TLS-RF Series 4 Wireless System

Reliable Wireless Technology

GILBARCO
VEEDER-ROOT

BENEFITS

The TLS-RF Series 4 Wireless System, Veeder-Root's wireless communication platform, leverages robust, long-range wireless technology, featuring a Semtech LoRa® wireless RF device. When combined with the industry-leading TLS-450PLUS or TLS4 Automatic Tank Gauge and proven Mag Plus Probe and Sensor technology, you can rest assured that your site will become a state-of-the-art, secure fuel inventory management system.

Wireless systems are the logical choice where in-ground wiring on forecourt installations are not practical due to construction obstacles such as permitting costs, installation locale, and material and labour costs.

Benefits of the TLS-RF Series 4 Wireless technology include:

- Long-range coverage
- Reliable communication due to deep penetration capability (concrete, ground, steel)
- Long battery life due to very low power requirements
- Secure, encrypted data transmission
- Robust wireless link with excellent interference immunity

The TLS-RF Series 4 Wireless System is a simple addition to either the TLS-450PLUS or TLS4. It's compatible with both our Mag Plus Probes and Mag Sump Sensors. The system provides the following functionality:

- Liquid product & water level detection
- Delivery detection and reporting
- On-demand and scheduled inventory reporting
- Containment sump sensor monitoring
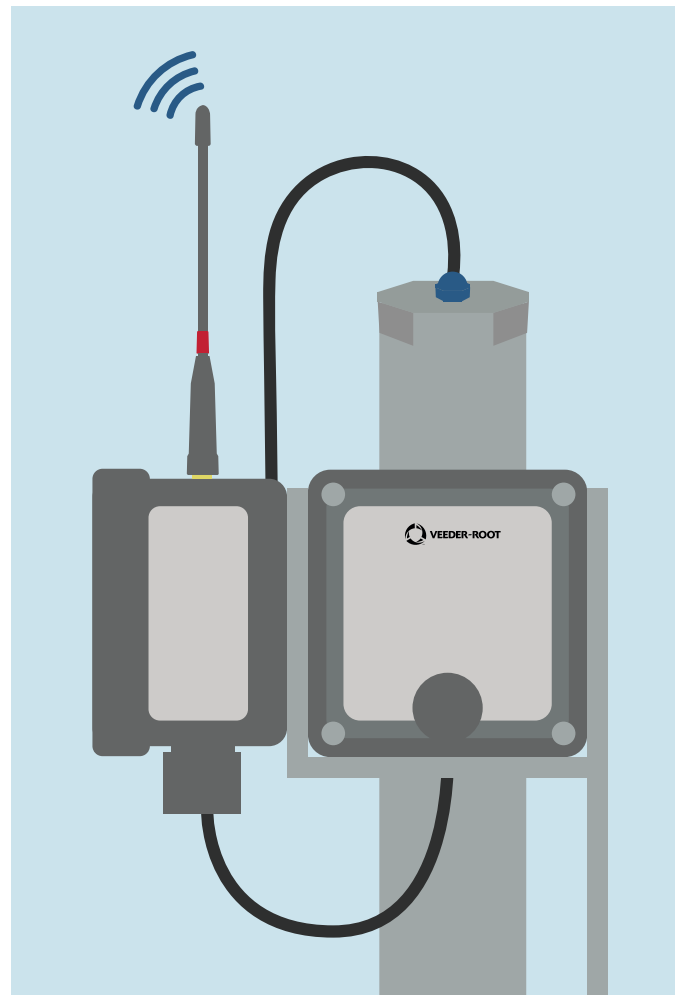
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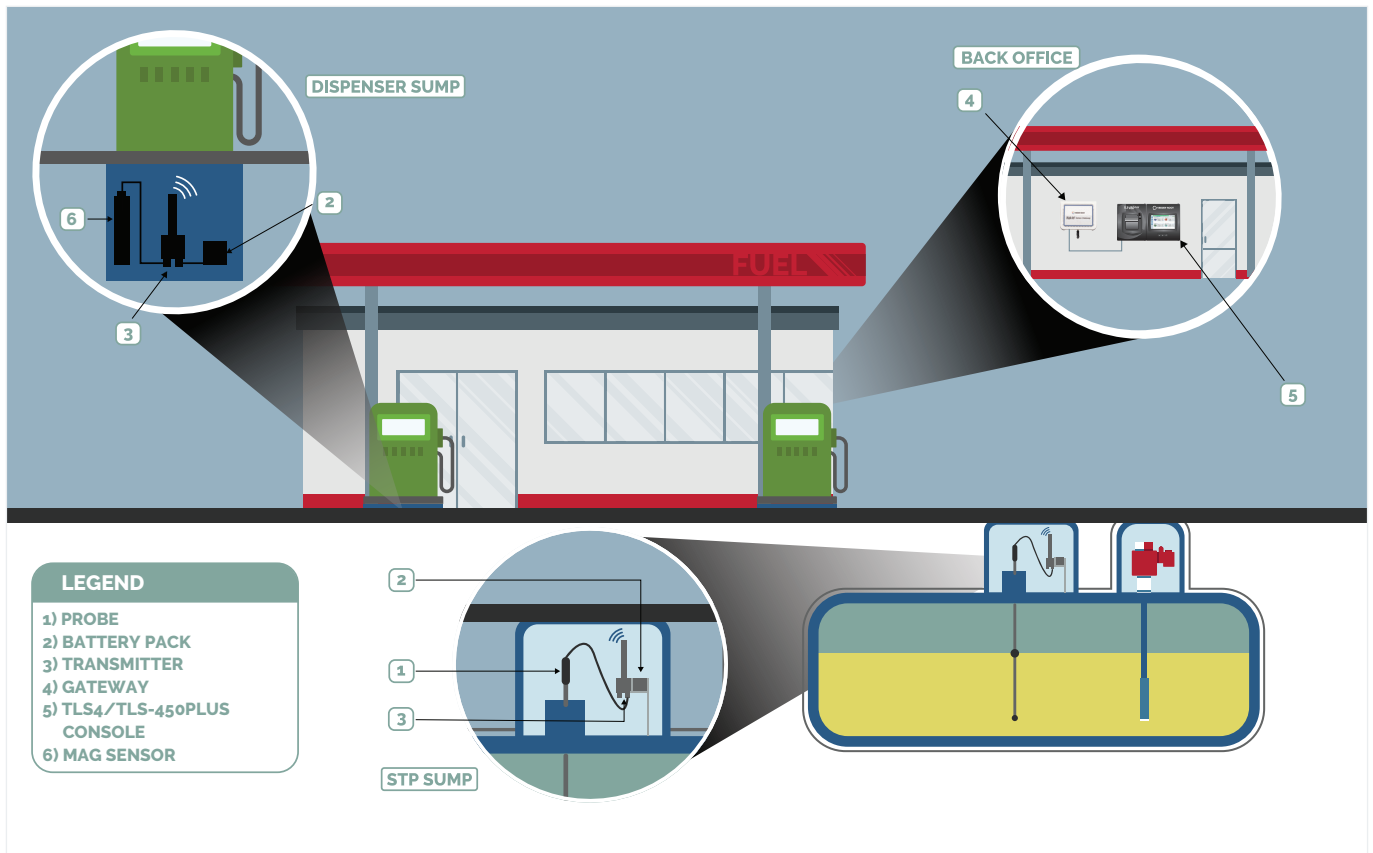
SYSTEM OVERVIEW

FIGURE 1: CONTROL DRAWING – EXAMPLE 868 MHZ WIRELESS SYSTEM SIMPLIFIED SITE LAYOUT

System Overview

- Monitor up to 8 probes/sensors
- Transmitter in-sump range up to 91 meters, direct line of sight 5km*
- Adjustable measurements/day depending on preference
- Battery life up to 2 years**
- Waterproof battery pack and transmitter housing – IP67/NEMA 6
- 868 MHz applications

* Depending on site conditions
** Battery life differs based on transmission range, transmission rate, and ambient temperature.

