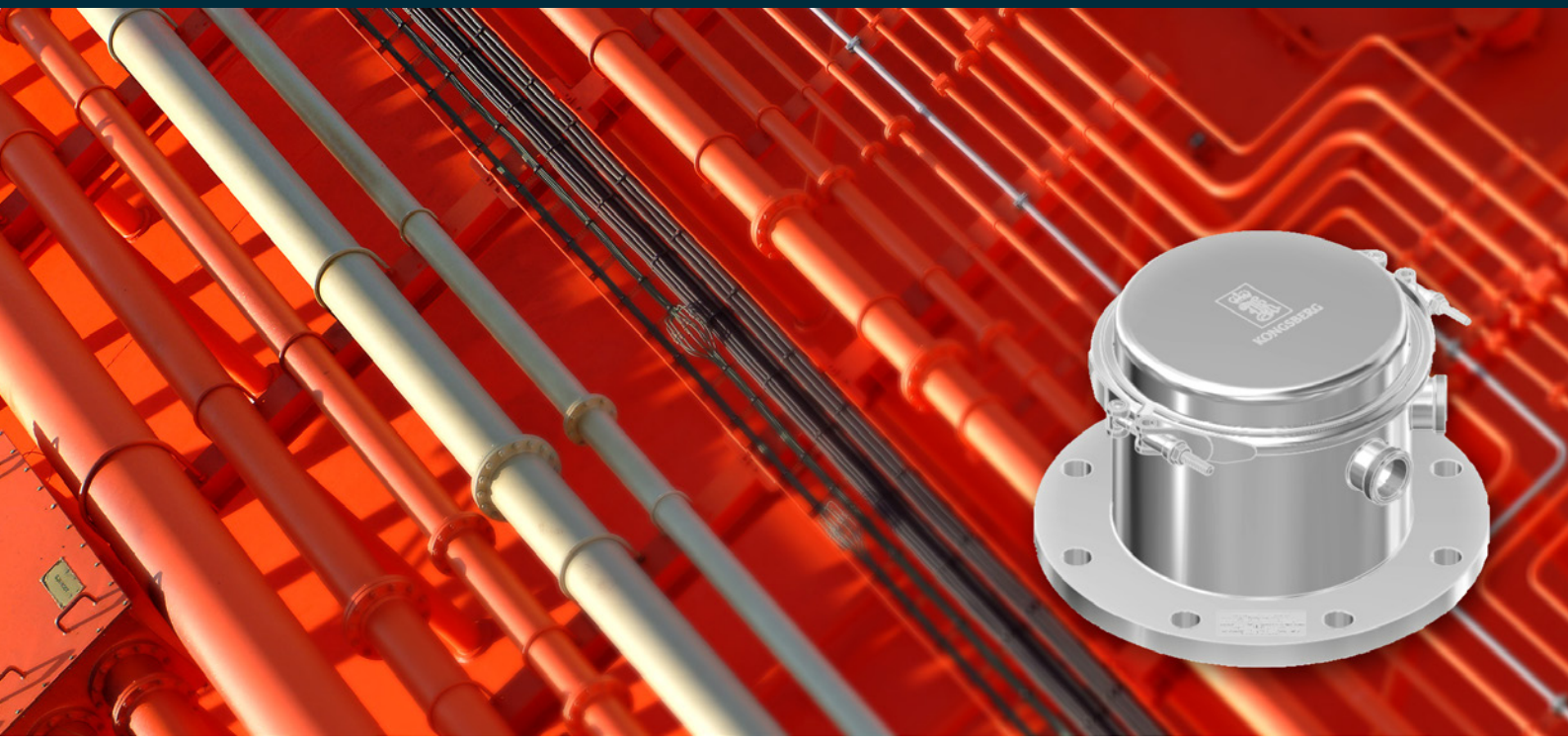
GLA-300/HS

KONGSBERG



RADAR TANK GAUGE FOR STANDPIPE APPLICATIONS

The KONGSBERG GLA-300/HS Radar Tank Gauge (RTG) is part of the GL-300 Tank Monitoring System. Together with the GC-300 Cargo Temperature Unit (CTU) and the GLK-300 Signal Processing Unit (SPU), the RTG introduces modern and flexible arrangements for simpler installation. The radar technology provides accurate measurement regardless of the atmospheric conditions inside the tank. The tank pressure transmitter is fully integrated by means of both mechanics, electronics and cabling.

Principle of operation

The RTG employs the Frequency Modulated Continuous Wave (FMCW) principle with dual sweep technology to eliminate Doppler-effect caused by cargo movement. The distance (i.e. ullage) is derived from the time delay of the reflected signal. The electronic unit in the RTG includes a patented signal detection method that ensures optimum performance.

A frequency sweeping microwave signal is emitted by the RTG, and adapted to a 3,5" standpipe mounted vertically down the tank. Each radar is delivered with a top section of the standpipe of 0.7m, which includes arrangements for possible cleaning of the inside of the standpipe. The bottom part of the standpipe can be assembled by sleeves or by flanges.

The GLA-300/H is designed with a PTFE lense isolating the radar electronics from the tanks atmosphere and provide a clean surface toward the tank contents.

The radar are connected to a dedicated GLK-300 SPU by a RS-485 communication link (2-pair cable).

Tank pressure transmitter

The GT450 tank pressure transmitter is fully integrated in the RTG. The transmitter comes ready installed from the factory.

The GT450 pressure transmitter is built around a dry, robust ceramic measurement capsule with internal capacitive sensing and with a ratiometric output.

