



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:

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Dated: 16<sup>th</sup> January 2018**1. Technical Data**

<b>Manufacturer</b>	Zhejiang Eastron Electronic Co., Ltd.
<b>Meter Types</b>	SDM120A, SDM120D, SDM120DB, SDM120M, SDM120MB, SDM120P, SDM120CTM, SDM120CTMB, SDM120CTP
<b>Voltage Rating (<math>U_n</math>)</b>	230V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	Direct Connected: 0.25-5(45)A CT Connected: 0.25-5(6)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (kWh)</b>	A or B (kWh)
<b>Type of circuit</b>	1p2w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No's</b>	SDM120A, SDM120D, SDM120DB: V1.2 SDM120M : V2.4 SDM120MB : V2.4 SDM120P : V2.4 SDM120CTM : V2.5 SDM120CTMB : V2.5 SDM120CTP : V2.5
<b>CRC Checksum</b>	SDM120A, SDM120D, SDM120DB: 0x00008E1E SDM120M, SDM120MB, SDM120P : 0x0000272C SDM120CTM, SDM120CTMB, SDM120CTP: 0x0000B594
<b>Identification Location</b>	Meter Case
<b>Bill Of Materials Number's</b>	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
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	4 x Wire & Crimp
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD: SDM120D, SDM120DB, SDM120M, SDM120MB, SDM120P, SDM120CTM, SDM120CTMB, SDM120CTP Mechanical: SDM120A

**2. Photographs of Meter**

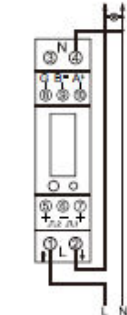
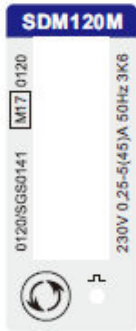
**Direct Connected Version**



**CT Connected Version**

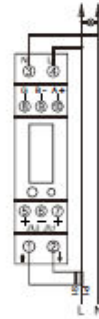


**3. Nameplates**



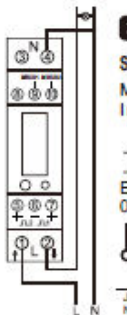
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120MB  
Input: 230V AC 50Hz  
0,25-5(45)A  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 3K6

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



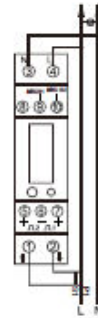
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120CTM  
Input: 230V AC 50Hz  
0,25-5(6)A CT  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 3K6

Manufactured in 2017 by  
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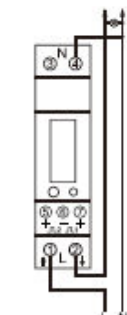
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120MB  
Input: 230V AC 50Hz  
0,25-5(45)A  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
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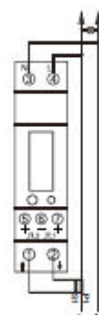
**EASTRON**  
Single Phase Energy Meter  
Model: SDM120CTMB  
Input: 230V AC 50Hz  
0,25-5(6)A CT  
L1: Configurable  
L2: 1000imp/kWh  
EN50470-1/3 IP51  
0120/SGS0141 3K6

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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

Manufactured in 2017 by  
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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



Manufactured in 2018 by

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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 Eastson Electronics Co., Ltd.  
No.1288 Chengguan Rd., Jiaxing, Zhejiang, China



### 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



Manufactured in 2018 by

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No.1288 Chengguan 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	-25	-10	5	30	40	55
<i>I</i> <sub>min</sub>	1.0	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.13</i>	<i>0.12</i>	<i>0.12</i>
<i>I</i> <sub>tr</sub>	1.0	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>
10 <i>I</i> <sub>tr</sub>	1.0	<i>0.17</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>
<i>I</i> <sub>max</sub>	1.0	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>	<i>0.13</i>
<i>I</i> <sub>tr</sub>	0.5ind	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>
10 <i>I</i> <sub>tr</sub>	0.5ind	<i>0.40</i>	<i>0.40</i>	<i>0.40</i>	<i>0.40</i>	<i>0.40</i>	<i>0.40</i>
<i>I</i> <sub>max</sub>	0.5ind	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>
<i>I</i> <sub>tr</sub>	0.8cap	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>	<i>0.24</i>
10 <i>I</i> <sub>tr</sub>	0.8cap	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>	<i>0.31</i>
<i>I</i> <sub>max</sub>	0.8cap	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>	<i>0.09</i>

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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**