



EC Type Examination Certificate Number: **0120/ SGS0213**

## **Jiaxing Eastron Electronic Instruments Co Ltd**

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

Instrument Identification:  
**SDM72D, SDM72DR, SDM72Bi**

Instrument Traceable Number  
**0120/ SGS0213**

**Poly phase, Active Import/Export (kWh), Electricity Meter**

has been assessed and certified as meeting the requirements of

**EC Directive 2004/22/EC**  
**on Measuring Instruments Annex 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 MI-003 of EC Directive 2004/22/EC

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex D or Annex F.

This certificate is valid for 10 years from 21<sup>st</sup> April 2016 until 20<sup>th</sup> April 2026  
Issue 2


Certification is based on report number(s) SHES151000648101 dated 19<sup>th</sup> April 2016

Authorised Signature

Jan Saunders


SGS United Kingdom Limited, Notified Body 0120  
Unit 202B Worle Parkway, Weston-super-Mare, BS22 6WA UK  
t +44 (0)1934 522917 f +44 (0)1934 522137 [www.sgs.com](http://www.sgs.com)

Contact Address  
SGS United Kingdom Ltd, Units 12A & 12B, South Industrial Estate, Bowburn, Durham, DH6 5AD UK  
t +44 (0)191 377 2000 f +44 (0)191 377 2020 [www.sgs.com](http://www.sgs.com)

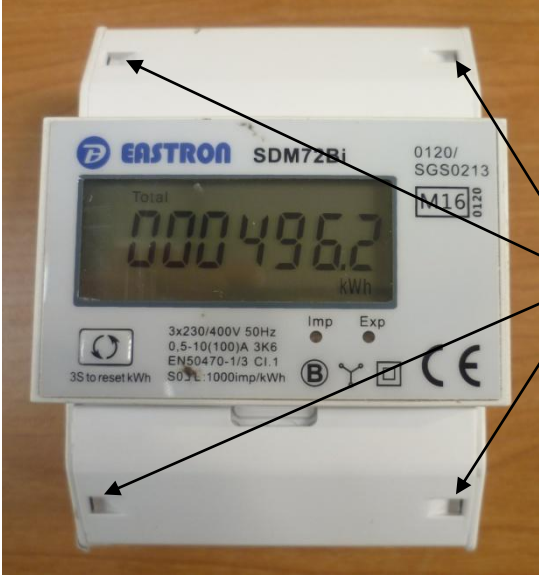
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## 1. Technical Data

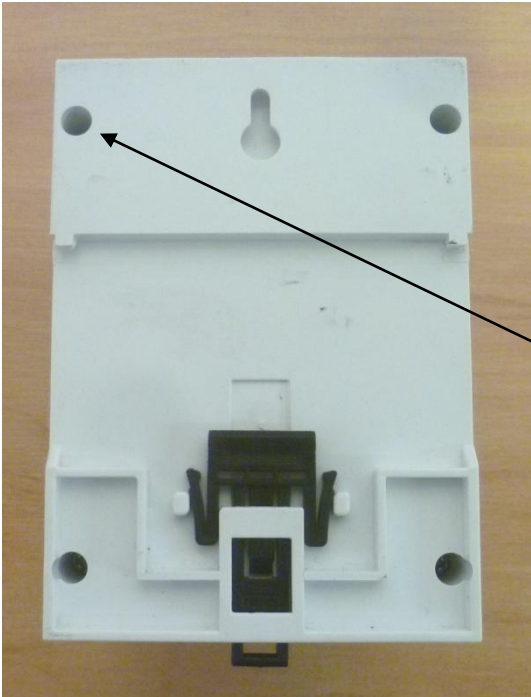
<b>Manufacturer</b>	Jiaxing Eastron Electronic Instruments Co Ltd
<b>Meter Type</b>	SDM72D, SDM72DR, SDM72Bi
<b>Voltage Rating (<math>U_n</math>)</b>	3 x 230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	0,5-10(100)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B ( $kWh$ )
<b>Type of circuit</b>	3p4w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No Identification Location</b>	1.1 LCD
<b>Bill Of Materials Number</b>	SDM72D V1.2, SDM72DR V1.2, SDM72Bi V1.2
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000 imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	Wire & Crimp on terminal cover Meter case sealed with screws
<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

