O I M L   C e r t i f i c a t e

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Applicant and Manufacturer	Endress + Hauser Flowtec AG Kägenstrasse 7 4153 Reinach Switzerland
Identification of the certified type	An **electronic calculating and indicating device** (flow computer), intended to be used as a part of a liquid measuring system for LNG. Type: LNG Metering Computer
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: 2019 "Dynamic measuring systems for liquids other than water"

Accuracy class   1.5

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.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Type Evaluation Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority   **NMi Certin B.V., OIML Issuing Authority NL1**
29 September 2023

Certification Board

The conformity was established by the results of tests and examinations provided in the associated reports:
- NMi-2495471-02 dated 18 December 2020 that includes 42 pages.
- NMi-3568185-01 dated 19 January 2023 that includes 14 pages.
- NMi-3692100-02 dated 29 September 2023 that includes 45 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 the following:
- Computer of brand B&R, type PANEL PC xxxx[1], equipped with a touch screen and running on Windows® 10 IoT Ent 2019 or later versions.
  There are no keyboard and mouse connected to the computer.
- All used components shall bear the CE marking.

The LNG Metering Computer is an electronic calculating and indicating device which is intended to be used as a part of a liquid measuring system for LNG.

The LNG Metering Computer is used in conjunction with a NÅNOflow flow computer for the LNG measurement and an optional additional NÅNOflow flow computer for the BOG/Vapour return measurement. All devices are connected via TCP/IP routed via an ethernet switch.

The LNG metering computer is mounted in the door of an electronic cabinet, with the NÅNOflow flow computer and ethernet switch mounted in the same cabinet. The cabinet is intended to be placed in a room suitable such as a control room.

Table 1 General characteristics

Environmental classes	M1 / E1 / H1
Ambient temperature range	+5 °C / +55 °C
Software identification	See table 2
Communication interface	HMI version 1:TCP/IP protocol. HMI version 2: OPC-UA protocol.
Power supply	24V
Approved variable	Mass

Table 2 Software identification of the electronic calculating and indicating device type LNG Metering Computer

Software part	Firmware version	Hash code
HMI Legally relevant version	1.00.02	90f35ef071dbc4761b7915a85a229b5e
	2.01.02	5fda37a736e3f79c68b0671fa69bb585

The metrological software version can be checked via the following screen buttons on the main HMI screen:
- HMI version 1: [System] – [Energy Computer].
- HMI version 2: [System] – [Software]

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[1]   With xxxx being a non-significant indication.

OIML Certificate

Certificate history:

Revision	Date	Description of the modification
0	19 January 2023	Initial release
1	29 September 2023	Addition of HMI version 2.