



EC Type Examination Certificate Number: **0120/SGS0150**

Smart Process & Controls Ltd

Unit 11 Totman Close
Brook Road Ind Est
Rayleigh
Essex
SS6 7UZ

Instrument Identification:

Smartrail X835
Smartrail X835-SC
Smartrail X835B
Smartrail X835E
PS6

Instrument Traceable Number
0120/SGS0150

Poly Phase, Active Import/ Export , Indoor, Multi-Function, Transformer Operated, Electricity Meter

has been assessed and certified as meeting the requirements of

EC Directive 2004/22/EC

Measuring Instruments Annex 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 MI-003 of EC Directive 2004/22/EC

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex D or Annex F

This certificate is valid until 9th March 2024
Issue 4

Certification is based on report number(s) EMA174647/1/MID dated 30th January 2014

Authorised Signature

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	EC-Type Examination Certificate Number:	
	0120/ SGS0150	
	Issue Number: 3	Dated: 1 st April 2015

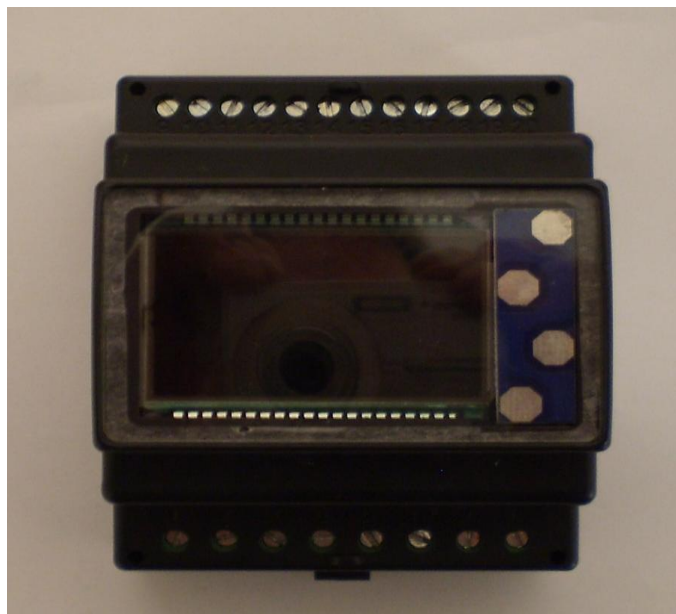
1. Technical Data

Manufacturer	Smart Process & Controls Ltd	
Meter Types	Smartrail X835 Smartrail X835B Smartrail X835E Smartrail X835-SC PS6	
Voltage Rating (<i>Un</i>)	3x230/400V	
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0.25-5(6)A	
Frequency (<i>Fn</i>)	50Hz	
Active Accuracy Class (<i>kWh</i>)	A or B (kWh)	
Type of circuit	3p4w, 3p3w, 1p2w	
Temperature Range	-25°C to +55°C	
Software Version No.	Smartrail X835: V1.3 Smartrail X835-SC: V1.3 Smartrail X835B: V1.0 Smartrail X835E: V1.6	
Identification Location	Nameplate	
Bill Of Materials No.'s	X835: SDM630-1-BOT-V1.5 SDM630-1-TOP-V1.5 SDM630-1-KEY-V1.0 SDM630-1-R-V1.5 SDM630-1-L-V1.5 X835E: SDM630-1-BOT-V1.5 SDM630-1-TOP-V1.5 SDM630-1-KEY-V1.0 SDM630-1-R-V1.5 SDM630-1-L-V1.5 X835-SC SDM630-1-BOT-V1.5 SDM630-1-TOP-V1.5 SDM630-1-KEY-V1.0 SDM630-1-R-V1.5 SDM630-1-L-V1.5 X835B: SDM630-1-BOT-V1.5 SDM630-1-TOP-V1.5 SDM630-1-KEY-V1.0 SDM630-1-R-V1.5 SDM630-1-L-V1.5	
IP Rating	IP51	
Insulation Protective Class	Class II	
LED Pulse Constant	3200imp/ kWh	
Impulse Voltage Rating	6kV	
AC Voltage Rating	4kV	
Main Cover Sealing Type	2 x Wire & Crimp	
Integrity of meter	Inaccessible without breaking seals	
Intended Location of the Meter	Indoor	
Type of Register	LCD	

