



EU Type Examination Certificate Number: **0120/SGS0290**

ZELEC FRANCE

1652 Avenue Paul Jullien
13100 Le Tholonet
France

Instrument Identification
EM140PURSM

Instrument Traceable Number
0120/SGS0290

Single Phase, Active Import (kWh) Indoor, Electricity Meter

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 17th February 2024
Issue 1

Certification is based on report number(s) SHES130800321401 dated 18th February 2014
EMA185897
EMA237965

Authorised Signature


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1. Technical Data


Manufacturer	ZELEC FRANCE
Meter Type	EM140PURSM
Voltage Rating (U_n)	230V
Current Rating (I_{min} – I_{ref} (I_{max}))	0.25-5(45)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No's	V2.3
Identification Location	Nameplate
Bill Of Materials Numbers	V151119
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant (software dependant)	1000imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Utility Cover Sealing Type	2 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Location of Manufacture Address	Side of the meter and associated documentation

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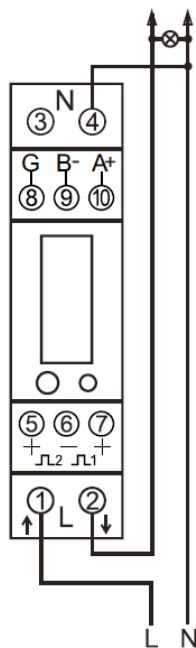
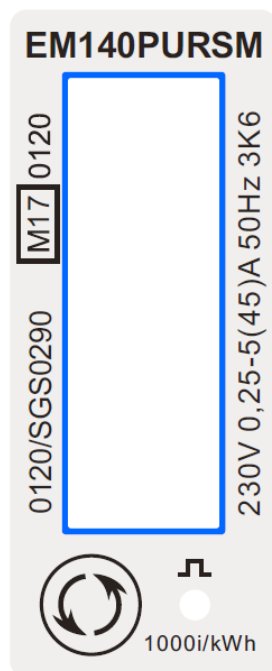
2. Photograph of Meter and Sealing Plan



EM140PURSM Meter

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3. Example of Nameplate



Zélec France

COMPTEUR D'ENERGIE MID

REF: EM140PURSM

Input: 230V AC 50Hz

0,25~5(45)A

⌋ 1:Configurable

⌋ 2:1000imp/kWh

EN50470-1/3 IP51


0120/SGS0290 ® 3K6



2017

Zélec France

1652 Avenue Paul Jullien 13100 LE THOLONET FRANCE

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4. Calculation of Composite Error/MPE


		Influence Factors for temperature, frequency and voltage					
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.12	0.12	0.12	0.13	0.12	0.12
I _{tr}	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10I _{tr}	1.0	0.17	0.16	0.16	0.16	0.16	0.16
I _{max}	1.0	0.13	0.13	0.13	0.13	0.13	0.13
I _{tr}	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10I _{tr}	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
I _{max}	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
I _{tr}	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10I _{tr}	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
I _{max}	0.8cap	0.09	0.09	0.09	0.09	0.09	0.09

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:-

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

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


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
EM140PURSM	Single Phase 230V, 0.25-5(45)A, LCD register, 2 Pulse Outputs, RS485 Communication Port, Modbus

Modifications to the meter(s) described according to approval No.**0120/SGS0290** 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	27/04/2017	Initial Issue

END OF TEST CERTIFICATE