



SGS

EU Type Examination Certificate Number: **0120/SGS0279**

Carlo Gavazzi Controls S.p.A

Via Safforze 8
32100 Belluno
Italy

Instrument Identification:
EM330 Series

Poly Phase, Active Import/ Export (kWh), Indoor, Transformer Operated, Electricity Meter

Instrument Traceable Number
0120/SGS0279

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 1st December 2017 until 30th November 2027
Issue 2

Certification is based on report number(s) SHES141200635504 dated 1st November 2017,
EMA245463/1/50579 dated 1st November 2017

Authorised Signature

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EU Type Examination Cert.

SGSPAPER
19022393



	EU-Type Examination Certificate Number:	
	0120/ SGS0279	
	Issue Number: 2	Dated: 19 th July 2018

1. Technical Data

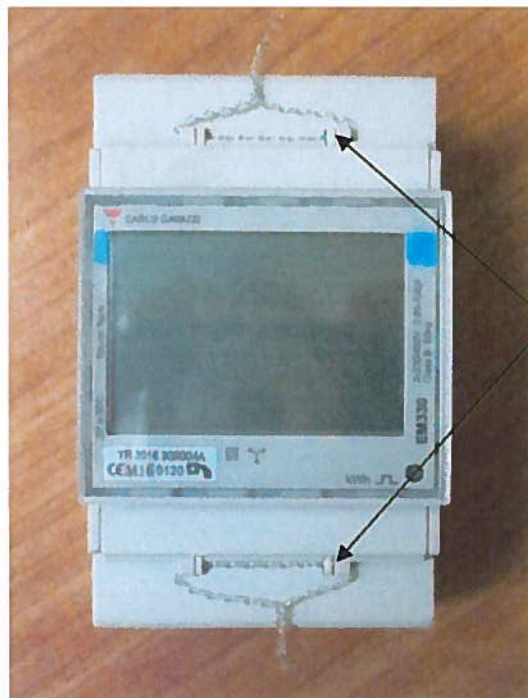
Manufacturer	Carlo Gavazzi Controls S.p.A
Meter Types	EM330-DIN.AV5.3.H.O1.PFA, EM330-DIN.AV5.3.H.O1.PFB EM330-DIN.AV5.3.H.S1.PFA, EM330-DIN.AV5.3.H.S1.PFB EM330-DIN.AV5.3.H.M1.PFA, EM330-DIN.AV5.3.H.M1.PFB EM330-DIN.AV5.3.L.O1.PFA, EM330-DIN.AV5.3.L.O1.PFB EM330-DIN.AV5.3.L.S1.PFA, EM330-DIN.AV5.3.L.S1.PFB EM330-DIN.AV5.3.L.M1.PFA, EM330-DIN.AV5.3.L.M1.PFB
Voltage Rating (U_n)	3x230/400V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.05-5(6)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	B(kWh)
