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).
**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
- Weight: 17 kg
- Ex-classification: 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: $U_i = 14.3$ VDC
- Max. input power: $P_i = 2.1$ W
- Max. input current: $I_i = 560$ mA
- Max. internal capacitance: $C_i = 347$ nF
- Max. internal inductance: $L_i = $ negligible

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

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

Specifications subject to change without any further notice.