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**Photograph of Meter and Sealing Plan**



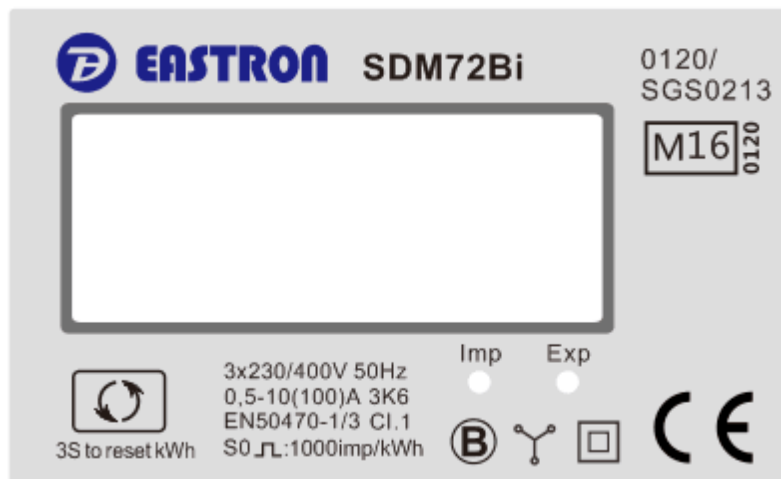
Terminal cover sealing points




Meter case sealing point

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## 2. Nameplates



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### 3. Calculation of the composite error/ MPE

