



5386

SGS

UKCA Type Examination Certificate Number: **0120/SGS0203**

Schneider Electric

Schneider Electric Canada Inc.
2195 Keating Cross Road
Saanichton, British Columbia
Canada, V8M 2A5

Instrument Identification:

PM8000

**Polyphase, Active Import/ Export (kWh), Transformer Operated, Auxiliary power supply,
RS485, Dual Ethernet, 1 digital output, 3 digital inputs**

Instrument Traceable Number

0120/SGS0203

has been assessed and certified as meeting the requirements of

Measuring Instruments Regulations 2016 (as amended)

on Active electrical energy meters, Schedule 1B, 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 Schedule 1E, as referenced in the UK Measuring Instruments Regulations 2016, as amended

This certificate must be used in conjunction with a certificate covering the product verification as required in Schedule 1B, Module D or Schedule 1B, Module F

This certificate is valid until 6th September 2025
Issue 5

Certification is based on report number(s) EMA195810/1 dated 28th January 2015
EMA204099 dated 28th January 2015
EMA204099/1

Authorised Signature

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1. Technical Data

Manufacturer	Schneider Electric
Meter Type	PM8000
Voltage Rating (<i>Un</i>)	3P3W: 3x100V ~ 3x600V (L-L) 3P4W: 3 x 57.7/100V ~ 3x400/690V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0.025-5(10)A
Frequency (<i>Fn</i>)	50Hz or 60Hz (IEC only)
Active Accuracy Class (<i>kWh</i>)	C (kWh)
Type of circuit	3P4W, 3P3W
Temperature Range	-25°C ~ +70°C
Software/ Firmware Version No's	Version: 001.004.003. CRC: 0x0c2eda9a Version: 002.001.000. CRC: 0x5c9693a1 Version: 002.002.001. CRC: 0xd0467dc0 Version: 003.000.000. CRC: 0xe4bbde55 Version: 003.001.000. CRC: 0xa5722135 Version: 004.000.000. CRC: 0x262a2d16 Version: 004.005.000. CRC: 0xa5ac524b
Identification Location	LCD
Bill of Materials No's	EAV66596 PCBA, PSU, PM8000 EAV66599 PCBA, CVM, PM8000 EAV66594 PCBA, Comm I/O, PM8000 EAV66601 PCBA, Backplane, INT, PM8000 EAV66597 PCBA, CPU, PM8000 QGH24414 LVDC PCBA, PSU, PM8000 Alternative construction GEX30048 PCBA, CPU, PM8000, LATTICE
IP Rating	IP51 Front Display Meter body not rated, must be fitted in a IP51 Enclosure
Insulation Protective Class	Class II
LED Pulse Constant	5000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Destructible rivet
Integrity of meter	Inaccessible without breaking rivet
Intended Location of the Meter	Indoor
Type of Register	LCD

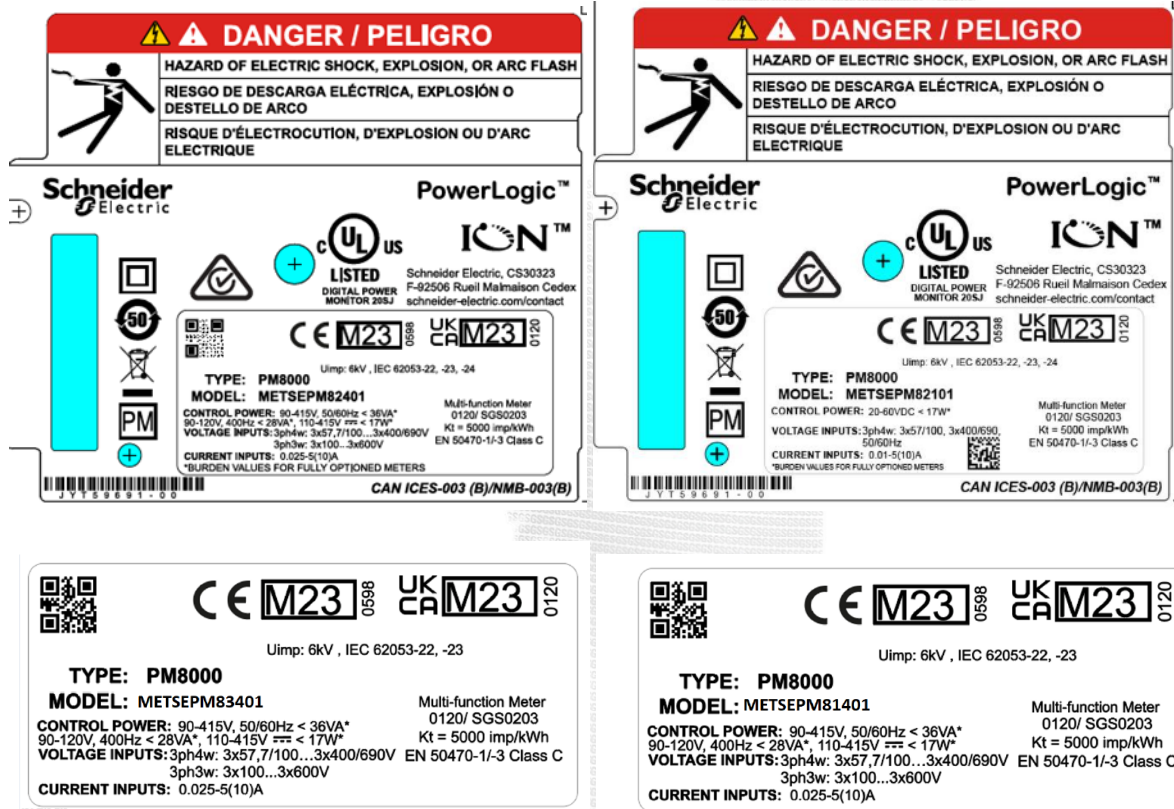
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2. Photograph of Meter and Sealing Plan



