



EU Type Examination Certificate Number: **0120/SGS0460**

Smart Metering Solutions (Changsha) Co., Ltd

No.468 West Tongzipo Road
High-Tech Industrial Development Zone
410205
Changsha City
Hunan Province
China

Instrument Identification:
PM120

Single Phase, Active Import/Export (kWh), Smart, Electricity Meter

Instrument Traceable Number
0120/SGS0460

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 until 10th December 2028
Issue 1

Certification is based on report number(s) SHES180700724301 dated 10th December 2018
EMA262064/1/TR50579 dated 10th December 2018
EMA262064
EMA280220

Authorised Signature


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1. Technical Data

Manufacturer	Smart Metering Solutions (Changsha) Co., Ltd
Meter Type	PM120
Voltage Rating (U_n)	220-240V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.25-5(80)A, 0.25-5(100)A
Frequency (F_n)	50Hz or 60Hz (IEC only)
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-40°C to +70°C
Software/ Firmware Version No	DDSD101-DT61-0-0
CRC Checksum	0298
Identification Location	LCD on CIU
Bill Of Materials Number	OKWQ2.702.527
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	4 x Screws 1 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN
Location of Manufacturers Address	Nameplate

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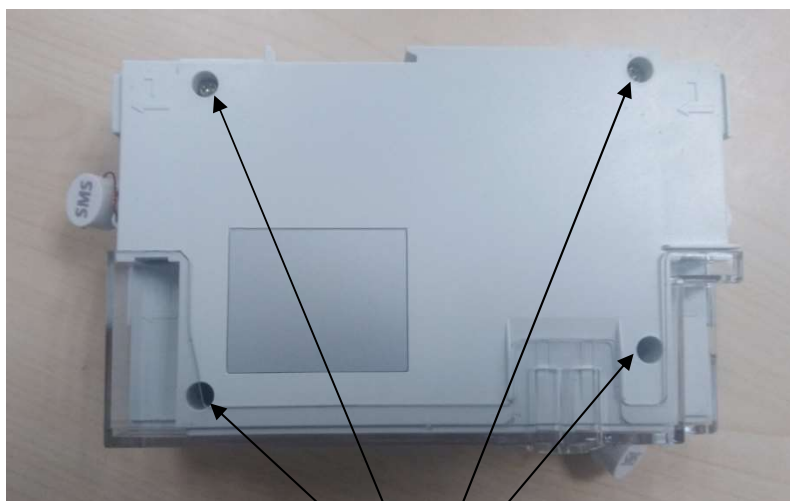
2. Photograph of Meter and Sealing Plan



