



EC Type Examination Certificate Number: **0120/SGS0132**

# **Janz-Contadores De Energia, SA**

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

Instrument Identification:  
**B2801\*\*\*\*\***

Instrument Traceable Number  
**0120/SGS0132**

Polyphase, 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 until **1<sup>st</sup> October 2023**  
**Issue 12**

Certification is based on report number(s) EMA101440 dated 2<sup>nd</sup> August 2006, EMA179642 dated 2<sup>nd</sup> October 2013, EMA179642/CB dated 28<sup>th</sup> January 2014, EMA179642/1 dated 21<sup>st</sup> July 2015, EMA179642/1/iss2 dated 9<sup>th</sup> September 2016

Authorised Signature


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](http://www.sgs.com)

Contact Address  
SGS United Kingdom Ltd, Unit 12A & 12B, South Industrial Estate, Bowburn, Durham, DH6 5AD UK  
t +44 (0)191 377 2000 f +44 (0)191 377 2020 [www.sgs.com](http://www.sgs.com)

	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

## 1. Technical Data

<b>Manufacturer</b>	Janz-Contadores de Energia, SA.
<b>Meter Types</b>	B2801*****
<b>Voltage Rating (<i>Un</i>)</b>	3x220/380V – 3x240/415V
<b>Current Rating (<i>I<sub>min</sub></i> – <i>I<sub>ref</sub></i> (<i>I<sub>max</sub></i>))</b>	0,5-10(80)A
<b>Frequency (<i>Fn</i>)</b>	50Hz
<b>Active Accuracy Class (<i>kWh</i>)</b>	A or B (kWh)
<b>Type of circuit</b>	3p4w
<b>Temperature Range</b>	-25°C to +55°C
<b>Firmware Version No's.</b>	FW V01.06, FW V01.08
<b>Software Version No's.</b>	SW V00.03, SW V00.04, SW V00.05, SW V00.09, SW V01.03, V01.05, V01.06 (B2801###PLC) V01.07 (B2801###GPRS), V2.17 (B2801###GPRS V01.04(B2801###-IP) V02.05 (B2801##NBloT) V02.01(B2801##UMTS)
<b>Identification Location</b>	LCD
<b>Bill Of Materials No.'s</b>	917809502f1d Mechanical BOM 917809502f3f Mechanical BOM 917809502f1e Mechanical BOM 917809502f4e Electronic BOM
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000 imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	Wire & Crimp or tamper proof sealing tape
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD
<b>Terminal Arrangement(s)</b>	DIN


	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

## 2. Example of Meter and Sealing Plan

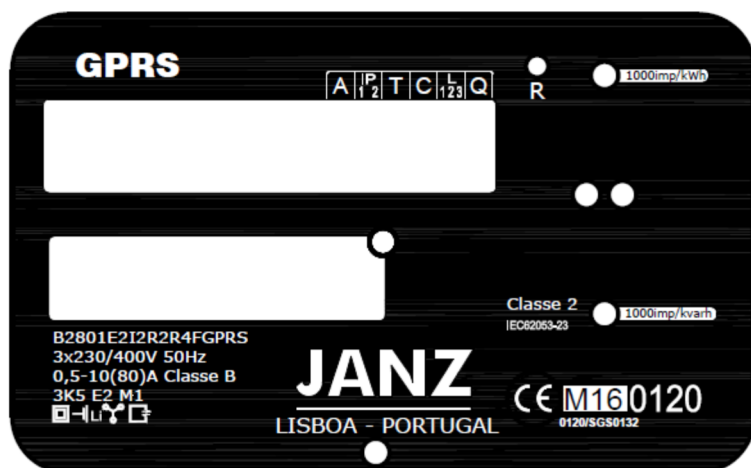
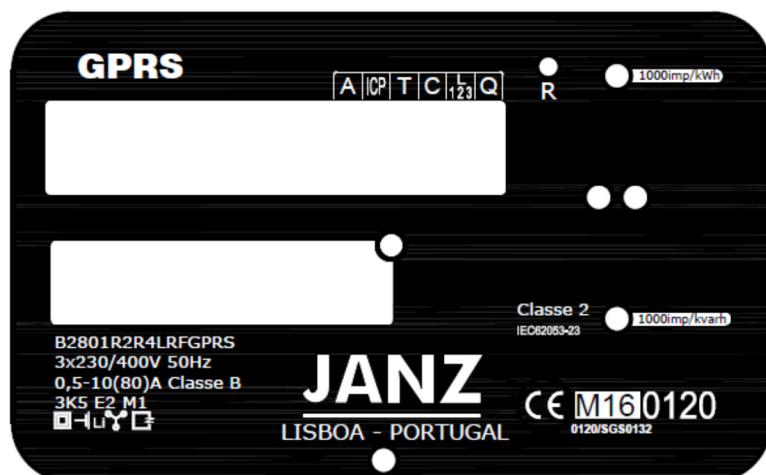
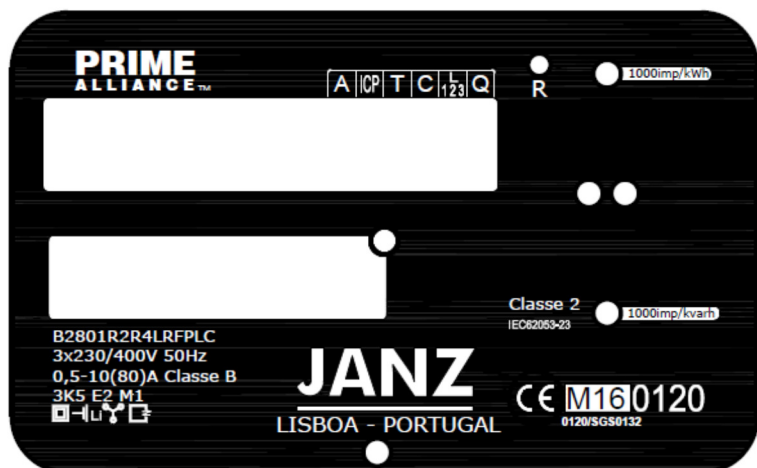



