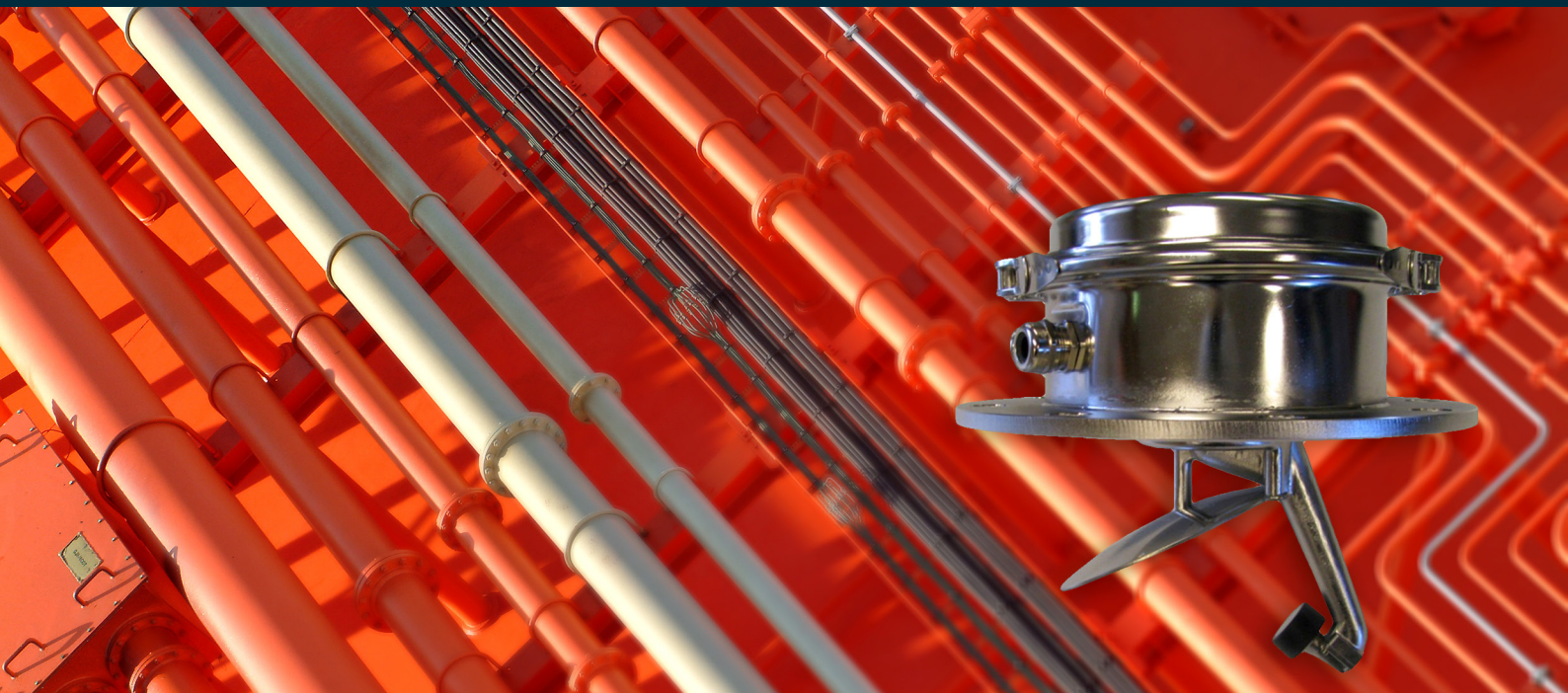


# GLA-300/P



KONGSBERG



## RADAR TANK GAUGE FOR OIL, PRODUCT AND CHEMICAL TANKERS

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The KONGSBERG GLA-300/P 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 regarding 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 by aid of the offset parabolic antenna directed vertically down the tank. The high frequency combined with the antenna design gives a very narrow beam width of  $\pm 3^\circ$ .

The GLA-300/P is designed with an offset parabolic antenna and a small feeder. The antenna and feeder are designed with an angle that will avoid any condensate or pollution to stick to the antenna surface.

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

### Tank pressure transmitter

The GT406 tank pressure transmitter is fully integrated in the RTG. The transmitter comes pre-installed from the factory.

The 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 centre of gravity of the tank as possible.

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

## FEATURES

- Applicable for oil, product and chemical tankers
- Radar RMS accuracy 2 mm
- Half power beam width<sup>1</sup> 6 ° (±3 °)
- Measuring range 0 to 50 m
- Operating temperature -45 to +80 °C
- Ingress protection IP 66/67
- Intrinsically safe Ex ia IIC T4 Ga
- Stainless steel AISI 316L
- Integrated tank pressure transmitter

<sup>1</sup>For details about free space requirements, ref. Installation Manual.