Type of circuit	3p4w, 3p3w, 2p3w, 1p2w
Temperature Range	-25°C to +55°C
Software Version No's	EM330-DIN.AV5.3.H.O1.PFA: AA.12 EM330-DIN.AV5.3.H.O1.PFB: BA.12 EM330-DIN.AV5.3.H.S1.PFA: AB.08 EM330-DIN.AV5.3.H.S1.PFB: BB.08 EM330-DIN.AV5.3.H.M1.PFA: AC.09 EM330-DIN.AV5.3.H.M1.PFB: BC.09 EM330-DIN.AV5.3.L.O1.PFA: AA.12 EM330-DIN.AV5.3.L.O1.PFB: BA.12 EM330-DIN.AV5.3.L.S1.PFA: AB.08 EM330-DIN.AV5.3.L.S1.PFB: BB.08 EM330-DIN.AV5.3.L.M1.PFA: AC.09 EM330-DIN.AV5.3.L.M1.PFB: BC.09
CRC Checksum No's	EM330-DIN.AV5.3.X.O1.PF.A: 38d1h EM330-DIN.AV5.3.X.O1.PF.B: 50AEh EM330-DIN.AV5.3.X.S1.PF.A: C765h EM330-DIN.AV5.3.X.S1.PF.B: F608h EM330-DIN.AV5.3.X.M1.PF.A: 6041h EM330-DIN.AV5.3.X.M1.PF.B: A1AFh
Identification Location	LCD
Bill of Materials No's	EM330-DIN.AV5.3.H.O1.PF.A; NZD517017-01 V0.0 EM330-DIN.AV5.3.H.O1.PF.B: NZD517017-02 V0.0 EM330-DIN.AV5.3.H.S1.PF.A: NZD517018-01 V0.0 EM330-DIN.AV5.3.H.S1.PF.B: NZD517018-02 V0.0 EM330-DIN.AV5.3.H.M1.PF.A: NZD517019-01 V0.0 EM330-DIN.AV5.3.H.M1.PF.B: ZD517019-02 V0.0 EM330-DIN.AV5.3.L.O1.PF.A: NZD517020-01 V0.0 EM330-DIN.AV5.3.L.O1.PF.B: NZD517020-02 V0.0 EM330-DIN.AV5.3.L.S1.PF.A: NZD517021-01 V0.0 EM330-DIN.AV5.3.L.S1.PF.B: NZD517021-02 V0.0 EM330-DIN.AV5.3.L.M1.PF.A: NZD517022-01 V0.0 EM330-DIN.AV5.3.L.M1.PF.B: NZD517022-02 V0.0
IP Rating	IP51
Insulation Protective Class	Class II

