



Highlights

- 6x 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
- -40 °C to 80 °C
- 900 MHz or 2.4 GHz radio option
- Secure AES encryption
- Class I, Division 2 (Zone 2) certified



US Patent #6967589



OTC Transmitters & I/O Modules

OTC Gateway



Network Infrastructure



Cloud (Analytics)

Wireless Digital I/O Expansion Solution

Scalable I/O Solution

The OleumTech® 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 of the digital channel can be programmed independently as inputs or outputs. Each of the channels 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.

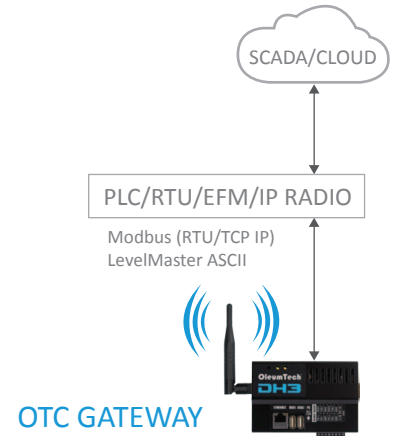
Robust Range, Advanced Networking

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 Digital I/O Module can be added to the network as needed and its I/O points can to be mapped to anywhere within the OTC Network creating an efficient, highly advanced system that is yet easy to create and manage.

Technical Specifications

HARDWARE FEATURES	
Device Functionality	· Wireless Digital Input / Output Module
Embedded Controller	· 32-bit Low Power ARM7 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	
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: Up to 1000 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 40 Miles / 64 km with Clear Line of Sight ¹ · 2.4 GHz: Up to 5.7 Miles / 9.2 km with Clear Line of Sight ¹
Mounting	· DIN Rail Mountable with Height Adjustability
CERTIFICATIONS & COMPLIANCE	
EMC/EMI	 · FCC Part 15 (USA)  · IC ICES-003 (Canada)
Safety	 · Class I, Division 2, Groups A, B, C, D T4; Ex nA IIC T4  · Class I, Zone 2 AEx nA IIC T4 / 9-30 Vdc, Ta = -40 to 176 °F (-40 °C to +80 °C)
	 · ATEX: Sira 14ATEX4143X; Ex nA IIC T4 Gc  · IECEx: SIR 13.0055X; Ex nA IIC T4 Gc / 9-30 Vdc, Ta = -4 to 176 °F (-20 °C to +80 °C)
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)
Package Weight	· ~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
Power Consumption	· 12 V / 1W: Idle: 60 mA; Configuration: 60 mA; Transmission: 170 mA
GENERAL SPECIFICATIONS	
Operating Conditions	· Temperature: Class I, Div 2: -40 °F to 176 °F (-40 °C to 80 °C) · ATEX/IECEX: -4 °F to 176 °F (-20 °C to 80 °C) · Humidity: 0 to 99 %, Non-Condensing
Warranty	· 2-Year Parts and Labor
Country of Origin	· USA
ORDERING INFORMATION	
Model Number(s)	· 900 MHz: WM-0900-004; 2.4 GHz: WM-2400-004
Wirelessly Connects To	· OTC Wireless Gateway
Configuration Cable	· SX1000-CC2, 20-ft All-in-One Configuration Cable

Networking Diagram



OTC TRANSMITTERS

Point-to-Multipoint
"Star Topology"



¹ 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.

