KONGSBERG Tank Overflow Protection System (TOPS) for LNG/LPG tankers

Features
KONGSBERG meets the requirement of major classification societies by offering a radar based Tank Overflow Protection System (TOPS) for LNG/LPG cargo tankers.

- No moving parts inside the tank
- Measuring range: 0 to 9 metres
- Accuracy in the whole range: ±7.5 mm
- Continuous level verification - AutroCAL®
- Approved for membrane and spherical tanks
- Pending approval by all major classification societies and measuring institutes
- Rugged modular design
- Ex-classification Ex ia IIC T4
- Individual signal processor for each tank
- Online failure verification
- Alarm for sensor fault, system and power failures
- 3 configurable limits available with visible and audible alarms
- Seagoing mode providing delayed overflow alarm
- Interface to KONGSBERG’s CTS/IAS

Optional features
If integrated with a KONGSBERG CTS system:

- Measuring range: 0 to 16 metres
- Accuracy in the whole range: ±5.0 mm

Description

Application and general description
The KONGSBERG TOPS is based on our long experience in the CTS market. By taking advantage of our technology utilized in our esteemed Custody Transfer System (CTS), we assure high reliability and the best accuracy available in the market.

The KONGSBERG TOPS is designed to meet overflow control requirements from all major classification societies. The system includes level gauges, processing and alarm handling units and a dedicated operator panel. Optionally interface to a KONGSBERG CTS system is available. All equipment on deck is designed for rugged marine environment and manufactured in AISI 316L stainless steel.
The KONGSBERG TOP System consists of the following hardware units:

- Radar Tank Gauge: GLA100/5-TOP (one unit per tank)
- Radar Processing Unit: GLK100A (one unit per tank)
- Remote Controller Unit: RCU510
- Operator Panel: NL5/TOP
- Optional interface to CTS operator station

**Technical specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Power supply voltage</td>
<td>24 VDC ±20 %</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0 to +70 ºC</td>
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<tr>
<td>Operating humidity</td>
<td>95 %, non-condensing</td>
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<tr>
<td>Quality standard</td>
<td>ISO 9001</td>
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<tr>
<td>Type approval by</td>
<td>DNV, ABS, Lloyds</td>
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