

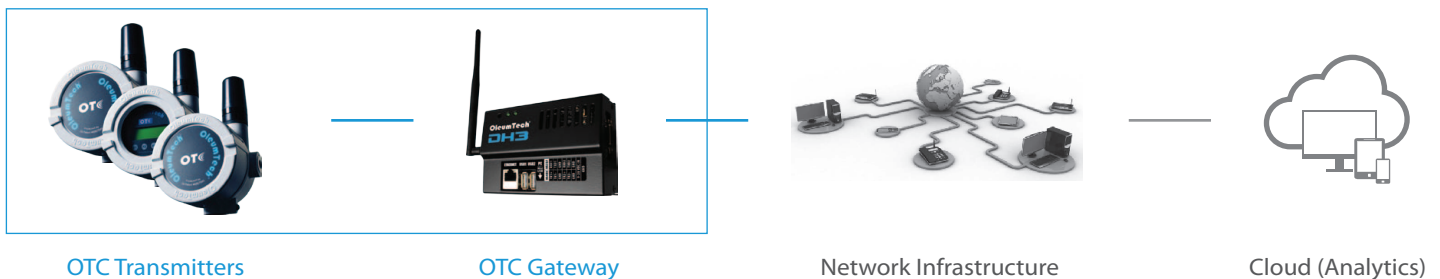


Highlights

- 1x 1-5 Vdc hydrostatic sensor input
- Sensor up to 150 ft / 457 m length
- Up to a 10-year battery life¹
- Advanced local LCD display interface
- Self-contained, rugged design
- Installs in minutes
- IP66, -40 °C to 70 °C
- 900 MHz or 2.4 GHz radio option
- Secure AES encryption
- Class I, Division 1 (Zone 0), Intrinsically Safe



US Patent #6967589



OTC Transmitters

OTC Gateway

Network Infrastructure

Cloud (Analytics)

Economical Wireless Liquid Level Monitoring Solution

Supports 1-5 V Hydrostatic Level Sensors

The OleumTech® LL4 and LL5 Hydrostatic Level Transmitters measure level by monitoring pressure at the bottom point of vented top mount tanks, deep wells, water towers, rivers, and lakes. These transmitters are equipped with one 0-5 Vdc analog input and provide high resolution 24-bit analog to digital conversion (ADC). The transmitters can supply up to 9.5 Vdc to the connected sensor. LL4 direct mount version includes a specified length hydrostatic pressure sensor and direct mounting solution while the LL5 allows users to select their own sensor and mounting method. The LL5 also provides one discrete dry contact input for connecting to a high level switch. These ultra-lower-power transmitters are powered by replaceable battery packs that provide 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

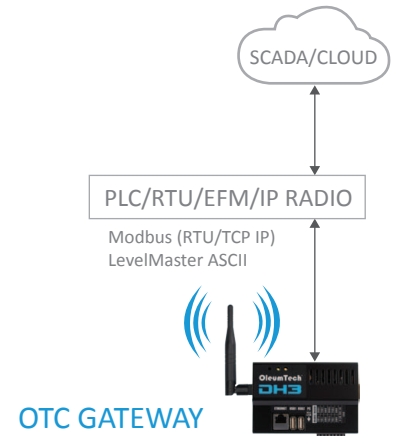
The field-proven wireless transmitters communicates with an assigned wireless gateway within the OTC Wireless Sensor and I/O Network creating a highly scalable network, accommodating virtually any I/O requirement.

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 Hydrostatic Technology
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ® Software for PC
Sensor Type	· Submersible Hydrostatic Pressure Sensor (Sold Separately), Wide Operating Temperature Range
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	· 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
WIRELESS COMMUNICATIONS	
Type: 900 MHz / 2.4 GHz	· ISM Band, Spread Spectrum · 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
Bit Rate	· 900 MHz: 9600 bps / 115.2 kbps ; 2.4 GHz: 250 kbps
Output Power	· 900 MHz: 10 mW; 2.4 GHz: 63 mW
Receiving Sensitivity	· 900 MHz: -110 dBm @ 9600 bps, -100 dBm @ 115.2 kbps / 2.4 GHz: -100 dBm @ 250 kbps
RF Range	· 900 MHz: Up to 7500 Feet (2.3 km) with Clear Line of Sight ² · 2.4 GHz: Up to 7 km / 4.3 miles with Clear Line of Sight ²
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	· FCC Part 15 (USA) · IC ICES-003 (Canada)
Safety	· Class I, Division 1, Groups C, D T3C · Class I, Zone 0; AEx ia IIC T3 / Ta = -40 to 158 °F (-40 °C to 70 °C) · ATEX: Sira 13ATEX2142X; Ex ia IIB T3 Ga · IECEx: SIR 13.0054X; Ex ia IIC T3 Ga / Ta = -4 to 158 °F (-20 °C to 70 °C)
MECHANICAL SPECIFICATIONS	
Dimensions, LL4	· 5.5" (W) x 19.75" (H) x 4.4" (D) / 140mm (W) x 502mm (H) x 112mm (D)
Dimensions, LL5	· 5.5" (W) x 12.8" (H) x 4.4" (D) / 140mm (W) x 325mm (H) x 112mm (D)
Package Dimensions, LL4	· 14" (W) x 30" (H) x 7" (D) / 356mm (W) x 762mm (H) x 177.8mm (D)
Package Dimensions, LL5	· 10.25" (W) x 14" (H) x 6.5" (D) / 260mm (W) x 356mm (H) x 165mm (D)
Package Weight, LL4	· ~10 lbs / 4.5 kg
Package Weight, LL5	· ~7 lbs / 3.2 kg
Connection Fitting	· LL4: 1.5" NPT Male Compression Fitting; LL5: 3/4" NPT Female
Enclosure Casing Material	· Type 4X Aluminum; IP66
GENERAL SPECIFICATIONS	
Operating Conditions	· Ambient Temperature (Class I, Division 1): Transmitter -40 °F to 158 °F (-40 °C to 70 °C) · LCD Screen -4 °F to 158 °F (-20 °C to 70 °C) · Ambient Temperature (Non-Hazardous Applications): Transmitter -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	· 900 MHz: WT-0900-LL4 (Direct Mount) / WT-0900-LL5 (Multi-Vendor) · 2.4 GHz: WT-2400-LL4 (Direct Mount) / WT-2400-LL5 (Multi-Vendor)
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.

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