



EU Type Examination Certificate Number: **0120/SGS0431**

# **Gacia Electrical Appliance Co., LTD.**

No.1 Nanxijiang Road  
Daqiao Industrial Zone  
Yueqing, Wenzhou  
China

Instrument Identification:  
**N8DM-34MCT Series**

**Polyphase, Active Import/ Export kWh, Indoor, Multi-Function, Transformer Operated,  
Electricity Meter**

Instrument Traceable Number  
**0120/SGS0431**

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 9<sup>th</sup> March 2024  
Issue 1

Certification is based on report number(s) EMA174647/1/MID dated 30<sup>th</sup> January 2014  
EMA174647/1/MID/iss 2 dated 9<sup>th</sup> October 2019  
EMA275962

Authorised Signature


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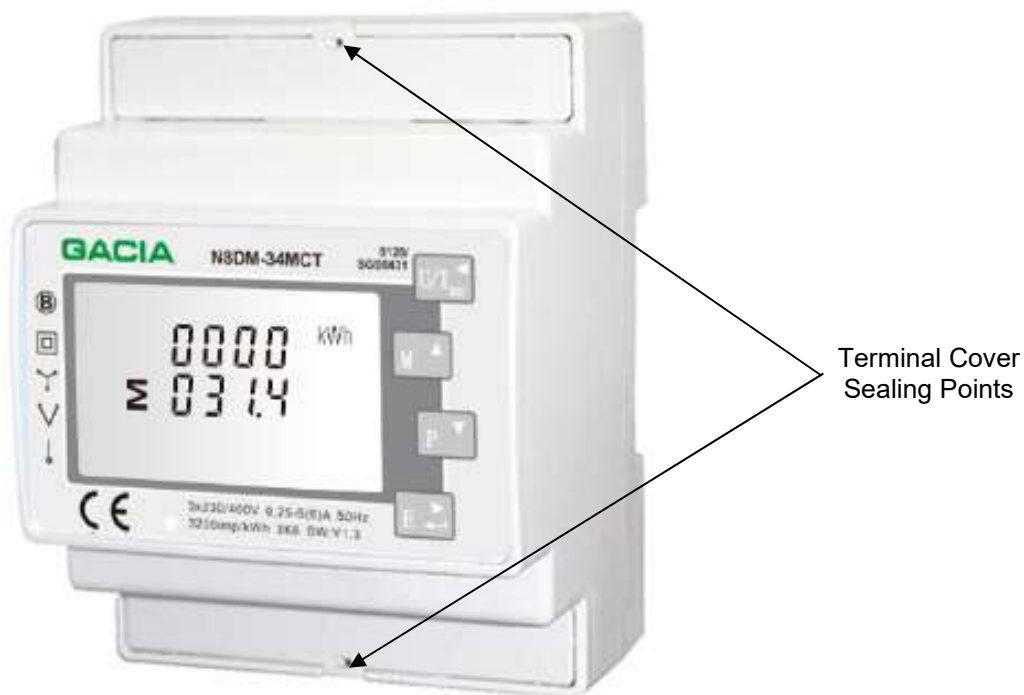
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	Issue Number: 1	Dated: 9 <sup>th</sup> April 2020


## 1. Technical Data

<b>Manufacturer</b>	Gacia Electrical Appliance Co., LTD
<b>Meter Type</b>	N8DM-34MCT, N8DM-34MCT-Mbus, N8DM-34MCT-MT, N8DM-34MCT-2T
<b>Voltage Rating (<math>U_n</math>)</b>	3x230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	0.25-5(6)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B or C ( $kWh$ )
<b>Type of circuit</b>	3p4w, 3p3w, 1p2w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No</b> <b>CRC Checksum</b> <b>Identification Location</b>	N8DM-34MCT: V1.3 N8DM-34MCT-2T: V1.4 N8DM-34MCT-Mbus: V1.5 N8DM-34MCT-MT: V1.7  N8DM-34MCT: 0x0000D5C8 N8DM-34MCT-2T: 0x0000D279 N8DM-34MCT-Mbus: 0x00001516 N8DM-34MCT-MT: 0x00597DE9  LCD
<b>Bill Of Materials Number</b>	N8DM-34MCT: DH-JS-150046-1.4 N8DM-34MCT-Mbus: DH-JS-160008-1.4 N8DM-34MCT-2T: DH-JS-160004-1.4 N8DM-34MCT-MT: DH-JS-190004-V1.1
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	3200imp/ kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	2 x 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
<b>Terminal Arrangement(s)</b>	DIN
<b>Location of Manufacturers Address</b>	Side of meter

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## 2. Photograph of Meter and Sealing Plan



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### 3. Examples of Nameplates



**GACIA**  
**N8DM-34MCT 0120/SGS0431**  
**Three Phase Energy Meter**  
 3x230/400V AC 0,25-5(6)A 50Hz IP51 2020  
 3200imp/kWh EN50470-1/3 SW:1.3 CAT III  
 CE M20 0120 B □ Y △ 3K6  
*Gacia Electrical Appliance Co., LTD*  
*No.1 Nanxijiang Road, Wenzhou, Zhejiang*




