



EU Type Examination Certificate Number: **0120/SGS0266**

GARO AB

Södergaten26
Gnosjö
335 33
Sweden

Instrument Identification:
GNM1D Series

Instrument Traceable Number
0120/SGS0266

Single Phase, Active Import (kWh), Multifunction, Indoor, Electricity Meter

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 12th May 2025
Issue 2

Certification is based on report number(s) SHES141200635301 dated 13th May 2015
SHES150900545001 dated 21st September 2015
SHES160600519301 dated 18th July 2016
EMA203276
EMA232158

Authorised Signature


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	0120/ SGS0266	
	Issue Number: 2	Dated: 03/02/2017

1. Technical Data


Manufacturer	Garo AB
Meter Type(s)	GNM1D GNM1D-RS485 GNM1D-MBUS
Voltage Rating (U_n)	230V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.25-5(45)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 Version No's.	GNM1D: AA.03 GNM1D-RS485: AB.05 GNM1D-MBUS: AC.04
Identification Location	LCD
Bill Of Materials No.'s	GNM1D: D116010-01 V3 GNM1D-RS485: D116012-01 V3 GNM1D-MBUS: D116011-01 V3
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	2 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Location of Company Address	Nameplate & User Manual

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2. Photograph of Meter and Sealing Plan

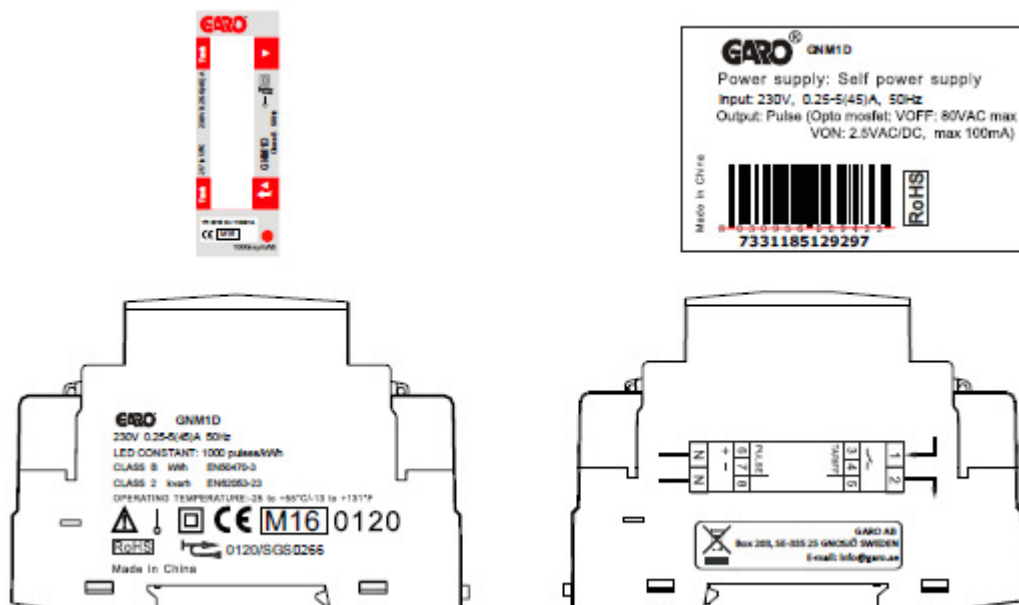
Utility Seals



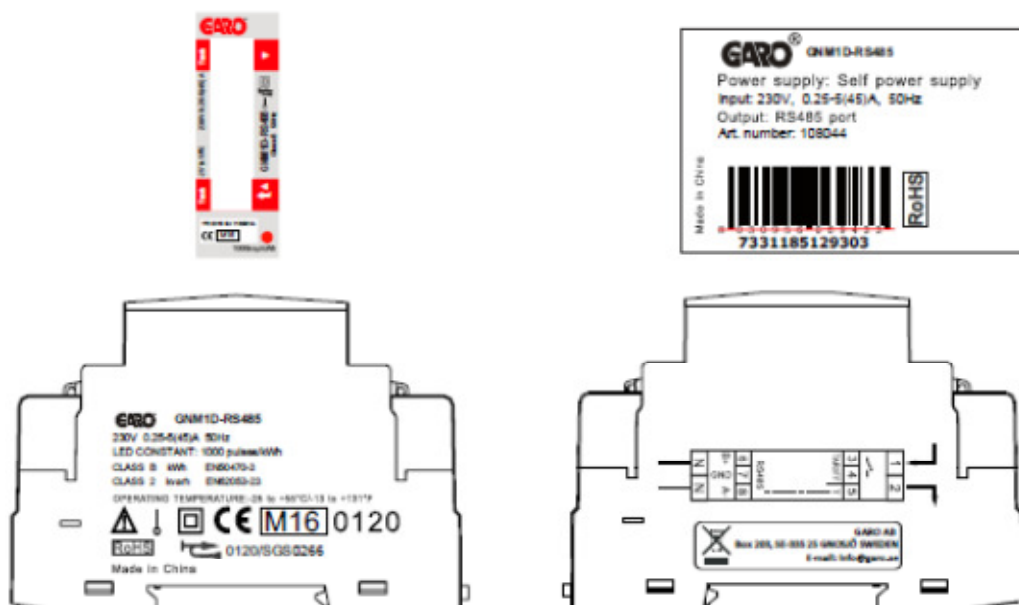
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3. Name-plates