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TLS-RF SERIES 4 WIRELESS SYSTEM
SPECIFICATIONS

TLS-RF SERIES 4 WIRELESS SYSTEM GATEWAY HARDWARE SPECIFICATIONS	
INPUT VOLTAGE	5VDC, 2.5A input provided by 100-240 VAC 50/60 Hz external adaptor included within 0858060-302
FREQUENCY BAND	868 MHz
CHANNEL PLAN	EU868 (EU863 - 870)
CHANNEL CAPACITY	8 channels (Half Duplex)
MAXIMUM OUTPUT POWER	Maximum EIRP: 14 dBm - 27 dBm*
POWER CONNECTOR	2.5mm, 5 Volt power jack
ETHERNET CONNECTOR	RJ45 Ethernet jack (10/100)
WEIGHT	0.68 kg (1.5 lbs)
PROTECTION CLASS	IP30
STORAGE TEMPERATURE	-40° C to +85° C
OPERATING TEMPERATURE	0° C to 70° C**
RELATIVE HUMIDITY	20% to 90%, non-condensing
ANTENNA	Reverse polarity female SMA, included within 0858060-302

* Maximum EIRP is 14 dBm for most of the band, except 27 dBm at 869.4 - 869.65
** Operating temperature excluding power supply. Power supply UL listed at 40° C.

TLS-RF SERIES 4 WIRELESS SYSTEM TRANSMITTER/BATTERY PACK HARDWARE SPECIFICATIONS		
	TRANSMITTER	BATTERY PACK
RADIO POWER OUTPUT	Maximum EIRP: 14 dBm	n/a
ANTENNA	Reverse Polarity Male SMA, 1/2 wavelength dipole	n/a
BATTERY CHEMISTRY	n/a	Lithium Thionyl Chloride (Li-SOCl$_2$)
NOMINAL BATTERY CAPACITY ***	n/a	68 Ah
WEIGHT	0.23 kg (0.5 lbs)	0.53 kg (1.2 lbs)
PROTECTION CLASS	IP67 / NEMA 6	
STORAGE TEMPERATURE	-40° C to +85° C	
OPERATING TEMPERATURE	-40° C to +60° C	

*** Specified at 5 mA, + 20 C, 2.0V cut-off, assumes no losses due to parallel cell orientation

SAFETY AND REGULATORY CONTENT - TLS-RF SERIES 4 WIRELESS SYSTEM
For Gateway safety and regulatory content, refer to the MTCAP-868-041A User Guide, which is available at www.multitech.com/brands/multiconnect-conduit-ap
EU Declaration of Conformity document 577014-497 declares that the Transmitter system (including Battery Pack) is in compliance with the essential requirements and other relevant provisions of the applicable EU Directives. Refer to the 577014-245 ATEX EU Foreign Language Manual Notice for the web address from where 577014-497 can be downloaded.

