8410 Wireless Field Transceiver

A tank gauging hub for wireless transmission of data from the field instrument to the control room system

Highlights

- Secure communications between your instruments and the control room system – Proprietary Frequency Hopping Spread Spectrum (FHSS) technology
- Reliable communications even in areas with extreme RF background noise (Military tested, MIL-STD-410) – 900 MHz frequency range
- Multiple configurations – point-to-point or multi-point system.
- Supports the complete range of Varec tank gauges, transmitters or third-party manufactured devices – ¾" NPT connections and RS-232/485 e.g. MODBUS communications
- Suitable for large facilities or remote areas – simultaneous slave/repeater functionality and line-of-sight transmission up to 20 miles
- Wide range of antenna and mounting options to suit your facility's specific installation needs, such as on a hand rail, conduit, stand pipe or post
- Simple, low cost installation – AC or DC operation and remote placement of antenna

Application

The 8410 Wireless Field Transceiver (WFT) is ideally suited for tank gauging and bulk storage applications in refineries, tank farms, terminals and remote tank facilities. It provides secure wireless communications between the field instrument and a base transceiver located in the control room.

System Configuration

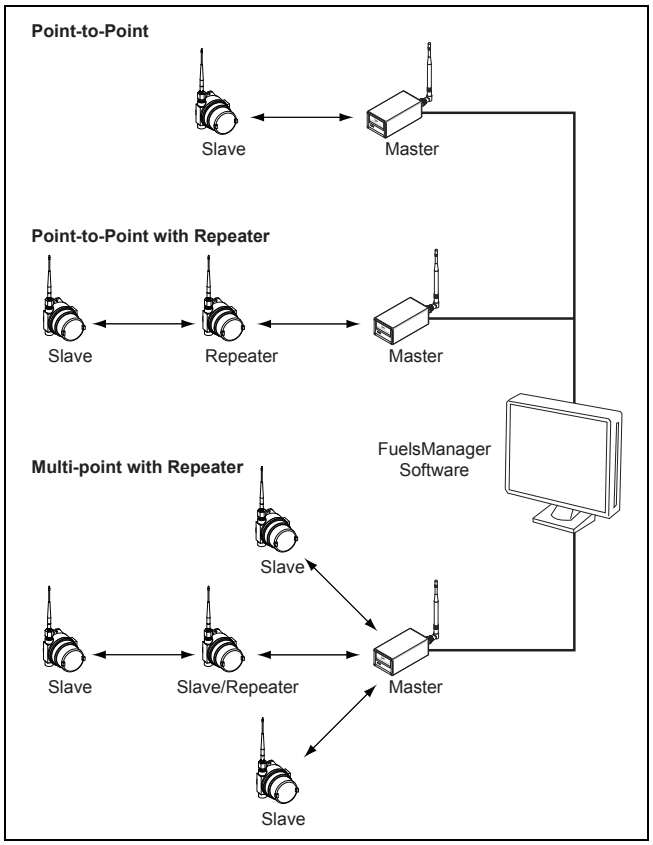
Point-to-Point Systems

A point-to-point system is limited to one master and one slave transceiver. Repeaters may be added in to extend the reach of the network, but no other master or slave may be added. In a point-to-point system all data communications are acknowledged

Multi-Point Systems

In a multi-point system, the transceiver, designated as a master, is able to simultaneously be in communication with numerous slaves. In its simplest form, a tank gauging multi-point network functions with the master base unit broadcasting its messages to all slaves (8410 WFT) and the slaves responding to the master when given data by the connected tank gauge or tank gauge transmitter.

For further examples and additional information on data communication links, refer to the installation and operations manual.



Example point-to-point and multi-point systems

Technical Specifications

Functional

Frequency Range	902–928 MHz
Method	Frequency Hopping Spread Spectrum (FHSS)
Output Power	100 mW to 1 Watt
Data Encryption	Substitution, dynamic key
Range	20 miles, line-of-sight
Data Transmission Protocol	RS-232 / 485 / 422 data (software selectable) 1200 to 115.2 KBaud. e.g. MODBUS™

Environmental

Operating Temp.	-40 °F to +167 °F (-40 °C to +75 °C)
Humidity	5 to 95% (non-condensing)
Lightning Protection	Protection can be installed between the antenna and wireless unit

Power

Operating Voltage	110 – 230 VAC, 50/60 Hz 30-65 VAC, 50/60 Hz 6-90 VDC
Power Consumption (at 24 VDC)	6 mA in sleep mode 15 mA in idle mode 54 mA in full time receive 250 mA transmit current
Output Power Supply	Features 24 VDC out for supplying power to connected devices, such as the Varec 2920 Float & Tape Transmitter.

Mechanical Construction

Enclosure Type	8410 WFT rated to NEMA 3, 4, 7 & 9
Material	Powder coated aluminum
Mounting	Wall/standpipe Antenna can be remote mounted
Dimensions	6.15" W x 5.23" L x 6" H (without antenna)
RTD Terminals	3-wire RTD pass through terminals to connected device

Order Codes

10	**Power Supply**					
	A	110/220 VAC 50/60 Hz				
	B	6-90 VDC & 30-65 VAC				
20		**Antenna Connection**				
		S	RP-SMA			
		N	"N" Type			
30			**Antenna Connection**			
			Y6	Maxrad - Yagi - 6.4dB Gain, 14" N Female		
			Y9	Maxrad - Yagi - 9.0dB Gain, 20.5" N Female		
			OU	Ventech Omni - Unity Gain, 8" RP-SMA		
			O2	Maxrad Omni - Unity Gain, 14" N Female		
			O3	Maxrad Omni - 3dB Gain, 23" N Female		
			05	Maxrad Omni - 5dB Gain, 48" N Male		
			07	Maxrad -Omni - 7dB Gain, 96" N Male		
40				**Antenna Mounts**		
				00	None	
				MY	Directional Mount	
				ML	Light Duty Mast Mount for under 30'	
				MT	Light Duty Mast Mount for over 30"	
				MH	Heavy Duty Mast Mount	
				MW	Wall Mount for antennas over 30" (Two required)	
50					**Lightning Protection**	
					0	None
					L	Inline Lightning Arrestor, 2x “N” Type Female Antenna
N8410 –						Complete Designation

Note! Antenna option 'ML' is not compatible with Antenna Connection "S", or Antenna "OU"

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