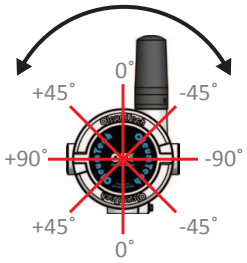
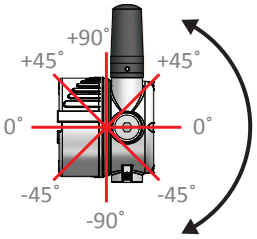
DATASHEET

SM-JP4 T

X-Axis (Axial)



Y-Axis (Radial)



When Transmitter is in upright position: X = 0˚ ; Y = +90˚

Highlights

- Integrated inclinometer delivers ±90° range
- Monitor X, Y-axis or both
- Detects in-motion (run/stop) status*
- Also provides current run-time data*
- Magnetic mounting hardware pre-installed
- Up to a 10-year battery life[1]
- Self-contained, rugged design
- Installs in minutes
- IP66, -40 ˚C to 70 ˚C (-40 ˚F to 158 ˚F)
- 900 MHz / 2.4 GHz
- Secure AES encryption
- Class I, Division 1 (Zone 0), Intrinsically Safe

C US

US Patent #6967589

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

Wirelessly Monitor Run/Stop and Current Run-Time Status*

Dual-Axis, ±90° Range Tilt Sensor Inside

The OleumTech® OTC Wireless Tilt Transmitter provides the ability to remotely monitor the run/stop status (on/off) of critical process equipment using motion detection.* The Tilt Transmitter is a fully integrated, self-contained solution with an internal dual-axis inclinometer that provides ±90° range, a replaceable battery pack, and robust magnetic mounting hardware. X-axis captures axial transmitter rotation while the Y-axis captures radial rotation. The transmitter can be configured in either X or Y-axis orientation, or both to perfectly suit your application. When the transmitter is setup in single-axis mode, it can provide In Motion status and current run-time.

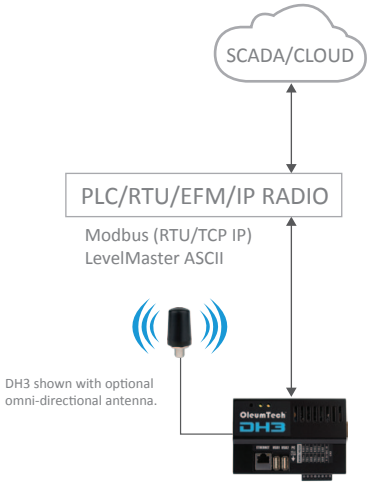
Safe, Scalable, and Easy to Use

No tools or third-party mounting hardware is required since the Tilt Transmitter is equipped with magnetic direct mounting hardware that makes installation extremely quick and easy. The wireless inclinometer provides up to a 10-year[1] life before needing a battery replacement. It 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. Contact your OleumTech representative for more information.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Dual-Axis Wireless Tilt Sensor/Transmitter
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Standard RS232 Serial / BreeZ® Software for PC
Tilt Sensor / Inclinometer	· Dual-Axis Voltage Inclinometer (X, Y-axis) with ±90° Range (Min= -90°, Max= 90°), Read X, Y, or Both
Minimum Tx/Read Interval	· 60 Seconds
Sensor Sample Rate	· Adjustable: 500 ms to 2000 ms (Default: 1000 ms @ 5-Minute Interval)
Power Source	· Self-Contained, Internal 3.6 Vdc Lithium Battery
Internal Battery Life	· Over 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	
Type: 900 MHz	· ISM Band, Spread Spectrum · 900 MHz: FHSS, FSK, AES Encryption: 256-bit (900 MHz)
2.4 GHz	· 2.4 GHz: DSSS, AES Encryption: 128-bit
Bit Rate	· 900 MHz: 9600 bps / 115.2 kbps; 2.4 GHz: 250 kbps
Output Power (Max)	· 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 / 1.4 Miles / 2.3 km with Clear Line of Sight[2] · 2.4 GHz: Up to 4.3 Miles / 7 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
MECHANICAL SPECIFICATIONS	
Dimensions	· 5" (W) x 6" (H) x 4.5" (D) / 127 mm (W) x 152.4 mm (H) x 114.3 mm (D)
Package Dimensions	· 10.25" (W) x 14" (H) x 6.5" (D) / 260 mm (W) x 356 mm (H) x 165 mm (D)
Weight	· Net: 3.5 lbs ; Gross: 5 lbs
Enclosure Casing Material	· Type 4X Aluminum; IP66
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
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA
ORDERING INFORMATION	
Model Numbers	· SM5000-JP4 T (900 MHz), SM5400-JP4 T (2.4 GHz)
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 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.

*In motion status and run-time data is only provided when transmitter is setup in single-axis mode of operation.

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