

# SMART WIRELESS THUM™ ADAPTER

ROSEMOUNT WIRELESS TANK GAUGING

WirelessHART

## Reach more tanks at less cost

Rosemount wireless tank gauging gives you access to tank gauging data that was previously out of reach, either technically or economically. Greatly reducing field wiring leads to huge savings in infrastructure, design and labor required for installation and commissioning.

### Better utilization of tank capacity

Tank gauging data from remotely located tanks, previously collected manually or not at all, can now be integrated into the system. This will result in more efficient tank capacity utilization, more accurate inventory and better loss control.

### Cut costs and save time with a wireless installation

Costs associated with wiring, additional hardware, and labor easily drive up the budget for any tank farm expansion project, large or small. However, Emerson's Smart Wireless solutions enable cost-effective implementation of new measurement points. In addition, compared to other systems, the time between project start-up and an up-and-running Smart Wireless tank gauging system is drastically reduced.



TankRadar Rex with the Smart Wireless THUM Adapter powers the PlantWeb digital plant architecture by delivering more advanced field intelligence for better decision-making to help you achieve unparalleled efficiency and productivity.

### Key benefits

- Complete automatic tank gauging using WirelessHART
- Large cabling cost savings
- Reach tank areas with poor infrastructure
- Redundant communication in already wired systems
- Enables advanced diagnostics in emulation applications

## EASY TO USE. EASY TO INTEGRATE.

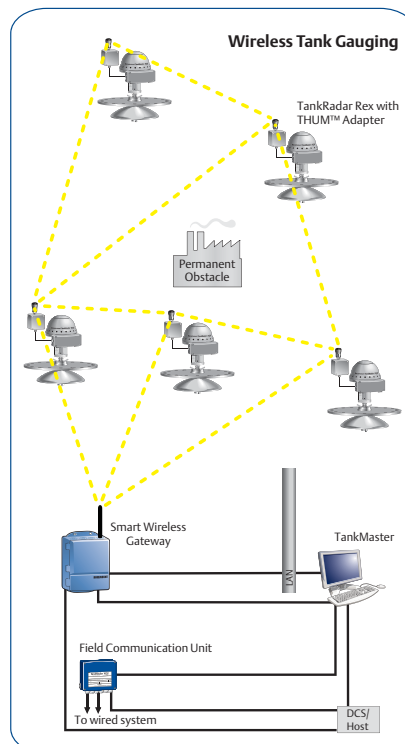
The Smart Wireless THUM Adapter provides the wireless interface between the TankRadar Rex or TankRadar Pro radar gauge and the TankMaster inventory software or host/DCS system.

The self-organizing mesh network automatically finds the best way around any fixed or temporary obstacle. All wireless devices communicate with TankMaster or a host/DCS system through the Smart Wireless Gateway.

Each wireless node in a tank gauging system consists of either a Rosemount TankRadar Rex or TankRadar Pro gauge, connected to mains power and supplied with a THUM adapter.

These nodes can easily join an existing Emerson Smart Wireless network or form their own network.

Emerson's Smart Wireless technologies put valuable information within reach – easily and cost effectively.



### Is the wireless mesh network secure and reliable enough for critical tank gauging data?

Yes. All data is protected by encryption, authentication, verification and anti-jamming.

### What type of tank gauging data can the THUM adapter provide?

The wireless transmission supports important measurement data handled by the gauge, such as level, temperature, water level and pressure.

### How do I handle configuration of the radar gauges in a wireless system?

The THUM adapter can route any HART® command to the radar gauge which allows full configuration of the TankRadar Rex or TankRadar Pro when using AMS.

**ROSEMOUNT**  
Tank Gauging

  
**EMERSON**  
Process Management

## BETTER INVENTORY AND IMPROVED LOSS CONTROL

The Smart Wireless THUM Adapter can transmit up to four variables and additional HART® status information at a user configurable update rate. Access to this new information enables you to fully optimize your tank operations and improve inventory control.

### Selectable PV, SV, TV and QV HART variable

Level  
Level Rate  
Average Temperature  
Water Level  
Tank Pressure (liquid/vapor)

### Status Information

Relay Status  
Approved Level  
Approved Temperature  
Signal Strength  
Device Status

## ADVANCED CONFIGURATION AND DIAGNOSTICS

The THUM adapter can route any data to the radar gauge which allows full configuration and diagnostics using the AMS or the 375 Field Communicator:

- Antenna selection, reference heights, and temperature measurements
- LPG configuration, relay setup, and advanced echo tuning
- Detailed device status information, hardware and software options

## TECHNICAL INFORMATION

The THUM adapter is supplied with a mounting kit when delivered together with TankRadar Rex and TankRadar Pro. The mounting kit allows the THUM adapter to be installed away from the radar gauge at the best possible tank roof position.

Mechanical installation:	Vertical or horizontal, 1 to 2-in. pipe.
THUM adapter burst rate:	User selectable. 8 seconds to 60 minutes.
Loop resistance:	220 Ω for Pro and 680 Ω for Rex. (Included in mounting kit.)

### Rosemount TankRadar Rex

TankRadar Rex is designed to deliver reliable tank inventory data with custody transfer accuracy, for all tank farm and refinery applications. Instrument level accuracy is  $\pm 0.5$  mm (0.020 in.) It features built-in multiple temperature inputs, analog input/output and relay outputs for complete inventory and custody transfer functions. Furthermore, TankRadar Rex is third-party assessed and considered to be SIL 2 suitable. It is also TÜV-tested for overfill protection.

### Rosemount TankRadar Pro

TankRadar Pro is a powerful, multi-purpose radar level gauge for all types of bulk storage applications. It has an instrument level accuracy of up to  $\pm 3$  mm (0.12 in.) and temperature inputs, making it ideal for inventory control. In addition, it is TÜV-tested for overfill protection.

### Emerson Process Management Rosemount Tank Gauging

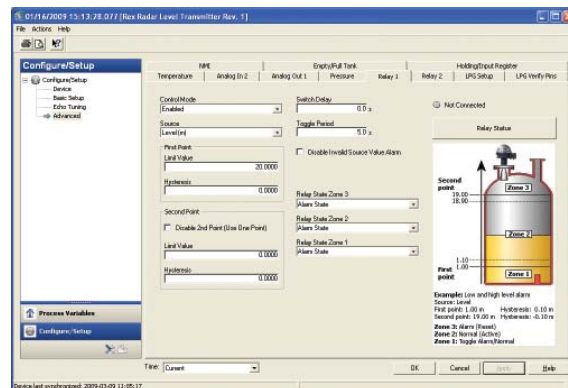
Box 13045  
S-402 51 Göteborg  
SWEDEN

Phone: +46 31 337 00 00  
Fax: +46 31 25 30 22  
E-mail: sales.rtg@Emerson.com  
[www.rosemount-tg.com](http://www.rosemount-tg.com)

©2009 Emerson Process Management. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Rosemount, THUM, PlantWeb, and AMS are marks of one of the Emerson Process Management family of companies. All other marks are property of their respective owners.

The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or service described wherein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.



Rex advanced configuration window in AMS.



**ROSEMOUNT**  
Tank Gauging

**EMERSON**  
Process Management