GNM1D

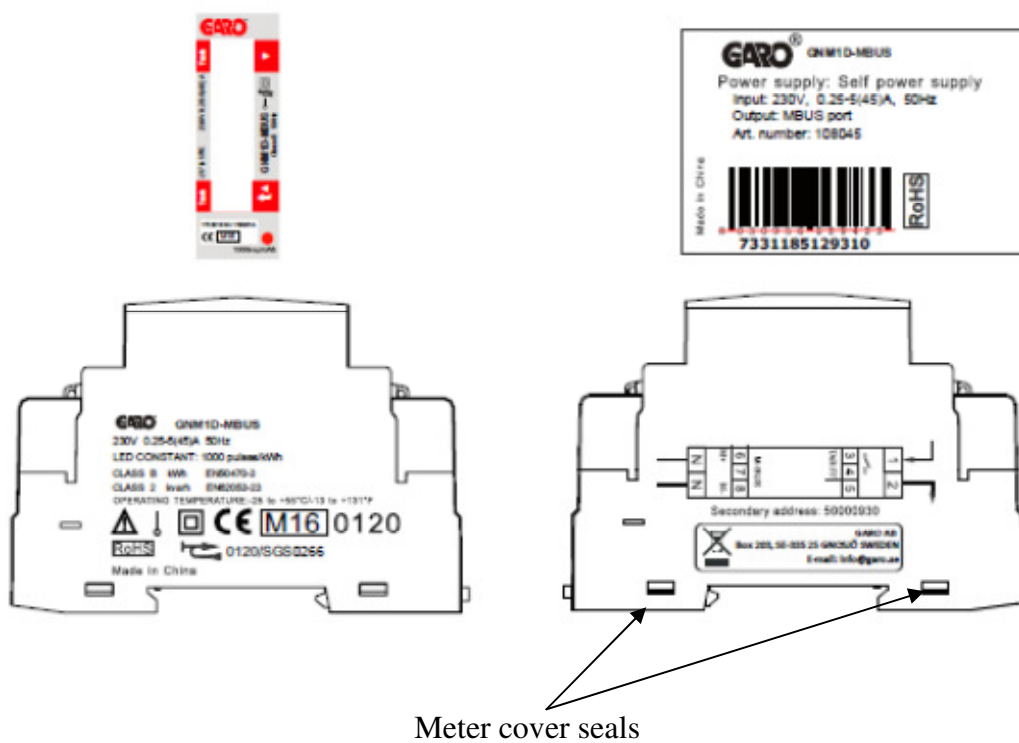



GNM1D-RS485



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GNM1D-MBUS



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4. Influence factors for temperature, frequency and voltage


Current	PF Cos	-25 °C	-10 °C	5 °C	30 °C	40 °C	55 °C
I _{min}	1.0	0.50	0.52	0.35	0.25	0.25	0.24
I _{tr}	1.0	0.50	0.48	0.33	0.24	0.22	0.21
10I _{tr}	1.0	0.48	0.45	0.31	0.23	0.20	0.16
I _{max}	1.0	0.51	0.49	0.39	0.34	0.32	0.28
I _{tr}	0.5ind	0.46	0.46	0.29	0.21	0.19	0.21
10I _{tr}	0.5ind	0.42	0.39	0.27	0.20	0.15	0.12
I _{max}	0.5ind	0.47	0.47	0.37	0.33	0.29	0.26
I _{tr}	0.8cap	0.53	0.51	0.35	0.25	0.24	0.22
10I _{tr}	0.8cap	0.52	0.48	0.34	0.26	0.22	0.18
I _{max}	0.8cap	0.55	0.52	0.42	0.37	0.34	0.31

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

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5. Annex of Variants

Product Variant Identification Details:

Type Designation

GNM1D

GNM1D-MBUS

GNM1D-RS485

Description of meter

230V, 0.25-5(45)A, Active Import/Export (kWh), DIN

230V, 0.25-5(45)A, Active Import/Export (kWh), MBUS

230V, 0.25-5(45)A, Active Import/Export (kWh), RS485

Modifications to the meter(s) described according to approval No.**0120/ SGS0266** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

6. Document Revision History

Issue	Date	Comments
1	16/11/2016	Initial Issue
2	03/02/2017	Correct Software and BOM nos. and type designations