9 | Special Precautions for UL Class 1 / Division 2

(Note: For C1D2 information on # ZZ-8DO-R expansion module, a separate sheet is available.)

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.

+ Recommended Accessories

Zlinx USB Programming Module, Cable, Software CD
ZZ-PROG1-USB

B+B SmartWorx
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1-888-948-2248 | Europe: **+353 91 792444**
advantech-bb.com

+ QUICK START GUIDE

ZX24D-Nx-SR
ZX9D-Nx-LR

Zlinx™ Wireless I/O (standard)
(optional expansion modules)

Before you begin, be sure you have the following:

MODBUS MODE:
+ Zlinx I/O Base Module
+ Zlinx I/O Expansion Module/s
+ Zlinx Radio Modem

PEER-TO-PEER MODE:
+ Zlinx I/O Base Module
+ Zlinx I/O Expansion Module/s

+ ZZ-PROG1 Configuration Box or #ZZ-PROG1-USB Module
+ Straight-through serial cable (or USB cable if using #ZZ-PROG1-USB Module)
+ Zlinx Wireless Modbus I/O Manual on CD (download from website)
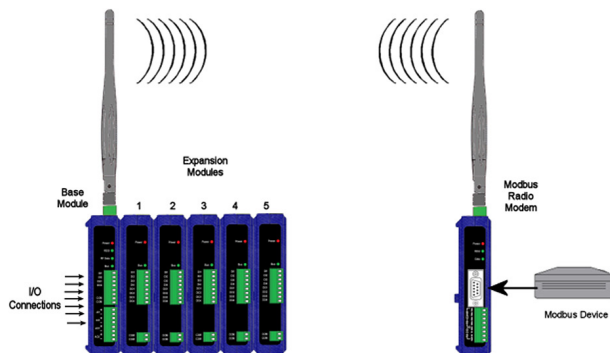+ Zlinx I/O Manager Software on CD (download from website)

B+B SmartWorx
Powered by **ADVANTECH**

Fast and easy on the web: **www.advantech-bb.com**

MODBUS MODE

1 | Select Modules

Select a Radio Modem to match the type of Zlinx I/O Base Module (SR or LR).

Select a Base Module and Expansion Modules based on the type of I/O needed.

2 | 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 # ZZ-8DO-R expansion module, which is 65 °C).

Mount and connect together the base and expansion modules (Expansion modules snap on the right side of the base unit.)

(Remove and save adhesive sticker covering bus connector.)

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.
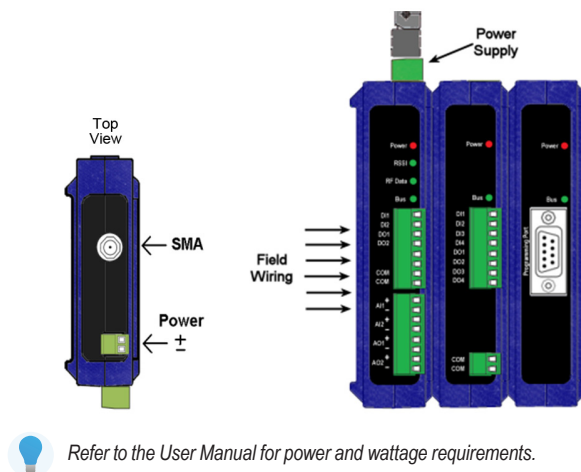
Mount and connect together Modbus radio modem and Modbus device.

Ensure that 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 User Manual for power and wattage requirements.*

3 | Connect Field Wiring

Insert the CD into your CD ROM Drive. The Zlinx™ Manager Install Wizard should start. Follow the on-screen instructions to install the software.

If auto run is disabled, locate the **ZlinxMgr.exe** file on the CD-ROM drive and double click to launch it. The Install Wizard should start. Follow the on-screen instructions.

Below are samples of Zlinx I/O connecting to both digital and analog signals.
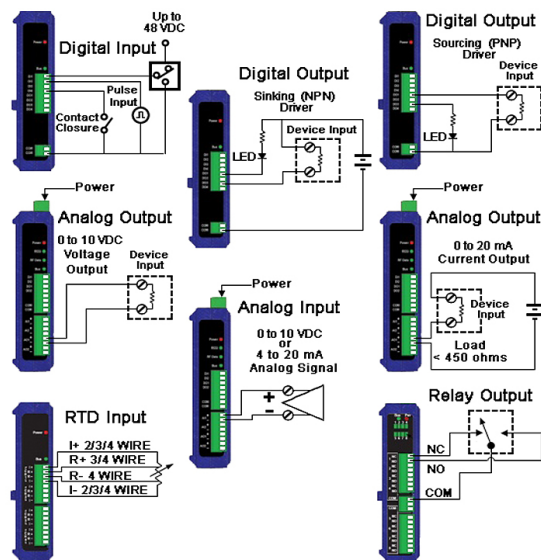
💡 *Refer to the User Manual for input/output voltage and current ratings.*

4 | Install Zlinx™ I/O Software

Insert the Zlinx 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.

