



## Confirmation of Product Type Approval

**Company Name:** KONGSBERG MARITIME KOREA LTD.

**Address:** 1058-7, DALSAN-RIJUNGKWAN-MYEON,GIJANG-GUN Korea, Republic of

**Product:** Level Gauging System, automatic

**Model(s):** GL-300

**Endorsements:**

<b>Certificate Type</b>	<b>Certificate Number</b>	<b>Issue Date</b>	<b>Expiry Date</b>
Product Design Assessment (PDA)	20-2035015-PDA-DUP	22-DEC-2020	21-DEC-2025
Manufacturing Assessment (MA)	21-4886774	11-AUG-2021	10-AUG-2026
Product Quality Assurance (PQA)	NA	NA	NA

### **Tier**

3 - Type Approved, unit certification not required

### **Intended Service**

Tank gauging and temperature measurement systems used on oil, product & chemical, including Asphalt and Bitumen tankers, LNG & LPG carriers and offshore installations.

### **Description**

GL-300 is a tank monitoring system mainly consisting of Radar Tank Gauge GLA-300 or GLA-310/5 (RTG), Cargo Temperature Unit GC-300 or GC-306 (CTU) and Signal Processing Unit GLK-300 (SPU).

Each tank is equipped with one RTG and one CTU in hazardous area connected to the SPU in safe areas.

An inert gas pressure transmitter is also integrated in the RTG that serves as a connection box for CTU.

The system can be configured up to 60 SPUs and the processed data in SPU containing tank level, cargo temperature and the inert gas pressure can be accessed through Ethernet in order to form an integrated tank monitoring and control systems such as K-Gauge/K-Chief.

There are 5 variants of RTG. These are GLA-300/P, GLA-300/HS, GLA-300/H, GLA-300 Asphalt and GLA-310/5.

### **Ratings**

Power supply: 24V DC (18V to 32V)

Safety Certificates:

GLK-300: IECEx PRE 14.0053X - [Ex ia Ga] IIC Ta: -15C to 70 degree C and Presafe 14 ATEX 5412 X - Ex II (1) G [Ex ia Ga] IIB/IIC Ta: -15C to 70 degree C;

GLA-300: IECEx SIR 14.0025X - Ex II 1G Ex ia IIC T4 Ta: -45C<Ta<85 degree C;

GC-300: IECEx SIR 14.0024X - Ex II 1G Ex ia IIC T4 Ta: -45C to 85 degree C and SIRA 14 ATEX 2054X - Ex II 1 G Ex ia IIC T4 Ta: -45C to 85 degree C;

GLA-300: IECEx SIR 14.0025X - Ex ia IIC T4 Ta: -45C to 85 degree C (-45C to 80 degree C when fitted with GLH-320) and SIRA 14 ATEX 2056X - Ex II 1 G Ex ia IIC T4 Ta: -45C to 85 degree C (-45C to 80 degree C when fitted with GLH-320);

GT406: IECEx PRE 20.0103X - Ex ia IIC T5 Ta: -45C to 85 degree C and Presafe 20 ATEX 08383X - Ex II 1G Ex ia IIC T5 Ta: -45C to 85 degree C.

GLA-310: IECEx SIR 14.0025X - Ex ia IIC T4 Ta: -45C to 85 degree C (-45C to 80 degree C when fitted with GLH-320) and SIRA 14 ATEX 2056X - Ex II 1 G Ex ia IIC T4 Ta: -45C to 85 degree C (-45C to 80 degree C when fitted with GLH-320);

### Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. ATEX certified equipment is not to be installed in hazardous areas on U.S. Flagged Vessels, unless it can be proven to have been tested to the IEC 60079 series standards by an independent laboratory accepted by the U.S. Coast Guard. USCG MI Notice 01-12 (February 7, 2012).