Metering Unit




User Interface Unit



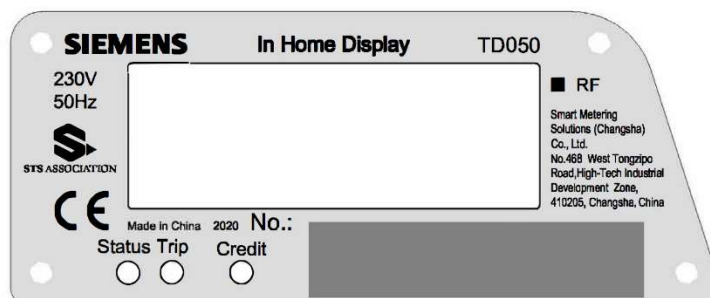
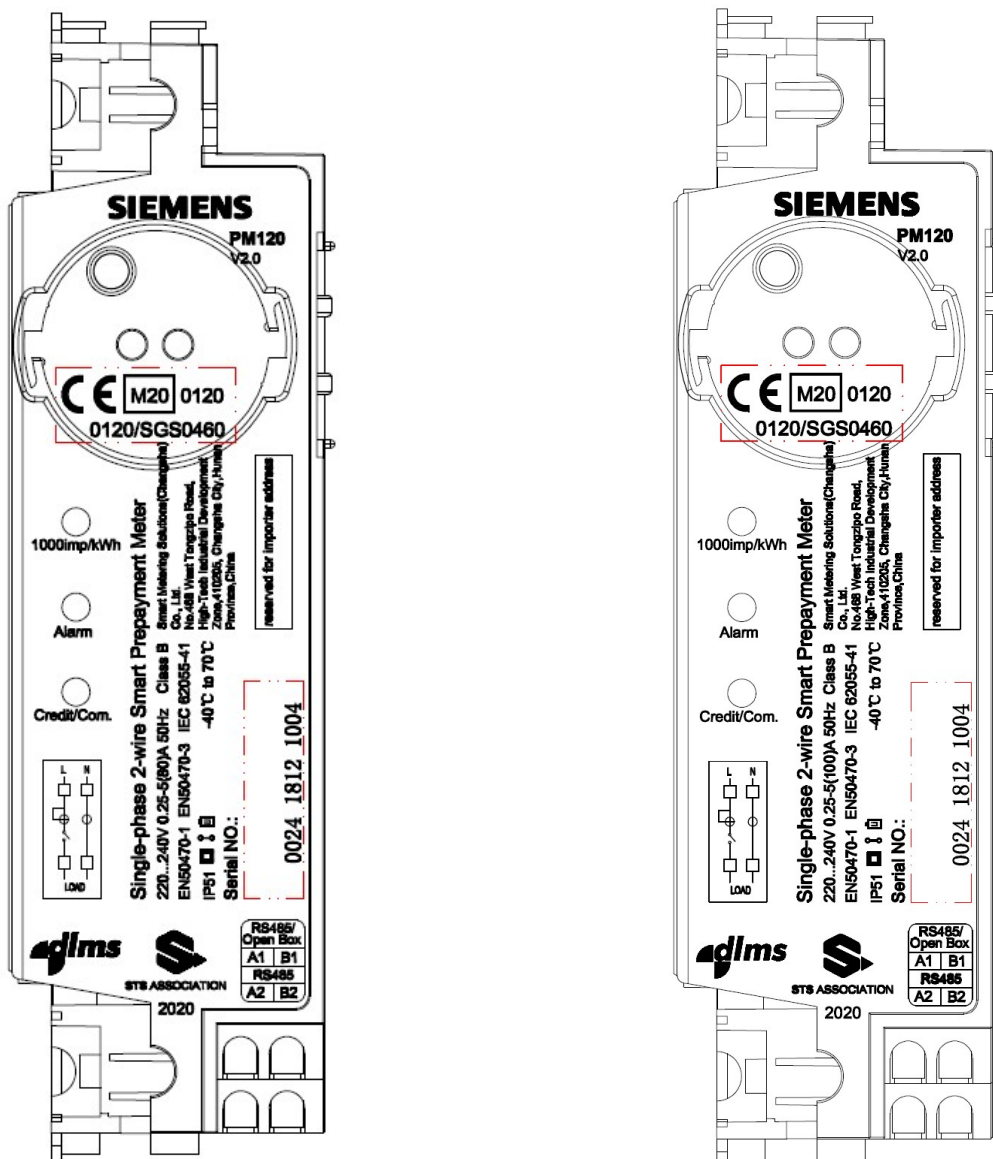
Main Cover
Sealing Points




Main Cover
Sealing Point

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3. Examples of Nameplates



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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, Voltage & Frequency							
Current	PF Cos	-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
I _{min}	1.0	0.24	0.16	0.30	0.22	0.17	0.18	0.44	0.52
I _{tr}	1.0	0.18	0.07	0.25	0.14	0.08	0.11	0.51	0.56
10I _{tr}	1.0	0.16	0.07	0.25	0.13	0.06	0.20	0.51	0.57
I _{max}	1.0	0.63	0.47	0.45	0.44	0.53	0.44	0.48	0.53
I _{tr}	0.5ind	0.28	0.11	0.16	0.10	0.10	0.25	0.50	0.60
10I _{tr}	0.5ind	0.24	0.06	0.23	0.13	0.06	0.32	0.58	0.64
I _{max}	0.5ind	0.74	0.52	0.47	0.47	0.56	0.47	0.53	0.58
I _{tr}	0.8cap	0.15	0.05	0.26	0.14	0.05	0.23	0.48	0.56
10I _{tr}	0.8cap	0.12	0.06	0.25	0.14	0.03	0.22	0.50	0.53
I _{max}	0.8cap	0.73	0.60	0.58	0.58	0.64	0.59	0.60	0.64


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
PM120	Single Phase, 220-240V, 5(80)A or 5(100)A

Modifications to the meter(s) described according to approval No.**0120/SGS0460** 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	01/07/2020	Initial Issue

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END OF CERTIFICATE