DATASHEET

WT-H2S

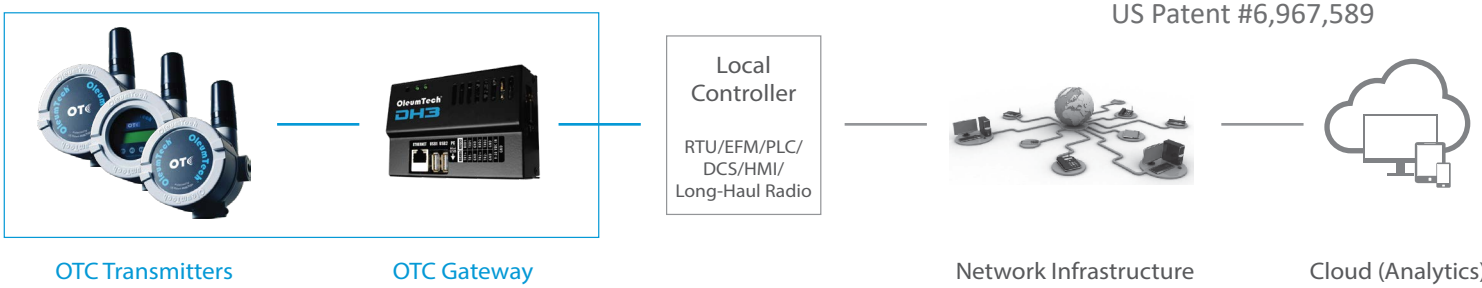
WT-H2S

WT-H2S-A
Provides 2 Digital Outputs

Highlights

- H2S measurement range: 0 to 200 ppm
- Resolution: 0.1 ppm
- Field replaceable sensor module
- 2 configurable alarm setpoints: high and high-high
- 2 alarm status DOs (Solid State Relay), WT-H2S-A option only
- Burst mode in alarm state (faster transmit interval)
- Field calibratable, 2 points (zero and span)
- Bump tests and alarm acknowledgments can be performed using just the external scroll button
- Dust/splash guard included
- Provides helpful sensor maintenance tags such as total days since last bump test and calibration
- Advanced local LCD display interface
- Self-contained, rugged design, battery-powered
- IP66, -40 to 50 ˚C (-40 to 122 ˚F)
- 900 MHz / 915 MHz / 2.4 GHz / 868 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, Intrinsically Safe H2S Gas Detection Solution

Integrated H2S Detection Solution

The OleumTech® OTC Wireless Hydrogen Sulfide (H2S) Gas Detection Transmitters are self-contained, battery-powered solutions for continuously monitoring air quality and generating alarms when H2S concentration levels exceed user-configured setpoints. The transmitters are equipped with a replaceable H2S sensor module enclosed in a robust 316 stainless steel housing with a steel mesh filter. A dust/splash guard is also included for added layer of protection. The H2S Transmitters provide helpful sensor maintenance tags like bump test count, total days since last successful bump test, and calibration. The H2S-A option provides two solid state relay outputs for third-party device alarm annunciation. Bump tests and alarm acknowledgments can be performed using a single external button.

Reliable, Scalable, and Safe

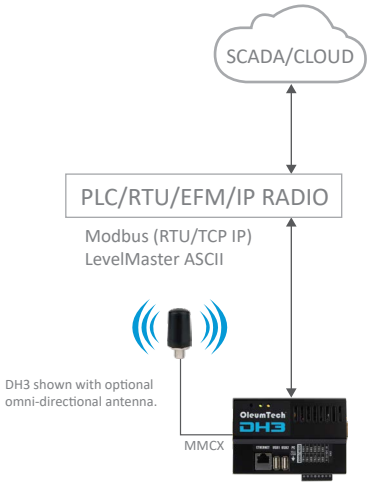
The H2S Transmitters provide separate controllable transmit intervals for both normal and alarm states. For exception reporting purposes, event-triggered transmissions will be reported when going into or falling out of alarm states. The alarm states are latchable. The local user interface allows for device configuration and instant data access.