**GACIA**  
**N8DM-34MCT-Mbus 0120/SGS0431**  
**Three Phase Energy Meter**  
 3x230/400V AC 0,25-5(6)A 50Hz IP51 2020  
 3200imp/kWh EN50470-1/3 SW:1.5 CAT III  
 CE M20 0120 B □ Y △ 3K6  
*Gacia Electrical Appliance Co., LTD*  
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**GACIA**  
**N8DM-34MCT-MT 0120/SGS0431**  
**Three Phase Energy Meter**  
 3x230/400V AC 0,25-5(6)A 50Hz IP51 2020  
 3200imp/kWh EN50470-1/3 SW:1.7 CAT III  
 CE M20 0120 B □ Y △ 3K6  
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**GACIA**  
**N8DM-34MCT-2T 0120/SGS0431**  
**Three Phase Energy Meter**  
 3x230/400V AC 0,25-5(6)A 50Hz IP51 2020  
 3200imp/kWh EN50470-1/3 SW:1.4 CAT III  
 CE M20 0120 B □ Y △ 3K6  
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#### 4. Calculation of the composite error/ MPE

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




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		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I <sub>min</sub>	1.0	0.85	0.50	0.07	0.12	0.13	0.15
I <sub>tr</sub>	1.0	0.91	0.54	0.25	0.10	0.14	0.16
10I <sub>tr</sub>	1.0	0.85	0.50	0.23	0.03	0.09	0.12
I <sub>max</sub>	1.0	0.86	0.51	0.24	0.05	0.08	0.12
I <sub>tr</sub>	0.5ind	1.08	0.70	0.37	0.16	0.16	0.17
10I <sub>tr</sub>	0.5ind	0.79	0.43	0.17	0.09	0.13	0.18
I <sub>max</sub>	0.5ind	0.79	0.43	0.18	0.10	0.15	0.17
I <sub>tr</sub>	0.8cap	0.85	0.48	0.21	0.06	0.10	0.15
10I <sub>tr</sub>	0.8cap	0.87	0.51	0.24	0.02	0.06	0.11
I <sub>max</sub>	0.8cap	0.89	0.51	0.26	0.03	0.06	0.10
L1							
I <sub>tr</sub>	1.0	0.92	0.38	0.20	0.11	0.13	0.13
10I <sub>tr</sub>	1.0	0.85	0.48	0.22	0.05	0.12	0.17
I <sub>max</sub>	1.0	0.87	0.50	0.24	0.05	0.10	0.16
I <sub>tr</sub>	0.5ind	0.90	0.48	0.17	0.31	0.21	0.13
10I <sub>tr</sub>	0.5ind	0.88	0.50	0.22	0.05	0.15	0.16
I <sub>max</sub>	0.5ind	0.88	0.50	0.24	0.05	0.10	0.14
L2							
I <sub>tr</sub>	1.0	0.86	0.51	0.23	0.04	0.09	0.13
10I <sub>tr</sub>	1.0	0.82	0.47	0.21	0.04	0.08	0.12
I <sub>max</sub>	1.0	0.83	0.48	0.22	0.04	0.08	0.11
I <sub>tr</sub>	0.5ind	1.03	0.61	0.26	0.14	0.22	0.23
10I <sub>tr</sub>	0.5ind	0.69	0.35	0.10	0.15	0.21	0.24
I <sub>max</sub>	0.5ind	0.67	0.32	0.06	0.18	0.24	0.28
L3							
I <sub>tr</sub>	1.0	0.87	0.50	0.24	0.05	0.10	0.12
10I <sub>tr</sub>	1.0	0.85	0.48	0.22	0.04	0.09	0.11
I <sub>max</sub>	1.0	0.84	0.48	0.22	0.05	0.09	0.12
I <sub>tr</sub>	0.5ind	0.97	0.56	0.27	0.09	0.13	0.13
10I <sub>tr</sub>	0.5ind	0.83	0.47	0.21	0.06	0.08	0.11
I <sub>max</sub>	0.5ind	0.83	0.47	0.21	0.04	0.09	0.11


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## 5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
N8DM-34MCT	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated (Terminal 7 and 8 used as power output for next meter in daisy connection)
N8DM-34MCT-2T	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated (Terminal 7 and 8 is used as signal input for two tariff shifting)
N8DM-34MCT-Mbus	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Transformer Operated, Mbus communication
N8DM-34MCT-MT	0.25-5(6)A – Polyphase, Active Import/Export kWh, Multifunction, Multi-tariff, Transformer Operated, Modbus communication

Modifications to the meter(s) described according to approval No.**0120/SGS0431** 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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## 6. Document Revision History

Issue	Date	Comments
1	09/04/2020	Initial Issue

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