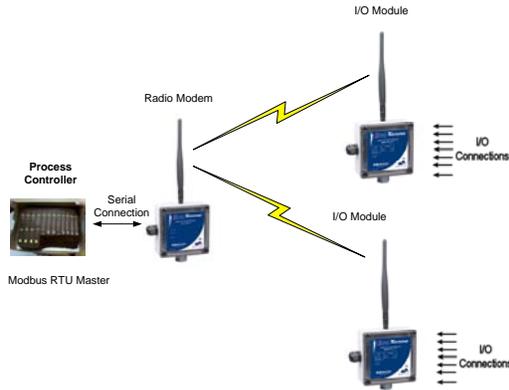


Quick Start Guide Zlinx™ Xtreme I/O

Modbus Mode



1 Check Required Hardware

- ❑ Zlinx Xtreme I/O Modules & Radio Modem of same type
 - ZXT24-IO-222R2 and ZXT24-RM (OR)
 - ZXT9-IO-222R2 and ZXT9-RM
- ❑ This Quick Start Guide
- ❑ CD with Zlinx™ Manager Software and manual
- ❑ Antenna
- ❑ Mounting ears and hardware
- ❑ Additional items required but not included:
 - 10 – 30 VDC Power Supply
 - USB Cable
- ❑ Conduit mounting accessories sold separately model: ZXTMT
 - Cable Gland
 - Conduit Accessories

2 Install Hardware

- ❑ Mount the Zlinx Xtreme I/O module & the Radio Modem

- ❑ Attach antennas to the RPSMA connectors
- ❑ Attach Conduit hubs, cable glands, etc. as necessary. Plug the unused hole, if any, using the Membrane Gland. Accessories kit ZXTMT sold separately.

3 Connect Field Wiring

See Section 11 – “UL Class 1 Div 2 Requirements” for wiring instructions.

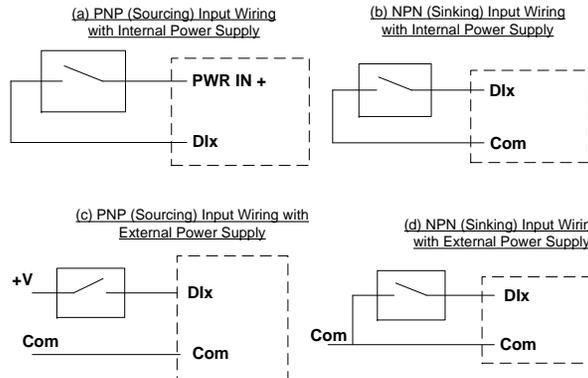
Terminal Block Located Inside Enclosure

AIN1+	AIN2+	AOUT1+	AOUT2+	COM	DI1	DI2	COM	PWR IN +	PWR IN -	K1 COM	K1 NC	K2 COM	K2 NC	K2 NO
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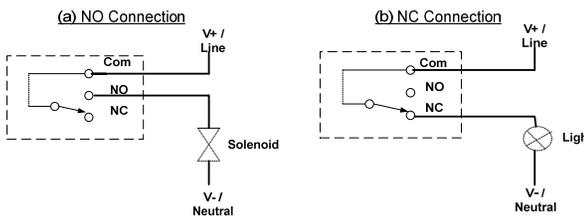
Power Supply Connections:

- ❑ Connect the 10-30 VDC power supply to the PWR IN +/- terminals on the terminal blocks.

Digital Input Connections:



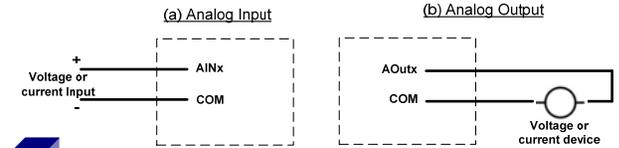
Digital Output (Relay) Connections:



Analog Input & Output Connections:

Refer to Zlinx Xtreme I/O manual for more details

pn 8590R1-ZXTx-IO-x-2011QSG –Peer-to-Peer Mode



4 Install Zlinx™ Manager Software

- ❑ 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.

