



EU Type Examination Certificate Number: **0120/SGS0444**

Gacia Electrical Appliance Co., LTD.

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

Instrument Identification:
N8DM-22 Series

Single Phase, Active Import/ Export (kWh), Indoor, Electricity Meter

Instrument Traceable Number
0120/SGS0444

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 29th September 2025
Issue 1

Certification is based on report number(s) SHES141200649301 issued 16th April 2015
EMA207767 issued 9th October 2015
EMA275962

Authorised Signature


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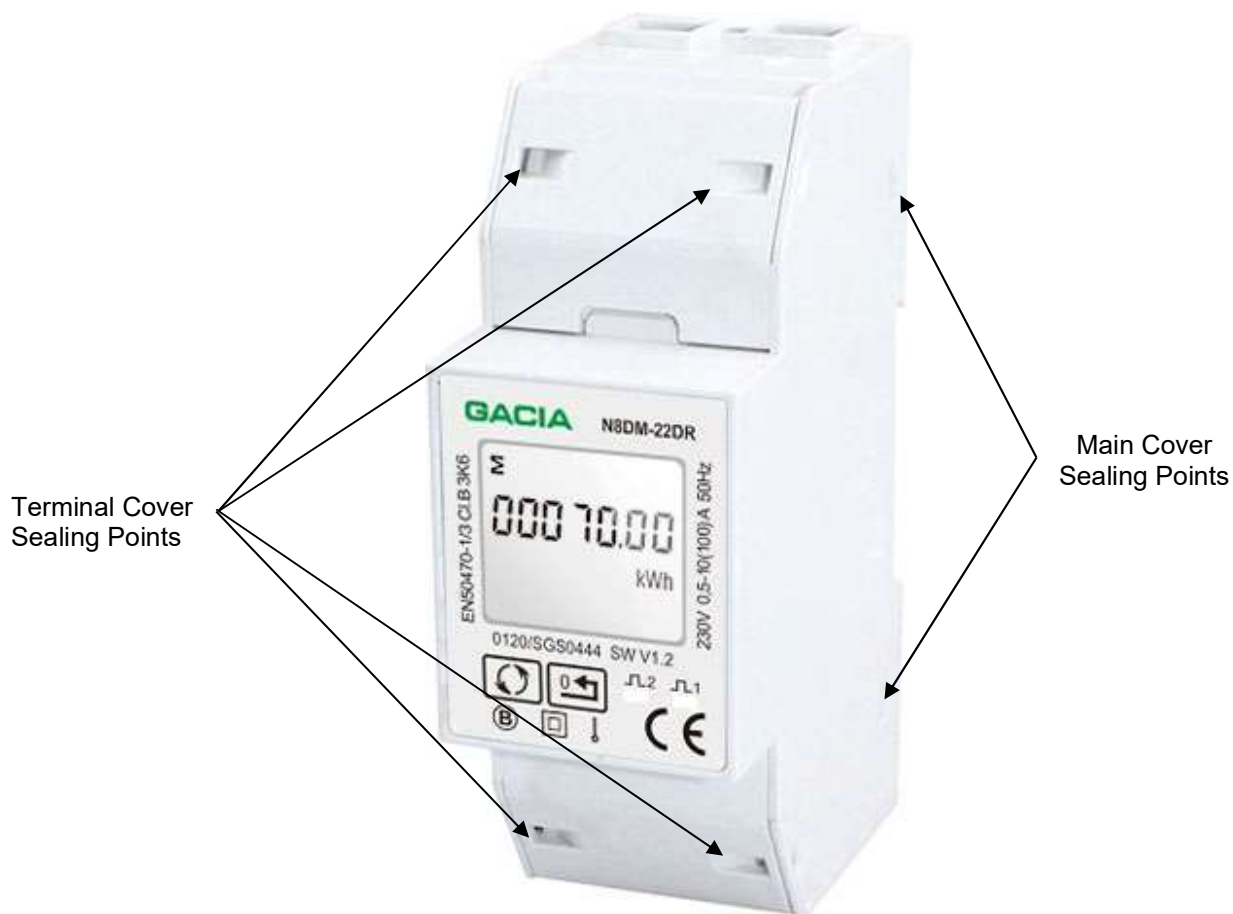
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1. Technical Data

