

Parabolic antenna gauge RTG 3930

BENEFITS

- Highest reliability with non-contact radar measurement
- Low Loss Mode gives Custody transfer accuracy
- Tolerant to deposits
- Drip-off antenna according to API Chapter 3.1B, ed. 1
- SIL 2 Safety Functions
- TÜV approved for overfill protection
- Integrated in TankRadar Rex inventory tank gauging system
- Can emulate other vendor's field buses



The parabolic antenna gauge RTG 3930 measures the level of all types of liquids. The gauge is designed for mounting on tanks with fixed roofs and has custody transfer accuracy. It gives highest reliability with no moving parts and no contact with the liquid. All electronics are housed in the explosion-proof housing, located outside the tank.

Highest antenna gain

The new RTG 3930 parabolic reflector antenna gives highest antenna gain making it suitable for all applications from light products to asphalt. Antenna direction can easily be adjusted also after start-up, giving added installation flexibility.

The gauge uses state-of-the-art FMCW radar technology with digital reference and temperature control for highest level accuracy. It has inputs for temperature sensors, HART® based pressure sensors and other analog inputs as well as analog and relay outputs. All data are transmitted on the two-wire TRL/2 field bus.

As an option the gauge can be equipped with other output buses such as Foundation™ Fieldbus, Profibus DP or Tiway. It can also emulate other vendor's buses when installed in existing tank gauging systems.

Installation with tank in service

The gauge can be mounted on a 20 inch manway without taking the tank out of operation. Existing field cabling is used for transmission of field data.



The parabolic antenna has a unique inclination adjustment feature to allow flexible installation near tank walls and on non-horizontal manways.

Even for the most demanding applications

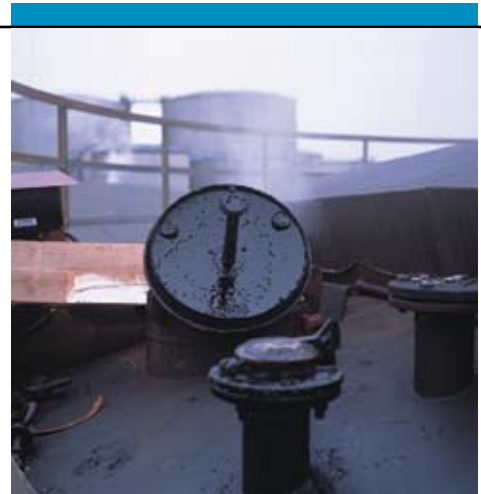
The parabolic antenna design provides extreme tolerance against sticky and condensing products. It is the obvious choice for bitumen/asphalt, sulphur etc. Thousands of Rosemount Tank Gauging parabolic radar gauges are in successful operation in asphalt tanks around the world.

Safety functions

TankRadar Rex could replace a traditional Hi-Hi alarm device. With the RTG 3950 it is possible to use the gauge for overflow protection and simultaneously use it for high accuracy level measurement.

The Rosemount TankRadar Rex RTG 3900 series has been assessed by third party and considered suitable for use in SIL 2 safety functions according to IEC 61511-1. The safety function is based on the relay outputs, by using either one or a combination of two, for overflow or dry run protection.

TankRadar Rex is approved as an overflow protection device by TÜV (Technische Überwachungsverein)¹.



Still operating and gauging accurately despite the heavy contamination. This parabolic antenna has for several months been exposed to blown bitumen heated to over 220° C (430° F).

Specification RTG 3930	
Measuring principle	FMCW radar with digital reference and temperature control
Antenna type	High directivity parabolic reflector with drip-off antenna, 440 mm (17 in.) diameter
Instrument accuracy	± 0.5 mm (± 5/256 in.)
Measuring range	0.8 to 40 m (2.6 to 130 ft) below flange. For longer measuring range, please consult your Rosemount Tank Gauging representative.
Temperature	Ambient temperature -40° C to +70° C (-40° F to +158° F) Process temperature max +230° C (+445° F)
Pressure	Clamped: -0.2 to 0.2 bar (-2.9 to 2.9 psig) Welded: -0,2 to 10 bar (-2,9 to 145 psig)
Material exposed to tank atmosphere	Acid proof steel EN 1.4436 (AISI 316), PTFE (Teflon®) and FPM (Viton®)
Supply voltage	100-240 VAC, 50-60 Hz. Optional 34-70 VAC, 20-28 VDC (max 30 W) or 48-99 VDC
Outputs/inputs	Outputs: TRL/2 field bus, 1 pc 4-20 mA, Profibus DP, Foundation™ fieldbus, Tiway, 2 pcs relays, other vendor's field buses Inputs: Temperature (Pt 100), 2 pcs 4-20 mA (of which one HART® Master)
Display	On separate DAU, RDU or remotely in control room
Manway size	Minimum 20 in.
Housing	Aluminium, designed for IP 66 & 67
Weight	Appr. 25 kg (55 lbs)
Hazardous locations certifications	ATEX: CE 0575 Ex II 1/2 G EEx d[ia] IIB T6 UL: Class 1, Div 1, Groups C and D. IECEx: Ex d IIB T6

Technical details are subject to change without prior notice. For more technical details see the Rex Technical Description.

1. TÜV is a German testing authority responsible for testing overflow protection equipment according to requirements stated by the German WHG institute concerning water protection.

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