5 Install USB Drivers

- ❑ Connect the I/O module to the USB port on your PC.
- ❑ The “Found New Hardware Wizard” will guide you through the installation process.
- ❑ When prompted to connect to Windows Updates to search for drivers, select “No, not at this time” and follow the instructions for installing from the CD or the location on the hard drive.
- ❑ Choose the drivers manually from the CD or the location where Zlinx™ Manager Software is installed.
- ❑ When the driver is installed a new COM port labeled “Xtreme” will show up in Windows Device Manager.

6 Easy Mode Configuration

- ❑ With power applied to the Zlinx Xtreme I/O module, press and HOLD the Configuration Push Button on the inside top lid until all the Mode LED’s on the front cover flash.
- ❑ A single LED will flash depending on the current mode
- ❑ Press the Push Button until the configuration mode increments to Modbus mode. Modbus LED will be ON.
- ❑ If the Push Button is not pressed for 4 sec, the device will exit with Modbus mode selected.

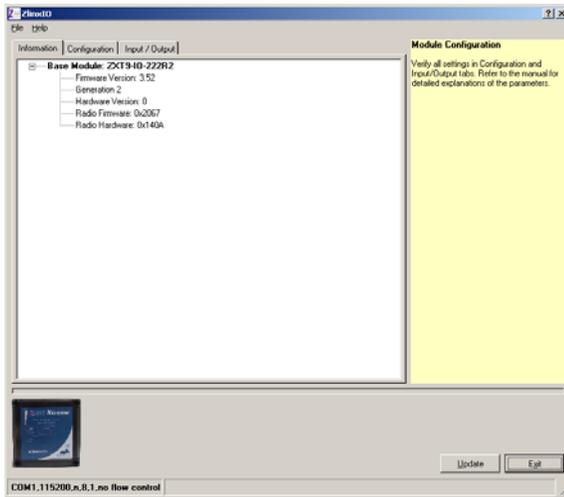
The Zlinx Xtreme I/O module is now ready to communicate to the Radio Modem in default mode.

Detailed setup changes can be done using the Zlinx Manager Software using the following steps.

7

Start Zlinx I/O Manager

- ❑ Connect the USB port of your PC to the Zlinx Xtreme I/O module using a USB cable.
- ❑ 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 Xtreme I/O Module on startup. Zlinx I/O will open and display the Information tab showing the I/O model number, version numbers and firmware rev levels.



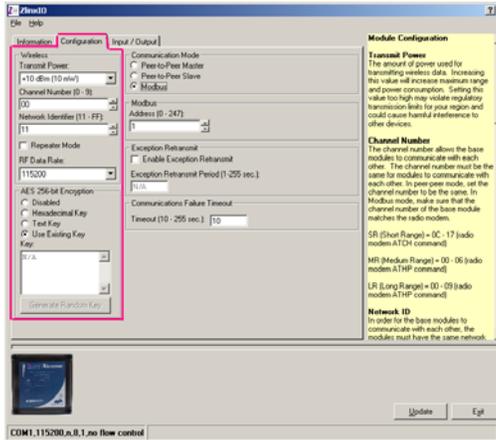
8

Configure Communication Mode

On the Configuration tab:

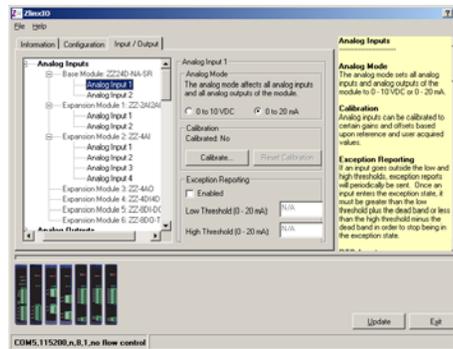
- ❑ Configure Wireless settings:
 - Select the desired RF Transmit Power
 - Set the Channel Number to match the Modbus Radio Modem you will be communicating with.
 - Set the Network Identifier to match the Modbus Radio Modem you will be communicating with.
 - Set Repeater checkbox if desired. Note that ONLY the (ZXT9-IO- xx) modules supports this mode.

- ❑ Set encryption key to match that of the Modbus radio modem.
- ❑ Select the communication mode to 'Modbus' Mode.
- ❑ Set the Modbus address to the address number desired for the Module being configured.
- ❑ Click Update to save configuration.



9

Configure Inputs/Outputs



- ❑ Set Digital Inputs for Discrete or Counter, as required.
 - Choose PNP or NPN selection as appropriate. Each input is individually configurable.
- ❑ Configure Digital Relay Outputs. Enable the Fail Safe and Communications Fail Alarm if necessary.

