

# Quick Start Guide Zlinx™ I/O

## 1 Modbus Mode

### Check for All Required Hardware

- ❑ Zlinx I/O Base Module and Expansion Modules
- ❑ ZZ-PROG1 Configuration Box or ZZ-PROG1-USB Module
- ❑ Straight-through serial cable or USB cable if using a ZZ-PROG1-USB Module
- ❑ This Quick Start Guide
- ❑ Zlinx Wireless Modbus I/O Manual on CD (Can be downloaded from the Web Site)
- ❑ Zlinx I/O Manager software on CD (Can be downloaded from the Web Site)

#### Special Precautions for UL and UL Class I DIV 2 (C1D2)

Note 1: Class 1, Div 2 is **NOT** applicable to ZZxD-Nx-MR (medium range), ZZ8D-Nx-xR (800 MHz) and ZZxD-Nx-xR-AU (Australian) modules.

Note 2: For C1D2 information on ZZ-8DO-R, separate sheet is attached.

**WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**

**WARNING – EXPLOSION HAZARD – WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING ANTENNA.**

**WARNING – EXPLOSION HAZARD – DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.**

THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, AND D, OR UNCLASSIFIED LOCATIONS.

Maximum Ambient Air Temperature 80°C (176°F) except for ZZ-8DO-R.

#### Wiring Terminals:

Copper Wire Only

One Conductor per Terminal

Wire Range 28 to 16 AWG

Tightening Torque 1.7 lb-in

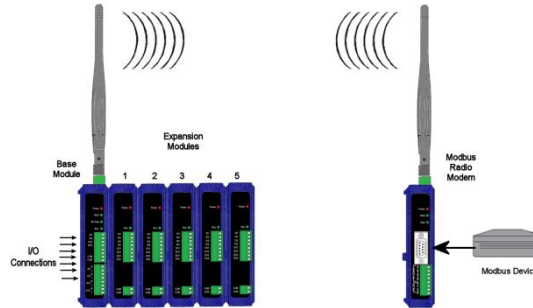
Temperature Rating of Field Wiring – 105° C (221° F) minimum sized for 60° C (140°F) ampacity.

**Warning** – 2 DIN rail end brackets (supplied with each expansion module) must be installed, one on each end of the assembled system on the DIN rail to mechanically secure the individual products.

2

## Select Modules

- ❑ Select a radio modem to match the type of Zlinx I/O Base Module (SR, MR or LR).
- ❑ Select a Base Module and Expansion Modules based on the type of I/O needed.

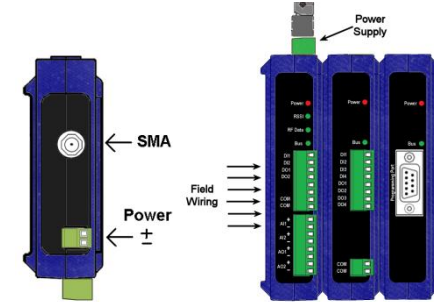


3

## Hardware Installation

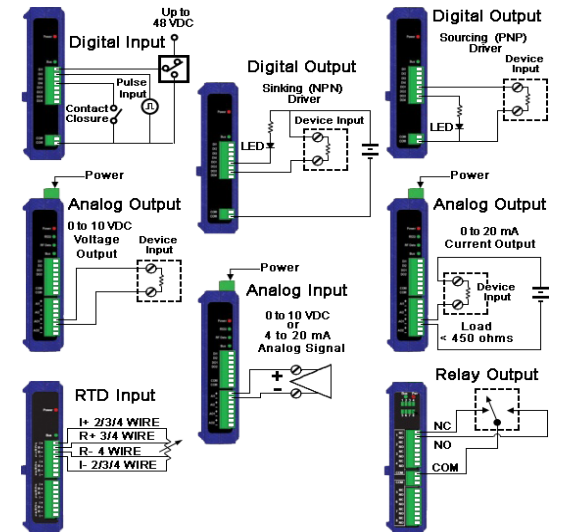
- ❑ Perform an installation site survey to ensure adequate RF coverage and select a mounting location.
- ❑ Maximum Ambient Air Temperature for all modules is 80°C, with the exception of the ZZ-8DO-R, which is 65°C
- ❑ Mount and connect together the Base and Expansion Modules (Expansion Modules on the right side of the Base).
- ❑ Plug the Configuration Box into the right side of the Zlinx I/O system.
- ❑ Attach antennas to the Base Module and to the Modbus radio modem.
- ❑ Mount and connect together Modbus radio modem and Modbus device.
- ❑ Ensure that the Modules are attached appropriately.
- ❑ Connect field wiring to Zlinx I/O terminals.
- ❑ Connect power to the Base Module:
- ❑ Connect power to the Modbus radio modem:
- ❑ Refer to the Installation Manual for power and wattage requirements.

