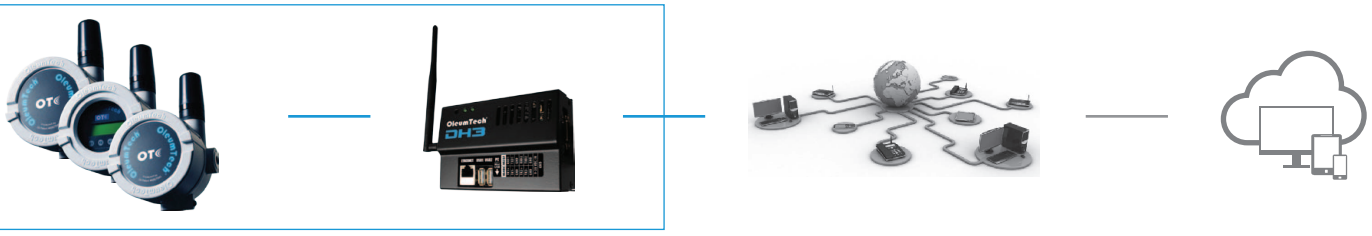
DATASHEET

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
- 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)

Self-Contained Wireless Spill Prevention Solution

Dual-Level Detection Capabilities

The OleumTech® HL1 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 mount transmitter is designed for use with an OleumTech high level switch. The switch is sold separately so that users 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 every five minutes. This ultra-lower-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.

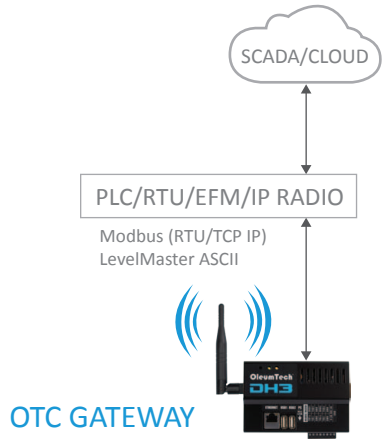
Technical Specifications

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	· 2x 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	
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 A, B, 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 IIC T3 Ga; II 1 G · IECEx: SIR 13.0054X; Ex ia IIC T3 Ga / Ta = -4 to 158 °F (-20 °C to 70 °C)
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)
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): 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-HL1; 2.4 GHz: WT-2400-HL1
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable
Replacement Battery	· Use OleumTech SX1000-BP3 Only

HLT ——— ## ——— ##.##

"T" Indicates Top/Vertical Mount Type	IL - Length in Inches from Top of Tank to Bottom of Probe	L1 - Length in Inches from Top of Tank to Middle of Probe

Networking Diagram



OTC TRANSMITTERS

Point-to-Multipoint
"Star Topology"

[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]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.

OleumTech ISO 9001 REGISTERED COMPANY

MADE IN USA