



EU Type Examination Certificate Number: **0120/SGS0288**

# Zhejiang Eastron Electronic Co., Ltd.

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

Instrument Identification:  
**Smart X96-1, Smart X96-1E, Smart X96-5 & Smart X96-5E**

**Polyphase, Active Import/Export (kWh), Indoor, Transformer Operated, Multi-function,  
Electricity Meter**

Instrument Traceable Number  
**0120/SGS0288**

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 for 10 years from 24<sup>th</sup> April 2017 until 23<sup>rd</sup> April 2027  
Issue 4

Certification is based on report number(s) EMA234440/2 dated 24<sup>th</sup> April 2017

Authorised Signature


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 Limited, 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)

	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019

## 1. Technical Data


<b>Manufacturer</b>	Zhejiang Eastron Electronic Co., Ltd.
<b>Meter Type</b>	Smart X96-1, Smart X96-1E, Smart X96-5, Smart X96-5E
<b>Voltage Rating (<math>U_n</math>)</b>	1P2W: 230V 3P3W: 3x230V 3P4W: 3 x 230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	Smart X96-5, Smart X96-5E: 0.25-5(6)A Smart X96-1, Smart X96-1E: 100mA/5(6)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B or C (kWh)
<b>Type of circuit</b>	1p2w, 3p3w, 3p4w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No</b>	V1.3
<b>CRC Checksum</b>	0x0059DD5E
<b>Identification Location</b>	LCD
<b>Bill Of Materials Number</b>	DH-JS-160010-1.3
<b>IP Rating</b>	IP51 Front Display Meter body not rated. Must be installed in a suitable IP rated enclosure
<b>Insulation Protective Class</b>	Class I / Class II
<b>LED Pulse Constant</b>	3200imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	Wire & Crimp Laser Welded
<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
<b>Location of Manufacturers Address</b>	Associated Documents

	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019

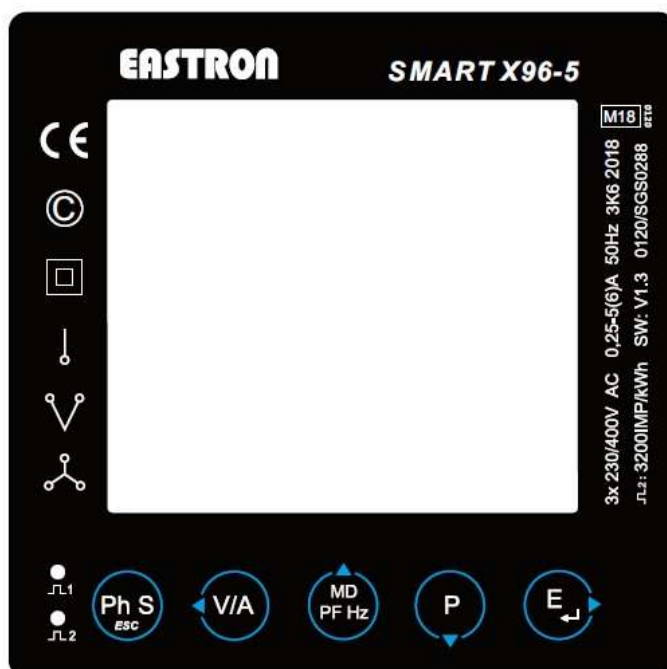
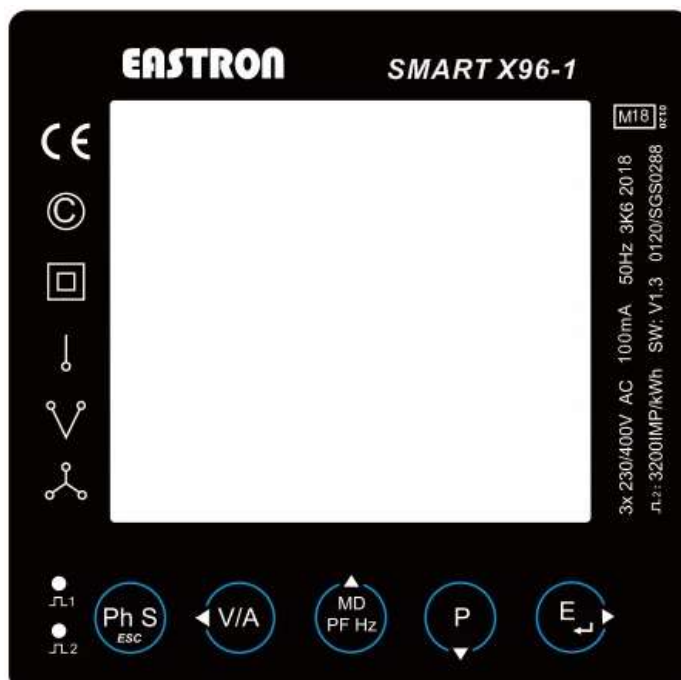
**2. Photograph of Meter and Sealing Plan**