7516R8\_ZlinxIO-0812qsg – Modbus Mode



4

## Connect Field Wiring



Refer to the User Manual for Input / Output Voltage and Current Ratings

5

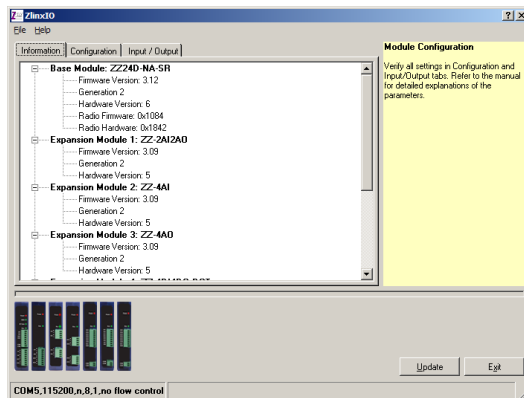
## Install Zlinx I/O Software

- ❑ Insert the I/O Manager software CD. Installation should launch automatically. If not, click Start, Run, [drive]:ZlinxMgr.exe, where [drive] is your CD-Rom drive.
- ❑ Follow the prompts to install the Zlinx I/O Manager.

## Start Zlinx I/O Manager

- ❑ Connect a PC serial port (COM1 to 16) to the Configuration Box using a straight-through serial cable or USB cable if using a ZZ-PROG1-USB Module.
- ❑ Click Start\Programs\B&B Electronics\Zlinx\Zlinx Manager\Zlinx Manager, then click Zlinx I/O and then Zlinx I/O Configuration. It will auto-search for attached Zlinx Modules on startup. Zlinx I/O will open and display the Information tab showing model numbers, version numbers of the attached Base and Expansion Modules.
  - Make sure that all Base Modules have the same firmware revision\*
  - Make sure that all Expansion Modules have the same firmware version\*

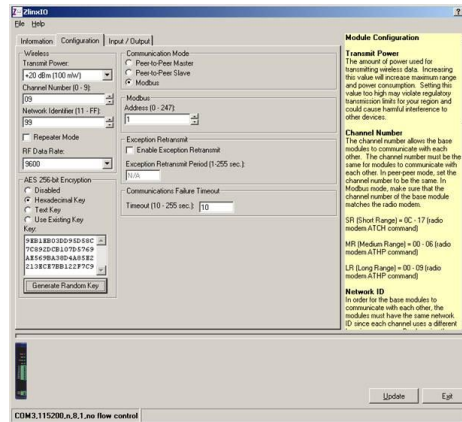
\*This can be verified under the Information tab.



## Configure Communication Mode

On the Configuration tab:

- ❑ Select the Modbus Mode to communicate with a Modbus RF modem.
- ❑ Set the Modbus address to the address number desired for the Module being configured.



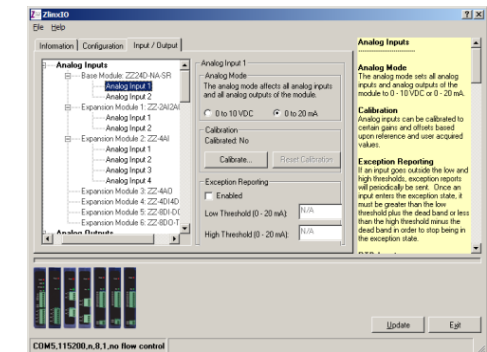
- ❑ Configure Wireless settings:
  - Select the desired RF Transmit Power (not applicable for MR models).
  - Select the desired OTA data rate (not applicable for SR, MR, and LR-868 models).
  - Set the Channel Number to match the Modbus radio modem you will be communicating with.
  - Set the Network Identifier to match the Modbus radio modem you will be communicating with.
  - If using a MR or ZP9D-115RM-LR-xx radio modem, set the destination address (ATDT) to 0xFFFF.
  - Set Repeater checkbox if the Base is to be a repeater. Note that ONLY the (MR/ZZ9D-xx-LR-xx) version supports this.
  - Select encryption (not applicable for MR models).
- ❑ Click Update to save configuration.

