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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Peer-to-Peer and Modbus I/O

Zlinx Standard Wireless I/O



Shown: 1 base I/O unit, with 3 snap-on expansion modules

PRODUCT FEATURES

- Modular, Customizable Wire Replacement
- Flexible configuration for multiple types of analog/digital I/Os
- Software Selectable RF Transmit Power
- Software Selectable Over-the-air Data Rate
- Modbus ASCII /RTU Compatible
- 900 MHz and 2.4 GHz Versions
- Wide Operating Temperature
- Active Repeater Functionality
- 10 to 40 VDC & 24 VAC Input Power
- AES Encryption

Zlinx™ Wireless Modbus I/O - flexible enough to fit your applications.

These plug-n-play units combine traditional Modbus RTU remote analog and discrete I/O with built-in wireless connectivity. Wireless RTU serves as Modbus slave RTU in radio-based SCADA systems, or as a peer-to-peer communication platform.

Two Ranges Available - Short, Long range.

Active Repeaters - With built-in repeater functionality on 900 MHz -LR models, you can ensure vital signals get through.

Modular - Just snap on your I/O and you are ready to communicate.

Wide Temperature - Meets most indoor or outdoor applications.

Rugged circuitry - prevents signal degradation.

128 / 256 Bit AES Encryption - Secures data.

Selectable RF Transmit Power - Allows you to optimize the transmitter power for your application.

Selectable Over-the-air Data Rate - Allows you to decrease the OTA Data Rate (on -LR and -LR-AU versions), effectively increasing the radio transmitter's range.

Exception Reporting - In Modbus mode, allows the reporting of possible problems with connected devices.

Fail Safe - Allows you to set I/O to a safe state in the event of a communications failure.

Calibration - Calculates correction factors to make I/O values better match your sensor.

Communications Failure Alarm - Allows the first DO to be configured as a COM failure alarm indicator.

Invert Output - You can invert the logic of all DO's in peer-to-peer mode.

Monitor - Use the Zlinx™ Manager Software to monitor your I/O.

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
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ZZ8D-XX-LR Base Modules *

ZZ8D-NA-LR	868MHz, 2 AI, 2 AO, 2 DI, 2 DO Sourcing, Long Range
ZZ8D-NB-LR	868MHz, 4 DI, 4 DO Sourcing, Long Range
ZZ8D-NC-LR	868MHz, 2 AI, 2 AO, 2 DI, 2 DO Sinking, Long Range
ZZ8D-ND-LR	868MHz, 4 DI, 4 DO Sinking, Long Range

ZZ9D-XX-LR Base Modules *

ZZ9D-NA-LR	900MHz, 2 AI, 2 AO, 2 DI, 2 DO Sourcing, Long Range
ZZ9D-NA-LR-AU	900MHz, 2 AI, 2 AO, 2 DI, 2 DO Sourcing, Long Range
ZZ9D-NB-LR	900MHz, 4 DI, 4 DO Sourcing, Long Range
ZZ9D-NB-LR-AU	900MHz, 4 DI, 4 DO Sourcing, Long Range
ZZ9D-NC-LR	900MHz, 2 AI, 2 AO, 2 DI, 2 DO Sinking, Long Range
ZZ9D-NC-LR-AU	900MHz, 2 AI, 2 AO, 2 DI, 2 DO Sinking, Long Range
ZZ9D-ND-LR	900MHz, 4 DI, 4 DO Sinking, Long Range
ZZ9D-ND-LR-AU	900MHz, 4 DI, 4 DO Sinking, Long Range

ZZ24D-XX-SR Base Modules*

ZZ24D-NA-SR	2.4GHz, 2 AI, 2 AO, 2 DI, 2 DO Sourcing, Short Range
ZZ24D-NB-SR	2.4GHz, 4 DI, 4 DO Sourcing, Short Range
ZZ24D-NC-SR	2.4GHz, 2 AI, 2 AO, 2 DI, 2 DO Sinking, Short Range
ZZ24D-ND-SR	2.4GHz, 4 DI, 4 DO Sinking, Short Range

World-wide.

Check with your local distributor for availability and options.

* Check wireless regulations/standards in your geographic area.

