



Highlights

- Single or dual actuation (high / high-high)
- Switch of desired length sold separately
- Wiring plug eliminates wiring hassle
- Up to a 10-year battery life¹
- Supports Over-the-Air (OTA) functionality for updating the device configuration²
- Self-contained, rugged design
- Installs in minutes
- Transmitter: IP66, -40 °C to 70 °C (-40 °F to 158 °F)
- Level Switch: -40 °C to 120 °C (-40 °F to 248 °F)
497.8 PSI
- 900 MHz
- Secure AES encryption
- Class I, Division 1 (Zone 0), Intrinsically Safe



US Patent #6,967,589



OTC Transmitters

OTC Gateway

Local
Controller

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



Network Infrastructure



Cloud (Analytics)

Self-Contained Wireless Spill Prevention Solution

Dual-Level Detection Capabilities

The OleumTech® OTC Wireless High Level Switch Transmitter provides two actuation points for detecting high and high-high liquid level conditions. The transmitter can also report transition counts. This top tank mounting transmitter is designed for use with an OleumTech high level switch. The level switch is sold separately so that you can select the desired length and choose single or dual actuation option. The SM-HLT utilizes an on-delay exception reporting method allowing users to set the debounce filter ranging from 20 ms to 2000 ms to help remove undesired state reporting due to signal noise or hysteresis. As a safety measure, regardless of state change, this device reports to the wireless gateway at a user-defined interval. This ultra-low-power transmitter is powered by a replaceable battery pack that provides up to a 10-year life.¹

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	· High Level Sensing Wireless Transmitter (Top / Vertical Mount)
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ® Software for PC
Inputs	· 2 Actuation Points (1 or 2 Float Option)
Power Source	· Self-Contained, Internal 3.6 Vdc Lithium Battery
Internal Battery Life	· Up to 10 Years, Based on User Defined Reporting Intervals ¹
Device Diagnostics	· Health Tags: Battery Voltage, Received Signal Strength Indication (RSSI), RF Refresh, RF Timeout

WIRELESS COMMUNICATIONS

Radio Band	· ISM Band (License-Free)
900 MHz	· FHSS, FSK, AES Encryption 256-bit (900 MHz)
Bit Rate	· 9600 bps
Output Power (Max)	· 10 mW
Receiving Sensitivity	· -110 dBm @ 9600 bps, -100 dBm @ 115.2 kbps
RF Range	· Up to 7500 Feet / 1.4 Miles / 2.3 km with Clear Line of Sight ²

CERTIFICATIONS & COMPLIANCE

EMC/EMI	 · FCC Part 15 (USA), IC ICES-003 (Canada)
Safety	   · Class I, Division 1, Groups A, B, C, D T3C; Ex ia IIC T3 · Class I, Zone 0; AEx ia IIC T3 · IECEx: SIR 13.0054X; Ex ia IIC T3 Ga

MECHANICAL SPECIFICATIONS

Dimensions	· 5" (W) x 12.6" (H) x 4.4" (D) / 127 mm (W) x 320 mm (H) x 112 mm (D)
Package Dimensions	· 10.25" (W) x 14" (H) x 6.5" (D) / 260mm (W) x 356mm (H) x 165mm (D)
Package Weight	· ~7 lbs / 3.2 kg
Connection Fitting	· 2" NPT Male (Pipe Plug)
Enclosure Casing Material	· Type 4X Aluminum; IP66
Switch Materials	· 316 Stainless Steel
Switch Length	· 1 to 6 Feet in 1" Increments / Custom Lengths Also Available
Specific Gravity	· 0.60

GENERAL SPECIFICATIONS

Operating Conditions	· Ambient Temperature (Class I, Division 1 / Zone 0): -40 °C to 70 °C (-40 °F to 158 °F) · Ambient Temperature (Non-Hazardous Applications): -40 °C to 80 °C (-40 °F to 176 °F) · Humidity: 0 to 99 %, Non-Condensing
Switch Temperature Range	· -40 °C to 120 °C (-40 °F to 248 °F)
Switch Pressure Rating	· 497.8 PSI
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA

ORDERING INFORMATION

Model Numbers	· SM5000-HLT
Switch Ordering Numbers	· Single Actuation: HLTxxx-S Dual Actuation: HLMxxxx-S
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable
Replacement Battery	· Use OleumTech SX1000-BP3 Only

Single Actuation Switch Ordering Number

HLT ——— xxx ——— S

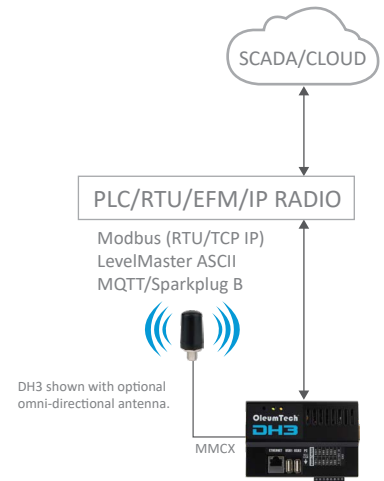
"T" Indicates Top/Vertical Mount Type	Insertion Length in Inches from Top of Tank to Bottom of Probe	S for Stainless Steel Float
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Dual Actuation Switch Ordering Number

HLM ——— xxx ——— yy ——— S

"T" Indicates Top/Vertical Mount Type	Insertion Length in Inches from Top of Tank to Bottom of Probe	L1 - Upper Actuation Point Length in Inches from Top to Upper Float	S for Stainless Steel Float
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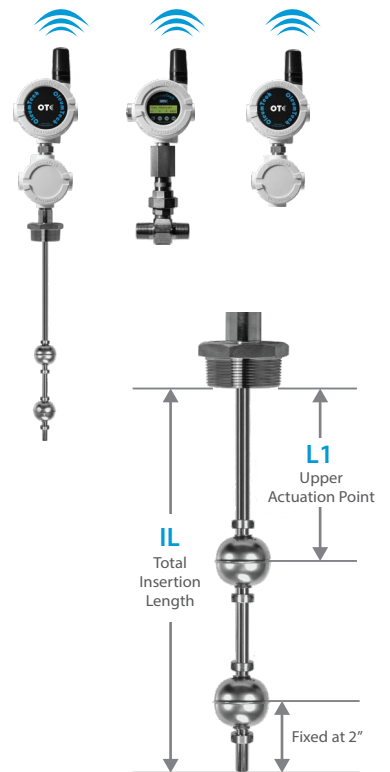
Networking Diagram



OTC GATEWAY

OTC TRANSMITTERS

Point-to-Multipoint "Star Topology"



Note: All switch positions are fixed and cannot be modified.

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.

²OTA functionality does not support changing the radio settings or upgrading the device firmware.

³The 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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