## TECHNICAL SPECIFICATIONS

### Radar Tank Gauge

Measuring range: 0 to 50 meter  
 RMS accuracy\*: 2 mm  
 Frequency: K-band (24 GHz)  
 Beam width: ± 3 °  
 Material: AISI 316L and PTFE

### Tank Pressure Transmitter

Measuring range: 0.8 to 1.8 bar  
 Accuracy: ±1.0 % of FRO\*\*  
 Temperature drift: < 0.014 % of FRO\*\*/ °C  
 Long term drift: < 0.3 % /year (% of nominal range)  
 Material: AISI 316 and Titanium

### Common specification

Cable specification: 3 x twisted pair common screen  
 Operating temperature: -45 °C to +80 °C  
 Protection grade: IP66/67  
 Weight: 12 kg

Ex-classification:  $\text{Ex}$  II 1 G Ex ia IIC T4 Ga  
 Ex-certification: IECEx SIR 14.0025X  
 SIRA 14ATEX2056X

Environmental standards: IACS E10  
 CISPR 22

### Safety data (power)

Max. input voltage:  $U_i = 14,3 \text{ VDC}$   
 Max. input power:  $P_i = 2,1 \text{ W}$   
 Max. input current:  $I_i = 360 \text{ mA}$   
 Max. internal capacitance:  $C_i = 75 \text{ nF}$   
 Max. internal inductance:  $L_i = \text{negligible}$

Type approvals: ABS, BV, CCS, DNV-GL, KRS,  
 LRS, NK, Rina, RMRS

\* RMS sensor accuracy at controlled environment

\*\* FRO = Full Range Output

Specifications subject to change without any further notice.

## ORDER CODE

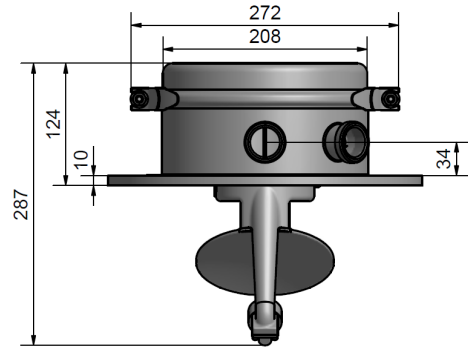
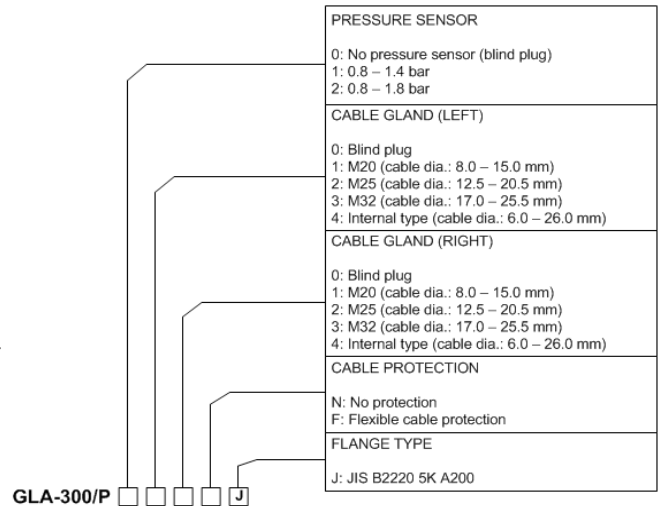


Figure 1: Dimensional drawing GLA-300/P

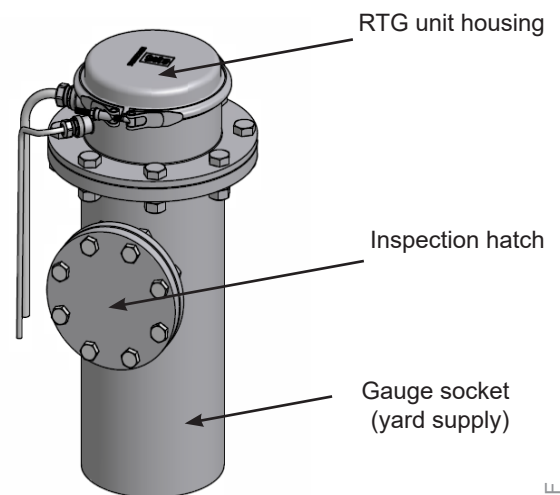


Figure 2: GLA-300/P on a Ø200 mm socket. Inspection hatch mounted on the gauge socket.

P-GLA300/CE Rev. F