Manufacturer	Gacia Electrical Appliance Co., LTD
Meter Type	N8DM-22Modbus, N8DM-22Bi, N8DM-22DR, N8DM-22Pulse, N8DM-22Mbus, N8DM-22-2T
Voltage Rating (U_n)	230V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.5-10(100)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No CRC Checksum Identification Location	N8DM-22Modbus, N8DM-22Bi, N8DM-22DR, N8DM-22Pulse: V1.2 N8DM-22-2T: V1.3 N8DM-22Mbus: V1.4 N8DM-22Modbus, N8DM-22Bi, N8DM-22DR, N8DM-22Pulse: 0x000052F2 N8DM-22-2T: 0x00001AD5 N8DM-22Mbus: 0x00004D23 Nameplate
Bill Of Materials Number	N8DM-22Modbus, N8DM-22Bi, N8DM-22DR, N8DM-22Pulse: 20150929 N8DM-22-2T: DH-JS-180009-1.0 N8DM-22Mbus: DH-JS-180029-V1.0
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Main Cover Sealing Type	4 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN
Location of Manufacturers Address	Nameplate

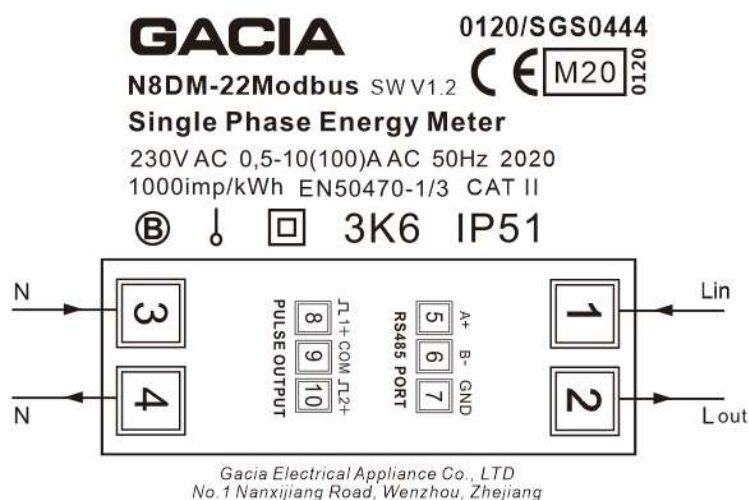
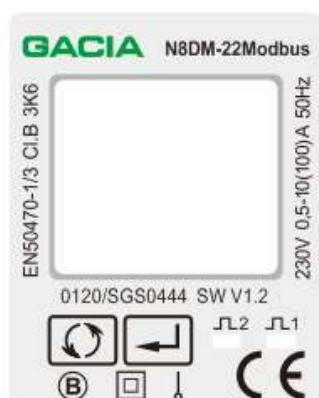
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2. Photograph of Meter and Sealing Plan

