

DIO Wireless Transceiver

MULTIFUNCTIONAL CONTACT CLOSURE SOLUTION

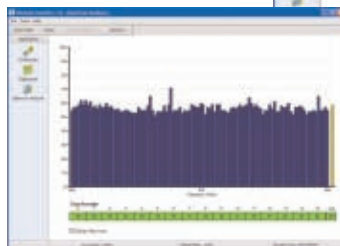


The Intuicom DIO is a high performance wireless contact closure radio for ON-OFF and Detection applications. Designed for short and long-range error-free communications, the DIO delivers a complete bi-directional wireless I/O capability for point-to-point, point-to-multipoint and multipoint-to-multipoint applications, providing an alternative to hardwire, fiber and other RF solutions.

EASE OF USE

Intuicom makes it easy to integrate wireless I/O (on-off) capabilities for a variety of applications. Incorporating Intuicom's "Single Unit Operation™", the DIO is capable of serving as any component (master, remote, repeater or remote/repeater) in a wireless system. Designed with a simple and easy setup, the DIO is an excellent plug-and-play type device for rapid integration. Intuicom's CommPro™ software, provides a complete toolset to assist in designing, configuring, monitoring and optimizing your wireless solutions. Going from the box to the field has never been easier.

DIO Wireless Transceiver comes bundled with Intuicom's New CommPro™ Software



FUNCTIONALITY AND FLEXIBILITY

The Intuicom DIO provides bi-directional communication with 16 individual channels, eight (8) input and eight (8) output, for a virtually limitless number of I/O routing possibilities including positive confirmation of command execution.

"BEST-IN-CLASS" RF PERFORMANCE

Employing Intuicom's robust and secure frequency hopping spread spectrum technology, the Intuicom DIO is inherently resistant to interference from other RF equipment including other spread spectrum radios. Empowered with an ultra-sensitive, highly-selective RF transceiver, the Intuicom DIO provides real-time, robust communication links with 32-bit CRC with error correction. The Intuicom DIO is capable of delivering the maximum output power allowable by the FCC for unlicensed operation—the benefit of which is realized in exceptional performance, with up to 60 miles range (LOS).

With proven performance in dense RF environments, Intuicom's Wireless networks power through the congestion to provide reliable data transport where other technologies fall short.

To learn more about enabling wireless networking for your applications, please contact us at: info@intuicom.com or call (303) 449-4330



KEY FEATURES

- "Best-in-Class" RF performance
- Robust on-off control and monitoring of multiple events
- Supports industry-standard Modbus
- Eight (8) dry contact/low voltage input channels
- Eight (8) open collector output channels
- Software mapping of input and output channels
- Confirmation ability
- Single Unit Operation™, Any one unit may serve as Master, Remote, Repeater or Remote/Repeater
- 900 MHz or 2.4 GHz license free operation
- Point-to-point, point-to-multipoint and multipoint-to-multipoint operation
- 2-year warranty
- Made in USA

APPLICATIONS

- Signal Pre-emption for Rail Road Crossing
- Railroad switch automation
- Warning Sign Controls
- School Zone Flashers
- Fire Hall Pre-emption
- Fog Warning Systems
- Advanced Warning/Work Zone Flashers
- Loop/Video/Radar Detection
- Ramp Metering
- Counting Stations





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GENERAL SPECIFICATIONS

| | | | |
|-----------------------------|---|------------------------|--|
| Enclosure | Ruggedized extruded aluminum | | |
| Size | H: 46 mm (1.81") x W: 157 mm (6.18") x L: 111 mm (4.37") | | |
| Weight | 603.8 g (21.3 lbs.) | | |
| Temperature Operating Range | -40° C to +75° C | | |
| Connectors/Signals | | | |
| External Antenna | N Type Female, Professional installation only | | |
| Setup/Diagnostic | RJ12, (TXD, RXD, CTS, RTS, GND), DCE | | |
| Power | Locking Receptacle (MOLEX® Mini-Fit Jr.) | | |
| Input Voltage | 900 MHz: 6-30 VDC 2.4 GHz: 9.5-30 VDC | | |
| Power Consumption (typical) | | | |
| Operating Mode | 900 MHz at 24 VDC (mA) | 2.4 GHz at 24 VDC (mA) | |
| Base | 75 | 80 | |
| Remote | 55 | 70 | |
| Remote/Repeater | 83 | 98 | |
| Operating Modes | | | |
| System Configurations | Point-to-Point (bi-directional), Point-to-Multipoint (bi-directional), Multipoint-to-Point (bi-directional) | | |
| Unit Operational Modes | Base, Repeater, Remote, Remote/Repeater | | |

WIRELESS TRANSCEIVER

| SPECIFICATIONS | 900 MHZ | 2.4 GHZ |
|----------------------|--|--|
| Frequency Range | 902-928 MHz | 2.4-2.4835 GHz |
| Transmitter | | |
| Output Power | 1000 mW | 500 mW |
| Range, Line of Sight | 60 Miles | 20 Miles |
| Modulations | Spread Spectrum, GFSK | Spread Spectrum, GFSK |
| Occupied Bandwidth | 230 KHz | 230 KHz |
| Spreading Method | Frequency Hopping | Frequency Hopping |
| Receiver | | |
| Sensitivity | -108 dBm at 10 ⁻⁴ BER; -110 dBm at 10 ⁻⁵ BER | -108 dBm at 10 ⁻⁴ BER; -110 dBm at 10 ⁻⁵ BER |
| Selectivity | 20 dB at fc ± 115 KHz; 60 dB at fc ± 145 KHz | 40 dB at fc ± 115 KHz; 60 dB at fc ± 145 KHz |
| System Gain | 140 dB | 137 dB |
| Data Transmission | | |
| Error Detection | 32 Bit CRC, retransmit on error | 32 Bit CRC, retransmit on error |
| Data Encryption | Substitution, dynamic key | Substitution, dynamic key |

I/O SPECIFICATIONS and CAPABILITIES

| | | | |
|--|---|----------------------------|----------------------------|
| I/O Interface Specifications | | | |
| Inputs | 8 digital, 3-40 VDC, ground activated | | |
| Outputs | 8 digital, 550 mA Max Load current per output (mosfet open drain), 2 Amps total | | |
| I/O Connector Type | Quick release terminal block | | |
| Indicators | Power, Input, Output, Link | | |
| Supported Architectures/Protocols | DIO to DIO / DIO to Multiple DIO Modbus: PC Interface to Multiple DIO | | |
| User-defined output control | Time based | | |
| I/O Timing Specifications (bi-directional) | Low Latency Mode | Normal Mode | Long Distance Mode |
| End-to-End Change Latency (typical) | bi-directional < 12 ms | bi-directional < 14 ms | bi-directional < 15 ms |
| Max. Change Frequency (Min. I/O Change Time) | 25 Hz (20 ms) | 20 Hz (25 ms) | 10 Hz (50 ms) |
| Failsafe Time | 100 ms - 10 s, user selectable | 100 ms - 10 s, user select | 100 ms - 10 s, user select |

Note: Specifications subject to change without notice.