

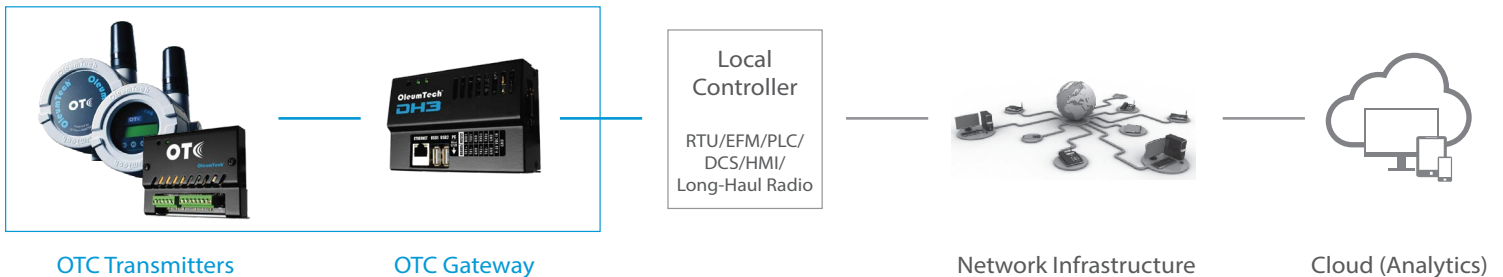


▶ Highlights

- 6 programmable digital I/O channels
- Supports any mix of inputs and outputs
- Normally open/close, counts, pulsed modes
- 10 ms to 2000 ms debounce filter
- 1 Amp sink current for open-drain outputs
- Supports Over-the-Air (OTA) functionality for updating the device configuration*
- -40 °C to 80 °C (-40 °F to 176 °F)
- 900 MHz / 915 MHz / 2.4 GHz / 868 MHz
- Secure AES encryption
- Class I, Division 2 (Zone 2) certified



US Patent #6,967,589



▶ Wireless Digital I/O Expansion Solution



Scalable I/O Solution

The OleumTech® OTC Wireless Digital I/O Module provides a quick and scalable solution for adding up to six digital I/O points to any OTC Sensor and I/O Network. Each digital channel can be programmed independently as inputs or outputs. Each channel can be setup as input, counter, output, or pulsed output. The Wireless Digital I/O Module communicates with an assigned wireless gateway in the network. This wireless device is certified for use in Class I, Division 2 (Zone 2) hazardous locations.

Robust Range, Advanced Networking

With the provided robust RF range, the Wireless Digital I/O Module can rescue stranded I/O points that was once economically not feasible. The Wireless Digital I/O Module can be added to the network as needed and its I/O points can be mapped to anywhere within the OTC Network creating an efficient, highly advanced system that is easy to create and manage.

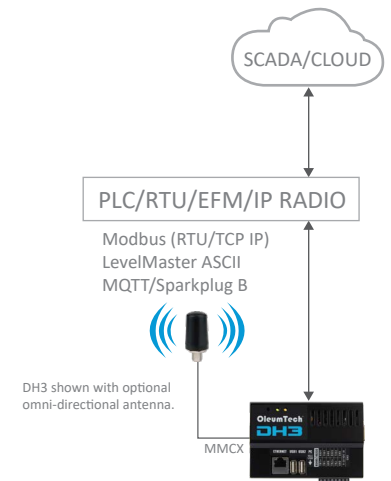
Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Wireless Digital Input / Output Module
Embedded Controller	· Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
Configuration	· Config / Debug Port - RS232 Slave Only (RJ-45) / BreeZ® Software for PC
I/O Interfaces	· 6 Programmable Digital (Discrete) Inputs and Outputs · Supports Mix of Inputs and Outputs · 30 Vdc (Max) Input for All Channels · 1 A Sink Current for Open-Drain Outputs · Configurable Debounce Filter
Device Diagnostics	· Health Tags: Supply 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 kbps
Output Power (Max)	· 900/915 MHz: 1000 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 40 Miles / 64 km with Clear Line of Sight ¹ · 2.4 GHz: Up to 4.3 Miles / 7 km with Clear Line of Sight ¹ · 868 MHz: Up to 5.2 Miles / 8.4 km with Clear Line of Sight ¹
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	 <ul style="list-style-type: none"> · FCC Part 15 (USA), IC ICES-003 (Canada), ACMA (Australia) · AS/NZS CISPR 32 (Australia), EN55032 & EN55024 (EU)
Safety	 <ul style="list-style-type: none"> · Class I, Division 2, Groups A, B, C, D T4; Ex nA IIC T4 · Class I, Zone 2 AEx nA IIC T4 · ATEX: Sira 14ATEX4143X; Ex nA IIC T4 Gc, II 3 G · IECEx: SIR 13.0055X; Ex nA IIC T4 Gc
MECHANICAL SPECIFICATIONS	
Dimensions	· 3.8" (W) x 3" (H) x 1.4" (D) / 96.5 mm (W) x 76.2 mm (H) x 35.6 mm (D)
Package Dimensions	· 8" (W) x 6" (H) x 2.5" (D) / 203 mm (W) x 152 mm (H) x 63 mm (D)
Weight	· Net: 0.75 lbs / 0.3 kg; Packaging: 1 lbs / 0.4 kg
Connection Fitting	· DIN Rail or Direct Mount / Custom Enclosures Available
ELECTRICAL SPECIFICATIONS	
DC Power Input	· 9-30 Vdc
Average Power Input	· 2 Watt
900/915 MHz Pwr Cons. @ 12 V	· @100 mW: Idle = 28 mA; Transmit = 124 mA @1 Watt: Idle = 28 mA; Transmit = 252 mA
900/915 MHz Pwr Cons. @ 24 V	· @100 mW: Idle = 24 mA; Transmit = 80 mA; @1 Watt: Idle = 24 mA; Transmit = 162 mA
2.4 GHz Pwr Cons. @ 12 V	· @25 mW: Idle = 22 mA; Transmit = 53 mA @ 63 mW: Idle = 28 mA; Transmit = 68 mA
2.4 GHz Pwr Cons. @ 24 V	· @25 mW: Idle = 20 mA; Transmit = 39 mA @ 63 mW: Idle = 20 mA; Transmit = 50 mA
868 MHz Pwr Cons. @ 12 V	· @10 mW: Idle = 20 mA; Transmit = 27 mA @ 25 mW: Idle = 20 mA; Transmit = 32 mA
868 MHz Pwr Cons. @ 24 V	· @10 mW: Idle = 17 mA; Transmit = 22 mA @ 25 mW: Idle = 17 mA; Transmit = 25 mA
GENERAL SPECIFICATIONS	
Operating Conditions	· Temperature: Class I, Division 2 (Zone 2): -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 Number(s)	· WM-0900-004, WM-0915-004, 2.4 GHz, WM-2400-004, WM-0868-004
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable

¹OTA functionality does not support changing the radio settings or upgrading the device firmware.

²The 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 TRANSMITTERS

Point-to-Multipoint
"Star Topology"



Wireless Digital I/O Module shown with optional omni-directional antenna.