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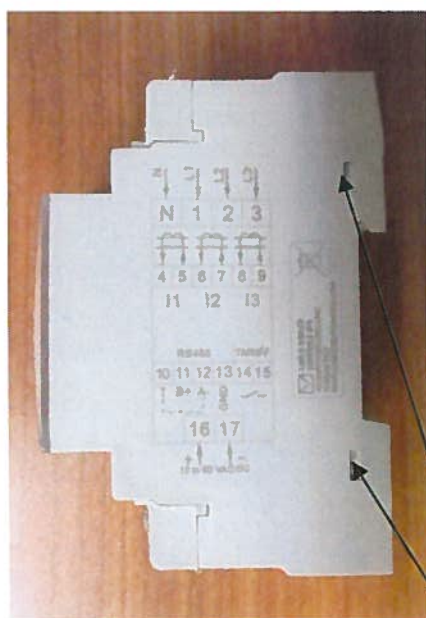
LED Pulse Constant	Programmable. Dependant on CT and VT ratio
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Main cover clipped in place and sealed with tamper proof sealing tape
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN
Location of Manufacturers Address	Associated Documents

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2. Photograph of Meter and Sealing Plan



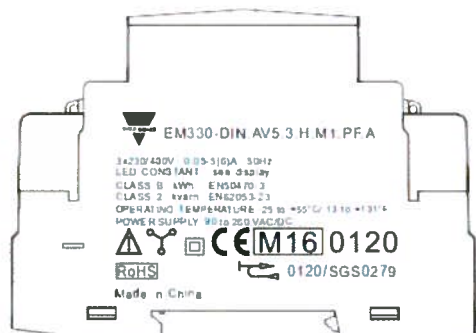
Terminal Cover Seals



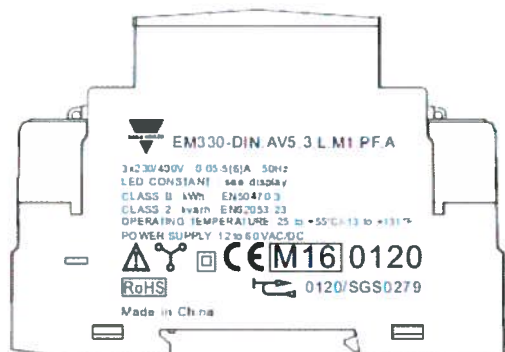
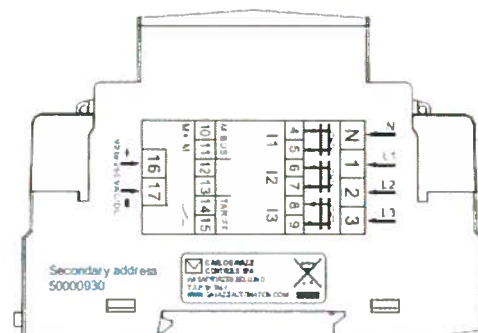
Main Cover Seals

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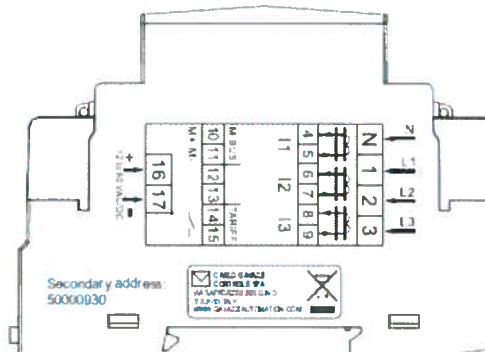
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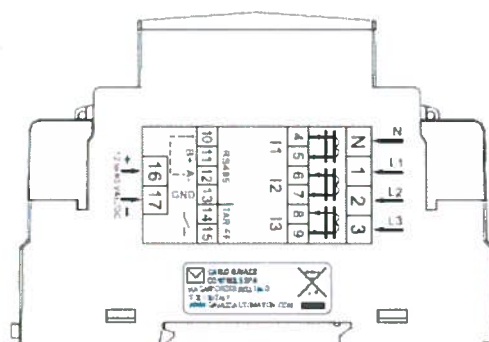
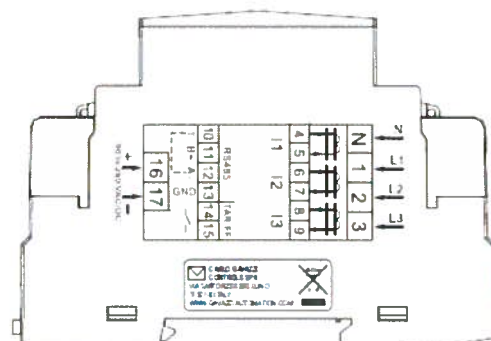