5 | 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.*
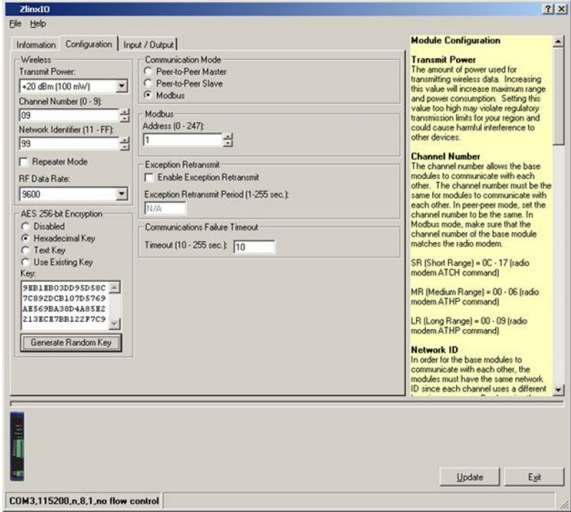
*This can be verified under the Information tab.
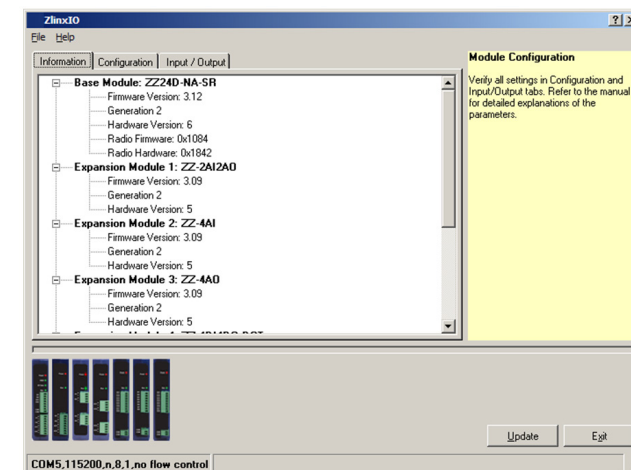
6 | Configure Communication Mode

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.

Modbus Mode - continued:

Configure Wireless Settings:

Select the desired RF Transmit Power.

Select the desired OTA data rate (not applicable for SR 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 # ZP9D-115RM-LR radio modem, set the destination address (ATDT) to 0xFFFF.

Set Repeater checkbox if the base is to be a repeater. Note that ONLY the # ZZ9D-Nx-LR versions support this.
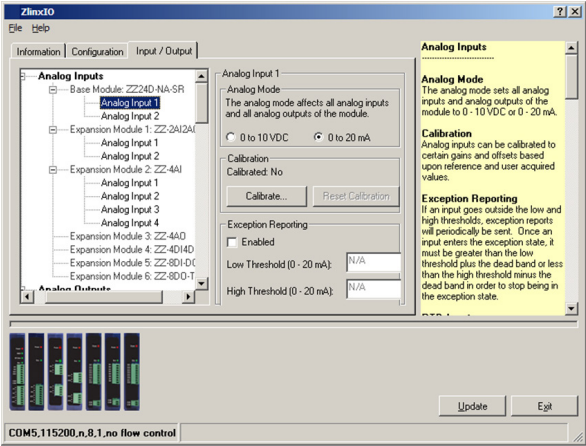
Select encryption.

Click Update to save configuration.

💡 *Refer to the User Manual for more details concerning wireless settings.*

7 | 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.

8 | Operation

LED	STATUS	FUNCTION
Power Red	Solid:	Power applied.
RSSI Tri-color	Off: Red: Yellow: Green:	No radio signal. Weak radio signal. OK radio signal. Strong radio signal.
RF Data Green	Off: Blinking:	No radio link data. Radio link data TD/RD traffic.
Bus Green	Off: Blinking:	No local bus data. Local bus data TD/RD traffic.

