



EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

In accordance with Article 10.1 of EU Regulation 391/2009

Certificate No:
MRA000000Y
Revision No:
3

This Certificate is issued to
**Kongsberg Maritime AS Avd Skonnertvegen
Ranheim, Norway**

for
Pressure Gauges/Transmitters

with type designation(s)
Pressure Transmitters GT300 and GT400-series

The product is found to comply with
**EU RO Mutual Recognition Technical Requirements for Pressure Gauges – Transmitters
EU RO Mutual Recognition Technical Requirements for Sensors**

Intended service
Pressure transmitters with a wide range of process and electrical connections, intended for use in control, alarm, monitoring and instrumentation systems subject to classification.

Temperature [°C]: -45°C to 85°C
Vibration: ±1.6 mm / 4.0 g
EMC: All locations including bridge and open deck
IP Code: See "Other conditions"

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2027-02-12**.

Issued at **Høvik** on **2022-04-13**

DNV local station: **Trondheim**

Approval Engineer: **Ståle Sneen**



for **DNV**
Digitally Signed By: **Sjåvåg, Trond**
Location: **DNV Høvik, Norway**

Trond Sjåvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: MRTA 201

Revision: 2021-03

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Product description

Pressure Transmitters GT300 and GT400-series

Name	Type	Range	Signal range, Output	Material	Connection/design
GT402	Gauge, sealed gauge, absolute	Up to 600 bar	4-20mA, 2-wires with HART	Body of AISI 316 and wetted parts in AISI 316 and Titanium	Connection box with lid and cable gland. Threaded process connection ISO 228-G1/2A. IP66/67
GT403	Sealed gauge, absolute	Up to 600 bar	4-20mA, 2-wires with HART	Body and wetted parts in AISI 316 and Titanium.	Watertight flanged connection with PUR cable. Threaded process connection ISO 228-G1/2A. IP68-6bar. GT403 can have cable up to 60meters of type PUR-cable with following data: Maximum internal capacitance: Ci = 120nF/km Maximum internal inductance: Li = 1.7mH/km
GT404	Gauge, sealed gauge, absolute	Up to 40 bar	4-20mA, 2-wires with HART	Body of AISI 316 and wetted parts in AISI 316, Titanium and Hastelloy	Connection box with lid and cable gland. Flanged process connection with large diaphragm facing cargo. IP66/67
GT420	Differential	Up to 25 bar	4-20mA 2 wires	Body of Stainless Steel and wetted parts in AISI 316	Standard DIN power connector. Threaded process connection ISO 228-G1/2A. IP66
GT422	Differential	Up to 25 bar	4-20mA 2 wires	Body of Stainless Steel and wetted parts in AISI 316	Connection box with lid and cable gland. Threaded process connection ISO 228-G1/2A. IP66/67
GT423	Differential	Up to 25 bar	4-20mA 2 wires	Body of Stainless Steel and wetted parts in AISI 316	Watertight flanged connection with PUR cable. Threaded process connection ISO 228-G1/2A. IP68-6bar. GT423 can have cable up to 60meters of type PUR-cable with following data: Maximum internal capacitance: Ci = 120nF/km Maximum internal inductance: Li = 1.7mH/km
GT406	Sealed gauge	Up to 2 bar	4-20mA 2 wires with HART	Body of AISI 316 and wetted parts in AISI 316	Spring loaded two wire connector. Threaded process connection ISO 228-G1/4A.
GT300	Gauge	Up to 100 bar	4-20mA 2 wires	Body of Stainless Steel and wetted parts in AISI 316	Standard DIN power connector. Threaded process connection ISO 228-G1/2A ISO 228-G1/4A IP56
GT301	Gauge	Up to 100 bar	4-20mA 2 wires	Process connecting and wetted parts in AISI 316. Electronic housing of PBT w/30% GF	Standard DIN power connector. Process connection for pressure block connection. IP56

Software revision history for pressure transmitters: 424746 rev. I

Place of manufacture

Kongsberg Maritime AS
 Skonnertvegen 1
 7053 Ranheim
 Norway

Application/Limitation

The Type Approval covers hardware listed under Product description.

Applicable for a ship as defined in Mutual Recognition provisions Article 10 Regulation on Common Rules and Standards for Ship Inspection and Survey Organizations.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Data sheets: P-GT300/CE/G, P-GT301/CE/F,
P-GT402/CE/T, P-GT403/CE/R, P-GT404/CE/O, P-GT406/CE/C,
P-GT42X/CE/F.

Test reports: DNV No. 98-1165 Rev. 03,
NEMKO No. E16195.01, dated 2016-10-28,
DNV No. 2002-3224 Rev. 01,
DNV No. 2006-3295 Rev. 01,
Nemko 203951 Rev 4, dated 2012-06-13,
374544 Statement IP degree GT400, dated 2012-08-21,
DNV Statement of testing for GT403, dated 2008-04-16,
Protection grade GT406, dated 2017-02-12,
150% static pressure test, DNV witnessed 2022-04-05.

EU RO MR type approval PQA scheme annual assessment report, DNV Trondheim dated 2022-01-31.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number and date of manufacture
- power supply ratings
- IP rating
- class of accuracy

Other conditions

The transmitters have been verified for compliance with EU RO Mutual Recognition Technical Requirements for Pressure Gauges – Transmitters, version 0.1 dated 2022-01-01 and EU Mutual Recognition Technical Requirements for Sensors, version 0.4, dated 2018-07-01.

Applicable tests according to IACS Unified Requirements E10 rev. 7 and rev. 8 have been verified.

Environmental test parameters:

Temperature: -45°C and 85°C

Vibration ±1.6 mm / 4.0 g

EMC: All locations including bridge and open deck

Enclosure: IP20: GT406 (GT406 is always installed inside the KONGSBERG radar level gauge (GLA-300/-) housing with protection grade IP 67)

IP56: GT300 GT301

IP66*: GT420

IP66/67*: GT402 GT404 GT422

IP68*: GT403 GT423

*Including salt mist test

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed annually and at renewal of this certificate.



Job Id: **262.4-000059-4**
Certificate No: **MRA000000Y**
Revision No: **3**

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).