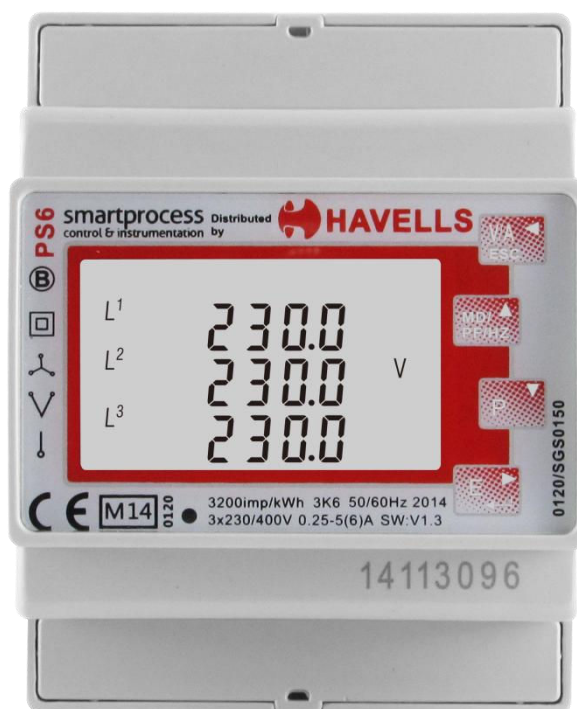
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2. Meter Photographs

X835

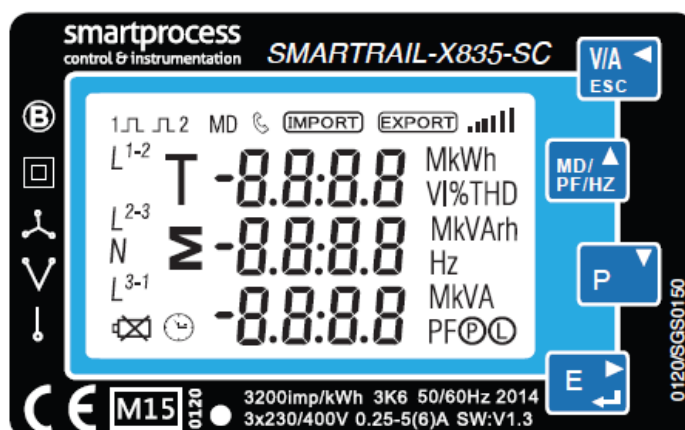
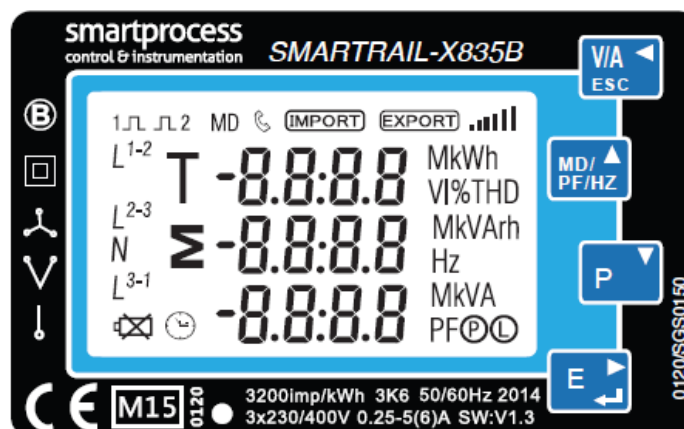
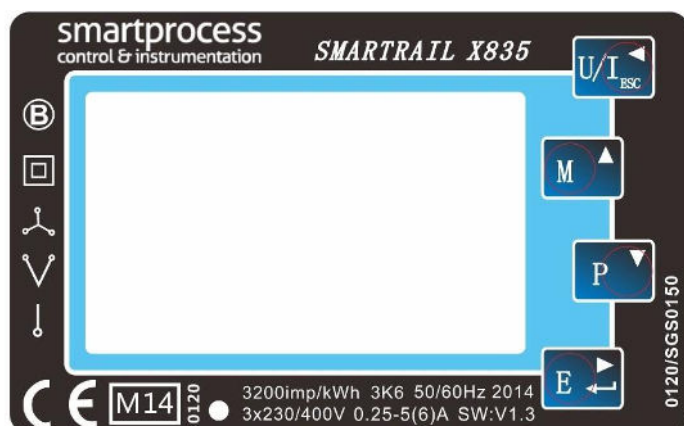