EM330-DIN AV5 3 H M1 PFA

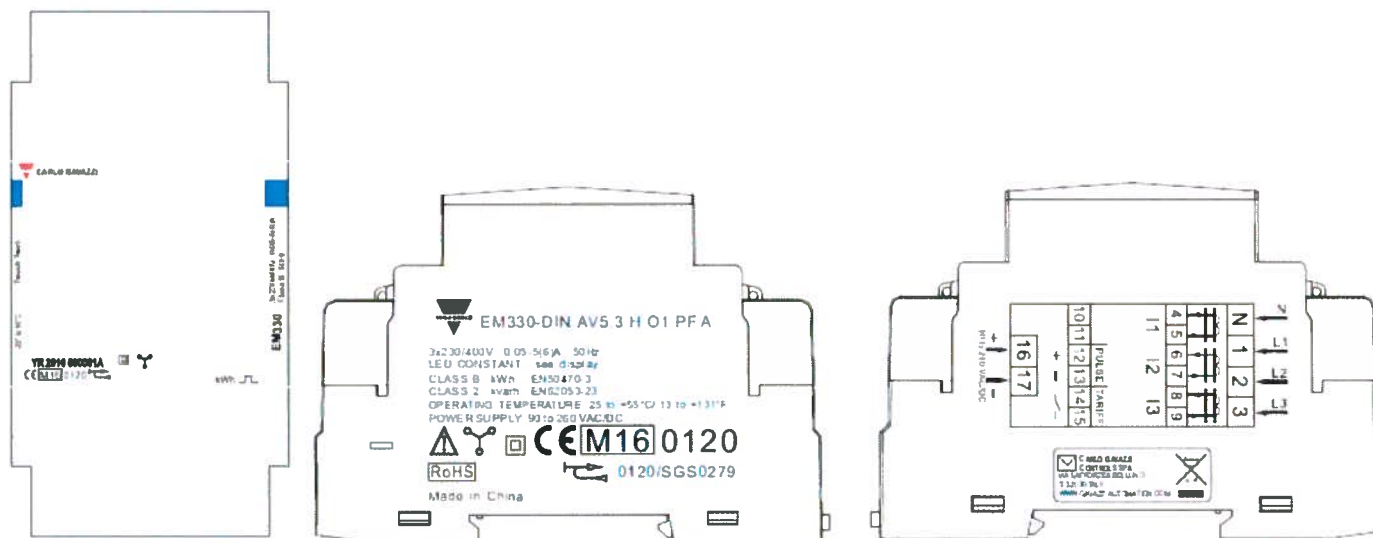


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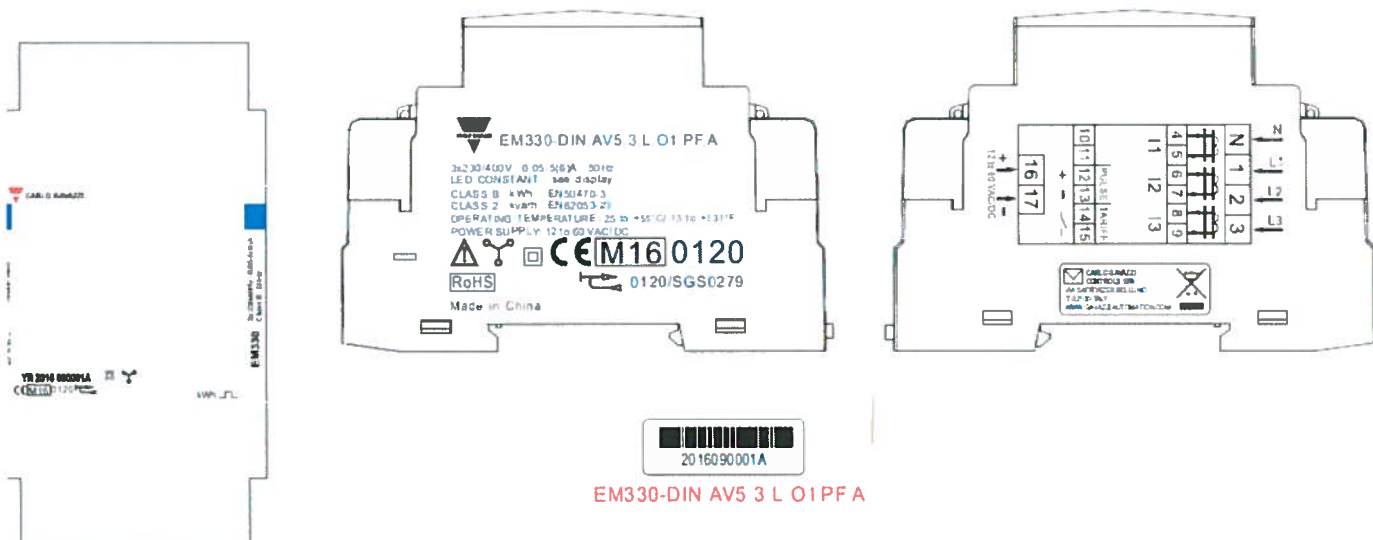




