



EC Type Examination Certificate Number: **0120/ SGS0104**

**LEGRAND**

128 Avenue du Marechal de Lattre de Tassigny  
87045  
LIMOGES Cedex France

Instrument Identification:

**004678 & 004679**

**Single Phase, Credit, Active Import, Electricity Meter**

Instrument Traceable Number

**0120/ SGS0104**

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 30<sup>th</sup> September 2011 until 29<sup>th</sup> September 2021  
Issue 2


Certification is based on report number(s)  
EMA149138 dated 28<sup>th</sup> September 2011

Authorised Signature

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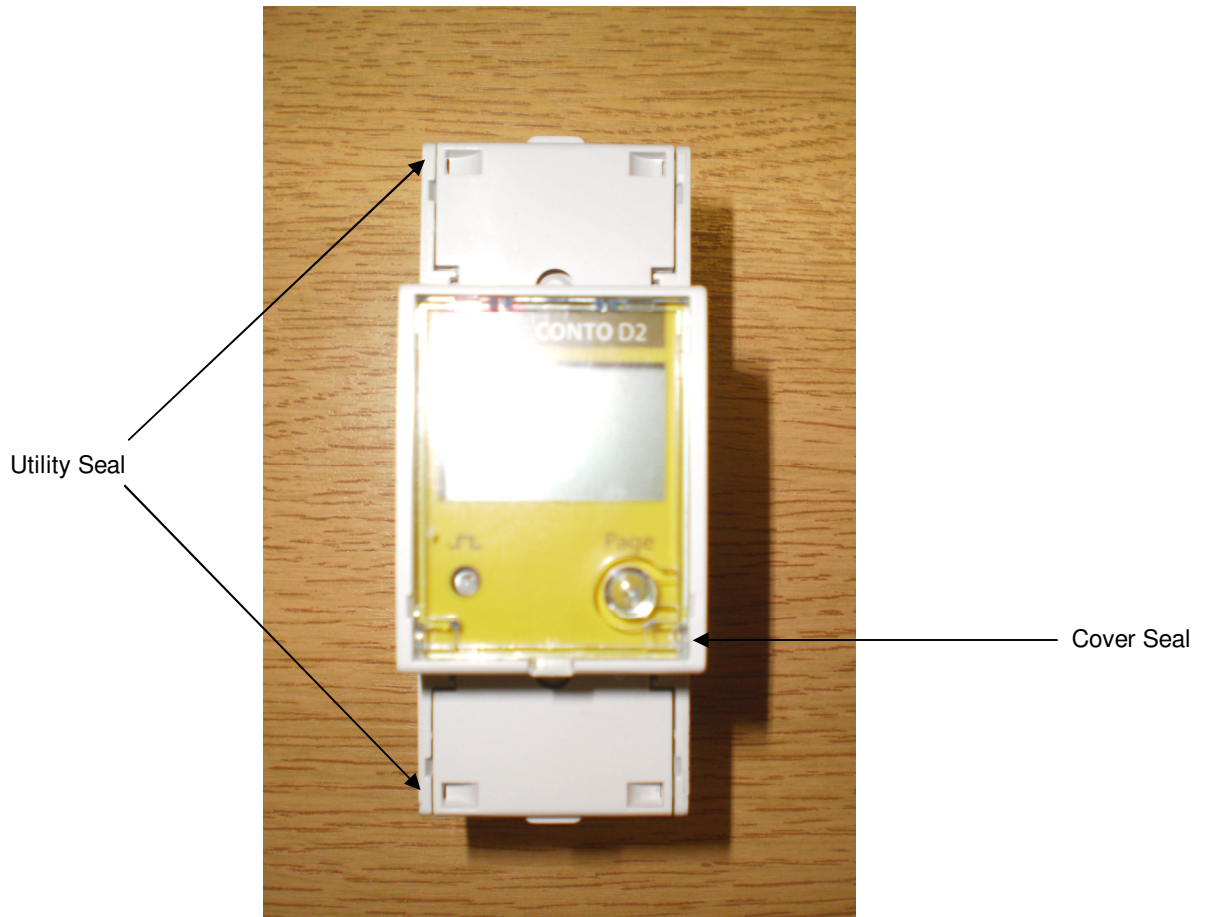
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	Issue Number: 2	Dated: 17 <sup>th</sup> October 2012


