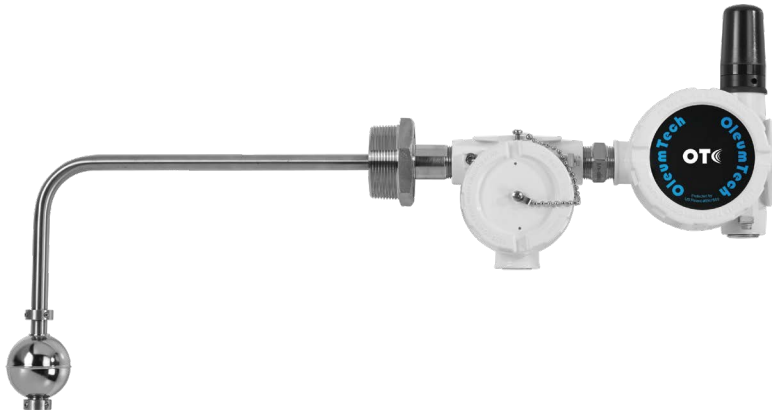
DATASHEET

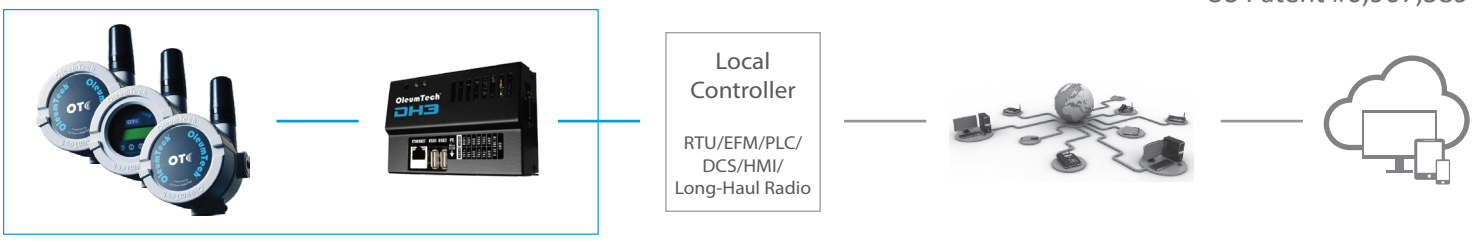
SM-HLS



Highlights

- Side-mounting high level detection system
- High level switch included
- Wiring plug eliminates wiring hassle
- Up to a 10-year battery life[1]
- 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) 426.7 PSI
- 900 MHz
- Secure AES encryption
- Class I, Division 1 (Zone 0), Intrinsically Safe

US Patent #6,967,589



OTC Transmitters | OTC Gateway | Network Infrastructure | Cloud (Analytics)

Self-Contained Wireless Spill Prevention Solution

Side-Mount High Level Switch Included

The OleumTech® Wireless High Level Switch Transmitter is a side tank mounting solution for detecting high liquid level conditions. It can also report transition counts. The SM-HLS includes the side mountable switch and float with a welded 2-inch NPT adapter, making it a complete ready-to-deploy solution. The device 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

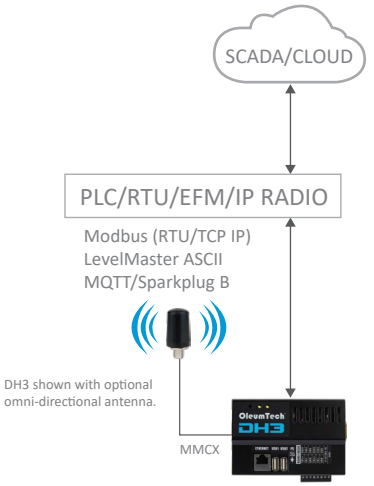
The field-proven wireless transmitter communicates with an assigned wireless gateway within the OTC Wireless Sensor and I/O Network creating a highly scalable network, accommodating virtually any I/O requirement.

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 (Side Mount)
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ® Software for PC
Input	· Single Actuation Point
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	· 29" (W) x 13" (H) x 4.25" (D) / 737mm (W) x 330mm (H) x 108mm (D)
Package Dimensions	· 13.44" (W) x 20.19" (H) x 7.75" (D) / 341mm (W) x 513mm (H) x 195.58mm (D)
Package Weight	· ~10 lbs / 4.5 kg
Connection Fitting	· 2" NPT Male (Pipe Plug)
Enclosure Casing Material	· Type 4X Aluminum; IP66
Mating Assembly	· Stainless Steel 316
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	· 426.7 PSI
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA
ORDERING INFORMATION	
Model Numbers	· SM5000-HLS
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable
Replacement Battery	· Use OleumTech SX1000-BP3 Only

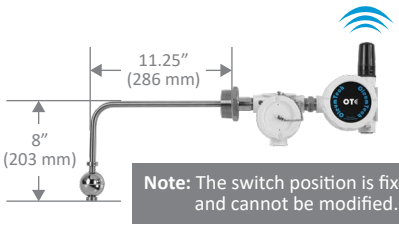
Networking Diagram



OTC GATEWAY

OTC TRANSMITTERS

Point-to-Multipoint
"Star Topology"



Note: The switch position is fixed and cannot be modified.

[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.

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