

OIML Member State
The Netherlands

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Project number 3646821
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Issuing authority NMI Certin B.V.
Person responsible: M.Ph.D. Schmidt

Applicant and Manufacturer KROHNE Altometer
Kerkeplaat 12
3313 LC Dordrecht
The Netherlands

Identification of the certified type An **electromagnetic meter** intended to be used as a part of a measuring system.
Type: OPTIFLUX x300C; OPTIFLUX x000F + IFC300y *
*) With x being 1, 2, 4, 5 or 6 and with y being F or W.

Characteristics See following page(s)

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 117-1: 2007 "Dynamic measuring systems for liquids other than water"

Accuracy class 0,3 / 0,5

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

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Issuing Authority **NMI Certin B.V., OIML Issuing Authority NL1**
10 November 2023

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated report(s):

- No. CPC-409580-6 dated 21 April 2006 that includes 125 pages.
- No. CPC-608565-1 dated 26 February 2008 that includes 43 pages.
- No. CPC-610959-1 dated 21 March 2008 that includes 83 pages.
- No. NMI-13200264-1 dated 22 May 2013 that includes 51 pages.
- No. NMI-16200700-01 dated 22 March 2017 that includes 19 pages.
- No. NMI-3646821-01 dated 10 November 2023 that includes 34 pages.

Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.
The construction of the measuring instrument is recorded in the Documentation folder no.TC7161-12.

Table 1 General characteristics

Minimum – maximum flow rate	See table 2
Minimum measured quantity	See table 2
Maximum pressure	10 bar(g)
Environmental classes	M1 / E2
Ambient temperature range	-25 °C / +55 °C; non condensing humidity
Product temperature range	-5 °C / +35 °C
Destined for the measurement of	Liquid food and chemical products in liquid state, with a minimum conductivity of 20 µS/cm
Intended for the measurement of	<ul style="list-style-type: none"> - Measuring systems on pipelines and loading of ships - Measuring systems on road tankers for liquids of low viscosity - Measuring systems for the unloading of ships' tanks and rail and road tankers - Measuring systems for milk, beer, and other foaming liquids - Measuring systems for loading ships
Power supply voltage	Available are: <ul style="list-style-type: none"> • 100 - 230 VAC, 50/60 Hz • 12 - 24 VDC (grounding mandatory) • 24 V AC/DC (grounding mandatory)
Software identification	See table 3

In Table 2 the characteristics of the family of instruments are presented.

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Table 2 Characteristics of the family of instruments

Meter size	:	DN15^[1]	DN15^[2]	DN25	DN32	DN40
Qmax [m ³ /h]	:	5,4	5,4	20	31,25	31,25
Qmin [m ³ /h]	:	0,27	0,15	1	1,5625	1,5625
MMQ [m ³]	:	0,002	0,002	0,01	0,5	0,5
Accuracy Class	:	0,5	0,3	0,3	0,3	0,3
Meter size	:	DN50	DN65	DN80	DN100	DN125
Qmax [m ³ /h]	:	50	125	200	312,5	500
Qmin [m ³ /h]	:	2,5	6,25	10	15,625	25
MMQ [m ³]	:	0,5	2	2	2	5
Accuracy Class	:	0,3	0,3	0,3	0,3	0,3
Meter size	:	DN150	DN200	DN250	DN300	DN350
Qmax [m ³ /h]	:	500	1250	2000	3125	3125
Qmin [m ³ /h]	:	25	62,5	100	156,25	156,25
MMQ [m ³]	:	5	10	20	50	50
Accuracy Class	:	0,3	0,3	0,3	0,3	0,3
Meter size	:	DN400	DN450	DN500		
Qmax [m ³ /h]	:	5000	5000	7875		
Qmin [m ³ /h]	:	250	250	787,5		
MMQ [m ³]	:	50	50	100		
Accuracy Class	:	0,3	0,3	0,3		