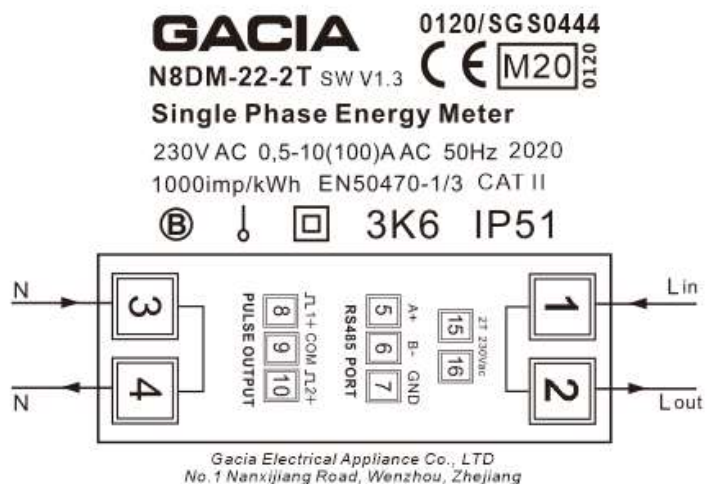
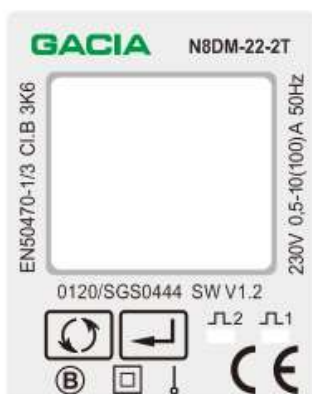
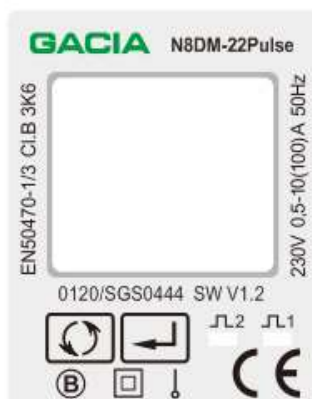
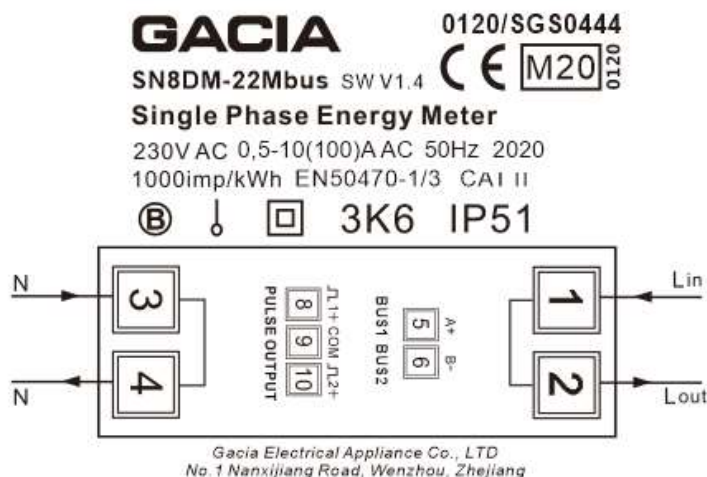
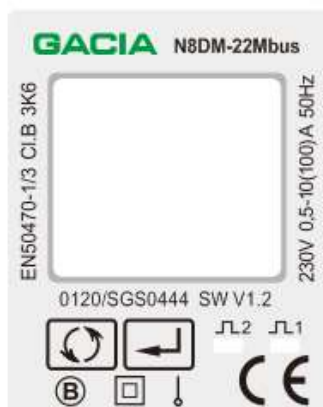



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3. Examples of Nameplates



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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

		Influence Factors for Temperature, Voltage & Frequency					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.45	0.33	0.23	0.15	0.17	0.23
I _{tr}	1.0	0.44	0.31	0.19	0.07	0.10	0.18
10I _{tr}	1.0	0.42	0.29	0.18	0.03	0.08	0.16
I _{max}	1.0	0.27	0.19	0.12	0.03	0.06	0.12
I _{tr}	0.5ind	0.48	0.36	0.27	0.17	0.18	0.22
10I _{tr}	0.5ind	0.41	0.28	0.17	0.03	0.08	0.17
I _{max}	0.5ind	0.27	0.18	0.12	0.04	0.07	0.13
I _{tr}	0.8cap	0.45	0.31	0.20	0.09	0.12	0.18
10I _{tr}	0.8cap	0.40	0.27	0.16	0.04	0.10	0.19
I _{max}	0.8cap	0.26	0.19	0.11	0.05	0.08	0.15


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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
N8DM-22Modbus:	Single tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, RS485 Modbus communication
N8DM-22Mbus	Single tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, Mbus communication
N8DM-22Pulse:	Single tariff, total active energy, resettable active energy, import active energy, export active energy total reactive energy import reactive energy export reactive energy active, power reactive, power, voltage, current, frequency, power factor, power demand.
N8DM-22DR:	Single tariff, total active energy, resettable energy, active power
N8DM-22Bi:	Single tariff, import active energy, export active energy, import active power, export active power, total active energy, total active power
N8DM-22-2T:	Two tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, RS485 Modbus communication

Modifications to the meter(s) described according to approval No.**0120/SGS0444** 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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END OF CERTIFICATE