Main Cover  
Seals

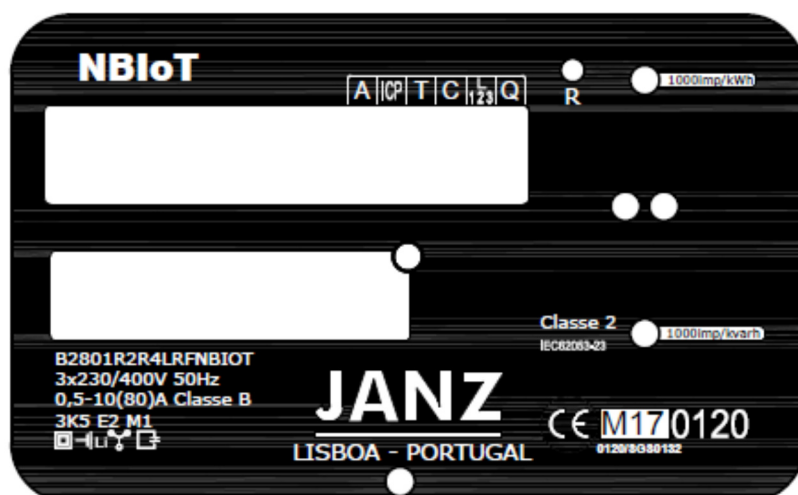
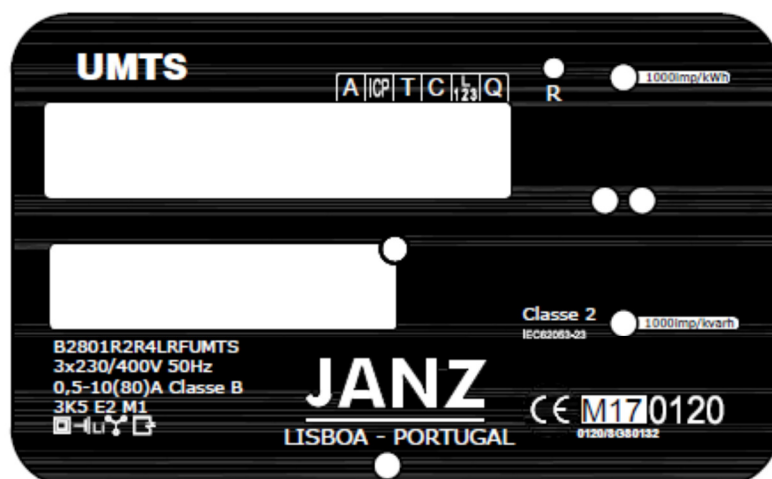
Terminal Cover  
Seals


