

FMR54 Radar Tank Gauge

Smart radar tank gauge for continuous and non-contact level measurement with an accuracy rate of ± 6 mm

Varec[®]



Highlights

- 2-wire technology: Reduces on tank wiring costs and allows easy implementation into existing systems.
- Non-contact measurement: Tank top is almost independent from product properties.
- Horn antenna: 6" to 10" (150-250 mm).
- Planar antenna: 6" to 12" (150 to 300 mm)
- Standard range up to 66 ft (20 m). Extended range up to 125 ft (38 m) using planar antenna in stilling well.
- Easy onsite operation using built-in touch control display without opening enclosure (or optional push button display with cover removed).
- Access historic data from device integrated memory (HistoROM) and transfer configuration setting from device to device.
- Easy commissioning and diagnostics using Windows[®] based software.
- HART, PROFIBUS PA, or FOUNDATION Fieldbus protocols.
- High temperatures: Suitable for process temperatures from -321 °F (-196 °C), up to 752 °F (400 °C) with high-temperature antenna.
- High pressure: Suitable for pressures up to 2320 PSI (160 bar), depending upon antenna type and sealing material.
- Approved for use in explosive hazardous locations.
- Integrated over voltage protection.
- SIL 2 approved for overspill protection system applications or SIL 3 for standalone applications.
- Optional remote display (FHX50).

Product Options

Approvals & Certifications

- FM, CSA, ATEX, IECEx, NEPSi, and TIIS

Antenna & Seals

- Various sizes and material types

Process Connections

- Threaded, ISO, DN, RF, NPS
- Gas-tight feed through

Output Options

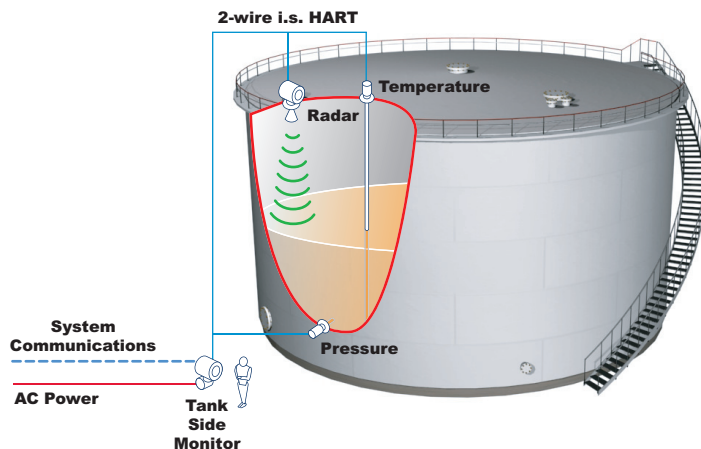
- HART, PROFIBUS, and Foundation Fieldbus

Gland Entry

- Metric, NPT, G

Languages

- Over 20 national languages available



Example tank gauging system using the 4590 Tank Side Monitor and 4532/4539 Average Temperature Converter

Technical Specifications

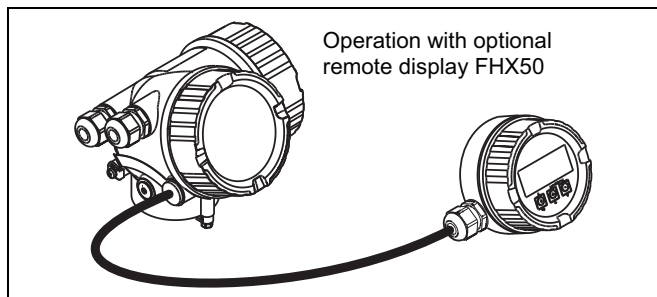
Note! This product conforms to all applicable industry standards and approvals, such as climate class, electromagnetic (EMC), vibration, and radio frequency (RF). See product installation manual.

Note! These specifications apply to the FMR54 under reference operating conditions (DIN EN 61298-2,) with no major interference reflections inside the signal beam.

- Temperature = +75 °F (+24 °C) ±9 °F (±5 °C)
- Pressure = 960 mbar abs. (14 psia) ±100 mbar (±1.45 psi)
- Humidity = 60 % ±15 %
- Reflector: metal plate with a minimum diameter of 1 m (40 in)
- No major interference reflections inside the signal beam

Maximum Measured Error	Standard Range Digital: ± 6 mm (0.24") plus ±0.02 % of analog value
Power Consumption	min. 60 mW, max. 900 mW
Current Consumption	HART: 3.6 to 22 mA PROFIBUS PA: max. 14 mA FOUNDATION Fieldbus: max. 15 mA
Weight	4 - 13.5 kg (10 - 30 lb) plus weight of flange
Enclosure	IP 66, NEMA 4X (IP20, NEMA 1 with open housing) Housing GT18: 316L, stainless steel Housing GT19: plastic Housing GT20: aluminium, seawater repellent, powder coated
Antenna	IP 68 (NEMA 6P)
Conduit Entries	Cable gland: M20x1,5 (for EEx d: cable entry) Cable entry: G ½ or ½ NPT PROFIBUS PA M12 plug Fieldbus Foundation 7/8" plug
Ambient Temperature	Unit: -40 °F and +176 °F (-40 °C and +80 °C) Display: -4 °F and +158 °F (-20 °C and +70 °C)
Operating Frequency	C-band, Up to 8 devices can be installed in the same tank
Dielectric Constants	- er 1.9 in free-field applications - er 1.4 in stilling well

Note! Please complete an Application Data Sheet for this equipment to facilitate proper selection of options for your unique application. Contact your Varec Sales Representative for more information.



Dimensions

Note! Aluminum housing shown with example antenna (not all possible configurations shown).