### Comments

1. The manufacturer has provided a declaration about the control of or lack of Asbestos in this product.
2. This assessment is valid to hardware only. Each application and configuration is to be specifically approved.
3. GL-300 is assigned Category II as defined at 4-9-3/7.1 of the 2019 Steel Vessels and Marine Vessels Rules. Accordingly, documentation is to be maintained and made available to ABS on request and witness testing by an ABS Surveyor is to be carried out as detailed in 4-9-3/Table 2 of the 2020 Marine Vessels Rules.

### Notes, Drawings and Documentation

Drawing No. 371645, GC-306 Data Sheet, Revision: C, Pages: 2

Drawing No. 383758, GLA-310/5 Data Sheet, Revision: E, Pages: 2

Drawing No. 394663, GLA-310/5-G LNG Fuel Data Sheet, Revision: D, Pages: 2

Drawing No. 441509, GLA-310/5-NH3 Data Sheet, Revision: B, Pages: 2

Drawing No. 442205, GLA-310/5 Dual Data Sheet, Revision: D, Pages: 2

Drawing No. 435445, GLA-310/5-LH2 Data Sheet, Revision: B, Pages: 2

Drawing No. E.16236.00 Nemko test report, dated 14-Nov-2016

Drawing No. 443392, Vibration statement for GLA-310/5 Dual, dated 25-Oct-2018, issued by Kongsberg

Drawing No. 443414, Vibration test report, Revision: A, dated 23-Nov-2018, issued by Kongsberg

Drawing No. E13227.00, Nemko test report, dated 02-Oct-2013

Drawing No. 394855, K-Gauge GL-300 based multifunction system with dual radar, Revision: B, Pages: 1

Drawing No. IECEx 14.0053X issue 2, dated 18-Nov-2010, IECEx Certificate of Conformity, issued by

DNV GK Presafe AS

Drawing No. Presafe 14 ATEX 5412 X issue 3, dated 18-Nov-2020, DNV-GL EU-Type Examination Certificate

Drawing No. IECEx 20.0103X issue 0, dated 25-Nov-2020, IECEx Certificate of Conformity, issued by DNV GL Presafe AS

Drawing No. Presafe 20 ATEX 08383X issue 0, dated 25-Nov-2020, DNV-GL EU-Type Examination Certificate

Support Documentation from previous review:

Drawing No. GLH-320 Radar Electronic Unit 436580, Revision: A, Pages: 2;

Drawing No. GC-300 Cargo Temperature Unit P-GC300/CE, Revision: J, Pages: 2;

Drawing No. GLA300/P Radar Tank Gauge for Oil, Product and Chemical Tankers P-GLA300/CE, Revision: E, Pages: 2;

Drawing No. GLA300/H Radar Tank Gauge for Chemical, Asphalt and Bitumen Tankers P-GLA300H/CE, Revision: E, Pages: 2;

Drawing No. GLA300/HS Radar Tank Gauge for Standpipe Applications P-GLA300HS/CE, Revision: D, Pages: 2;

Drawing No. GT406 Pressure Transmitter P-GT406/CE, Revision: C, Pages: 2;

Drawing No. GT406-GLA Pressure Transmitter P-GT406GLA/CE, Revision: A, Pages: 2;

Drawing No. SW revision history, Revision: J, Pages: 7;

Drawing No. E17118.00 NEMKO Environment Test Report, dated 22 Sep 2017.

### **Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 21/Dec/2025 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

### **ABS Rules**

2020 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2020 Rules for Building and Classing Marine Vessels: 4-9-9/13

2020 Rules for Conditions of Classification, Offshore Units and Structures: 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2020 Rules for Building and Classing Mobile Offshore Units: 4-2-3/3, 4-3-1/15, 4-3-1/17

2020 Rules for Facilities on Offshore Installations: 3-7/3

### **International Standards**

IACS UR E10 (2018)

IEC 60092-504: 2016

IEC 60079-0: 2017  
IEC 60079-11: 2011  
IEC 60079-26: 2014

**EU-MED Standards**  
NA

**National Standards**  
NA

**Government Standards**  
NA

**Other Standards**  
NA



Corporate ABS Programs  
American Bureau of Shipping  
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ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.