

## WIO® Base Unit Modbus RS232 Serial (CONFIG) Port Wiring

Pin #	Pin Name	RTU or EFM RS232 Serial Port
1	Reserved	-
2	DEBUG	-
3	TXD	RXD
4	RXD	TXD
5	CTS	RTS
6	GND	GND
7	RTS	CTS
8	Reserved	-

## Base Unit Generic Modbus Device RS485 (RJ45Jack) Wiring

Pin #	Pin Name	Generic MODBUS Device
1	GND	GND
2	Reserved	-
3	RX+	TX+
4	RX-	TX-
5	TX-	RX-
6	TX+	RX+
7	Reserved	-
8	Reserved	-

## Base Unit Interface Port Wiring

Pin #	Pin Name	RTU, EFM or Generic Modbus Slave Device
1	RXD	TXD
2	Reserved	-
3	TXD	RXD
4	RTS	CTS
5	CTS	RTS
6	GND	GND

## Base Unit RS485 Full Duplex Wiring

Pin #	Pin Name	RTU, EFM or Generic Modbus Slave Device
1	RX-	TX-
2	RX+	TX+
3	TX-	RX-
4	TX+	RX+
5	-	-
6	-	-

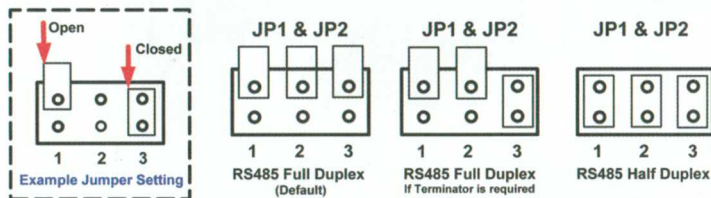
Install shunt on JPx-3 if termination is required

## Base Unit RS485 Half Duplex Wiring

Pin #	Pin Name	RTU, EFM or Generic Modbus Slave Device
1	TxRX-	TxRx-
2	TxRX+	TxRx+
3	-	-
4	-	-
5	-	-
6	-	-

Install shunts on JPx-1, 2, and 3

## Base Unit Jumper Settings

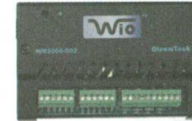


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# WIO® Base Unit Quick Reference Guide



WM2000-002  
WM2400-002

## Introduction

The information detailed below list the basic steps required to install and configure a **WIO® Base Unit**. This document primarily only provides Field Wiring connections and diagrams. Go to [www.OleumTech.com](http://www.OleumTech.com) and download the full Base Unit User Guide for detailed installation instructions and additional information.

To operate a **WIO® Base Unit** you must:

- Install **BreeZ®** Configuration Software on PC
- Create a Project for Field Site and configure **WIO Base Unit**
- Install **WIO Base Unit**
- Verify System Performance

## Before You Begin

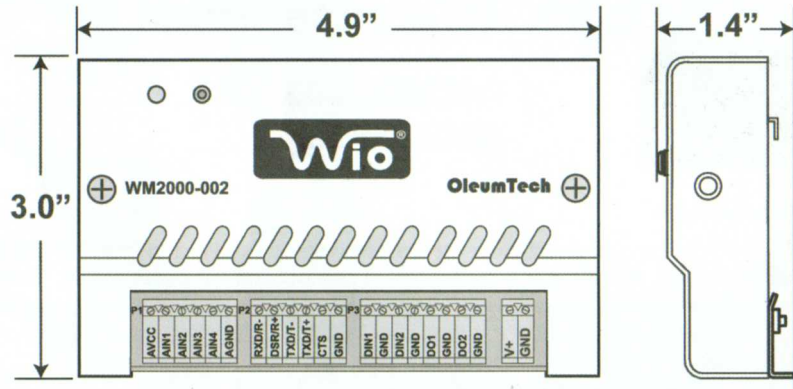
- WARNING** EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
- WARNING** EXPLOSION HAZARD - THIS DEVICE SHALL BE REMOVED FROM THE AREA KNOWN TO BE HAZARDOUS IF MAINTENANCE IS REQUIRED.
- WARNING** EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.
- CAUTION** THE INSTALLATION OF THE BASE UNITS SHOULD ONLY BE INSTALLED BY A FACTORY REPRESENTATIVE OR A QUALIFIED INSTALLER.
- CAUTION** THE BASE UNIT MUST BE INSTALLED WITHIN AN ENCLOSURE THAT REQUIRES A TOOL TO ACCESS. THIS IS TO PREVENT INADVERTENT DISCONNECTION OF ANY OF THE POWER WIRING, SIGNAL WIRING OR COMMUNICATION CABLES.
- NOTICE** THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2 GROUPS A, B, C AND D OR NON-HAZARDOUS LOCATIONS ONLY.