PS6

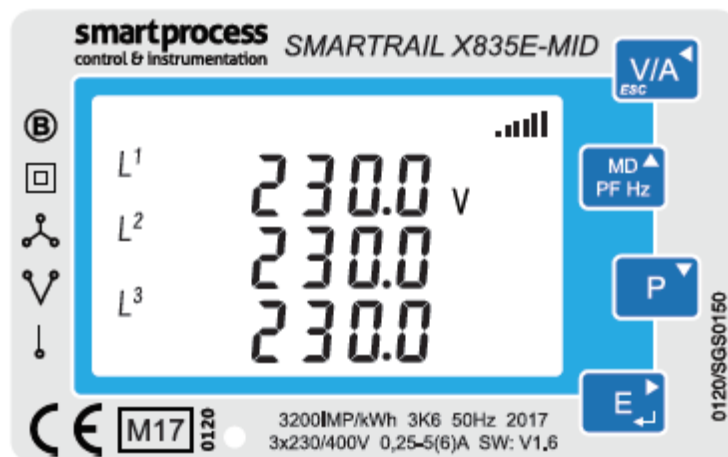


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3. Meter Name-plates



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4. Influence factors for temperature, frequency and voltage

Influence Factors for Temperature, Frequency & Voltage							
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.39	0.30	0.71	0.16	0.25	0.39
I _{tr}	1.0	0.33	0.27	0.28	0.18	0.25	0.47
10I _{tr}	1.0	0.35	0.31	0.24	0.22	0.29	0.49
I _{max}	1.0	0.36	0.31	0.25	0.21	0.28	0.47
I _{tr}	0.5ind	0.26	0.25	0.36	0.16	0.23	0.44
10I _{tr}	0.5ind	0.38	0.34	0.29	0.27	0.34	0.52
I _{max}	0.5ind	0.42	0.38	0.32	0.30	0.36	0.52
I _{tr}	0.8cap	0.31	0.42	0.43	0.32	0.37	0.50
10I _{tr}	0.8cap	0.32	0.27	0.21	0.17	0.26	0.45
I _{max}	0.8cap	0.34	0.28	0.21	0.15	0.24	0.43
L1							
I _{tr}	1.0	0.37	0.39	0.44	0.14	0.28	0.35
10I _{tr}	1.0	0.34	0.30	0.24	0.20	0.27	0.47
I _{max}	1.0	0.33	0.30	0.23	0.21	0.28	0.47
I _{tr}	0.5ind	0.41	0.56	0.96	0.14	0.15	0.16
10I _{tr}	0.5ind	0.49	0.46	0.42	0.38	0.43	0.62
I _{max}	0.5ind	0.49	0.46	0.42	0.39	0.44	0.60
L2							
I _{tr}	1.0	0.25	0.20	0.12	0.18	0.31	0.51
10I _{tr}	1.0	0.38	0.32	0.23	0.19	0.28	0.45
I _{max}	1.0	0.38	0.32	0.23	0.21	0.28	0.47
I _{tr}	0.5ind	0.12	0.12	0.13	0.25	0.38	0.59
10I _{tr}	0.5ind	0.36	0.33	0.25	0.25	0.32	0.49
I _{max}	0.5ind	0.39	0.35	0.28	0.27	0.34	0.49
L3							
I _{tr}	1.0	0.32	0.27	0.21	0.19	0.27	0.46
10I _{tr}	1.0	0.32	0.28	0.22	0.21	0.30	0.50
I _{max}	1.0	0.33	0.30	0.23	0.22	0.30	0.50
I _{tr}	0.5ind	0.32	0.32	0.24	0.20	0.29	0.53
10I _{tr}	0.5ind	0.34	0.29	0.23	0.23	0.33	0.54
I _{max}	0.5ind	0.35	0.31	0.25	0.13	0.33	0.53

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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

5. Annex of Variants

Product Variant Identification Details:

	Type Designation	Description of meter
X835	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated	
X835B	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Transformer Operated	
X835E	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated	
X835-MID-SC	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated, Plug-in terminals.	
PS6	0.25-5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated	

Modifications to the meter(s) described according to approval No. **0120/ SGS0150** 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	10/03/2014	Initial Issue
2	18/12/2014	Added meter type PS6
3	01/04/2015	Added additional models X835B (basic model) and X835-SC (plug in terminals model)
4	21/09/2017	Added additional model X835E added to approval