/kWh

EN50470-1/3 IP51

0120/SGS0141 3K6



Manufactured in 2018 by

Zhejiang Easton Electronic Co., Ltd.  
No.1388 Chengnan Rd., Jiaxing, Zhejiang, China



**EASTRON**

Single Phase Energy Meter

Model: SDM120DB

Input: 230V AC 50Hz

0.25-5(45)A

SD: 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 <sub>min</sub>	1.0	0.12	0.12	0.12	0.13	0.12	0.12
I <sub>tr</sub>	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10I <sub>tr</sub>	1.0	0.17	0.16	0.16	0.16	0.16	0.16
I <sub>max</sub>	1.0	0.13	0.13	0.13	0.13	0.13	0.13
I <sub>tr</sub>	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10I <sub>tr</sub>	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
I <sub>max</sub>	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
I <sub>tr</sub>	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10I <sub>tr</sub>	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
I <sub>max</sub>	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**