ORDERING INFORMATION

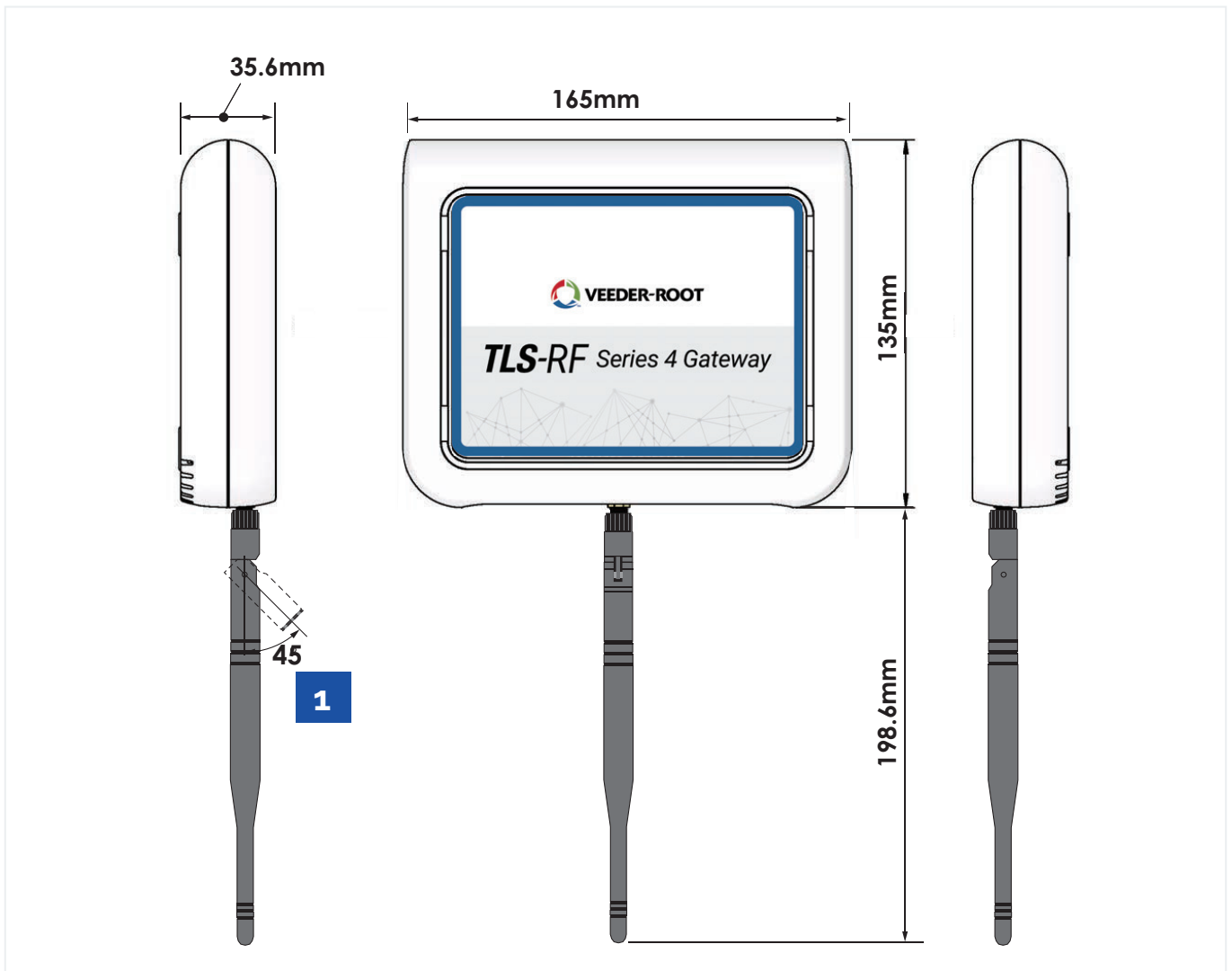| DESCRIPTION		
GATEWAY KIT	**PART NUMBER**	**NOTES**
TLS-RF Series 4 Wireless System Gateway – includes mounting bracket, power supply and 6' RJ45 Ethernet Cable	0858060-302	Supports up to 8 probes/sensors
TRANSMITTER SYSTEM KITS		
TLS-RF Series 4 Wireless System Transmitter Kit (EU 868MHz) with Surge Protection – includes one transmitter, one battery pack, and installation hardware	0858060-301	1 required for each probe/sensor
TRANSMITTER AND BATTERY PACK REPLACEMENT KITS		
TLS-RF Series 4 Wireless System Transmitter Replacement Kit (EU 868MHz)	0330020-894	Does not include mounting hardware
TLS-RF Series 4 Wireless System Battery Pack Replacement Kit	0330020-836	Does not include mounting hardware
ACCESSORY AND INSTALLATION HARDWARE KITS		
Single Channel – Intrinsically Safe Surge Protector	0848100-001	
Transmitter/Battery Pack Installation Hardware Kit, 2" Hanger with Surge Protection	0330020-528	
Transmitter Installation Bushings & Nuts	0330020-909	Contains 2 of each
COMPATIBLE PROBES AND SENSORS		
8600 TLS-450PLUS, 8601 TLS4	MULTIPLE	See price book
8463 Mag Plus Probe, Inventory Only	MULTIPLE	See price book
8570 Mag Dispenser Pan/Sump Sensor	MULTIPLE	See price book