- pn 8590R1-ZXTx-IO-x-2011QSG –Peer-to-Peer Mode
- ❑ Configure each Analog Inputs and Outputs in one of the following modes
 - 0-5V, 0-10V, 0-20mA, 4-20mA

Refer to Zlinx Xtreme I/O manual for more details

- ❑ Set Exception Reporting for Analog Inputs and Fail Safe settings for Analog Outputs if necessary.
- ❑ Set Calibration option if you desire to better match a sensor, or a portion of a signal, to the I/O.
- ❑ Refer to appropriate sections in the Zlinx Xtreme I/O manual.
- ❑ Click Update button to apply the settings.

10

Operation

LED	STATUS	FUNCTION
Power	Solid Flash	Power applied Communication Fail
RSSI (8 LED bar graph)	0 1-3 4-6 7-8	No signal Weak signal OK signal Strong signal
Wireless	Off Blinking	No radio link data Wireless data Transmit / Receive
Mode	Modbus P2P Master P2P Slave	Modbus Mode Peer-to-Peer Master Peer-to-Peer Slave
I/O Status	DI1 DI2 DO1 DO2	Digital Input 1 ON Digital Input 2 ON Digital Output (Relay) 1 ON Digital Output (Relay) 2 ON

11

UL Class 1 Div 2 Requirements

- ❑ Operating Voltage – 10 to 30 VDC
- ❑ **WARNING:** SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.

- ❑ **WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**
- ❑ **WARNING – EXPLOSION HAZARD – WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING ANTENNA.**
- ❑ Intended use of equipment – please see the B&B Electronics Data Sheets and Quick Start Guides for each Zlinx Xtreme product for explanations of the intended use of this equipment.
- ❑ Wiring Terminals – Use Copper Wire Only, one conductor per terminal
- ❑ Wire Range 30 – 12 AWG
- ❑ Maximum Surrounding Ambient Air Temperature - 74°C
- ❑ UL Class I, Division 2 wiring methods. The Zlinx Xtreme enclosure is provided with two conduit knockouts that serve as wiring provisions for Class I, Division 2 wiring methods per the National Electrical Code (NEC).

The following instructions include procedures to be followed in order to ensure UL "separation between circuits" as defined in the NEC.

The low-voltage (LV) wiring – DC power, analog & digital signals – must be separated from the high voltage (HV) wiring for the relay contacts. In all cases HV wiring must be rated minimum 250V.

Separation between circuits can be accomplished by using one of the **three** following methods:

- a. Use one conduit knockout to route LV wiring and the second conduit knockout to route the HV wiring, OR see methods 2 and 3 below.

The remaining two methods use one conduit knockout for all wiring. In this case a UL Recognized (UL type QCRV2) conduit plug must be used per the NEC to plug the second conduit knockout.

- b. Enclose LV wiring in a 250V rated insulated sheath to separate it from the HV wiring, OR
- c. Use 250vac rated wires for both LV and HV wiring.

- ❑ Temperature rating of field installed conductors - Field conductors shall be rated 60C/75C minimum (either are acceptable) and sized accordingly.
- ❑ When conduit openings are not being used, a UL Recognized plug (type QCRV2) shall be used.
- ❑ The following is UL-required information regarding the Sealed Relay Devices:

WARNING – Exposure to some chemicals may degrade the sealing properties of materials used in the Sealed Relay Device.

RECOMMENDATION – It is recommended to inspect the sealed relay device periodically and to check for any degradation of the materials and to replace the component product, not the sealed device, if any degradation is found.

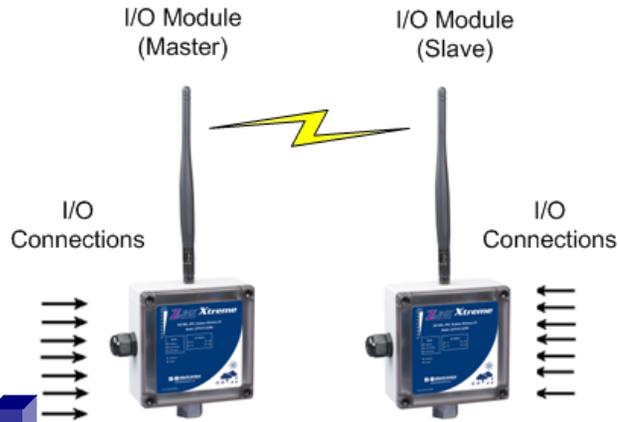
Sealed Relay Device Information:

Sealed Device: Relay Models G6RL-14-ASI-DC5, G6RL-14-ASI-DC6, G6RL-14-SR-ASI-DC5 or G6RL-14-SR-ASI-DC6 manufactured by Omron Corp.