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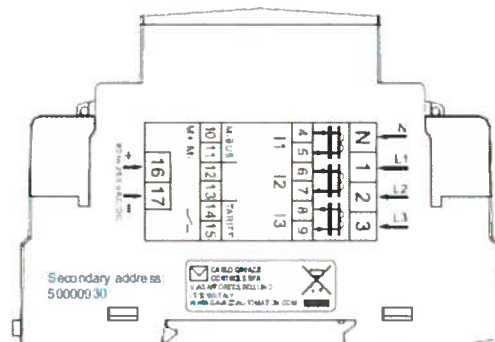
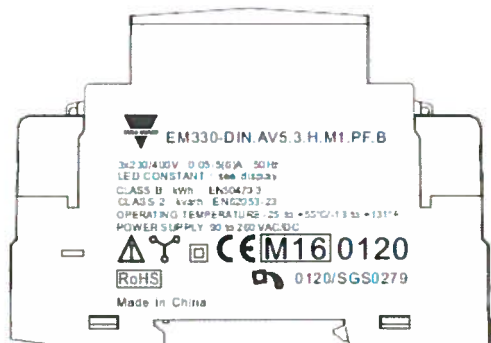


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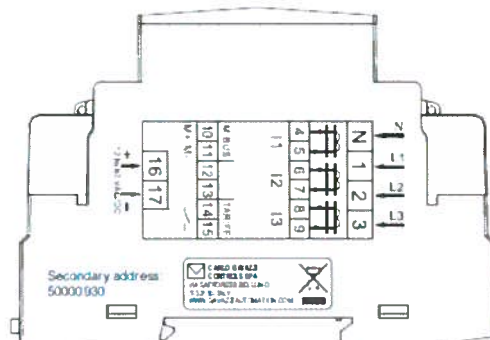
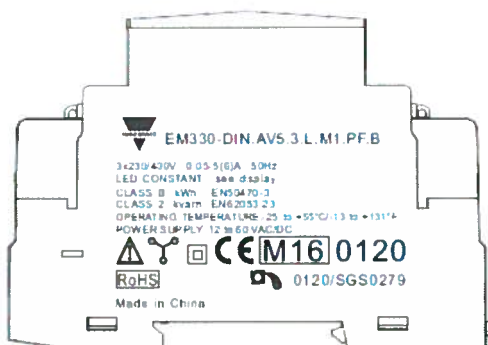


EM330-DIN AV5 3 L O1 PFA

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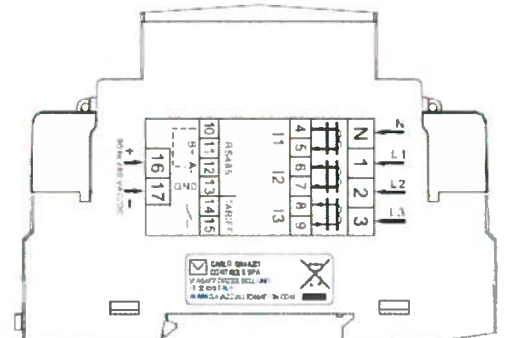
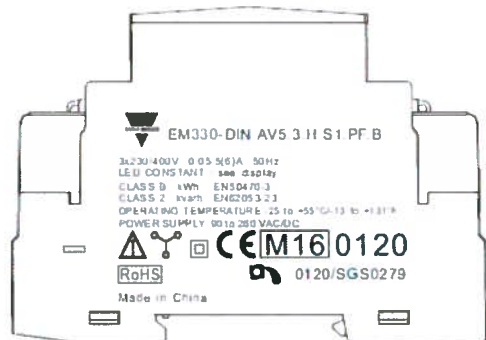
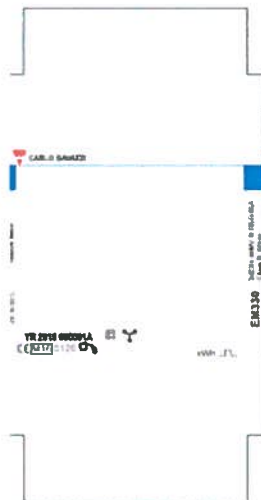