**Note:** Refer to the manual for more details concerning wireless settings.

## Configure Input/Output

- ❑ Set Analog Inputs and Outputs for 0 to 10 VDC or 0 to 20 mA as required (setting one sets all analog I/O for that module).
- ❑ Set Digital Inputs for Discrete or Counter, as required.
- ❑ Check *Enabled* checkbox and set appropriate values for parameters in *Exception Reporting* section to use the ability of reporting possible problems on devices.

- ❑ Set Calibration option if you desire to better match a sensor, or a portion of a signal, to the I/O.
- ❑ Check *Enabled* checkbox and set appropriate values for parameters in *Failsafe* section to go to the user-defined values for AO or DO in case of communication failure.
- ❑ Check *Use Output to Indicate Communication Failure* checkbox in *Dedicated Comm Fail Alarm* section to configure the first DO on the Base Module to be a communication failure alarm indicator.
- ❑ Check *Invert Output* checkbox to invert the logic of Digital Outputs on Base or Expansion Modules.
- ❑ Click Update button to apply the settings.



## Operation

| LED           | STATUS                        | FUNCTION   |
|---------------|-------------------------------|--|
| Power Red     | Solid                         | Power applied  |
| RSSI Tricolor | Off<br>Red<br>Yellow<br>Green | No radio signal<br>Weak radio signal<br>OK radio signal<br>Strong radio signal |
| RF Data Green | Off<br>Blinking               | No radio link data<br>Radio link data TD/RD traffic                            |
| Bus Green     | Off<br>Blinking               | No local bus data<br>Local bus data TD/RD traffic                              |

Refer to Troubleshooting Section of the Manual if operation is not successful.

# Quick Start Guide

## Zlinx™ I/O

1

### Peer-to-Peer Mode

#### Check for All Required Hardware

- ❑ Zlinx I/O Base Module and Expansion Modules
- ❑ ZZ-PROG1 Configuration Box or ZZ-PROG1-USB Module
- ❑ Straight-through serial cable or USB cable if using a ZZ-PROG1-USB Module
- ❑ This Quick Start Guide
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#### Special Precautions for UL and UL Class I DIV 2

Note 1: Class 1, Div 2 is not applicable to ZZxD-Nx-MR (medium range), ZZ8D-Nx-xR (800 MHz) and ZZxD-Nx-xR-AU (Australian) modules.

Note 2: For C1D2 information on ZZ-8DO-R, separate sheet is attached.

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Maximum Ambient Air Temperature 80°C (176°F) except for ZZ-8DO-R.

#### Wiring Terminals:

Copper Wire Only

One Conductor per Terminal

Wire Range 28 to 16 AWG

Tightening Torque 1.7 lb-in

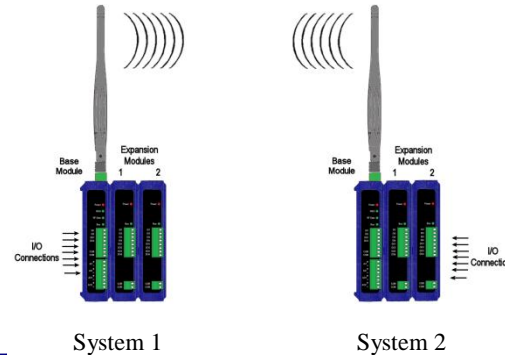
Temperature Rating of Field Wiring – 105° C (221° F) minimum sized for 60° C (140°F) ampacity.

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2

### Select Modules

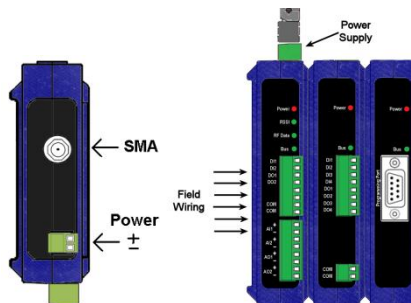
- ❑ Select the Base and Expansion Modules required for the location and coverage distances
- ❑ Ensure that two systems are complementary, i.e. the inputs of the Modules in System 1 (see figure below) match the outputs of the corresponding Modules in System 2.