	Manufacturer	Type
Relay Case and Base	Mitsubishi Engineering Plastics Corp.	5010GN6-30M8AM
Sealant	Three Bond Ltd.	TB2225G

Quick Start Guide Zlinx™ Xtreme I/O

Peer-to-Peer Mode



1

Check for All Required Hardware

- ❑ Two Zlinx Xtreme I/O Modules of same type
 - ZXT24-IO-222R2 (OR)
 - ZXT9-IO-222R2
- ❑ This Quick Start Guide
- ❑ CD with Zlinx™ Manager Software and manual
- ❑ Antenna
- ❑ Mounting ears and hardware
- ❑ Additional items required but not included:
 - 10 – 30 VDC Power Supply
 - USB Cable
- ❑ Conduit mounting accessories sold separately, model ZXTMT
 - Cable Gland
 - Conduit Accessories

2

Install Hardware

- ❑ Mount the Zlinx Xtreme I/O modules

- ❑ Attach antennas to the RPSMA connectors
- ❑ Attach Conduit hubs, cable glands, etc. as necessary. Plug the unused hole, if any, using the Membrane Gland. Accessories kit ZXTMT sold separately.

3

Connect Field Wiring

See Section 11 – “UL Class 1 Div 2 Requirements” for wiring instructions.

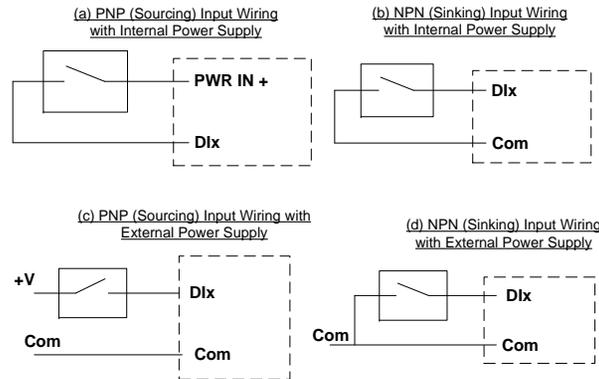
Terminal Block Located Inside Enclosure

AIN1+	AIN2+	AOUT1+	AOUT2+	COM	D11	COM	COM	PWR IN +	PWR IN -	K1 COM	K1 NC	K1 NO	K2 COM	K2 NC	K2 NO
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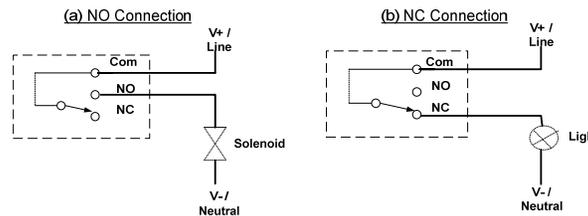
Power Supply Connections:

- ❑ Connect the 10-30 VDC power supply to the PWR IN +/- terminals on the terminal blocks.

Digital Input Connections:

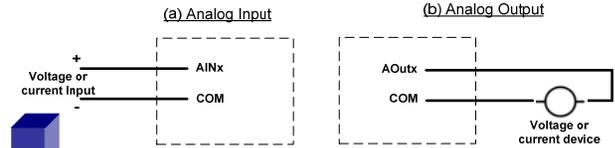


Digital Output (Relay) Connections:



Refer to Zlinx Xtreme I/O manual for more details

Analog Input & Output Connections:



4

Install Zlinx™ Manager Software

- ❑ 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.

5

Install USB Drivers

- ❑ Connect the I/O module to the USB port on your PC.
- ❑ The “Found New Hardware Wizard” will guide you through the installation process.
- ❑ When prompted to connect to Windows Updates to search for drivers, select “No, not at this time” and follow the instructions for installing from the CD or the location on the hard drive.
- ❑ Choose the drivers manually from the CD or the location where Zlinx™ Manager Software is installed.
- ❑ When the driver is installed a new COM port labeled “Xtreme” will show up in Windows Device Manager.

