

EC Type Examination Certificate Number: **0120/ SGS0102**

Janz-Contadores de Energia,SA

Av.Infante D. Henrique 328
1800-223 Lisboa
Portugal

Instrument Identification:
A1801**

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

Instrument Traceable Number

0120/ SGS0102

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 from 12th June 2012 to 11th June 2022
Issue 1

Certification is based on report number(s)
EMA124573, EMA140749 & EMA161331

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

	EC-Type Examination Certificate Number:	
	0120/ SGS0102	
	Issue Number: 1	Dated: 12 th June

Manufacturer	Janz-Contadores de Energia, SA.
Meter Type	A1801**
Voltage Rating (U_n)	3 x 220/ 400V – 3 x 240/415V
Current Rating (I_{min} – I_{ref} (I_{max}))	0.25-5(10)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	C (kWh)
Type of circuit	3p4w
Temperature Range	-25°C to +55°C
Software Version No.'s Firmware Version No.'s	1.6.3.TC 1.3
Identification Location	LCD
Bill Of Materials Number	PCB BOM No: 918809501f5a Mechanical BOM No's: 918809501f2b 918809501f3
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	5000 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	2 x Wire & Crimp or 2 x Tamper Proof sealing tape concealing main cover screw
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	BS

2. Photograph of Meter and Sealing Plan

	EC-Type Examination Certificate Number:	
	0120/ SGS0102	
	Issue Number: 1	Dated: 12 th June



Utility Seals



Main Cover Seals

	EC-Type Examination Certificate Number:	
	0120/ SGS0102	
	Issue Number: 1	Dated: 12 th June

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	-0.18	0.27	-0.07	0.01	0.33
Itr	1.0	0.03	0.27	-0.07	-0.01	0.28
10Itr	1.0	0.07	0.27	-0.07	0.01	0.29
Imax	1.0	0.08	0.28	-0.06	0.00	0.30
Itr	0.5ind	0.05	0.29	-0.07	0.00	0.30
10Itr	0.5ind	0.07	0.28	-0.07	-0.01	0.30
Imax	0.5ind	0.12	0.29	-0.06	0.02	0.32
Itr	0.8cap	-0.01	0.26	-0.07	0.00	0.27
10Itr	0.8cap	0.07	0.27	-0.07	0.01	0.29
Imax	0.8cap	0.06	0.27	-0.08	-0.01	0.29

Ambient Temperature Range -10 to 40 Degrees C						
Current	PF Cos	e(Icos)	e(TIcos)	e(UIcos)	e(fIcos)	%MPE
Imin	1.0	-0.18	0.52	-0.07	0.01	0.55
Itr	1.0	0.03	0.52	-0.07	-0.01	0.53
10Itr	1.0	0.07	0.52	-0.07	0.01	0.53
Imax	1.0	0.08	0.52	-0.06	0.00	0.53
Itr	0.5ind	0.05	0.54	-0.07	0.00	0.55
10Itr	0.5ind	0.07	0.54	-0.07	-0.01	0.55
Imax	0.5ind	0.12	0.54	-0.06	0.02	0.56
Itr	0.8cap	-0.01	0.51	-0.07	0.00	0.51
10Itr	0.8cap	0.07	0.51	-0.07	0.01	0.52
Imax	0.8cap	0.06	0.52	-0.08	-0.01	0.53

	EC-Type Examination Certificate Number:	
	0120/ SGS0102	
	Issue Number: 1	Dated: 12 th June

4. Calculation of the composite error/ MPE (cont)

Ambient Temperature Range -25 to 55 Degrees C						
Current	PF Cos	e(lcos)	e(Tlcos)	e(Ulcos)	e(flcos)	%MPE
Imin	1.0	-0.18	0.78	-0.07	0.01	0.80
Itr	1.0	0.03	0.78	-0.07	-0.01	0.78
10ltr	1.0	0.07	0.79	-0.07	0.01	0.80
Imax	1.0	0.08	0.8	-0.06	0.00	0.81
Itr	0.5ind	0.05	0.82	-0.07	0.00	0.82
10ltr	0.5ind	0.07	0.8	-0.07	-0.01	0.81
Imax	0.5ind	0.12	0.82	-0.06	0.02	0.83
Itr	0.8cap	-0.01	0.79	-0.07	0.00	0.79
10ltr	0.8cap	0.07	0.8	-0.07	0.01	0.81
Imax	0.8cap	0.06	0.79	-0.08	-0.01	0.80

	EC-Type Examination Certificate Number:	
	0120/ SGS0102	
	Issue Number: 1	Dated: 12 th June

5. Annex of Variants

Product Variant Identification Details:

Type Designation		Description of meter
CONNECTION MODE	A	Poly phase meter for CT/VT connection (3 or 4 wires)
SERIES	1	The concept of series is related with the physical aspect of meter (meter case), seven series remain available
TARIFF	80	Programmable Multirate, kWh/kvarh import export (demand registration and load profile)
INTERFACE TO THE USER	-	Without push buttons (LCD scrolls the programmed data)
	1	One push button to access data on LCD
	R2	With RS232 port / multidrop / HAN ports

Modifications to the meter(s) described according to approval No. **0120/ SGS0102** 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	12/06/2012	Initial Issue