GLA-310/F

KONGSBERG

KONGSBERG Radar Tank Gauge for LNG fuel tank

Features

- Closed level gauge suitable for all tank designs
- Utilize 50 mm stand pipe
- Measuring range 0 to 20 metres
- Modular design
- Intrinsically safe for use in all zones

Fig. 1: GLA-310/F

General description

The KONGSBERG Radar Tank Gauge (RTG), GLA-310/F is designed to measure level in fuel tanks containing liquefied gases. Accurate measurement is possible regardless of the tank atmospheric conditions. Flexible hardware and software modules ensure easy adaptation for measurements in any kind of liquefied gases, such as LPG (Propane, Butane), LEG (Ethylene), and LNG.

Principle of operation

The RTG employs the Frequency Modulated Continuous Wave (FMCW) principle. A frequency sweeping microwave signal is emitted by the RTG through a stand pipe. The distance is derived from the time delay of the reflected signal from the liquid surface. The stand pipe is delivered to match the total tank height. The pipes have ventilation holes allowing the vapour pressure inside and outside the pipe to stabilize, thus allowing the liquid to rise or fall unimpeded in the pipe.

The electronic unit in the RTG includes a unique signal detection method that ensures optimum performance. Combined with its superb signal-to-noise ratio, GLA-310/F offers a high measurement reliability and accuracy.

Each RTG is connected to a dedicated signal processing unit, which includes the processing of radar microwave signals and the intrinsically safe interface to the instruments located in hazardous area.

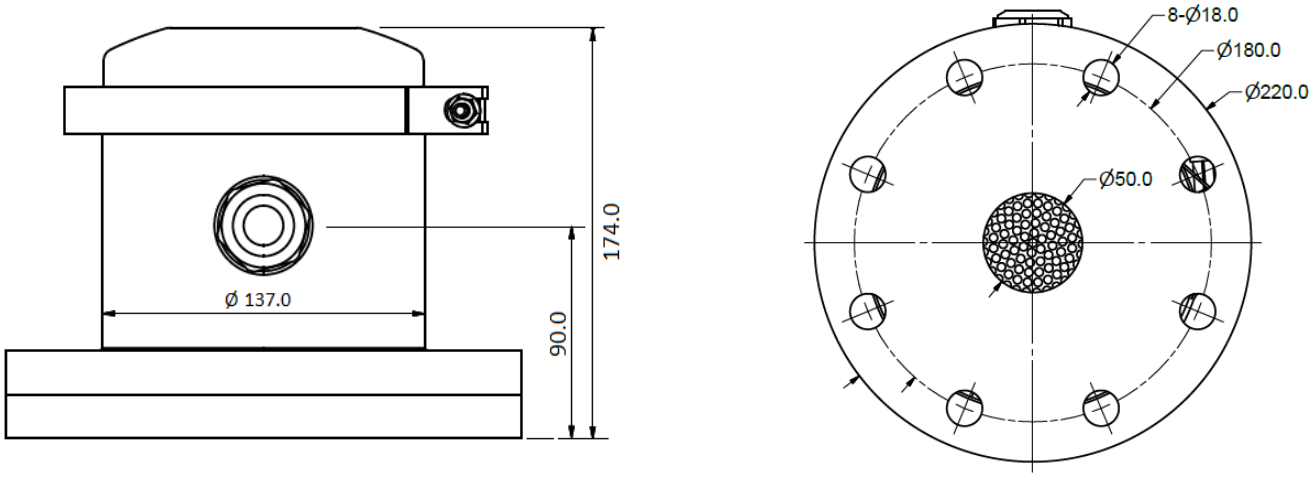

Fig. 2: GLA-310/F dimensions

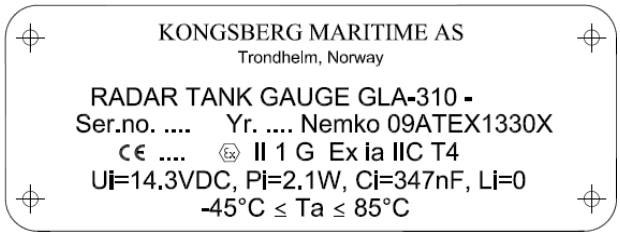

Fig. 3: GLA-310- Marking

Technical specifications

GLA-310/F

Measuring range:	0 to 20 metres
Accuracy:	± 2 mm
Signal output:	RS485 (2 pair cable interface to GLK-300 SPU)
Frequency:	X-band (10 GHz)
Radiated power:	< 1 mW
Materials:	AISI 316(L) in housing and connection box PTFE/PEEK antenna lense facing the cargo AISI 316(L) or Al alloy 5083 in stand pipe
Protection:	IP 66/67
Weight:	~10 kg
Cable size:	Ø12-Ø20 mm
Flange size:	DN100 PN10
Environmental temperature:	-45 °C to +85 °C
Tank temperature:	Down to -165 °C
Tank pressure	Up to 10 bar g (standard unit with PTFE antenna lens)
Ex classification:	Ex ia IIC T4
Ex certification	09ATEX1330X
Quality standard:	ISO 9001
EMC standard:	Emission: IEC 60945 / Immunity: IEC 61000-4

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