EC Type Examination Certificate Number: **0120/ SGS0046**

Elster Metering Systems

Tollgate Business Park
Beaconside
Stafford
ST16 3HS

Instrument Identification:
A100C
Single Phase, Direct Connected, Credit, Import/Export, Active, Electricity Meter

Instrument Traceable Number
0120/ SGS0046
has been assessed and certified as meeting the requirements of

EC Directive 2004/22/EC

on 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 29th October 2019
Issue 6

Certification is based on report number(s)
Report 129970 dated 22nd October 2009
Report 137550 dated 24th September 2010
Report 150370 dated 17th August 2011

Authorised Signature

Jan Saunders

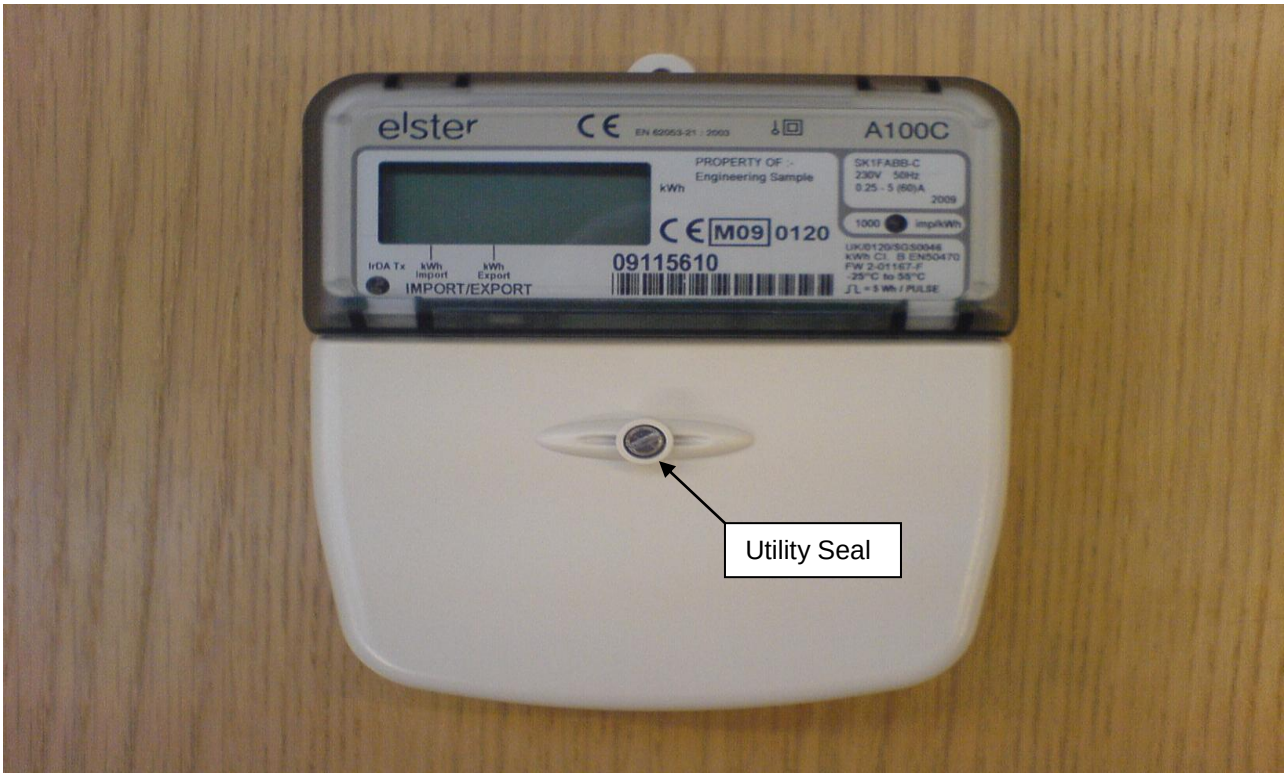
SGS United Kingdom Limited, Notified Body 0120
Unit 202B Worle Parkway, Weston-super-Mare, BS22 6WA□UK
t +44 (0)1934 522917 f +44 (0)1934 522137 www.sgs.com

Contact Address
SGS United Kingdom Ltd, Unit 10, South Industrial Estate, Bowburn, Durham, DH6 5AD□UK
t +44 (0)191 377 2000 f +44 (0)191 377 2020 www.sgs.com