EM330-DIN AV5.3 H M1 PF B

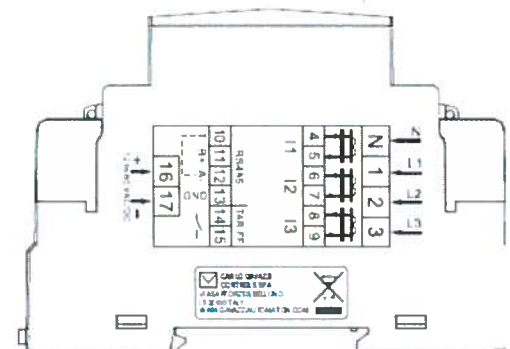
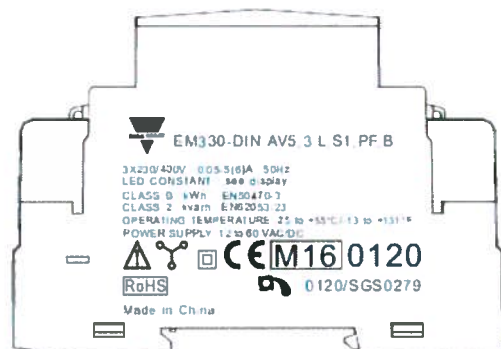


EM330-DIN AV5.3 L M1 PF B

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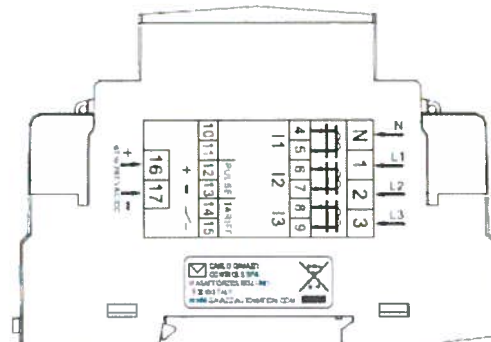
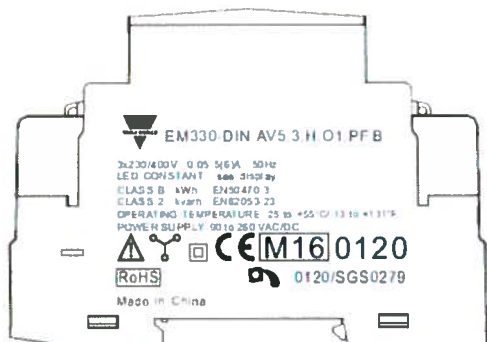


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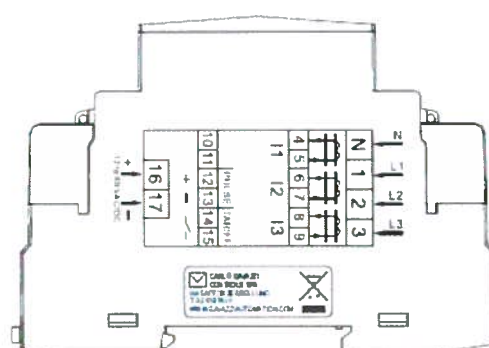
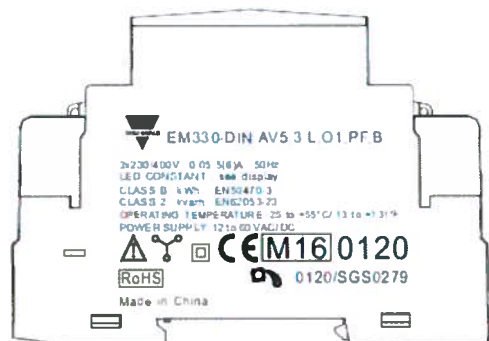


EM330-DIN AV5 3 L S1 PF B

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EM330-DIN AV5 3 H O1 PFB



EM330-DIN AV5 3 L O1 PFB

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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:-