	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

### 3. Namplates




	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018



	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

#### 4. Influence factors for temperature, frequency and voltage

Influence factors for temperature, frequency and voltage							
Current	PF Cos	-25 °C	-10 °C	5 °C	30 °C	40 °C	55 °C
I <sub>min</sub>	1.0	0.65	0.42	0.19	0.05	0.04	0.19
I <sub>tr</sub>	1.0	0.71	0.45	0.21	0.04	0.04	0.20
10I <sub>tr</sub>	1.0	0.72	0.43	0.21	0.05	0.04	0.17
I <sub>max</sub>	1.0	0.72	0.43	0.19	0.04	0.03	0.16
I <sub>tr</sub>	0.5ind	0.76	0.46	0.22	0.02	0.03	0.20
10I <sub>tr</sub>	0.5ind	0.76	0.46	0.22	0.04	0.03	0.16
I <sub>max</sub>	0.5ind	0.76	0.45	0.19	0.04	0.03	0.16
I <sub>tr</sub>	0.8cap	0.74	0.43	0.22	0.05	0.05	0.22
10I <sub>tr</sub>	0.8cap	0.75	0.44	0.22	0.05	0.05	0.19
I <sub>max</sub>	0.8cap	0.75	0.43	0.20	0.04	0.03	0.17
L1							
I <sub>tr</sub>	1.0	0.76	0.43	0.22	0.04	0.07	0.25
10I <sub>tr</sub>	1.0	0.76	0.44	0.21	0.03	0.06	0.22
I <sub>max</sub>	1.0	0.76	0.44	0.21	0.04	0.05	0.22
I <sub>tr</sub>	0.5ind	0.79	0.46	0.25	0.06	0.08	0.27
10I <sub>tr</sub>	0.5ind	0.78	0.46	0.24	0.02	0.04	0.20
I <sub>max</sub>	0.5ind	0.79	0.47	0.24	0.04	0.04	0.20
L2							
I <sub>tr</sub>	1.0	0.76	0.41	0.20	0.06	0.05	0.20
10I <sub>tr</sub>	1.0	0.76	0.43	0.20	0.07	0.07	0.17
I <sub>max</sub>	1.0	0.76	0.42	0.19	0.06	0.05	0.16
I <sub>tr</sub>	0.5ind	0.76	0.42	0.19	0.07	0.04	0.15
10I <sub>tr</sub>	0.5ind	0.78	0.45	0.23	0.07	0.05	0.14
I <sub>max</sub>	0.5ind	0.78	0.46	0.22	0.04	0.05	0.16
L3							
I <sub>tr</sub>	1.0	0.81	0.44	0.22	0.04	0.03	0.17
10I <sub>tr</sub>	1.0	0.80	0.45	0.22	0.05	0.04	0.15
I <sub>max</sub>	1.0	0.79	0.44	0.21	0.07	0.04	0.15
I <sub>tr</sub>	0.5ind	0.83	0.47	0.25	0.03	0.03	0.18
10I <sub>tr</sub>	0.5ind	0.82	0.47	0.22	0.04	0.03	0.12
I <sub>max</sub>	0.5ind	0.80	0.45	0.14	0.04	0.04	0.23


	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

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

	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018


## 5. Annex of Variants

Product Variant Identification Details:

Type Designation		Description of meter
CONNECTION MODE	B	Polyphase meter for direct connection (4 wires)
SERIES	2	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 pulse output (through terminal 21)
	E2	Two pulse outputs (through terminals 21 & 22 )
PULSE INPUT	-	No pulse input for tariff switch
	I1	One pulse input (through terminal 23)
	I2	Two pulse inputs (through terminals 23 & 24 )
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
	UMTS	Internal UMTS MODEM
	NBLoT	Internal NBLoT 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/ SGS0132** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).



	EC-Type Examination Certificate Number:	
	<b>0120/ SGS0132</b>	
	Issue Number: 12	Dated: 20 <sup>th</sup> August 2018

## 6. Document Revision History

Issue	Date	Comments
1	02/10/2013	Initial Issue
2	05/12/2013	Minor software update from V0003 to V0004. Firmware unchanged.
3	31/01/2014	New software and firmware versions for circuit breaker type.
4	10/04/2014	Software update to V0007. Firmware unchanged.
5	27/05/2014	Software update to V0009. Firmware unchanged.
6	24/04/2015	Software update to V01.03. Firmware unchanged. Minor HW changes due to the introduction of a new memory chip
7	21/07/2015	Minor hardware modification due to repositioning of the RS232 & RS485 comms ports. Additional capacitors to improve radiated emissions. New opto coupler due to terminal lid presence sensor was being isolated. Minor software update.
8	09/10/2015	New SW01.06 version (meters intended for PLC communications) and SW01.07 version (meters intended for GPRS communications), due to debugging. Firmware unchanged.
9	09/09/2016	Auxiliary PCB modification due to the requirement of voltage free contacts. New SW 01.04 version (meters intended for public lighting measurement and command only). New mechanical BOM. Nameplates added to certificate.
10	26/10/2016	Certificate update due to PSU transformer's change and other minor component modifications, documented in electronic BOM doc. number 917809502f4d.
11	07/06/2017	New SW version V02.05 (NB IoT) and V02.01(UMTS) intended for UMTS and Narrow band IOT communications New mechanical BOM and Electronic BOM and Nameplates added to certificate.
12	20/08/2018	New software version V02.17 for GPRS

"This document is issued by the Company subject to its General Conditions of Service available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms-e-document.htm](http://www.sgs.com/terms-e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law."

"Unless otherwise stated the results shown in this test certificate refer only to the sample(s) tested and such sample(s) are retained for 28 days only."

**\*\* End of Document \*\***