1. Technical Data

Manufacturer	Elster Metering Systems
Meter Type	A100C
Voltage Rating *(Un)*	220-250V
Current Rating *(Imin – Iref (Imax))*	DIN Terminal Variant 0,25-5(85)A 0,5-10(85)A (Any value Iref ≥ 5, up to Imax) BS Terminal Variant 0,25-5(100)A (Any value Iref ≥ 5, up to Imax)
Frequency *(Fn)*	50Hz
Active Accuracy Class *(kWh)*	A or B (kWh)
Type of circuit	1p2w
Temperature Range	DIN Variant -40°C to +60°C BS Variant -25°C to +55°C
Software/ Firmware Version No **Identification Location**	2-01167-F Nameplate
Bill Of Materials Number	JG0519 Sheets 2,3,4,4a,5,6,7,8,9
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Sealed for life
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	BS or DIN

2. Photograph of Meter and Sealing Plan



3. Calculation of the composite error/ MPE

In addition to the accuracy requirements the composite error e_c of the meter is shown below

The composite error at a certain load is calculated from the following formula:
$e_c = \sqrt{e^2(I.\cos\theta) + e^2(T.I.\cos\theta) + e^2(U.I.\cos\theta) + e^2(f.I.\cos\theta)}$

where

$e^2(I.\cos\theta)$ = Intrinsic error of meter at a certain load
$e^2(T.I.\cos\theta)$ = Additional error due to variation of the temperature at the same load
$e^2(U.I.\cos\theta)$ = Additional error due to variation of the voltage at the same load
$e^2(f.I.\cos\theta)$ = Additional error due to variation of the frequency at the same load

Ambient Temperature Range 5 to 30 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.10	0.33	0.13	0.05	***0.37***
Itr	1.0	-0.05	0.29	0.16	0.11	***0.35***
10Itr	1.0	0.14	0.19	-0.26	-0.29	***0.46***
Imax	1.0	0.14	0.34	-0.12	-0.09	***0.40***
Itr	0.5ind	-0.12	0.27	0.14	0.24	***0.41***
10Itr	0.5ind	0.16	0.19	-0.34	-0.27	***0.50***
Imax	0.5ind	0.11	-0.17	-0.20	-0.11	***0.31***
Itr	0.8cap	-0.17	-0.31	0.17	0.16	***0.42***
10Itr	0.8cap	0.17	0.32	-0.35	-0.29	***0.58***
Imax	0.8cap	0.01	0.19	-0.19	-0.13	***0.30***

Ambient Temperature Range -10 to 40 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.10	0.67	0.13	0.05	***0.69***
Itr	1.0	-0.05	0.49	0.16	0.11	***0.53***
10Itr	1.0	0.14	0.52	-0.26	-0.29	***0.66***
Imax	1.0	0.14	-0.14	-0.12	-0.09	***0.25***
Itr	0.5ind	-0.12	0.66	0.14	0.24	***0.73***
10Itr	0.5ind	0.16	0.52	-0.34	-0.27	***0.70***
Imax	0.5ind	0.11	0.46	-0.20	-0.11	***0.53***
Itr	0.8cap	-0.17	0.53	0.17	0.16	***0.60***
10Itr	0.8cap	0.17	0.61	-0.35	-0.29	***0.78***
Imax	0.8cap	0.01	0.34	-0.19	-0.13	***0.41***

Ambient Temperature Range -25 to 55 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.10	0.86	0.13	0.05	***0.88***
Itr	1.0	-0.05	0.90	0.16	0.11	***0.92***
10Itr	1.0	0.14	0.82	-0.26	-0.29	***0.92***
Imax	1.0	0.14	-0.30	-0.12	-0.09	***0.36***
Itr	0.5ind	-0.12	0.78	0.14	0.24	***0.84***
10Itr	0.5ind	0.16	0.83	-0.34	-0.27	***0.95***
Imax	0.5ind	0.11	-1.00	-0.20	-0.11	***1.03***
Itr	0.8cap	-0.17	0.64	0.17	0.16	***0.70***
10Itr	0.8cap	0.17	0.90	-0.35	-0.29	***1.02***
Imax	0.8cap	0.01	-0.47	-0.19	-0.13	***0.52***