💡 *Refer to Troubleshooting section of User Manual if operation is not sucessful.*
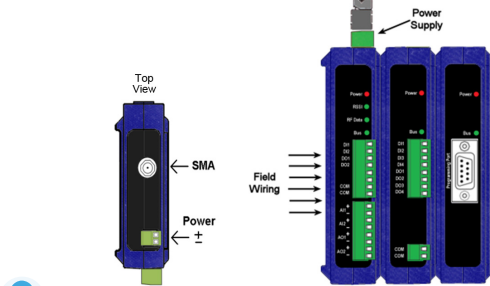

PEER-to-PEER MODE

1 | 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 match the outputs of the corresponding modules in System 2 (see figure below).
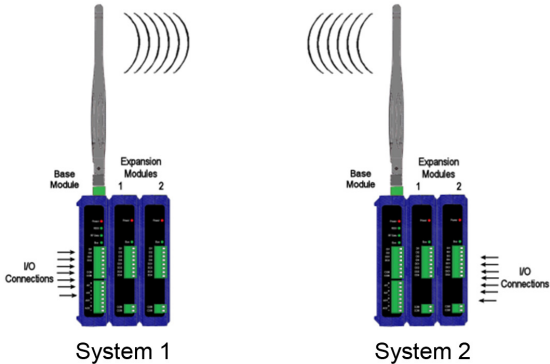
2 | Hardware Installation

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 # ZZ-8DO-R expansion module, 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.

Attach the antennas to the base modules.
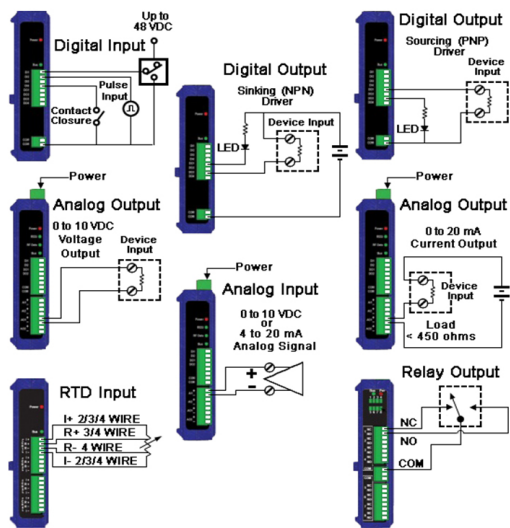
Connect field wiring to Zlinx I/O terminals.

💡 *Refer to the User Manual for power and wattage requirements.*

3 | Connect Field Wiring

Refer to the User Manual for input/output voltage and current ratings.

4 | Install Zlinx™ I/O Software

Insert the Zlinx 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.

5 | Start Zlinx™ I/O Manager

Connect a PC serial port (COM1 to 16) to the Configuration Box using a 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.
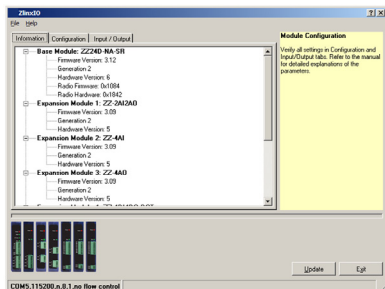
Make sure that all base modules have the same firmware revision.*

Make sure that all expansion modules have the same firmware version.*

*This can be verified under the Information tab.

6 | 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 1) 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.
- Select the desired OTA Data Rate.
- 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.

Click Update to save configuration.

Configure System 2 (see figure in Section 1) as described below:

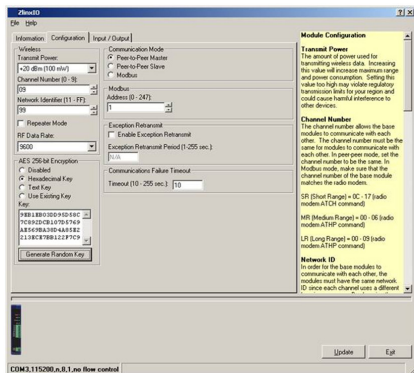Set the P2P Slave address to match the Master.

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.
- Select the desired OTA Data Rate.
- Set Channel Number to match device you will be communicating with.
- Set Network Identifier to match device you will be communicating with.
- Select Encryption.

Click Update to save configuration.

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7 | 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.
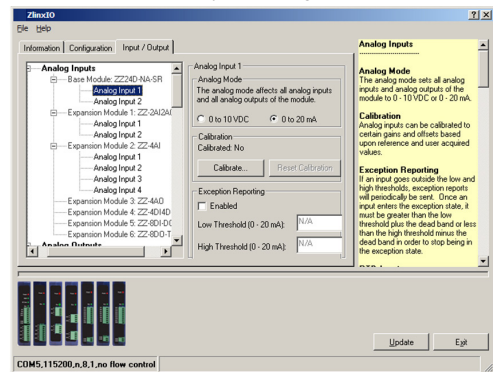
Set Calibration option if you desire to better match a sensor, or a portion of a signal, to the I/O.

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.

8 | Operation

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