



EU Type Examination Certificate Number: **0120/ SGS0274**

Tyco Electronics UK Ltd

Freebournes Road
Witham
Essex
CM8 3AH
United Kingdom

Instrument Identification
DRS-45-1P Series

Instrument Traceable Number
0120/ SGS0274

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 EC 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
EMA236599 dated 2nd March 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

Contact Address
SGS United Kingdom Ltd, 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

	EU-Type Examination Certificate Number:	
	0120/ SGS0274	
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1. Technical Data


Manufacturer	Tyco Electronics UK Ltd
Meter Type	DRS-45-1P-PLS, DRS-45-1P-MOD
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	SDM120DB: V1.2 SDM120-Modbus: V2.3
Identification Location	Nameplate
Bill Of Materials Numbers	SDM120-Pulse: V2.0 SDM120Modbus: 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	Operating instructions

	EU-Type Examination Certificate Number:	
	0120/ SGS0274	
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2. Photographs of Meters and Sealing Plans




DRS-45-1P-PLS Meter

	EU-Type Examination Certificate Number:	
	0120/ SGS0274	
	Issue Number: 1	Dated: 2 nd March 2017

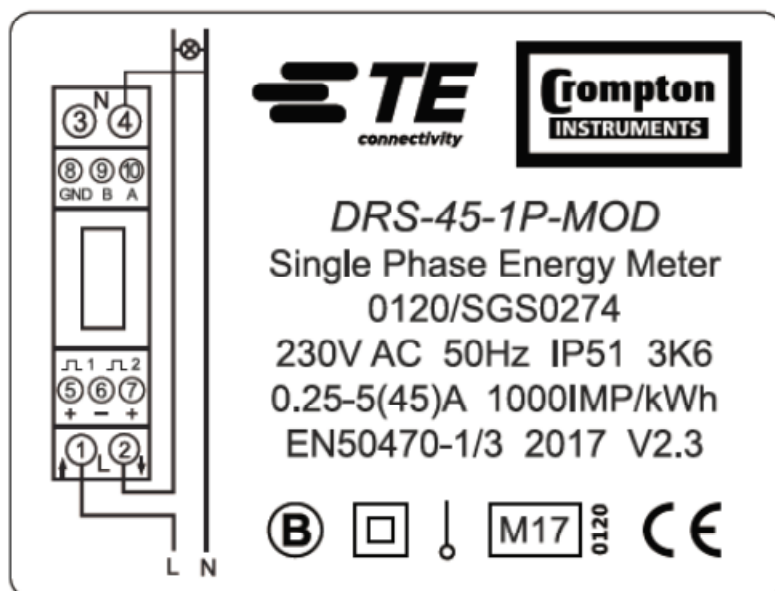
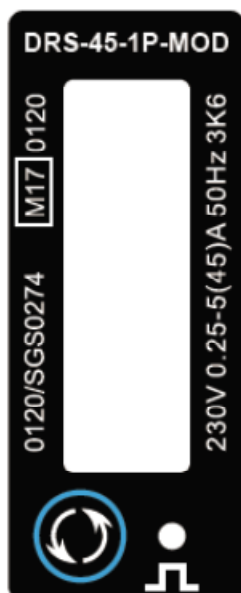
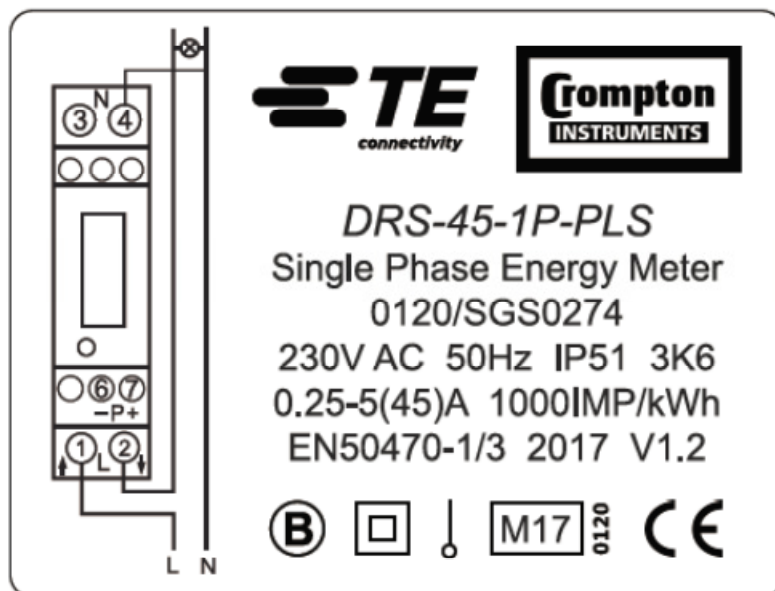
Photographs of Meters and Sealing plans(cont)




DRS-45-1P-MOD Meter

	EU-Type Examination Certificate Number:	
	0120/ SGS0274	
	Issue Number: 1	Dated: 2 nd March 2017

3. Examples of Nameplates



	EU-Type Examination Certificate Number:	
	0120/ SGS0274	
	Issue Number: 1	Dated: 2 nd March 2017

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:-

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

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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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
SDM120DB	Single Phase 230V, 0.25-5(45)A LCD register with backlight
SDM120- Modbus	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/ SGS0274** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

6. Document Revision History

Issue	Date	Comments
1	02/03/2017	Initial Issue