



## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>Kongsberg Maritime AS</b>
<b>Address</b>	Skonnertvegen 1, 7053 Ranheim, Norway
<b>Place of Production</b>	Kongsberg Maritime AS Skonnertvegen 1, Ranheim, 7053, Norway
<b>Type</b>	Monitoring System
<b>Description</b>	<p>The Tank Gauging System GL-300 is a radar-based tank gauging system for tank monitoring in oil, product and chemical tankers.</p> <p>GL-300 consists of:</p> <ul style="list-style-type: none"><li>GLA-300/P Radar Tank Gauge for Oil, Product and Chemical Tankers</li><li>GLA-300/H Radar Tank Gauge Chemical Asphalt &amp; Bitumen Tankers</li><li>GLA-300/HS Radar Tank Gauge for Guided Wave Applications</li><li>GLA-300/HSD Radar Tank Gauge for Draft Applications</li><li>GLA-300/5-TOP Radar Tank Gauge for Tank Overfill Protection</li><li>GLA-310/5-G Radar Tank Gauge for Gas Carrier</li><li>GLA-310/5-Dual Radar Tank Gauge for Gas Carrier</li><li>GLA-310/5-Fuel Radar Tank Gauge for LNG Fuel Tank</li><li>GLA-310/5-NH3 Radar Tank Gauge for liquified ammonia (NH3)</li><li>GLA-310/5-LH2 Radar Tank Gauge for liquified hydrogen (H2)</li><li>GLH-310 Radar Tank Gauge Electronic Unit (integrated in GLA-300)</li><li>GLH-320 Radar Tank Gauge Electronic Unit (integrated in GLA-300)</li><li>GLK-300/xxx Signal Processing Unit (x = CLS, LPG, LNG)</li><li>GC-300 Cargo Temperature Unit (integrated in GLA-300)</li><li>GC-306 Cargo Temperature Unit</li></ul>

**Matthias Karg**

Electrical & Control - Specialist to Lloyd's Register EMEA  
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	GT-406	Pressure Sensor (integrated in GLA-300)
<b>Trade Name</b>	GL-300	
<b>Application</b>	Marine and Offshore applications for use in environmental categories ENV1, ENV2, ENV3 and ENV5(*) as defined in Lloyd's Register Type Approval System, LR Test Specification No.1, 2021 in general power distribution zones. (*) only GLA-300/-310	
<b>Specified Standard</b>	IACS UR E10 Rev. 8: 2021	
<b>Ratings</b>	Maximum measuring range: 50 m Operating temperature range: -45 °C to +85 °C Protection: IP 66/67  Software versions covered by the certificate: GLK-300 DSP Signal processing software vers. 1.1.x GLB-310 Microwavesoftware vers. 2.0.x GLB-320 Microwavesoftware vers. 2.0.x GC-300 temperature software vers. 1.0.x GC-306 temperature software vers. 1.0.x GT-406 inert pressure sensor software vers. 1.0.x	
<b>Additional Tests</b>	Low temperature test (-45 °C / 16 h) for GC-300 and GLA-300 Low temperature test (-15 °C / 16 h) for GLK-300 Dry heat test (85 °C / 16 h) for GC-300 and GLA-300 Dry heat test (70 °C / 16 h) for GLK-300 Ingress protection test (IP66 & IP67) for GC-300 and GLA-300	
<b>Other Conditions</b>	For systems consisting of the listed components the final functional arrangement and application software are to comply with appropriate Lloyd's Register Rules and Regulations and shall be subject to project related Plan Approval Process, when installed on LR classed vessels. Documents and	

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drawings for the actual application are to be provided according relevant LR Rules and Regulations.

Specific Conditions of Use as stated in applicable Ex-certificates and the conditions of the LR Rules & Regulations for the Classification of Ships, Part 6, Chapter 2 shall be observed when installed in hazardous areas. The Ex-certification does not form part of this certificate.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

**Previous Version:** This certificate supersedes certificate number LR2002080TA issued on 03 March 2020 which is hereby cancelled.

The Design Appraisal Document HPC1462079-23/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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