The pressure transmitter is connected to the GLK-300 SPU by a HART bus link (1-pair cable).

Tank installation

The RTG adapts to a gauge socket with a minimum inner diameter of 200 mm (larger sockets can be used). The gauge socket shall be welded to the top of the tank, preferably as close to the center of gravity of the tank as possible.

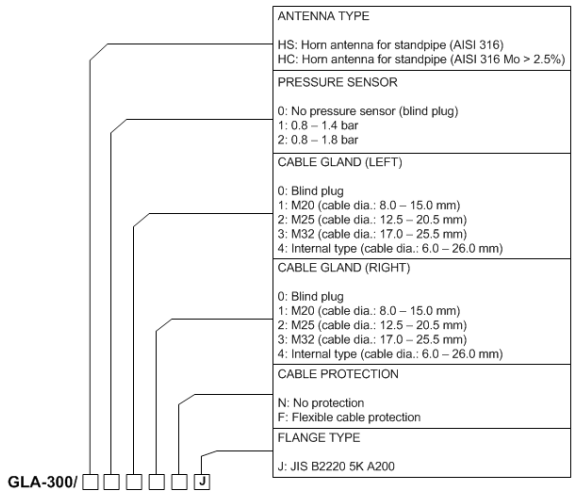
For applications with standpipe, the top section of the standpipe installed inside the gauge socket is Kongsberg Maritime supply. The pipe sections to follow are considered yard supply.

The RTG housing includes a cable gland for cable connection to the GC-300 Cargo Temperature Unit (1-pair cable).

FEATURES

- Applicable for 3,5 ” standpipe
- Radar RMS accuracy 2 mm
- Measuring range 0 to 50 m
- Operating temperature -45 to +85 °C
- Ingress protection IP 66/67
- Intrinsically safe Ex ia IIC T4 Ga
- Stainless steel AISI 316 L
- Integrated tank pressure transmitter

ORDER CODE



TECHNICAL SPECIFICATIONS

Radar Tank Gauge

Measuring range:	0 to 50 meters
RMS accuracy*:	2 mm
Frequency:	X-band (10 GHz)
Material:	AISI 316L and PTFE

Tank Pressure Transmitter

Measuring range:	0.8 to 1.4 bar (optional 0.8 to 1.8 bar)
Accuracy:	±1.0 % of FRO** (+20 °C to +85 °C) ±2.5 % of FRO** (-45 °C to +20 °C)
Material:	AISI 316 and Titanium

Common specification

Cable spec.:	3 x twisted pair common screen
Operating temperature:	-45 ˚C to +85 ˚C
Protection grade:	IP66/67
Weight:	17 kg
Ex-classification:	Ⓔx II 1 G Ex ia IIC T4 Ga
Ex-certification:	Sira 14ATEX2056X IECEx SIR 14.0025X
Environmental standards:	IACS E10 CISPR 22

Safety data

Max. input voltage:	Ui = 14,3 VDC
Max. input power:	Pi = 2,1 W
Max. input current:	Ii = 560 mA
Max. internal capacitance:	Ci = 347 nF
Max. internal inductance:	Li = negligible
Type approvals:	ABS, BV, CCS, DNV-GL, KRS, LRS, NK, Rina

** RMS sensor accuracy at controlld environment*
***FRO = Full Range Output*

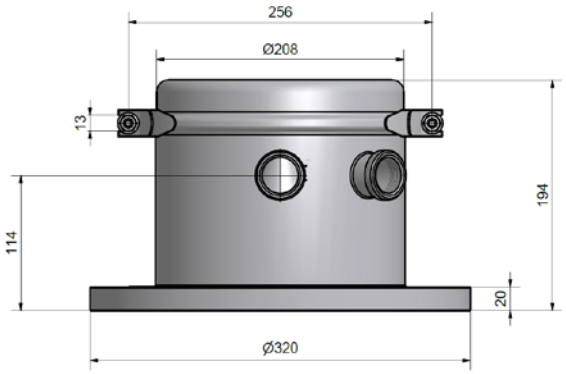


Figure 1: Dimensional drawing GLA-300/HS

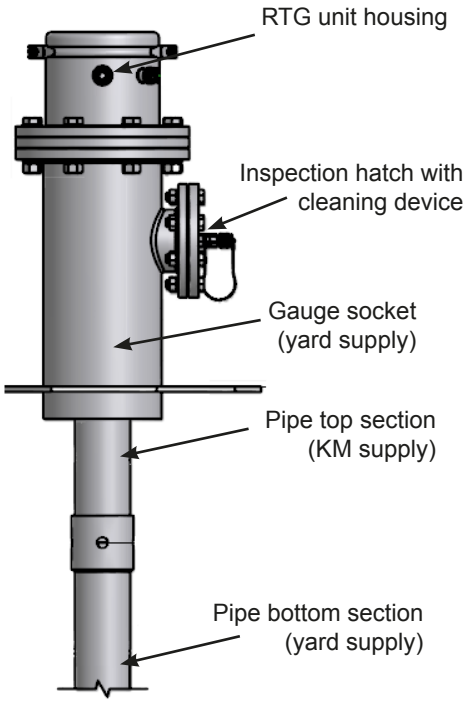


Figure 2: GLA-300/HS on an Ø200 mm socket with standpipe. Inspection hatch has to be mounted in the gauge socket.

Specifications subject to change without any further notice.

P-GLA300HS/CE Rev. D

KONGSBERG MARITIME
Switchboard: +47 815 73 700
Customer support: +47 815 35 355
E-mail sales: km.sales@km.kongsberg.com
E-mail support: km.support@kongsberg.com