Terminal covers sealing points

	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019

### 3. Examples of Nameplates

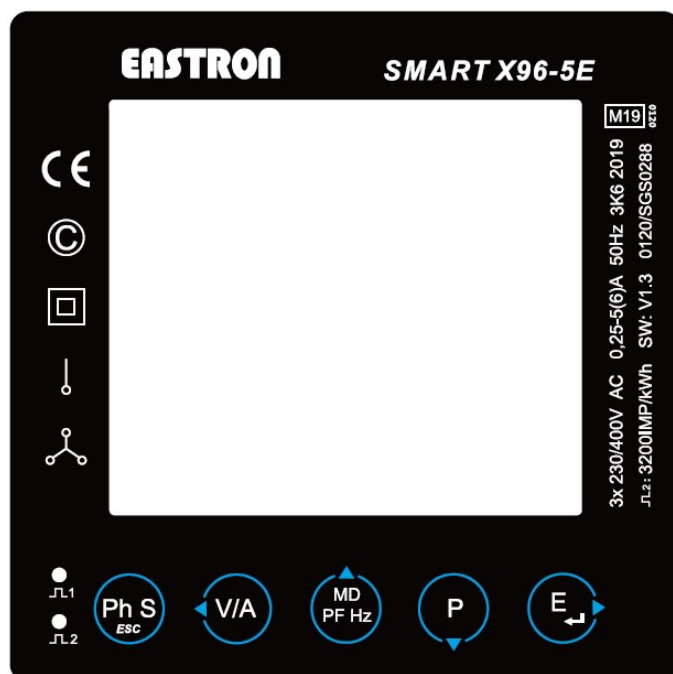
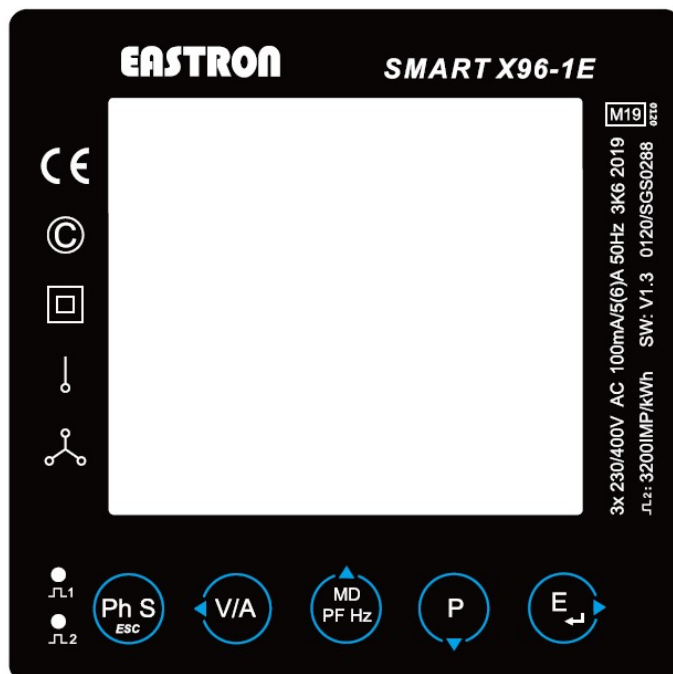



EU-Type Examination Certificate Number:

**0120/SGS0288**

Issue Number: 4

Dated: 22<sup>nd</sup> January 2019



	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019

#### 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




EU-Type Examination Certificate Number:

**0120/SGS0288**

Issue Number: 4

Dated: 22<sup>nd</sup> January 2019

		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I <sub>min</sub>	1.0	0.21	0.20	0.14	0.07	0.19	0.39
I <sub>tr</sub>	1.0	0.25	0.24	0.20	0.10	0.17	0.37
10I <sub>tr</sub>	1.0	0.24	0.23	0.19	0.10	0.20	0.39
I <sub>max</sub>	1.0	0.24	0.24	0.18	0.10	0.18	0.39
I <sub>tr</sub>	0.5ind	0.25	0.25	0.21	0.10	0.19	0.44
10I <sub>tr</sub>	0.5ind	0.20	0.06	0.11	0.31	0.56	0.70
I <sub>max</sub>	0.5ind	0.23	0.19	0.10	0.36	0.51	0.51
I <sub>tr</sub>	0.8cap	0.25	0.25	0.20	0.12	0.18	0.37
10I <sub>tr</sub>	0.8cap	0.35	0.30	0.23	0.09	0.11	0.33
I <sub>max</sub>	0.8cap	0.33	0.29	0.27	0.16	0.18	0.30
L1							
I <sub>tr</sub>	1.0	0.19	0.17	0.11	0.08	0.19	0.40
10I <sub>tr</sub>	1.0	0.18	0.17	0.11	0.10	0.20	0.41
I <sub>max</sub>	1.0	0.18	0.16	0.10	0.10	0.20	0.40
I <sub>tr</sub>	0.5ind	0.21	0.19	0.13	0.07	0.20	0.45
10I <sub>tr</sub>	0.5ind	0.23	0.22	0.17	0.12	0.18	0.39
I <sub>max</sub>	0.5ind	0.19	0.17	0.13	0.09	0.19	0.41
L2							
I <sub>tr</sub>	1.0	0.35	0.35	0.31	0.19	0.21	0.40
10I <sub>tr</sub>	1.0	0.29	0.30	0.25	0.16	0.22	0.47
I <sub>max</sub>	1.0	0.30	0.30	0.27	0.15	0.20	0.43
I <sub>tr</sub>	0.5ind	0.31	0.32	0.28	0.16	0.16	0.35
10I <sub>tr</sub>	0.5ind	0.74	0.14	0.33	0.77	0.46	0.92
I <sub>max</sub>	0.5ind	0.33	0.34	0.37	0.63	0.47	1.19
L3							
I <sub>tr</sub>	1.0	0.16	0.15	0.10	0.08	0.19	0.40
10I <sub>tr</sub>	1.0	0.18	0.16	0.10	0.10	0.20	0.41
I <sub>max</sub>	1.0	0.17	0.16	0.10	0.11	0.21	0.41
I <sub>tr</sub>	0.5ind	0.17	0.20	0.17	0.12	0.26	0.58
10I <sub>tr</sub>	0.5ind	0.18	0.18	0.11	0.36	0.40	0.62
I <sub>max</sub>	0.5ind		0.15	0.08	0.62	0.37	0.57

	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019


## 5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
Smart X96-1	Active Import/Export (kWh), 3x230/400V, 100mA/5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU
Smart X96-1E	Active Import/Export (kWh), 3x230/400V, 100mA/5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU. Max baud rate 9600, No THD or Max Demand
Smart X96-5	Active Import/Export (kWh), 3x230/400V, 5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU
Smart X96-5E	Active Import/Export (kWh), 3x230/400V, 5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU. Max baud rate 9600, No THD or Max Demand

Modifications to the meter(s) described according to approval No.**0120/SGS0288** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).



	EU-Type Examination Certificate Number:	
	<b>0120/SGS0288</b>	
	Issue Number: 4	Dated: 22 <sup>nd</sup> January 2019

## 6. Document Revision History

Issue	Date	Comments
1	24/04/2017	Initial Issue
2	27/09/2018	Model Smart X96-1 added to approved types.
3	17/12/2018	Models Smart X96-1E and Smart X96-5E added to approved types
4	22/01/2019	Smart X96-1E and Smart X96-5E nameplates updated

This document is issued by the Company subject to its General Conditions for Certification Services, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested *and such sample(s) are retained for 28 days only.*

**END OF CERTIFICATE**