EC Type Examination Certificate Number: **0120/ SGS0097**

SC Elster Rometrics SRL

DN6 Lugoj- Timisoara km 551+330 m
Ghiroda
307200
Timis County
Romania

Instrument Identification:
AS230

Single Phase, Direct Connected, Credit, Import/Export, Active/Reactive, Multi Rate, Electricity Meter
Instrument Traceable Number
0120/ SGS0097
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 for 10 years from 24th October 2008 until 23rd October 2018
Issue 1

Certification is based on report number(s)
EMA121661 dated 24th October 2008
EMA125056 dated 27th March 2009
EMA139902 dated 21st September 2010

Authorised Signature

Jan Saunders

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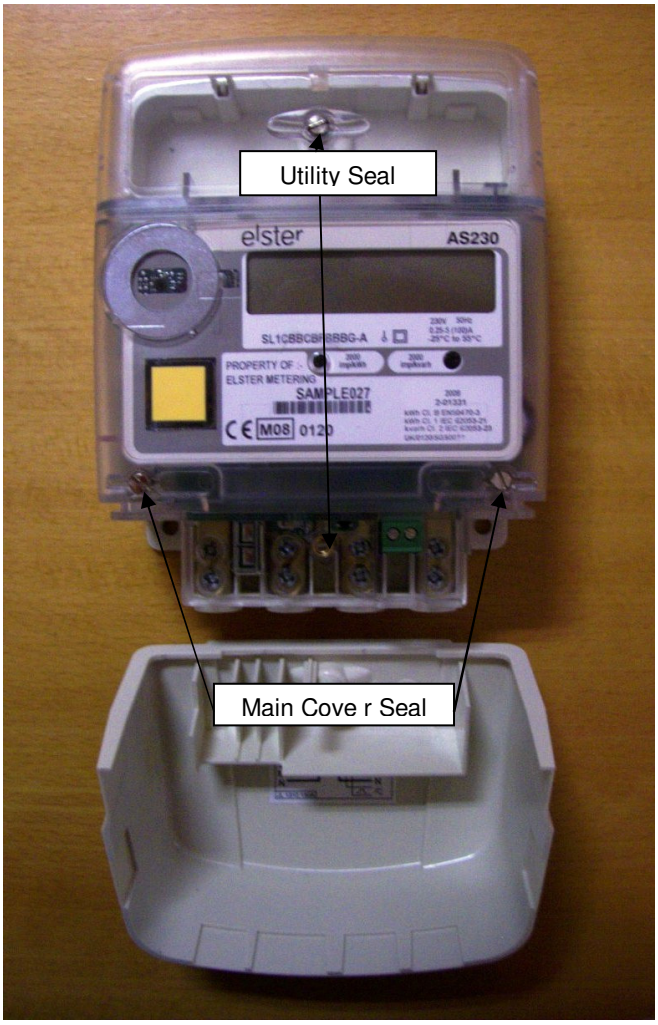
	EC-Type Examination Certificate Number:	
	0120/ SGS0097	
	Issue Number: 1	Dated: 23rd February 2012

1. Technical Data

Manufacturer	SC Elster Rometrics SRL
Meter Type	AS230
Voltage Rating *(Un)*	220-240V
Current Rating *(Imin – Iref (Imax))*	0,25-5(100)A
Frequency *(Fn)*	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 **Identification Location**	2-01331-E 2-01331-F 2-01331-G 2-01331-J 2-01331-K 2-01331-L Nameplate
Bill Of Materials Number	BS Terminals v1.4 DIN Terminals v1.0
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	2000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	Wire & Crimp
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	-0.21	0.07	0.32	0.38	***0.54***
Itr	1.0	-0.17	-0.05	0.20	-0.08	***0.28***
10Itr	1.0	-0.01	0.09	0.03	0.01	***0.10***
Imax	1.0	-0.08	0.02	-0.02	-0.02	***0.09***
Itr	0.5ind	-0.09	0.13	0.66	0.21	***0.71***
10Itr	0.5ind	0.01	0.05	-0.05	-0.03	***0.08***
Imax	0.5ind	-0.03	0.05	-0.01	-0.02	***0.06***
Itr	0.8cap	-0.17	0.14	0.40	0.17	***0.49***
10Itr	0.8cap	-0.04	0.06	0.02	-0.01	***0.08***
Imax	0.8cap	-0.13	-0.02	-0.05	-0.06	***0.15***

Ambient Temperature Range -10 to 40 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.21	0.40	0.32	0.38	***0.67***
Itr	1.0	-0.17	0.08	0.20	-0.08	***0.29***
10Itr	1.0	-0.01	0.14	0.03	0.01	***0.14***
Imax	1.0	-0.08	0.03	-0.02	-0.02	***0.09***
Itr	0.5ind	-0.09	0.37	0.66	0.21	***0.79***
10Itr	0.5ind	0.01	0.13	-0.05	-0.03	***0.14***
Imax	0.5ind	-0.03	0.06	-0.01	-0.02	***0.07***
Itr	0.8cap	-0.17	0.23	0.40	0.17	***0.52***
10Itr	0.8cap	-0.04	0.12	0.02	-0.01	***0.13***
Imax	0.8cap	-0.13	-0.25	-0.05	-0.06	***0.29***

