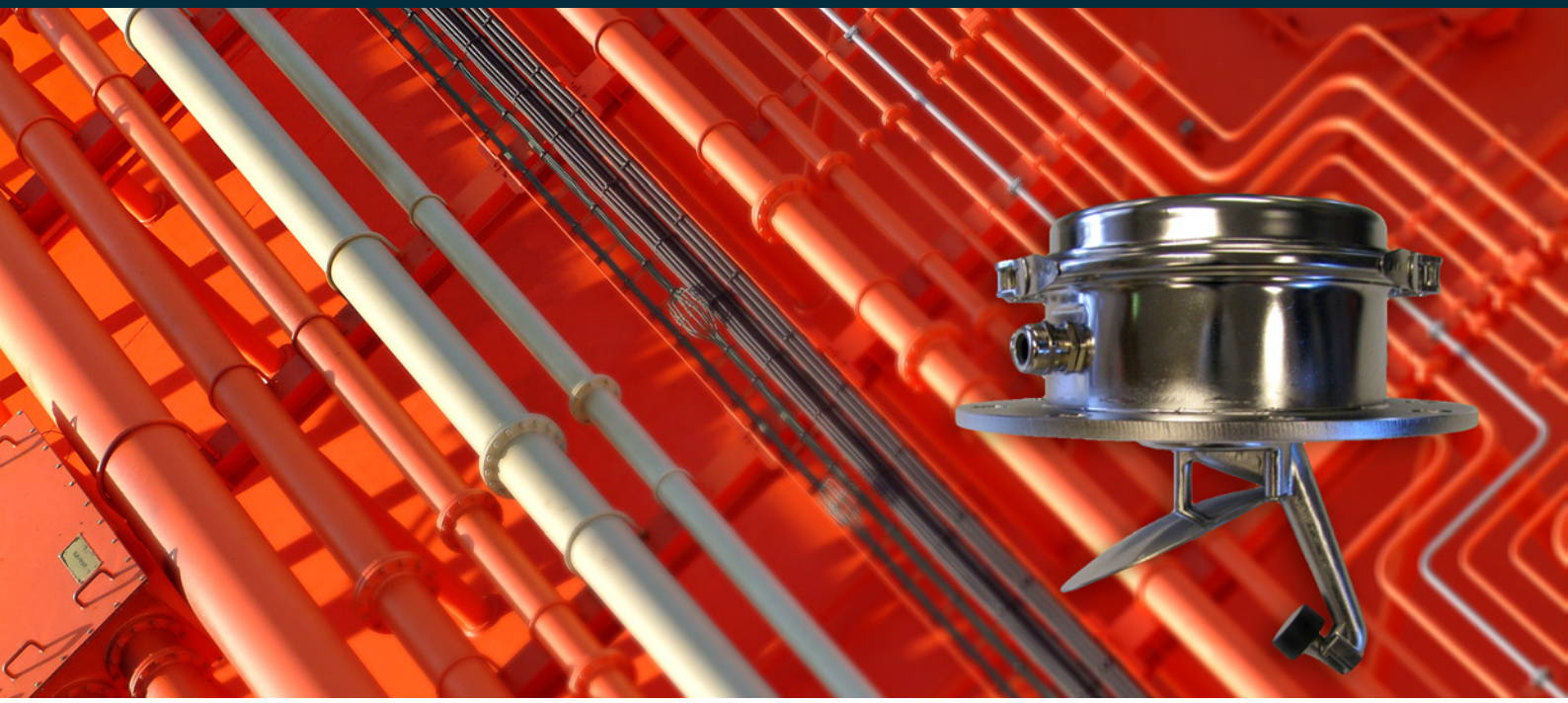
GLA-300/P

KONGSBERG



RADAR TANK GAUGE FOR OIL, PRODUCT AND CHEMICAL TANKERS

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 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 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 ±3 °.

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 avvoid any condense or pollution to stick to the antenna surface.

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 are 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 cable 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[1] 6 ° (±3 °)
- 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 316L
- Integrated tank pressure transmitter

[1]For details about free space requirements, ref. Installation Manual.

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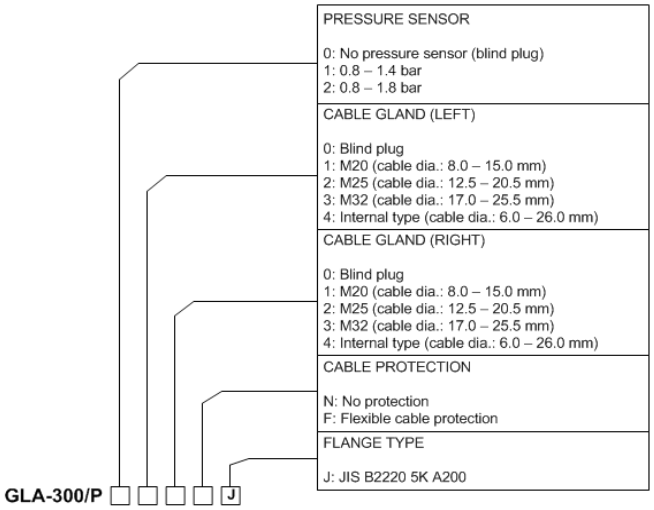

TECHNICAL SPECIFICATIONS

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 1.4 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 specification:	3 x twisted pair common screen
Operating temperature:	-45 ˚C to +85 ˚C
Protection grade:	IP66/67
Weight:	12 kg
Ex-classification:	Ⓔx II 1 G Ex ia IIC T4 Ga
Ex-certification:	IECEx SIR 14.0025X SIRA 14ATEX2056X
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 controlled environment*
*** FRO = Full Range Output*

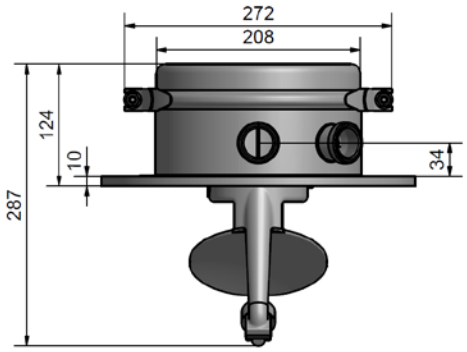

Figure 1: Dimensional drawing GLA-300/P

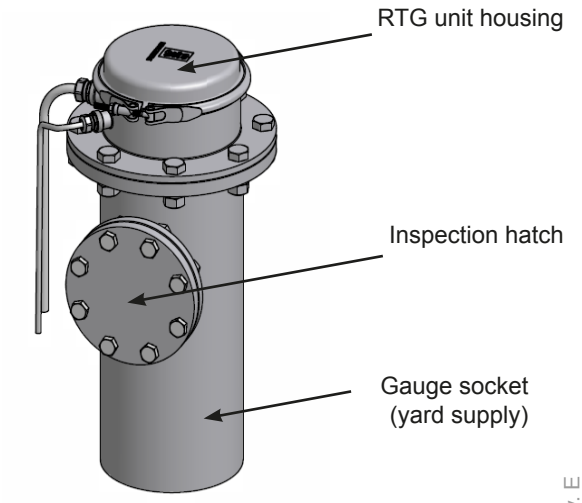

Figure 2: GLA-300/P on a Ø200 mm socket. Inspection hatch mounted on the gauge socket.

Specifications subject to change without any further notice.

P-GLA300/CE Rev. E

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