Table 3 Software specifications

Electronic revision number	Identification	Software version	Checksum
3.4.0_	Sensor Electronic	2.2.1_00000004	7100 7100
	Main Software	3.0.6_00008547	38E8 38E8
	User Interface Software	3.4.0_20170106	5311 28AE
	IO2 (Exi IO configurations)	2.2.3_00008548	2207 2207
	IO2 (Modular IO and Modbus configurations)	2.2.3_00008549	8E6A 8E6A
3.4.1_	Sensor Electronic	2.2.1_00000004	7100 7100
	Main Software	3.0.7_00008684	E2D0 E2D0
	User Interface Software	3.4.0_20170106	5311 28AE

^[1] For OPTIFLUX 1000, OPTIFLUX 4000 and OPTIFLUX 6000

^[2] For OPTIFLUX 5000.

Electronic revision number	Identification	Software version	Checksum
	IO2 (Exi IO configurations)	2.2.3_00008548	2207 2207
	IO2 (Modular IO and Modbus configurations)	2.2.3_00008549	8E6A 8E6A
3.4.2_	Sensor Electronic	2.2.1_00000004	7100 7100
	Main Software	3.0.7_00008684	E2D0 E2D0
	User Interface Software	3.4.1_20180411	6586 28AE
	IO2 (Exi IO configurations)	2.2.3_00008548	2207 2207
	IO2 (Modular IO and Modbus configurations)	2.2.3_00008549	8E6A 8E6A
3.4.11_	Sensor Electronic	2.2.1_00000004	7100 7100
	Main Software	3.0.7_00008684	E2D0 E2D0
	User Interface Software	3.4.1_20180411	6586 28AE
	IO2 (Exi IO configurations)	2.2.3_00008548	2207 2207
	IO2 (Modular IO and Modbus configurations)	2.2.3_00008549	8E6A 8E6A

- **Approved inputs and outputs**

The output board(s) installed determine the possible outputs available.

The CG number details the electronics module and input/output variants, the CG number is built up as follows:

CG300 *ab xyz* with the following approved options *for ab xyz*

- *a*; approved options for power supply and virtual reference
 - 1: 100...230VAC + no option
 - 8: 12...24VDC + no option
 - G: 24VAC/DC + no option
- *b*; approved display languages
 - 1: Standard Display
 - A: Eastern Europe Display
 - B: Northern Europe Display
 - C: Southern Europe Display
- *x*; Approved input/output version
 - 1: Basic I/O module
 - 2: EXI I/O module (Active current output + passive pulse output)
 - 3: EXI I/O module (Passive current output + passive pulse output)
 - 4: Modular I/O module

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- *y* and *z*; Approved 1st(*y*) and 2nd(*z*) optional input/output module
 - 0: No module possible
 - 2: EXI I/O module (Passive current output + passive pulse output / passive control input). When this module is used, the *z* position is unused
 - 8: No module placed
 - A: Current output (active)
 - B: Current output (passive)
 - C: Pulse output (active)
 - E: Pulse output (passive)

Remarks: The Hart[®] protocol is superimposed on the DC current signal and enables the water meter to communicate with other equipment.
If pulses are used for the transmission of the measured volume to other equipment, the use of two pulse channels (also called double pulses) is mandatory. Both pulse channels must be shifted in phase

The housing of the Signal Converter consists of:

- Metallic housing (compact and remote version).
Optionally the housing is explosion proof.
- Plastic housing for wall mounting (only remote version possible).

Production location

The water meter is produced at one of the following production locations:

- KROHNE Altometer
Kerkeplaat 12
3313 LC Dordrecht
The Netherlands
- KROHNE Measurement Technology (Shanghai) Co., Ltd.
No. 555 Minshen Road, Songjiang Industrial Zone
Shanghai 201612
China

Certificate history:

Revision	Date	Description of the modification
0	10 November 2023	Initial issue