



Highlights

- For water/wastewater applications only
- Non-contact, no moving part solution
- Level reading range:
1 ft to 12 ft / 0.3 m to 3.4 m
- Up to a 10-year battery life¹
- Advanced local LCD display interface
- Self-contained, rugged design
- Installs in minutes
- IP66, -40 °C to 80 °C
- 900 MHz / 2.4 GHz / 868 MHz
- Secure AES encryption

US Patent #6967589



OTC Transmitters

OTC Gateway

Local
Controller

RTU/EFM/PLC/
DCS/HMI/
Long-haul Radio



Network Infrastructure



Cloud (Analytics)

Non-Contact Wireless Water Level Monitoring Solution

Ultrasonic Level Sensor Included

The OleumTech® LL6 Ultrasonic Transmitter does not come in contact with the liquid (product) or have any moving parts that require maintenance. Specifically designed for water and wastewater applications, the LL6 provides 1 to 12 ft range of reliable level measurement with a high resolution of 0.04 inches. The LL6 can be installed easily and quickly with the provided mounting hardware. Additional data such as volume and tank full percentage can be reported as well based on user preference. This ultra-low-power transmitter is powered by a replaceable battery pack that provides up to a 10-year life.¹ The push button LCD interface allows for device configuration and instant access to process data.

Reliable, Scalable, and Safe

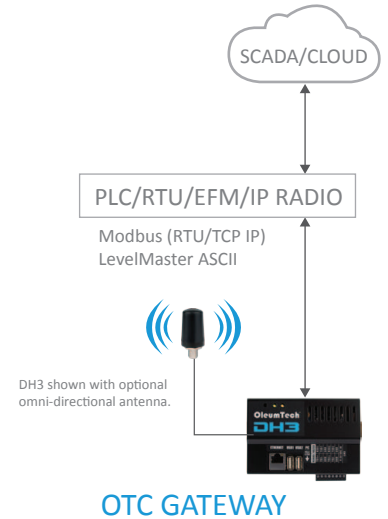
The field-proven wireless transmitter communicates with an assigned wireless gateway within the OTC Wireless Sensor and I/O Network creating a highly scalable network, accommodating virtually any I/O requirement.

The OleumTech Wireless Transmitter is certified for use in Class I, Division 1 (Zone 0) hazardous locations. It is intrinsically safe, designed not to cause a spark, and can be serviced without being removed from a process.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Liquid Level Sensing Wireless Transmitter Using Ultrasonic Technology · Non-Contact Solution / No Moving Parts
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ [®] Software for PC
Sensor Type	· Ultrasonic; Non-Submersible
Reading Range	· Minimum: 1 ft. / 0.3 m Maximum: 12 ft. / 3.6 m
Dead Band Zone	· 12" / 1 ft. / 0.3 m
Resolution	· High Resolution of 0.04" (1 mm)
Power Source	· Self-Contained, Internal 3.6 Vdc Lithium Battery
Internal Battery Life	· Up to 10 Years, Based on User Defined Reporting Intervals ¹
Local LCD Display	· 32-Character Display (16x2 Lines) with 4 Function Keys + Read Button
Instant Displayable Read	· Product Level / Battery Voltage / RF Status
Local Configuration	· Integral LCD with Push Button Interface
Device Diagnostics	· Health Tags: Battery Voltage, Received Signal Strength Indication (RSSI), RF Refresh, RF Timeout, Error Codes
WIRELESS COMMUNICATIONS	
Type: 900 MHz / 915 MHz	· ISM Band, Spread Spectrum
2.4 GHz / 868 MHz	· 900 MHz: FHSS (Frequency Hopping), FSK, AES Encryption 256-bit (900 MHz), 128-bit (915 MHz)
	· 2.4 GHz: DSSS (Direct-Sequence), AES Encryption 128-bit
	· 868 MHz: LBT (Listen Before Talk), AFA (Adaptive Frequency Agility), AES Encryption 128-bit
Bit Rate	· 900 MHz: 9600 bps / 115.2 kbps; 2.4 GHz: 250 kbps; 868 MHz: 80 kbps
Output Power (Max)	· 900 MHz: 10 mW; 2.4 GHz: 63 mW; 868 MHz: 25mW
Receiving Sensitivity	· 900 MHz: -110 dBm @ 9600 bps, -100 dBm @ 115.2 kbps
	· 2.4 GHz: -100 dBm @ 250 kbps; 868 MHz: -101 dBm @ 80 kbps
RF Range	· 900 MHz: Up to 7500 Feet (2.3 km) with Clear Line of Sight ²
	· 2.4 GHz: Up to 5.7 Miles / 9.2 km with Clear Line of Sight ²
	· 868 MHz: Up to 5.2 Miles / 8.4 km with Clear Line of Sight ²
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	· FCC Part 15 (USA), IC ICES-003 (Canada), ACMA (Australia)
Safety	· CAN/CSA-C22.2 No. 61010-1-2012 · UL Std. No. 61010-1-2012 · IEC/EN 61010-1-2010 · Device is not intended for use in hazardous locations
MECHANICAL SPECIFICATIONS	
Dimensions	· 5.5" (W) x 20.2" (H) x 4.4" (D) / 140 mm (W) x 513 mm (H) x 112 mm (D)
Package Dimensions	· 24" (W) x 10" (H) x 7" (D) / 609mm (W) x 254mm (H) x 153mm (D)
Package Weight	· ~6 lbs / 2.7 kg
Connection Fitting	· 1.5" NPT Male Compression Fitting
Enclosure Casing Material	· Type 4X Aluminum; IP66
GENERAL SPECIFICATIONS	
Operating Conditions	· Ambient Temperature (Non-Hazardous Applications): -40 °F to 176 °F (-40 °C to 80 °C) LCD Screen -4 °F to 158 °F (-20 °C to 70 °C) · Humidity: 0 to 99 %, Non-Condensing
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA
ORDERING INFORMATION	
Model Numbers	· WT-0900-LL6, WT-0915-LL6, WT-2400-LL6, WT-0868-LL6
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable
Replacement Battery	· Use OleumTech SX1000-BP3 Only

Networking Diagram



OTC TRANSMITTERS

Point-to-Multipoint
"Star Topology"



¹Ambient temperature and one transmission per 1 min interval without any retries were used to calculate battery life. Actual battery life may vary depending on environmental factors, application, and usage. Use data shown above only as general point of reference. See OleumTech Battery Life Expectancy Chart for predicted battery life based on reporting interval.

²The maximum RF range data was collected under optimal test conditions, including a clear line of sight between antennas. Actual wireless RF range may vary depending on location, RF interference, weather, antenna type, cable type, and line of sight.