6

Easy Mode Configuration

- ❑ With power applied to the Zlinx Xtreme I/O module, press and HOLD the Configuration Push Button on the inside top lid until all the Mode LED's on the front cover flash.
- ❑ A single LED will flash depending on the current mode
- ❑ In one I/O module, press the Push Button until the configuration mode increments to P2P Master mode. Corresponding LED will be flashing.
- ❑ If the Push Button is not pressed for 4 sec, the device will exit with 'P2P Master' mode selected.
- ❑ Using similar steps to above, set the other I/O module to 'P2P Slave' mode

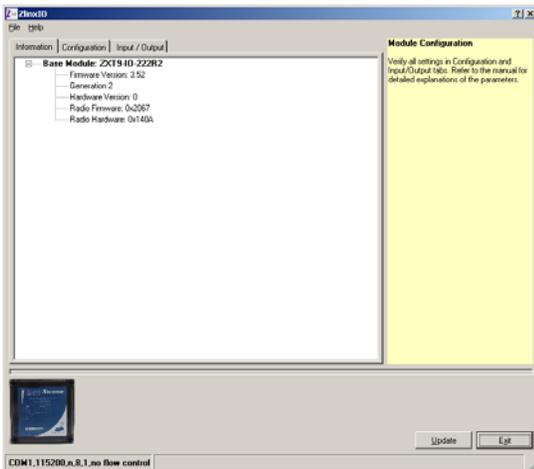
- Now the Zlinx Xtreme I/O modules are ready to communicate Peer-to-Peer mode with default setup.

7

Detailed setup can be done using the Zlinx Manager using the following steps.

Start Zlinx I/O Manager

- Connect the USB port of your PC to the Zlinx Xtreme I/O module using a USB cable.
- 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 Xtreme I/O Module on startup. Zlinx I/O will open and display the Information tab showing the I/O model number, version numbers and firmware rev levels.

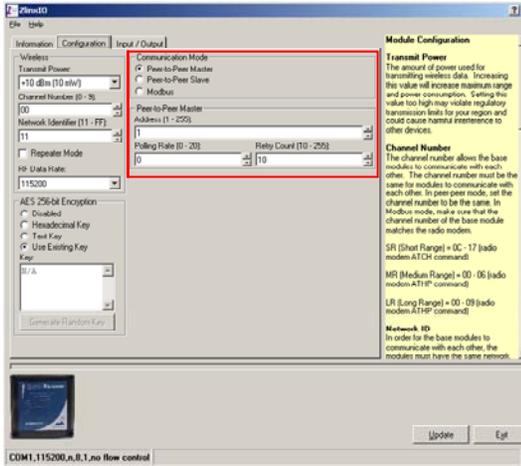


8

Configure Communication Modes

- P2P Master Configuration** – From Configuration tab
- Configure Wireless settings:
 - Select the desired RF Transmit Power
 - Set the Channel Number.
 - Set the Network Identifier.
 - Set Repeater checkbox if desired. Note that ONLY the (ZXT9-IO- xx) modules supports this mode.
 - Set encryption key.

- Select the communication mode to 'P2P Master' Mode.
- Set the P2P Master address as desired.
- Set Polling Rate and Retry Count.
- Click Update to save configuration.
- P2P Slave Configuration** – From Configuration tab
- Configure Wireless settings:
 - Select the desired RF Transmit Power
 - Set the Channel Number to match that of master.
 - Set the Network Identifier to match that of master.
 - Set encryption key the same as that of master.
- Select the communication mode to 'P2P Slave' Mode.
- Set the P2P Slave address to match that of Master.
- Click Update to save configuration



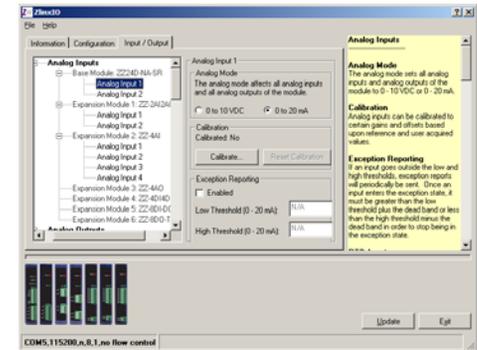
9

Configure Input/Output

- Set Digital Inputs for Discrete. Counter configuration is not applicable to Peer-to-Peer mode
 - Choose PNP or NPN selection as appropriate. Each input is individually configurable.
- Configure Digital Relay Outputs.
- Enable the Fail Safe and Communications Fail Alarm if necessary.

