



"WIRELESS SYSTEMS AND COMMUNICATION SOLUTIONS"

Wio® Base Unit

WM2000-002

The WIO® Base Unit, WM2000-002, is part of the WIO family of wireless products and is an economical solution for adding wireless capabilities to existing and new process conditions. The Base Unit is a multi-input unit capable of accepting four analog inputs (0-5V), two DIs and two DOs for a variety of monitoring and control applications. A wide range of analog and digital I/O expansion modules are available.

With a compact footprint and low power consumption, the Base Unit combines a data acquisition board, and a proprietary radio module for use in SCADA and telemetry applications. The Base Unit can be easily expanded for larger I/O counts. The product also offers communication using the industry-standard Modbus protocol to simplify integration with SCADA software, MMIs, DCS systems and intelligent instrumentation.

The Base Unit utilizes the license free 902-928 MHz ISM band with FHSS (Frequency Hopping Spread Spectrum) and FSK (Frequency Shifting Key) technology (optional 2.4 GHz DSSS (Direct Sequence Spread Spectrum) version also available), which provides highly reliable communication between remote devices and the primary control panel, EFMs or RTUs via RS232/485 data port. There are several configuration options from simple I/O mirroring, point-to-point, point-to-multipoint or peer-to-peer networking. This unique interoperability is designed to create a robust network, while improving throughput as subscriber device density increases.

Integrate OleumTech "Wireless Systems and Communication Solutions" into existing systems and enjoy the benefits of tomorrow's low cost, innovative wireless technology today.



FEATURES	APPLICATIONS	BENEFITS
<ul style="list-style-type: none"> • License Free (ISM) Band, FHSS, FSK Technology • Range of up to 40 miles with clear line of sight • Bi-Directional Radio Link • Modbus Master/Slave Communication • 4 Analog Inputs (0-5V) • 2 DI & 2 DO • Peer-to-Peer Networking • I/O Mirroring • User Friendly Interface - BreeZ® Software • Optional Modbus Expansion I/O Modules 	<ul style="list-style-type: none"> • Oil and Gas • SCADA Systems • PLC/RTU Extensions • Water/Wastewater • Pump Control • Artificial Lift • Petro-Chem • Tank Level • Utilities • Irrigation Systems 	<ul style="list-style-type: none"> • Eliminate Costly Conduit and Wiring • Monitor Your Process Condition 24/7 • Reduce Cost of Labor and Installation • Reduce Maintenance and Operational Costs • Meet Regulatory Requirements • Reliable and Dependable Operation

SYSTEM HARDWARE

- Embedded Controller I/O Interface** 32-bit low power ARM7 microcontroller with internal FLASH (field upgradeable)
4 - Analog Inputs (0-5 volt) with 12-bit ADC
2 - Discrete Inputs for dry contact relay or open-drain output devices.
2 - Open-drain output devices for controlling external devices (valves, relays, etc.).
- Serial Interfaces** RTU/EFM Serial Interface, standard RS232 or RS485 (software selectable), with MODBUS Master or Slave function.
RS485 Expansion Module Interface (MODBUS Master only), supports OleumTech Expansion and generic I/O modules.
RS232 Configuration Interface/Debug User's Interface (can be configured as a MODBUS Slave Interface).

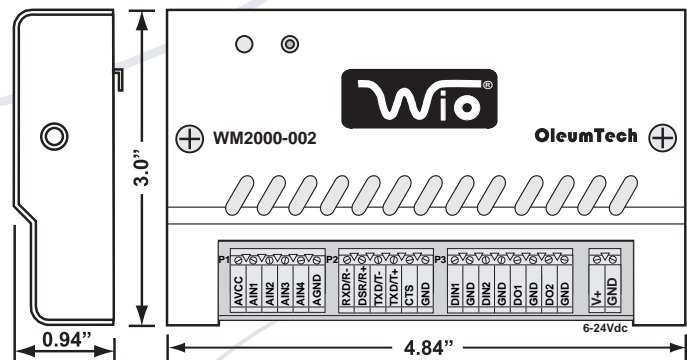
WIRELESS COMMUNICATIONS

- Type (Standard)** 900 MHz: ISM, FSK, FHSS (Frequency Hopping Spread Spectrum)
- (Optional)** 2.4 GHz: DSSS (Direct Sequence Spread Spectrum)
- Frequency** 902 - 928 MHz
- Data Rate** 115.2 Kbps/9600 bps
- Output Power** 1 mW - 1W
- Receiving Sensitivity** -100 dBm at 115.2 Kbps
- Range** Up to 40 miles based on terrain and clear line of sight
- Compliance** FCC Part 15
Complies with Canada IC requirements of CISPR 22
Class I Division 2 certification (Pending)



MECHANICAL SPECIFICATIONS

- Enclosure** 4.84" x 3" x 0.94" (W x H x D)
- Mounting Hardware** Class I, Division 2
Din Rail or Direct Mount
Custom NEMA 4X enclosure available



ELECTRICAL SPECIFICATIONS

Operating Voltage
Average Current (mA)

6-24 Vdc Tx Power	6 Vdc		12 Vdc		24 Vdc	
	Receive	Transmit	Receive	Transmit	Receive	Transmit
1 mW	177	187	101	107	60	63
10 mW	178	228	101	128	61	77
100 mW	178	310	101	201	61	105
500 mW	178	363	101	276	61	160
1000 mW	178	522	101	351	61	192

GENERAL SPECIFICATIONS

- Operating Conditions** Temperature: -40 to 85 °C
Humidity: 0 to 99%, non-condensing

OleumTech[™]

29 Parker
Irvine, California 92618
ph: 949.305.9009
fax: 949.305.9010
www.OleumTech.com