3

### Hardware Installation

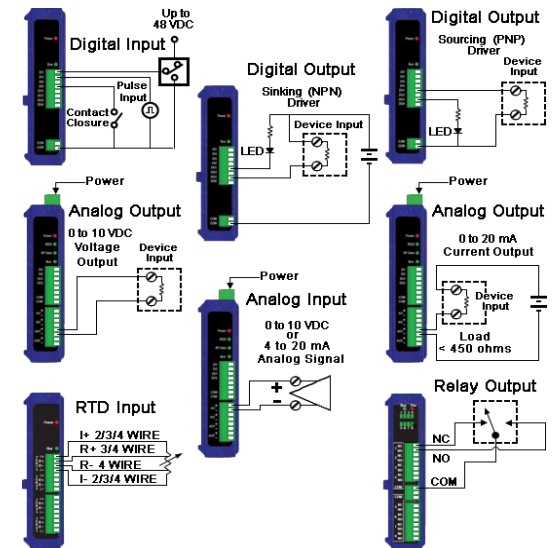
- ❑ Perform an installation site survey to ensure adequate RF coverage and select a mounting location.
- ❑ Maximum Ambient Air Temperature for all modules is 80°C, with the exception of the ZZ-8DO-R, which is 65°C
- ❑ Mount and connect together two systems of the Base and Expansion Modules (Expansion Modules on the right side of the Base).
- ❑ Ensure that the Modules are attached properly.
- ❑ Plug the Configuration Box into the right side of the system.



4

### Connect Field Wiring

- ❑ Attach the antennas to the Base Modules.
- ❑ Connect field wiring to Zlinx I/O terminals.
- ❑ Refer to the Installation Manual for power and wattage requirements



5

Refer to the User Manual for Input / Output Voltage and Current Ratings

### Install Zlinx I/O Software

- ❑ Insert the I/O Manager software CD. Installation should launch automatically. If not, click Start, Run, [drive]:ZlinxMgr.exe, where [drive] is your CD-Rom drive.
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6

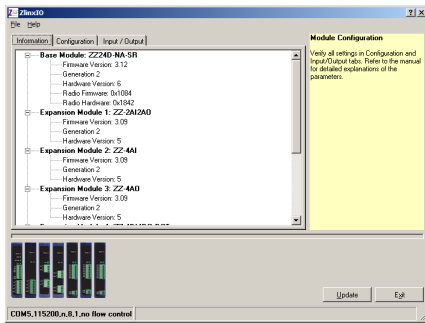
### Start Zlinx I/O Manager

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- Make sure that all Base Modules have the same firmware revision\*
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7

**Configure Communication Mode**

On the Configuration tab:

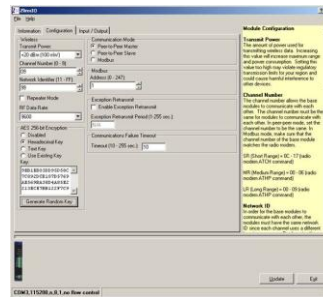
- ❑ Select Peer-to-Peer (P2P) Master on one set of Zlinx I/O Modules and P2P Slave on the other set of Zlinx I/O Modules.
- ❑ Configure System 1 (see figure in Section 2) as described below:
  - Set the P2P Master address to match the Slave.
  - Set Polling Rate to update at an acceptable rate.
  - Set Retry Count for number of tries before lost communication indication is required.
  - Configure the Wireless settings:
    - Select the desired RF Transmit Power (not applicable for MR models).
    - Select the desired OTA Data Rate (not applicable for SR, MR, and LR-868 models).
    - Set Channel Number to match the device you will be communicating with.
    - Set Network Identifier to match device you will be communicating with.
    - Select Encryption (not applicable to MR models).

**Note: Refer to the manual for more details concerning wireless settings.**

- Click Update to save configuration.
- ❑ Configure System 2 (see figure in Section 2) as described below:
  - Set the P2P Slave address to match the Master.
  - Set Polling Rate to update at an acceptable rate.
  - Set Retry Count for number of tries before lost communication indication is required.
  - Configure the Wireless settings:
    - Select the desired RF Transmit Power (not applicable for MR models).
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    - Set Channel Number to match device you will be communicating with.
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- Click Update to save configuration.

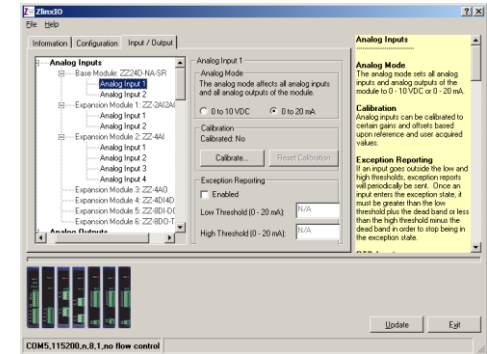


8

**Configure Input/Output**

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9

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