Ambient Temperature Range -40 to 70 Degrees C (OUTDOOR ONLY)						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.10	1.24	0.13	0.05	***1.25***
Itr	1.0	-0.05	1.09	0.16	0.11	***1.11***
10Itr	1.0	0.14	1.14	-0.26	-0.29	***1.21***
Imax	1.0	0.14	-2.29	-0.12	-0.09	***2.30***
Itr	0.5ind	-0.12	0.85	0.14	0.24	***0.90***
10Itr	0.5ind	0.16	0.99	-0.34	-0.27	***1.09***
Imax	0.5ind	0.11	-1.98	-0.20	-0.11	***2.00***
Itr	0.8cap	-0.17	1.18	0.17	0.16	***1.21***
10Itr	0.8cap	0.17	1.05	-0.35	-0.29	***1.16***
Imax	0.8cap	0.01	-1.62	-0.19	-0.13	***1.64***

Results taken from DIN variant 5-85A Report 137550 dated 24th September 2010

In addition to the accuracy requirements the composite error e_c of the meter is shown below

The composite error at a certain load is calculated from the following formula:
$e_c = \sqrt{e^2(I.\cos\theta) + e^2(T.I.\cos\theta) + e^2(U.I.\cos\theta) + e^2(f.I.\cos\theta)}$

where

$e^2(I.\cos\theta)$ = Intrinsic error of meter at a certain load
$e^2(T.I.\cos\theta)$ = Additional error due to variation of the temperature at the same load
$e^2(U.I.\cos\theta)$ = Additional error due to variation of the voltage at the same load
$e^2(f.I.\cos\theta)$ = Additional error due to variation of the frequency at the same load

Ambient Temperature Range 5 to 30 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	0.07	0.68	-0.09	0.07	***0.69***
Itr	1.0	0.31	0.81	0.08	0.09	***0.88***
10Itr	1.0	0.45	0.71	0.17	0.10	***0.86***
Imax	1.0	0.41	0.78	0.11	-0.09	***0.89***
Itr	0.5ind	0.24	0.67	0.08	-0.06	***0.72***
10Itr	0.5ind	0.45	0.72	-0.19	-0.09	***0.87***
Imax	0.5ind	0.43	0.65	-0.21	-0.10	***0.81***
Itr	0.8cap	0.23	0.71	0.03	0.02	***0.75***
10Itr	0.8cap	0.41	0.87	0.13	0.17	***0.99***
Imax	0.8cap	0.44	0.81	0.20	0.07	***0.95***

Ambient Temperature Range -10 to 40 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	0.07	1.09	-0.09	0.07	***1.10***
Itr	1.0	0.31	1.06	0.08	0.09	***1.11***
10Itr	1.0	0.45	1.00	0.17	0.10	***1.11***
Imax	1.0	0.41	0.95	0.11	-0.09	***1.04***
Itr	0.5ind	0.24	1.07	0.08	-0.06	***1.10***
10Itr	0.5ind	0.45	0.82	-0.19	-0.09	***0.96***
Imax	0.5ind	0.43	0.96	-0.21	-0.10	***1.08***
Itr	0.8cap	0.23	1.03	0.03	0.02	***1.06***
10Itr	0.8cap	0.41	1.03	0.13	0.17	***1.13***
Imax	0.8cap	0.44	1.00	0.20	0.07	***1.11***

Ambient Temperature Range -25 to 55 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	0.07	1.24	-0.09	0.07	***1.25***
Itr	1.0	0.31	1.29	0.08	0.09	***1.33***
10Itr	1.0	0.45	1.31	0.17	0.10	***1.40***
Imax	1.0	0.41	1.26	0.11	-0.09	***1.33***
Itr	0.5ind	0.24	1.19	0.08	-0.06	***1.22***
10Itr	0.5ind	0.45	1.12	-0.19	-0.09	***1.23***
Imax	0.5ind	0.43	1.12	-0.21	-0.10	***1.22***
Itr	0.8cap	0.23	1.31	0.03	0.02	***1.33***
10Itr	0.8cap	0.41	1.31	0.13	0.17	***1.39***
Imax	0.8cap	0.44	1.30	0.20	0.07	***1.39***