		Influence Factors for temperature, frequency and voltage						
Current	PF Cos		-25	-10	5	30	40	55
I <sub>min</sub>	1.0		<b>0.32</b>	<b>0.24</b>	<b>0.15</b>	<b>0.12</b>	<b>0.15</b>	<b>0.26</b>
I <sub>tr</sub>	1.0		<b>0.34</b>	<b>0.24</b>	<b>0.15</b>	<b>0.10</b>	<b>0.15</b>	<b>0.30</b>
10I <sub>tr</sub>	1.0		<b>0.37</b>	<b>0.28</b>	<b>0.17</b>	<b>0.10</b>	<b>0.15</b>	<b>0.28</b>
I <sub>max</sub>	1.0		<b>0.30</b>	<b>0.24</b>	<b>0.19</b>	<b>0.15</b>	<b>0.17</b>	<b>0.24</b>
I <sub>tr</sub>	0.5ind		<b>0.51</b>	<b>0.45</b>	<b>0.37</b>	<b>0.30</b>	<b>0.30</b>	<b>0.36</b>
10I <sub>tr</sub>	0.5ind		<b>0.40</b>	<b>0.32</b>	<b>0.25</b>	<b>0.18</b>	<b>0.22</b>	<b>0.32</b>
I <sub>max</sub>	0.5ind		<b>0.66</b>	<b>0.62</b>	<b>0.58</b>	<b>0.52</b>	<b>0.51</b>	<b>0.50</b>
I <sub>tr</sub>	0.8cap		<b>0.44</b>	<b>0.34</b>	<b>0.26</b>	<b>0.16</b>	<b>0.17</b>	<b>0.24</b>
10I <sub>tr</sub>	0.8cap		<b>0.37</b>	<b>0.25</b>	<b>0.15</b>	<b>0.09</b>	<b>0.15</b>	<b>0.27</b>
I <sub>max</sub>	0.8cap		<b>0.48</b>	<b>0.42</b>	<b>0.38</b>	<b>0.33</b>	<b>0.31</b>	<b>0.32</b>
L1								
I <sub>tr</sub>	1.0		<b>0.37</b>	<b>0.33</b>	<b>0.29</b>	<b>0.26</b>	<b>0.28</b>	<b>0.38</b>
10I <sub>tr</sub>	1.0		<b>0.30</b>	<b>0.21</b>	<b>0.15</b>	<b>0.10</b>	<b>0.17</b>	<b>0.29</b>
I <sub>max</sub>	1.0		<b>0.23</b>	<b>0.18</b>	<b>0.17</b>	<b>0.11</b>	<b>0.14</b>	<b>0.23</b>
I <sub>tr</sub>	0.5ind		<b>0.44</b>	<b>0.38</b>	<b>0.35</b>	<b>0.34</b>	<b>0.38</b>	<b>0.44</b>
10I <sub>tr</sub>	0.5ind		<b>0.31</b>	<b>0.24</b>	<b>0.22</b>	<b>0.19</b>	<b>0.26</b>	<b>0.38</b>
I <sub>max</sub>	0.5ind		<b>0.29</b>	<b>0.26</b>	<b>0.25</b>	<b>0.22</b>	<b>0.24</b>	<b>0.34</b>
L2								
I <sub>tr</sub>	1.0		<b>0.61</b>	<b>0.61</b>	<b>0.61</b>	<b>0.61</b>	<b>0.61</b>	<b>0.61</b>
10I <sub>tr</sub>	1.0		<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.20</b>
I <sub>max</sub>	1.0		<b>0.16</b>	<b>0.14</b>	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>	<b>0.12</b>
I <sub>tr</sub>	0.5ind		<b>0.76</b>	<b>0.77</b>	<b>0.77</b>	<b>0.76</b>	<b>0.77</b>	<b>0.77</b>
10I <sub>tr</sub>	0.5ind		<b>0.31</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.31</b>	<b>0.32</b>
I <sub>max</sub>	0.5ind		<b>0.30</b>	<b>0.28</b>	<b>0.27</b>	<b>0.27</b>	<b>0.27</b>	<b>0.27</b>
L3								
I <sub>tr</sub>	1.0		<b>0.80</b>	<b>0.52</b>	<b>0.38</b>	<b>0.27</b>	<b>0.37</b>	<b>0.54</b>
10I <sub>tr</sub>	1.0		<b>0.86</b>	<b>0.64</b>	<b>0.50</b>	<b>0.42</b>	<b>0.48</b>	<b>0.63</b>
I <sub>max</sub>	1.0		<b>1.09</b>	<b>0.97</b>	<b>0.90</b>	<b>0.87</b>	<b>0.89</b>	<b>0.95</b>
I <sub>tr</sub>	0.5ind		<b>1.04</b>	<b>0.92</b>	<b>0.82</b>	<b>0.79</b>	<b>0.82</b>	<b>0.92</b>
10I <sub>tr</sub>	0.5ind		<b>1.03</b>	<b>0.88</b>	<b>0.78</b>	<b>0.74</b>	<b>0.78</b>	<b>0.88</b>
I <sub>max</sub>	0.5ind		<b>1.02</b>	<b>0.92</b>	<b>0.92</b>	<b>0.83</b>	<b>0.87</b>	<b>0.94</b>


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During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table above represents the sum of the square values per load, determined via the following formula:-

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

where

- $\delta e(T, I, \cos\varphi) =$  Additional error due to variation of the temperature at the same load
- $\delta e(U, I, \cos\varphi) =$  Additional error due to variation of the voltage at the same load
- $\delta e(f, I, \cos\varphi) =$  Additional error due to variation of the frequency at the same load


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## Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
SDM72D	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows only total active energy, without resettable kWh
SDM72DR	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows total active energy, resettable kWh, total active power
SDM72Bi	3x230/400V, 0.5-10(100)A 1000imp/kWh Shows total active energy, total active power, import and export energy, resettable import and export energy.

Modifications to the meter(s) described according to approval No. **0120/ SGS0213** 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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#### 4. Document Revision History

Issue	Date	Comments
1	21/04/2016	Initial Issue
2	18/07/2016	Revised BOM numbers