## 1. Technical Data

<b>Manufacturer</b>	LEGRAND
<b>Meter Type(s)</b>	004678 & 004679
<b>Voltage Rating (<math>U_n</math>)</b>	230V
<b>Current Rating (<math>I_{min}</math> – <math>I_{ref}</math> (<math>I_{max}</math>))</b>	0,5-10(63)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	A or B ( $kWh$ )
<b>Type of circuit</b>	1p2w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version Number Identification Location</b>	V1.1 LCD Display
<b>Bill Of Materials Number</b>	BOM – CE2DMID11 BOM – CE2DMID12
<b>IP Rating</b>	IP20 at Terminals Intended to be fitted inside an IP51 Enclosure
<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
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD

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**2. Photograph of Meter and Sealing Plan**



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### 3. 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:

$$e_c = \sqrt{e^2(l.\cos\theta) + e^2(T.l.\cos\theta) + e^2(U.l.\cos\theta) + e^2(f.l.\cos\theta)}$$

where

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

Ambient Temperature Range 5 to 30 Degrees C						
Current	PF Cos	e(lcos)	e(Tlcos)	e(Ulcos)	e(flcos)	%MPE
Imin	1.0	0.09	0.11	-0.13	-0.22	<b>0.29</b>
Itr	1.0	-0.28	0.21	0.04	-0.14	<b>0.38</b>
10Itr	1.0	0.02	0.19	-0.08	-0.12	<b>0.24</b>
I <sub>max</sub>	1.0	0.06	0.18	-0.04	-0.14	<b>0.24</b>
Itr	0.5ind	-0.27	0.70	-0.22	-0.25	<b>0.82</b>
10Itr	0.5ind	0.06	0.76	-0.22	-0.21	<b>0.82</b>
I <sub>max</sub>	0.5ind	0.15	0.91	-0.13	-0.15	<b>0.94</b>
Itr	0.8cap	-0.48	0.39	0.23	0.18	<b>0.68</b>
10Itr	0.8cap	-0.08	0.27	0.06	0.09	<b>0.30</b>
I <sub>max</sub>	0.8cap	0.12	0.37	0.24	0.20	<b>0.50</b>

Ambient Temperature Range -10 to 40 Degrees C						
Current	PF Cos	e(lcos)	e(Tlcos)	e(Ulcos)	e(flcos)	%MPE
Imin	1.0	0.09	0.3	-0.13	-0.22	<b>0.40</b>
Itr	1.0	-0.28	0.26	0.04	-0.14	<b>0.41</b>
10Itr	1.0	0.02	0.3	-0.08	-0.12	<b>0.33</b>
I <sub>max</sub>	1.0	0.06	0.29	-0.04	-0.14	<b>0.33</b>
Itr	0.5ind	-0.27	1.85	-0.22	-0.25	<b>1.90</b>
10Itr	0.5ind	0.06	1.9	-0.22	-0.21	<b>1.93</b>
I <sub>max</sub>	0.5ind	0.15	1.93	-0.13	-0.15	<b>1.95</b>
Itr	0.8cap	-0.48	-0.53	0.23	0.18	<b>0.77</b>
10Itr	0.8cap	-0.08	-0.58	0.06	0.09	<b>0.60</b>
I <sub>max</sub>	0.8cap	0.12	-0.68	0.24	0.20	<b>0.76</b>



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Ambient Temperature Range -25 to 55 Degrees C						
Current	PF Cos	e(lcos)	e(Tlcos)	e(Ulcos)	e(flcos)	%MPE
Imin	1.0	0.09	0.34	-0.13	-0.22	<b>0.43</b>
Itr	1.0	-0.28	0.38	0.04	-0.14	<b>0.49</b>
10ltr	1.0	0.02	0.36	-0.08	-0.12	<b>0.39</b>
Imax	1.0	0.06	0.41	-0.04	-0.14	<b>0.44</b>
Itr	0.5ind	-0.27	2.49	-0.22	-0.25	<b>2.53</b>
10ltr	0.5ind	0.06	2.49	-0.22	-0.21	<b>2.51</b>
Imax	0.5ind	0.15	2.59	-0.13	-0.15	<b>2.60</b>
Itr	0.8cap	-0.48	-0.82	0.23	0.18	<b>0.99</b>
10ltr	0.8cap	-0.08	-0.89	0.06	0.09	<b>0.90</b>
Imax	0.8cap	0.12	0.75	0.24	0.20	<b>0.82</b>

Results taken from:-

Report: EMA149138

Dated: 28<sup>th</sup> September 2011

Sample: New Sample 1

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#### 4. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
004678	Pulse Energy Output
004679	RS485 Communication

Modifications to the meter(s) described according to approval No.**0120/ SGS0104** 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	21/06/12	Initial Issue
2	17/10/12	Corrected Annex