Results taken from BS variant 5-100A Report 150370 dated 17th August 2011137550

4. Annex of Variants

U_n	I_b	I_{max}

SINGLE PHASE (A100C) MODEL CODE

	TYPE																
	S	J	1	L	A	B	E	S	S	G	N	S	J	-	B	N
PRODUCT/TERMINATION																	
Single Phase, BS terminal arrangement (L-N-N-L)	**S**	**J**															
Single Phase, DIN terminal arrangement (L-L-N-N)	**S**	**K**															
SERVICE TYPE																	
1-phase 2-wire			**1**														
CURRENT RANGE																	
10-60A DIN or BS (Imax any integral of Ib up to 60A, or 65A)				**D**													
5-60A DIN or BS (Imax any integral of Ib up to 60A, or 65A)				**F**													
20-100A BS only (Imax any integral of Ib up to 100A)				**L**													
10-100A BS only (Imax any integral of Ib up to 100A)				**M**													
5-100A BS only (Imax any integral of Ib up to 100A)				**N**													
VOLTAGE																	
220 – 250V					**A**												
110 – 127V					**C**												
FREQUENCY, ACCURACY CLASS																	
50 Hz, Class 1 kWh (IEC62053-21) – see note 1, Cl.B kWh,(EN 50470-3)						**B**											
50 Hz, Class 2 kWh (IEC62053-21) – see note 1 Cl.A kWh,(EN 50470-3)						**C**											
60 Hz, Class 1 kWh (IEC62053-21) – see note 1,						**E**											
60 Hz, Class 2 kWh (IEC62053-21) – see note 1						**F**											
TARIFF & HARDWARE CONFIGURATION																	
Single Rate, kWh registration							**B**										
Single Rate, kWh registration with backlit display (12-o'clock viewing angle)							**C**										
Single Rate, kWh registration with backlit display (6-o'clock viewing angle)							**D**										
Two-rate, kWh registration, switched to neutral							**E**										
Two-rate, kWh registration, switched to neutral with backlit display (6-o'clock viewing angle)							**F**										
DISPLAY CONFIGURATION																	
Customer specified display configuration								**S**									
DISPLAY CYCLE, REGISTER SOURCES																	
Customer specified display sequence and register sources									**S**								
TEST INDICATOR(S) (see important note 3)																	
Non-modulated 40ms pulses										**G**							
PULSING/ABSOLUTE OUTPUT(see important note 3 overleaf)																	
No pulse or serial data output											**N**						
SO pulse output, tied to neutral, one auxiliary terminal (2-rate only)											**P**						
SO pulse output, floating, two auxiliary terminals (1-rate only)											**Q**						
Absolute serial data output - tied to neutral, one auxiliary terminal (2-rate only, not with 1107)											**S**						
Absolute serial data output - floating, two auxiliary terminals (1-rate only, not with 1107)											**T**						
COMMUNICATIONS																	
IrDA optical port, data rate set at time of manufacture												**S**					
1107 bidirectional optical port, max baud rate, 20ms turnaround option set at time of manufacture												**T**					
OTHER OPTIONS																	
Extended BS terminal cover, with cut-out for cables, slotted brass main terminal screws													**B**				
Extended BS terminal cover no cut-out for cables," Israel" sealing boss, slotted brass main terminal screws													**H**				
DIN: extended terminal cover no cut-out for cables. BS: non-extended terminal cover													**J**				
DIN: short terminal cover. BS: extended terminal cover, no cut-out for cables													**K**				
Extended DIN terminal cover, with cut-out for cables													**T**				
Extended BS terminal cover, with cut-out for cables													**U**				
Clear short DIN terminal cover, slotted brass large head main terminal screws													**Y**				
Supplied without terminal cover													**Z**				
VERSION																	
FLAG (Shared visible Red LED)														**-**	**B**		
IrDA														**-**	**C**		
FLAG (Infra-Red) + 1 separate visible Red LED **(NOTE! No SO output available)**														**-**	**D**		
SPECIAL ADDITIONS																	
None available																	**N**
Firmware 2-01168-E (FLAG) – IEC approved only																	**E**
Firmware 2-01167-F (IrDA) – IEC and MID approved																	**F**

Modifications to the meter(s) described according to approval No.**0120/ SGS0046** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

5. Document Revision History

Issue	Date	Comments
1	30/10/2009	Initial Issue
2	24/09/2010	Additional approval of DIN Terminal only 0,25-5(85)A Current Range
3	17/08/2011	Additional approval of BS Terminal 0,25-5(100)A Current Range
4	31/08/2011	Corrected product variant annex
5	17/05/2012	Migration to new MID certificate template
6	02/06/2016	LCD backlight model added.