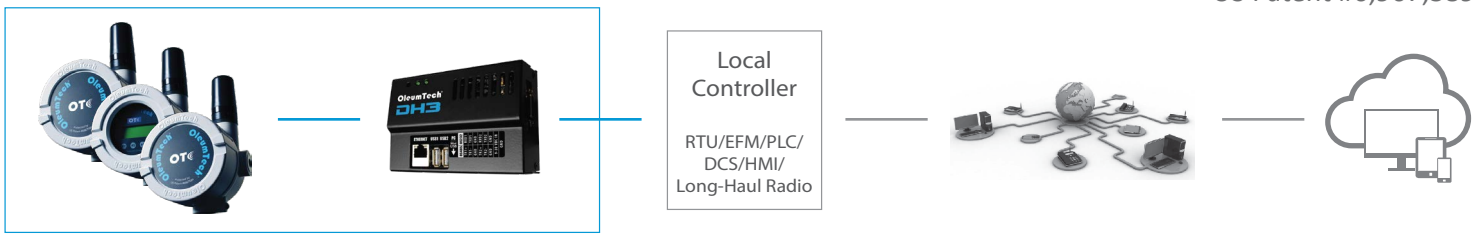
DATASHEET

WT-HL1

Highlights

- Single or dual actuation (high / high-high)
- Switch of desired length sold separately
- Up to a 10-year battery life[1]
- Advanced local LCD display interface
- Supports Over-the-Air (OTA) functionality for updating the device configuration[2]
- 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 / 915 MHz / 2.4 GHz / 868 MHz
- Secure AES encryption
- Class I, Division 1 (Zone 0), Intrinsicaliy Safe

US Patent #6,967,589



OTC Transmitters | OTC Gateway | 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 switch is sold separately so that you can select the desired length and choose single or dual actuation option. 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] 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	· 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]
Local LCD Display	· 32-Character Display (16x2 Lines) with 4 Function Keys + Read Button
Instant Displayable Read	· Discrete Input 1 & 2 / 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	
Radio Band	· ISM Band (License-Free)
900 MHz / 915 MHz	· FHSS, FSK, AES Encryption 256-bit (900 MHz), 128-bit (915 MHz)
2.4 GHz	· DSSS, AES Encryption 128-bit
868 MHz	· LBT-AFA, AES Encryption 128-bit
Bit Rate	· 900/915 MHz: 9600 bps / 115.2 kbps; 2.4 GHz: 250 kbps; 868 MHz: 80 kpbs
Output Power (Max)	· 900/915 MHz: 10 mW; 2.4 GHz: 63 mW; 868 MHz: 25mW
Receiving Sensitivity	· 900/915 MHz: -110 dBm @ 9600 bps, -100 dBm @ 115.2 kbps · 2.4 GHz: -101 dBm @ 250 kbps; 868 MHz: -106 dBm @ 80 kbps
RF Range	· 900/915 MHz: Up to 7500 Feet / 1.4 Miles / 2.3 km with Clear Line of Sight[3] · 2.4 GHz: Up to 1.9 Miles / 3.1 km with Clear Line of Sight[3] · 868 MHz: Up to 1.5 Miles / 2.4 km with Clear Line of Sight[3]
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	· FCC Part 15 (USA), IC ICES-003 (Canada), ACMA (Australia) · AS/NZS CISPR 32 (Australia), EN55032 & EN55024 (EU)
Safety	· Class I, Division 1, Groups A, B, C, D T3C; Ex ia IIC T3 · Class I, Zone 0; AEx ia IIC T3 · ATEX: Sira 13ATEX2142X; Ex ia IIC T3 Ga; II 1 G · IECEx: SIR 13.0054X; Ex ia IIC T3 Ga
MECHANICAL SPECIFICATIONS	
Dimensions	· 5.5" (W) x 12.6" (H) x 4.4" (D) / 140 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) / Float Diameter: 1.6" (41 mm)
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) · LCD Screen -20 °C to 70 °C (-4 °F to 158 °F) · Ambient Temperature (Non-Hazardous Applications): -40 °C to 80 °C (-40 °F to 176 °F) · LCD Screen -20 °C to 70 °C (-4 °F to 158 °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	· WT-0900-HL1, WT-0915-HL1, WT-2400-HL1, WT-0868-HL1
Switch Ordering Numbers	· Single Actuation: HLTxxx-S Dual Actuation: HLMxxx-yy-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

Dual Actuation Switch Ordering Number

HLM — xxx — yy — S

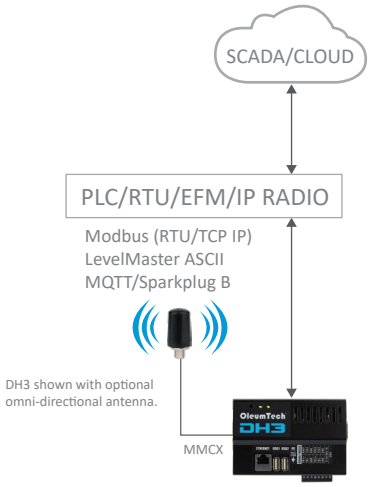
"M" Indicates Top/Vertical Mount Type	Insertion Length in Inches from Top of Tank to Bottom of Probe	L1 - Upper Actuation Point Length in Inches from Top to Upper Float	S for Stainless Steel Float

[1]Ambient 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.

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

[3]The 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.

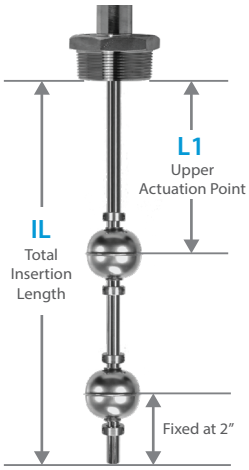
Networking Diagram



OTC GATEWAY

OTC TRANSMITTERS

Point-to-Multipoint
"Star Topology"



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

MADE IN USA