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3. Examples of Nameplate



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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

Current	PF Cos	Influence Factors for temperature, frequency and voltage							
		-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
I _{min}	1.0	0.15	0.20	0.14	0.12	0.11	0.12	0.13	0.13
I _{tr}	1.0	0.13	0.18	0.11	0.07	0.06	0.07	0.07	0.07
10I _{tr}	1.0	0.24	0.27	0.19	0.09	0.05	0.06	0.06	0.05
I _{max}	1.0	0.20	0.23	0.15	0.09	0.06	0.07	0.07	0.06
I _{tr}	0.5ind	0.27	0.19	0.21	0.11	0.08	0.08	0.10	0.15
10I _{tr}	0.5ind	0.42	0.42	0.31	0.17	0.08	0.11	0.11	0.08
I _{max}	0.5ind	0.45	0.44	0.32	0.19	0.08	0.10	0.09	0.10
I _{tr}	0.8cap	0.10	0.09	0.22	0.13	0.09	0.09	0.09	0.09
10I _{tr}	0.8cap	0.21	0.23	0.15	0.11	0.10	0.10	0.10	0.10
I _{max}	0.8cap	0.15	0.17	0.11	0.10	0.09	0.09	0.09	0.09
L1									
I _{tr}	1.0	0.26	0.22	0.15	0.11	0.09	0.10	0.12	0.10
10I _{tr}	1.0	0.19	0.20	0.13	0.08	0.04	0.05	0.06	0.04
I _{max}	1.0	0.18	0.19	0.10	0.07	0.03	0.04	0.04	0.04
I _{tr}	0.5ind	0.29	0.33	0.24	0.17	0.14	0.17	0.23	0.31
10I _{tr}	0.5ind	0.25	0.25	0.16	0.09	0.07	0.11	0.11	0.09
I _{max}	0.5ind	0.21	0.22	0.14	0.09	0.07	0.08	0.06	0.20
L2									
I _{tr}	1.0	0.19	0.20	0.17	0.15	0.15	0.15	0.15	0.15
10I _{tr}	1.0	0.38	0.36	0.26	0.17	0.14	0.14	0.14	0.14
I _{max}	1.0	0.31	0.29	0.22	0.18	0.15	0.15	0.15	0.15
I _{tr}	0.5ind	0.72	0.54	0.47	0.25	0.16	0.16	0.16	0.17
10I _{tr}	0.5ind	0.59	0.57	0.46	0.29	0.18	0.19	0.19	0.18
I _{max}	0.5ind	0.65	0.64	0.50	0.33	0.21	0.23	0.22	0.22
L3									
I _{tr}	1.0	0.16	0.16	0.07	0.04	0.04	0.04	0.04	0.04
10I _{tr}	1.0	0.26	0.29	0.17	0.10	0.03	0.04	0.04	0.03
I _{max}	1.0	0.21	0.23	0.12	0.08	0.03	0.04	0.04	0.03
I _{tr}	0.5ind	0.41	0.28	0.28	0.15	0.06	0.06	0.06	0.06
10I _{tr}	0.5ind	0.49	0.47	0.32	0.18	0.07	0.10	0.09	0.08
I _{max}	0.5ind	0.47	0.47	0.31	0.19	0.02	0.09	0.08	0.07

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5. Annex of Variants

Product Variant Identification Details:

Type Designation

Description of meter

Product	Model (SKU)	Description
PM8000	METSEPM82401	Polyphase, Active Import/ Export (kWh), Transformer Operated, Auxiliary Power Supply, RS485, Dual Ethernet, 1 Digital Output, 3 Digital Inputs
	METSEPM82101	Polyphase, Active Import/ Export (kWh), Transformer Operated, Auxiliary Power Supply (20-60 VDC), Dual Ethernet, 1 Digital Output, 3 Digital Inputs
	METSEPM83401	Polyphase, Active Import/ Export (kWh), Transformer Operated, Auxiliary Power Supply, RS485, Dual Ethernet, 1 Digital Output, 3 Digital Inputs Advanced MID, integrated display
	METSEPM81401	Polyphase, Active Import/ Export (kWh), Transformer Operated, Auxiliary Power Supply, RS485, Dual Ethernet, 1 Digital Output, 3 Digital Inputs Essential MID, integrated display
Aux Devices	METSEPM89M2600	Digital I/O module (6 digital inputs & 2 relay outputs)
	METSEPM89M0024	Analogue I/O module (4 analogue inputs & 2 analogue outputs)
	METSEPMFIBER	+ 100BASE FX SC duplex connector

Modifications to the meter(s) described according to approval No. **0120/SGS0203** 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	20/12/2021	Initial Issue
2	04/05/2023	New software version 004.000.000. CRC 0x262a2d16. New rear label Alternative construction CPU PCBA, GEX30048 Corporate legal name changed. Replaced dba Power Measurement with Schneider Electric Inc.
3	30/08/2023	METSEPMFIBER added to list of Aux Devices on the TEC (as an I/O accessory)
4	20/12/2023	New model METSEPM82101 added to approval
5	12/03/2024	New models METSEPM81401 & METSEPM83401 added to approval. Firmware update 004.005.000, CRC: 0xa5ac524b

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