

# FMR54 Radar Tank Gauge

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

**Varec**<sup>®</sup>



## 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<sup>®</sup> 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

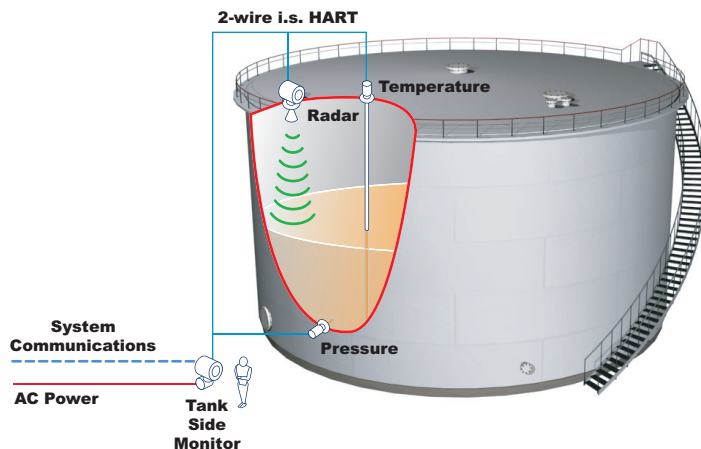
- HART, PROFIBUS, and Foundation Fieldbus

### 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

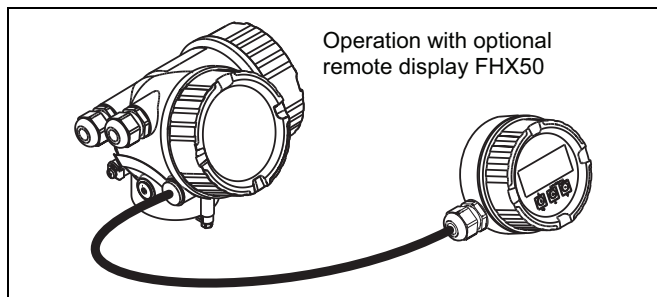
**Note!** This product conforms to all applicable industry standards and approvals, such as climate class, electromagnetic (EMC), vibration, and radio frequency (RF). See product installation manual.

**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

<b>Maximum Measured Error</b>	Standard Range Digital: ± 6 mm (0.24") plus ±0.02 % of analog value
<b>Power Consumption</b>	min. 60 mW, max. 900 mW
<b>Current Consumption</b>	HART: 3.6 to 22 mA PROFIBUS PA: max. 14 mA FOUNDATION Fieldbus: max. 15 mA
<b>Weight</b>	4 - 13.5 kg (10 - 30 lb) plus weight of flange
<b>Enclosure</b>	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
<b>Antenna</b>	IP 68 (NEMA 6P)
<b>Conduit Entries</b>	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
<b>Ambient Temperature</b>	Unit: -40 °F and +176 °F (-40 °C and +80 °C) Display: -4 °F and +158 °F (-20 °C and +70 °C)
<b>Operating Frequency</b>	C-band, Up to 8 devices can be installed in the same tank
<b>Dielectric Constants</b>	- 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).