Ambient Temperature Range -25 to 55 Degrees C						
Current	**PF Cos**	**e(Icos)**	**e(TIcos)**	**e(UIcos)**	**e(fIcos)**	**%MPE**
Imin	1.0	-0.21	0.50	0.32	0.38	***0.74***
Itr	1.0	-0.17	0.25	0.20	-0.08	***0.37***
10Itr	1.0	-0.01	0.12	0.03	0.01	***0.12***
Imax	1.0	-0.08	-0.09	-0.02	-0.02	***0.12***
Itr	0.5ind	-0.09	0.53	0.66	0.21	***0.88***
10Itr	0.5ind	0.01	0.15	-0.05	-0.03	***0.16***
Imax	0.5ind	-0.03	-0.05	-0.01	-0.02	***0.06***
Itr	0.8cap	-0.17	0.33	0.40	0.17	***0.57***
10Itr	0.8cap	-0.04	0.11	0.02	-0.01	***0.12***
Imax	0.8cap	-0.13	-0.14	-0.05	-0.06	***0.21***

Results taken from SGS Report No 121661

4. Annex of Variants

Product Variant Identification Details:

Type Designation **Description of meter**

example:	S	L	1	A	B	N	B	B	N	N	N	N	B	B	-	A	N
PRODUCT/TERMINATION																	
Single Phase, BS terminal arrangement (L-N-N-L), Multi Rate with Load Profile	**S**	**L**															
Single Phase, DIN terminal arrangement (L-L-N-N), Multi Rate with Load Profile	**S**	**N**															
SERVICE TYPE																	
1-phase 2-wire			**1**														
CURRENT RANGE																	
Direct Connected 20A – * (* is any multiple of Ib up to 100A maximum - see note 1)				**A**													
Direct Connected 10A – * (* is any multiple of Ib up to 100A maximum - see note 1)				**B**													
Direct Connected 5A – * (* is any multiple of Ib up to 100A maximum - see note 1)				**C**													
VOLTAGE/ ACCURACY CLASS																	
220 – 240V 50 Hz Cl.1 kWh, Cl.2 kvarh (IEC 62053-21, 23 see note 2) Cl.B kWh,(EN 50470-3)					**B**												
220 – 240V 50 Hz Cl.2 kWh, Cl.3 kvarh (IEC 62053-21, 23 see note 2) Cl.A kWh,(EN 50470-3)					**C**												
CONTACTOR																	
No contactor						**N**											
With contactor						**B**											
LCD/BACKLIGHT																	
"English" LCD option - no kvarh LED, no backlight							**B**										
"English" LCD option - with kvarh LED, no backlight							**C**										
"English" LCD option - no kvarh LED, with backlight							**D**										
"Chevrons" LCD option - no kvarh LED, no backlight							**F**										
"Chevrons" LCD option - with kvarh LED, no backlight							**G**										
"Chevrons" LCD option - no kvarh LED, with backlight							**H**										
BATTERY OPTIONS – see note 4																	
Real Time Clock battery support								**B**									
AUXILIARY OUTPUT – see note 4																	
No SO or relay output									**N**								
SO output (as kWh LED)									**B**								
100mA/230V relay output (configurable)									**F**								
100mA/230V relay output (as kWh LED)									**G**								
MAIN COVER TAMPER – see note 4																	
No main cover tamper										**N**							
With main cover tamper										**B**							
TERMINAL COVER TAMPER																	
No terminal cover tamper											**N**						
With terminal cover tamper											**B**						
MAGNETIC FIELD SENSOR																	
No magnetic field sensor												**N**					
With Magnetic Field sensor												**B**					
OPERATIONAL MODES																	
Import kWh only (plus reverse active energy)													**B**				
Import kWh, import (Q1 + Q2) kvarh plus reverse active energy													**C**				
Import/Export kWh													**D**				
Import/Export kWh, import (Q1 + Q2) and export (Q3 + Q4) kvarh													**F**				
Import/Export kWh, import (Q1 + Q2) and export (Q3 + Q4) kvarh and kVAh.													**G**				
OTHER OPTIONS																	
Short Terminal Cover														**B**			
Extended Terminal cover														**C**			
Extended Terminal cover with cut-out														**D**			
VERSION																	
Original (superseded by revision K)															**-**	**A**	
Load Profile data packet ID included (From revision suffix 'K')															**-**	**B**	
REVISION SUFFIX																	
Firmware 2-01331-E (superseded by revision F)																	**E**

Firmware 2-01331-F (selected customers only)	**F**
Firmware 2-01331-G (superseded by revision J)	**G**
Firmware 2-01331-J (superseded by revision K)	**J**
Firmware 2-01331-K (superseded by revision L)	**K**
Firmware 2-01331-L	**L**

Modifications to the meter(s) described according to approval No.**0120**/ **SGS0097** 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	23/02/2012	Initial Issue