



EC Type Examination Certificate Number: **0120/SGS0113**

Janz-Contadores De Energia, SA

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

Instrument Identification:
C3801*****

Instrument Traceable Number
0120/SGS0113

Single Phase, Credit, Active Import/ Export, Multi-rate, Indoor, 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 for 10 years from 8th May 2013 to 7th May 2023
Issue 3


Certification is based on report number(s) EMA172229/1 dated 8th May 2013
EMA192143/1/MID dated 19th August 2014

Authorised Signature

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1. Technical Data

Manufacturer	Janz-Contadores de Energia, SA.
Meter Types	C3801*****
Voltage Rating (<i>Un</i>)	220 – 240V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0,5-10(60)A 0,5-10(80)A
Frequency (<i>Fn</i>)	50Hz
Active Accuracy Class (<i>kWh</i>)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Firmware Version No. Software Version No.	1.9, 1.10, 1.11 00.06, 01.00, 00.04
Identification Location	LCD
Bill Of Materials No.'s	Standard meter Electronic BOM - 913809502 f7c PLC MODEM Electronic BOM - 913809502 f3a GPRS MODEM Electronic BOM - 913809502 f4c Mechanical BOM for 60A model - 913809502 f1f Mechanical BOM for 80A model - 913809502 f8a
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	3200 imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	1 x Wire & Crimp or tamper proof sealing tape
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN

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2. Photograph of Meter and Sealing Plan



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3. Influence factors for temperature, frequency and voltage


		Influence Factors for temperature, frequency and voltage					
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.60	0.60	0.60	0.60	0.62	0.68
I _{tr}	1.0	0.49	0.32	0.27	0.26	0.27	0.32
10I _{tr}	1.0	0.69	0.37	0.16	0.06	0.06	0.12
I _{max}	1.0	0.68	0.38	0.17	0.01	0.06	0.14
I _{tr}	0.5ind	0.30	0.29	0.29	0.29	0.31	0.43
10I _{tr}	0.5ind	0.73	0.47	0.36	0.33	0.33	0.35
I _{max}	0.5ind	0.77	0.49	0.33	0.26	0.27	0.32
I _{tr}	0.8cap	0.55	0.48	0.47	0.47	0.48	0.52
10I _{tr}	0.8cap	0.65	0.36	0.16	0.09	0.08	0.12
I _{max}	0.8cap	0.78	0.49	0.32	0.22	0.24	0.30

During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table below presents 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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4. Annex of Variants

Product Variant Identification Details:

Type Designation		Description of meter
CONNECTION MODE	C	Single phase meter for direct connection (2 wires)
SERIES	3	The concept of series is related with the physical aspect of meter (meter case), seven series remain available
TARIFF SCHEME	80	Programmable Multirate, kWh/kvarh import/export (demand registration <u>and</u> load profile)
INTERFACE TO THE USER	-	Without push buttons (LCD scrolls the programmed data)
	1	With <u>one</u> push button (to accelerate LCD scrolling and navigate through menus)
PULSE OUTPUT	-	No pulse output
	E1	One DC pulse output (through terminals 21/22) or AC output (through terminal 21)
	E2	Two AC outputs (through terminals 21 & 22)
PULSE INPUT	-	No pulse input for tariff switch
	I1	One voltage free input (through terminal 20)
AUXILIARY DEVICES	-	No auxiliary devices
	LR	Latching relay for local or remote power control
ANTI-TAMPER	-	Without external cover opening detection device
	F	With external cover opening detection device
AUXILIARY COMMUNICATIONS	-	No auxiliary communications
	R2	RS232 port
	R4	RS485 port
	PSTN	Internal PSTN MODEM
	PLC	Internal PLC MODEM
	GPRS	Internal GSM/GPRS MODEM
	...	(others, to be identified always by alphanumeric characters)
VERSION	-	The initial version is not identified
	-A	The concept of version is related to hardware changes or significant firmware modifications, but always within the same "series" (see above)
	-B	
	...	

Modifications to the meter(s) described according to approval No.0120/ SGS0113 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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5. Document Revision History

Issue	Date	Comments
1	08/05/2013	Initial Issue
2	03/04/2014	Minor mod, increased current output from aux comm. port, for HAN. FW & SW enhanced id on LCD display. Certificate updated for BOM, SW & FW versions.
3	11/08/2014	Introduction of C3801###GPRS BOM New C3801E111### version intended for public lighting measurement/command. Alternative double single - pole relay version: extension for I _{max} =80A and new mechanical BOM.