The field-proven wireless transmitters communicate 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 transmitters are Intrinsically Safe and certified for use in Class I, Division 1 (Zone 0) hazardous locations.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Wireless Transmitter with Hydrogen Sulfide Gas Detection Capabilities
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ® Software for PC or LCD Interface
Power Source	· Self-Contained, Internal 3.6 Vdc Lithium Battery
Internal Battery Life	· Up to 5.11 Years @ 60 Min Interval, Up to 2.35 Years @ 1 Min Interval - Life Based on User Defined Reporting Intervals[1]
Local LCD Display	· 32-Character Display (16x2 Lines) with 4 Function Keys + External Scroll Button
Instant Displayable Read	· PPM Level / Alarm 1 and 2 Status / Battery Voltage / RF Status
Alarm Status DOs	· 2 Solid State Relays (High and High-High), WT-H2S-A Only
Local Configuration/Calibration	· Integral LCD with Four Function Key Interface
Bump Test	· Bump Test / Alarm Acknowledgment Performed Using the External Scroll Button
Device Diagnostics	· Health Tags: Battery Voltage, Received Signal Strength Indication (RSSI), RF Refresh, RF Timeout
HYDROGEN SULFIDE (H2S) DETECTION SENSOR	
H2S Measurement Range	· 0 to 200 ppm (Maximum Overload: 500 ppm)
Resolution	· 0.1 ppm
Response Time (T90)	· < 45 Seconds
Temperature Range	· -40 °C to 50 °C / -40 °F to 122 °F
Storage Temperature	· 10 °C to 30 °C / 50 °F to 86 °F (Recommended)
Pressure Range	· 1 ± 0.1 atm
Humidity	· 15 to 90 % RH Non-Condensing
Expected Operating Life	· 2 Years
Field Calibratable	· 2-Point Calibration: Zero and Custom Level Between 10-50 ppm in 5 ppm Increments (Within +/- 5 ppm of Reading)
Sensor Module	· Field Replaceable
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[2] · 2.4 GHz: Up to 1.9 Miles / 3.1 km with Clear Line of Sight[2] · 868 MHz: Up to 1.5 Miles / 2.4 km with Clear Line of Sight[2]
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	· FCC Part 15 (USA), IC ICES-003 (Canada) · 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	· WT-H2S: 5.5" (W) x 10.2" (H) x 4.5" (D) / 138 mm (W) x 259 mm (H) x 115 mm (D) | WT-H2S-A: 15" / 379 mm (H)
Package Dimensions	· 10.5" (W) x 14.5" (H) x 6.5" (D) / 267 mm (W) x 368 mm (H) x 165 mm (D)
Packaging Weight	· WT-H2S: 6 lbs / 2.7 kg |WT-H2S-A: 7.5 lbs / 3.4 kg
Enclosure Casing Material	· Type 4X Aluminum; IP66
GENERAL SPECIFICATIONS	
Operating Conditions	· Ambient Temperature (Class I, Division 1 / Zone 0): -40 to 50 °C (-40 to 122 °F) · Ambient Temperature (ATEX/IECEx): -40 to 50 °C (-40 to 122 °F) · LCD Screen -20 °C to 70 °C (-4 °F to 158 °F)
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA
ORDERING INFORMATION	
Model Numbers	· Standard: WT-0900-H2S, WT-0915-H2S, WT-2400-H2S, WT-0868-H2S · 2 Alarm Output Option: WT-0900-H2S-A, WT-0915-H2S-A, WT-2400-H2S-A, WT-0868-H2S-A
Bump Test Kit	· SX1000-BTK (Includes Housing Adapter, 3/16" (ID) Barb, Removable Plug, and 18" Tubing)
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"

[1]Ambient temperature and one transmission per 1 min amd 60 min interval swithout 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 a 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.
The actual wireless RF range may vary depending on location, RF interference, weather, antenna type, cable type, and line of sight.

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MADE IN USA

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