



EU Type Examination Certificate Number: **0120/ SGS0255**

## **Materiels De Controle Industriel**

ZAC des Carrouges  
Chemin de Montreuil a Claye  
93140 BONDY  
FRANCE

Instrument Identification:  
**CONTAX M1M MECA**

Instrument Traceable Number  
**0120/ SGS0255**

**Single phase, Active Import (kWh), Electricity Meter, Mechanical Display**

has been assessed and certified as meeting the requirements of

## **EU Directive 2014/32/EU** **on Measuring Instruments Annex II, Module 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 Annex V of EU Directive 2014/32/EU

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex II, Module D or Annex II, Module F


This certificate is valid until 6<sup>th</sup> June 2026  
Issue 2

Certification is based on report number(s) SHES151200784001 dated 3<sup>rd</sup> June 2016  
EMA 224514  
EMA 230257

Authorised Signature


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	Issue Number: 2	Dated: 3 <sup>rd</sup> November 2016

## 1. Technical Data


Manufacturer	MCI
Meter Type	CONTAX M1M MECA
Voltage Rating ( $U_n$ )	230V
Current Rating ( $I_{min} - I_{ref} (I_{max})$ )	0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A, 0.25-5(50)A
Frequency ( $F_n$ )	50Hz
Active Accuracy Class ( $kWh$ )	B ( $kWh$ )
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No's	F+R Version(2000imp/kWh): V1.0 F+R Version(1000imp/kWh): V1.1 F+R Version(100imp/kWh): V1.2
Identification Location	Nameplate
Bill Of Materials Numbers	1000imp/kWh, V1.1: D111042; 100imp/kWh, V1.2: D111042-01; 2000imp/kWh, V1.0, F+R: D111042-02
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	2000imp/kWh, 1000imp/kWh, 100imp/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	Mechanical
Terminal Arrangement(s)	DIN
Location of Manufacture Address	Side of meter and Installation Instructions

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## 2. Photograph of Meter, Name Plate and Sealing Plan


Terminal cover  
sealing point



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Main Cover seal

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### 3. Calculation of Composite Error/MPE


Current	PF Cos		-25°C	-10°C	5°C	30°C	40°C	55°C	
I <sub>min</sub>	1.0		<b>0.64</b>	<b>0.57</b>	<b>0.48</b>	<b>0.29</b>	<b>0.34</b>	<b>0.40</b>	
I <sub>tr</sub>	1.0		<b>0.57</b>	<b>0.39</b>	<b>0.28</b>	<b>0.20</b>	<b>0.25</b>	<b>0.37</b>	
10I <sub>tr</sub>	1.0		<b>0.49</b>	<b>0.36</b>	<b>0.22</b>	<b>0.14</b>	<b>0.24</b>	<b>0.38</b>	
I <sub>max</sub>	1.0		<b>0.49</b>	<b>0.40</b>	<b>0.29</b>	<b>0.14</b>	<b>0.18</b>	<b>0.29</b>	
I <sub>tr</sub>	0.5ind		<b>0.48</b>	<b>0.44</b>	<b>0.43</b>	<b>0.43</b>	<b>0.50</b>	<b>0.57</b>	
10I <sub>tr</sub>	0.5ind		<b>0.34</b>	<b>0.26</b>	<b>0.21</b>	<b>0.26</b>	<b>0.32</b>	<b>0.45</b>	
I <sub>max</sub>	0.5ind		<b>0.41</b>	<b>0.34</b>	<b>0.28</b>	<b>0.19</b>	<b>0.19</b>	<b>0.25</b>	
I <sub>tr</sub>	0.8cap		<b>0.69</b>	<b>0.55</b>	<b>0.39</b>	<b>0.23</b>	<b>0.27</b>	<b>0.38</b>	
10I <sub>tr</sub>	0.8cap		<b>0.58</b>	<b>0.45</b>	<b>0.27</b>	<b>0.13</b>	<b>0.22</b>	<b>0.38</b>	
I <sub>max</sub>	0.8cap		<b>0.60</b>	<b>0.50</b>	<b>0.35</b>	<b>0.13</b>	<b>0.15</b>	<b>0.26</b>	

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:-

$$\delta e(T, U, f) = \sqrt{(\delta e^2(T, I, \cos\varphi) + \delta e^2(U, I, \cos\varphi) + \delta e^2(f, I, \cos\varphi))}$$

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		
Contax M1M MECA	0.25-5(30)A	100imp/kWh	Hardware the same for all currents and impulse constants. The only differences are in software.
	0.25-5(32)A	1000imp/kWh	
	0.25-5(40)A	2000imp/kWh	
	0.25-5(45)A		
	0.25-5(50)A		

Modifications to the meter(s) described according to approval No.**0120/ SGS0255** 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	06/10/2016	Initial Issue
2	03/11/2016	Incorrect software version number removed