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

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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		Influence Factors for Temperature, Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.47	0.31	0.17	0.04	0.06	0.14
I _{tr}	1.0	0.47	0.30	0.17	0.02	0.06	0.15
10I _{tr}	1.0	0.46	0.30	0.17	0.03	0.06	0.15
I _{max}	1.0	0.46	0.30	0.17	0.03	0.06	0.15
I _{tr}	0.5ind	0.42	0.26	0.14	0.04	0.05	0.10
10I _{tr}	0.5ind	0.39	0.25	0.15	0.02	0.03	0.09
I _{max}	0.5ind	0.37	0.27	0.16	0.03	0.04	0.10
I _{tr}	0.8cap	0.53	0.32	0.19	0.03	0.07	0.17
10I _{tr}	0.8cap	0.48	0.32	0.18	0.03	0.07	0.17
I _{max}	0.8cap	0.48	0.32	0.18	0.03	0.07	0.17
L1							
I _{tr}	1.0	0.51	0.33	0.18	0.02	0.05	0.05
10I _{tr}	1.0	0.49	0.32	0.18	0.03	0.06	0.15
I _{max}	1.0	0.49	0.32	0.18	0.02	0.07	0.17
I _{tr}	0.5ind	0.46	0.28	0.16	0.02	0.05	0.12
10I _{tr}	0.5ind	0.41	0.26	0.16	0.02	0.04	0.10
I _{max}	0.5ind	0.40	0.26	0.16	0.03	0.04	0.10
L2							
I _{tr}	1.0	0.44	0.28	0.16	0.04	0.06	0.14
10I _{tr}	1.0	0.43	0.28	0.16	0.03	0.05	0.14
I _{max}	1.0	0.44	0.28	0.16	0.03	0.05	0.14
I _{tr}	0.5ind	0.42	0.25	0.13	0.03	0.03	0.05
10I _{tr}	0.5ind	0.38	0.22	0.13	0.04	0.05	0.09
I _{max}	0.5ind	0.38	0.24	0.14	0.03	0.03	0.03
L3							
I _{tr}	1.0	0.46	0.29	0.17	0.04	0.07	0.16
10I _{tr}	1.0	0.46	0.29	0.17	0.03	0.06	0.16
I _{max}	1.0	0.45	0.29	0.16	0.04	0.06	0.17
I _{tr}	0.5ind	0.42	0.26	0.14	0.04	0.05	0.11
10I _{tr}	0.5ind	0.40	0.24	0.15	0.03	0.06	0.11
I _{max}	0.5ind	0.42	0.27	0.18	0.01	0.06	0.11

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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
EM330-DIN.AV5.3.H.O1.PFA	3x230/400V, 5(6)A, Pulse Output
EM330-DIN.AV5.3.H.O1.PFB	3x230/400V, 5(6)A, Pulse Output
EM330-DIN.AV5.3.H.S1.PFA	3x230/400V, 5(6)A, Modbus Module
EM330-DIN.AV5.3.H.S1.PFB	3x230/400V, 5(6)A, Modbus Module
EM330-DIN.AV5.3.H.M1.PFA	3x230/400V, 5(6)A, Mbus Module
EM330-DIN.AV5.3.H.M1.PFB	3x230/400V, 5(6)A, Mbus Module
EM330-DIN.AV5.3.L.O1.PFA	3x230/400V, 5(6)A, Pulse Output
EM330-DIN.AV5.3.L.O1.PFB	3x230/400V, 5(6)A, Pulse Output
EM330-DIN.AV5.3.L.S1.PFA	3x230/400V, 5(6)A, Modbus Module
EM330-DIN.AV5.3.L.S1.PFB	3x230/400V, 5(6)A, Modbus Module
EM330-DIN.AV5.3.L.M1.PFA	3x230/400V, 5(6)A, Mbus Module
EM330-DIN.AV5.3.L.M1.PFB	3x230/400V, 5(6)A, Mbus Module

Modifications to the meter(s) described according to approval No.**0120/ SGS0279** 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	01/12/2017	Initial Issue
2	19/07/2018	New software versions and CRC's

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