## Mounting WIO<sup>®</sup> Base Unit

Loosen the two screws on the front of unit and carefully remove the cover.

Mount the **Base Unit** on a 32 mm (1.26 inch) DIN 1 or 35 mm (1.38 inch) DIN 3 rail inside enclosure in a suitable location. Mount Base Unit in a location that allows access to connectors for easy installation and service.

## WIO<sup>®</sup> Base Unit Dimensions



## WIO<sup>®</sup> Base Unit Wiring & Grounding Guidelines

**⚠ WARNING ⚠**

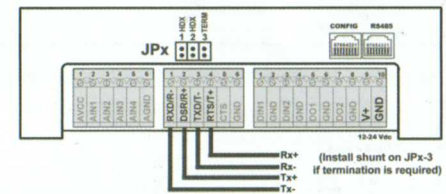
**Explosion Hazard - Do Not make any connections while power is ON. Prior to connection, ensure the power is OFF and the area is known to be safe and non-hazardous.**

1. Always provide a good quality DC power supply (regulated or battery) to Base Unit. Properly fuse the source DC voltage to the Base Unit with a fast blow minimum 500 mA fuse.
2. Do not daisy chain Base Unit power lines with other devices.
3. Wire high current load devices (such as solenoids and motors) directly to the power supply if shared with a Base Unit.
4. Use twisted-pair wiring to reduce the noise for high current loads.
5. Keep all wires (power, I/O and antenna) away from high current load lines.
6. If the solenoid (or relay) device does not contain a built in protection diode, install one across the coil.
7. Do not connect instrument ground (battery negative terminal) to earth ground.
8. In metal enclosures (grounded), isolate the phantom antennas (p/n: SA1000-AK1, SA1000-AK2, SA1000-AK5 and SA2400-AK2) and add omni antenna.
9. Surge arresters recommend for use with omni-directional and yagi antennas. For Solar panel applications connect the arrester ground lug to the negative side of the Battery. If lightning strikes the antenna, the battery will act as a capacitor and the fuse protecting the Base Unit should provide protection.

## WIO<sup>®</sup> Base Unit Field Wiring

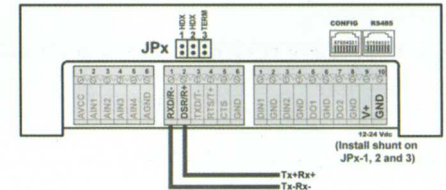
The **Base Unit** operates on a minimum of 6 Vdc, 12 Vdc (recommended) and a max of 24 Vdc power. Use 18-24 gauge wires to make power source and device connections.

### Base Unit Duplex Field



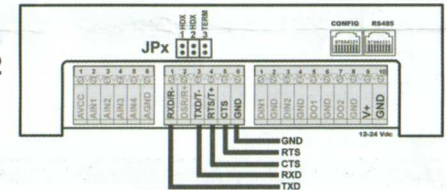
### RS485 Full Wiring

### Base Unit Duplex Field



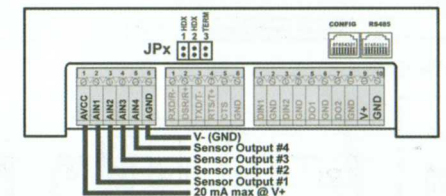
### RS485 Half Wiring

### Base Unit RS32



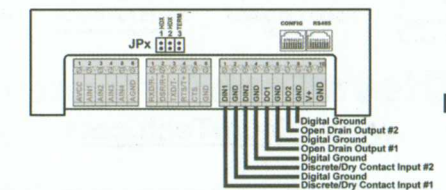
### Field Wiring

### Base Unit Field Wiring



### Analog Input

### Base Unit Field Wiring



### Discrete I/O