FIGURE 2 : TLS-RF SERIES 4 WIRELESS SYSTEM GATEWAY DIMENSIONS

TRANSMITTER & BATTERY PACK DIMENSIONS
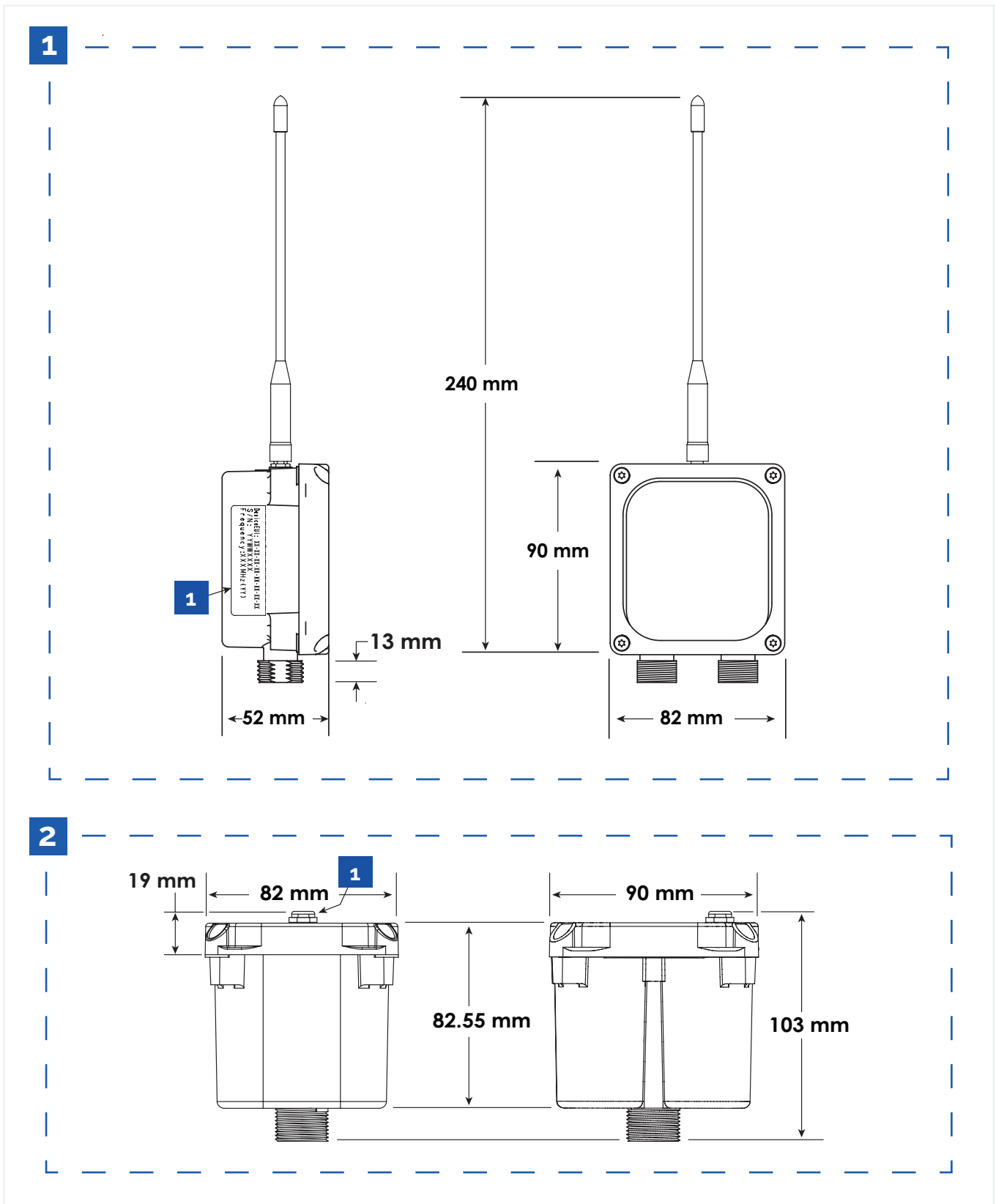
FIGURE 3: TLS-RF SERIES 4 WIRELESS SYSTEM TRANSMITTER (1) AND BATTERY PACK (2) DIMENSIONS

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Why Choose Gilbarco Veeder-Root?

Our 150 years' experience in the fuelling industry means we understand your business' fuelling needs better than anyone else.

Gilbarco Veeder-Root stands for quality, innovation and seamless integration and we are ready to help you transform your business.

To find out more about our TLS-RF Series 4 Wireless System, or any of our industry leading fuelling technologies, speak to your relationship manager or visit our website.