Refer to Zlinx Xtreme I/O manual for more details

- Configure each Analog Inputs and Outputs in one of the following modes
 - 0-5V, 0-10V, 0-20mA, 4-20mA
- Set Exception Reporting for Analog Inputs and Fail Safe settings for Analog Outputs if necessary.
- Set Calibration option if you desire to better match a sensor, or a portion of a signal, to the I/O.
- Refer to appropriate sections in the Zlinx Xtreme I/O manual.
- Click Update button to apply the settings.



10

Operation

LED	STATUS	FUNCTION
Power	Solid Flash	Power applied Communication Fail
RSSI (8 LED bar graph)	0 1-3 4-6 7-8	No signal Weak signal OK signal Strong signal
Wireless	Off Blinking	No radio link data Wireless data Transmit / Receive
Mode	Modbus P2P Master P2P Slave	Modbus Mode Peer-to-Peer Master Peer-to-Peer Slave
I/O Status	DI1 DI2 DO1 DO2	Digital Input 1 ON Digital Input 2 ON Digital Output (Relay) 1 ON Digital Output (Relay) 2 ON

11

UL Class 1 Div 2 Requirements

- ❑ Operating Voltage – 10 to 30 VDC
- ❑ **WARNING:** SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.
- ❑ **WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**
- ❑ **WARNING – EXPLOSION HAZARD – WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING ANTENNA.**
- ❑ Intended use of equipment – please see the B&B Electronics Data Sheets and Quick Start Guides for each Zlinx Xtreme product for explanations of the intended use of this equipment.
- ❑ Wiring Terminals – Use Copper Wire Only, one conductor per terminal
- ❑ Wire Range 30 – 12 AWG
- ❑ Maximum Surrounding Ambient Air Temperature - 74°C
- ❑ UL Class I, Division 2 wiring methods. The Zlinx Xtreme enclosure is provided with two conduit knockouts that serve as wiring provisions for Class I, Division 2 wiring methods per the National Electrical Code (NEC).

The following instructions include procedures to be followed in order to ensure UL "separation between circuits" as defined in the NEC.

The low-voltage (LV) wiring – DC power, analog & digital signals – must be separated from the high voltage (HV) wiring for the relay contacts. In all cases HV wiring must be rated minimum 250V.

Separation between circuits can be accomplished by using one of the **three** following methods:

- a. Use one conduit knockout to route LV wiring and the second conduit knockout to route the HV wiring, OR see methods 2 and 3 below.
- The remaining two methods use one conduit knockout for all wiring. In this case a UL Recognized (UL type QCRV2) conduit plug must be used per the NEC to plug the second conduit knockout.
- b. Enclose LV wiring in a 250V rated insulated sheath to separate it from the HV wiring, OR
 - c. Use 250vac rated wires for both LV and HV wiring.
- ❑ Temperature rating of field installed conductors - Field conductors shall be rated 60C/75C minimum (either are acceptable) and sized accordingly.
 - ❑ When conduit openings are not being used, a UL Recognized plug (type QCRV2) shall be used.
 - ❑ The following is UL-required information regarding the Sealed Relay Devices:

WARNING – Exposure to some chemicals may degrade the sealing properties of materials used in the Sealed Relay Device.

RECOMMENDATION – It is recommended to inspect the sealed relay device periodically and to check for any degradation of the materials and to replace the component product, not the sealed device, if any degradation is found.

Sealed Relay Device Information:

Sealed Device: Relay Models G6RL-14-ASI-DC5, G6RL-14-ASI-DC6, G6RL-14-SR-ASI-DC5 or G6RL-14-SR-ASI-DC6 manufactured by Omron Corp.

	Manufacturer	Type
Relay Case and Base	Mitsubishi Engineering Plastics Corp.	5010GN6-30M8AM
Sealant	Three Bond Ltd.	TB2225G