MODEL NUMBER	DESCRIPTION
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Expansion Modules

ZZ-8DI-DC	8 Digital Inputs, 10-48VDC
ZZ-8DO-T	8 Digital Outputs Sourcing
ZZ-8DO-T1	8 Digital Outputs Sinking
ZZ-8DO-R	8 Relay Outputs
ZZ-4AI	4 Analog Inputs
ZZ-4AO	4 Passive Source Analog Inputs, Requires Isolated External Power Supply
ZZ-4AO-2	4 Analog Output Sourcing
ZZ-4RTD1	4 RTD Input
ZZ-4DI4DO-DCT	4 Digital Inputs, 10-48VDC, 4 Digital Outputs Sourcing
ZZ-4DI4DO-DCT1	4 Digital Inputs, 10-48VDC, 4 Digital Outputs Sinking
ZZ-2AI2AO	2 Analog Inputs, 2 Analog Outputs

ACCESSORIES

ZZ-PROG1-USB	Zlinx USB Programming Module, Cable, Software CD
ZZ24D-ANT1	2.4 GHz Spare Antenna
ZZ9D-ANT1	900 MHz Spare Antenna
ZZ-DIN 1	Replacement DIN Clip and Spring
ZZ-TB1	Replacement Terminal Block Kit

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SPECIFICATIONS

BASE MODULE RADIO PROPERTIES

Model No.	Frequency	Software Selectable RF Power Options	Factory RF Power Setting	AES Encryption	Over-the-air Data Rate
ZZ24D-Nx-SR	2.4 GHz	10mW, 16mW, 25mW, 40mW, 63mW	63mW	128 Bit	250 Kbps
ZZ9D-Nx-LR	900 MHz *	1mW, 10mW, 100mW, 500mW, 1000mW	1000mW	256 Bit	9.6 or 115.2 Kbps
ZZ9D-Nx-LR-AU	900 MHz *	1mW, 10mW, 100mW, 500mW, 1000mW	1000mW	128 Bit	9.6 or 115.2 Kbps
ZZ8D-Nx-LR	868 MHz **	1mW, 23mW, 100mW, 159mW, 316mW	316mW	128 Bit	24 Kbps

Note: ZZ9D-Nx-LR and ZZ9D-Nx-LR-AU have software selectable OTA data rates.

	Range with Supplied Antenna (indoor/outdoor) maximum	Range with High Gain Antenna (outdoor) maximum
ZZ24D-Nx-SR	300 Feet (91 Meters) / 1 Mile (1.6 Kilometers)	N/A
ZZ9D-Nx-LR	3000 Feet (914 Meters) / 14 Miles (23 Kilometers)	40 Miles (64 Kilometers)
ZZ9D-Nx-LR-AU	3000 Feet (914 Meters) / 14 Miles (23 Kilometers)	40 Miles (64 Kilometers)
ZZ8D-Nx-LR	1800 Feet (549 Meters) / 25 Miles (40 Kilometers)	25 Miles (40 Kilometers)

*Note: 900 MHz units are not sold in Europe

**Note: 868 MHz units are not sold in North America

LATENCY

Base Module	Modbus		Peer-to-Peer	
	Digital	Analog	Digital	Analog
ZZ24D-xx-SR	8mS	15mS	20mS	25mS
ZZ9D-xx-LR	9mS	104mS	55mS	52mS

Latency times were measured in a clean RF environment with devices less than 3 feet (1m) apart.

Add 45mS per analog expansion module and 25mS per digital expansion module.

ZZ8D-Nx-LR radios have a 10% maximum duty cycle.

I/O POINTS

Model No.	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs
ZZxD-NA-xx (Base)	2 (Pull-up Resistors)	2 (Sourcing)	2 (mA, V)	2 (V, mA, Sinking)
ZZxD-NB-xx (Base)	4 (Pull-up Resistors)	4 (Sourcing)	---	---
ZZxD-NC-xx (Base)	2 (Pull-up Resistors)	2(Sinking)	2 (mA, V)	2 (V, mA, Sinking)
ZZxD-ND-xx (Base)	4 (Pull-up Resistors)	4 (Sinking)	---	---
ZZ-8DI-DC	8 (Pull-up Resistors)	---	---	---
ZZ-8DO-T	---	8 (Sourcing)	---	---
ZZ-8DO-T1	---	8 (Sinking)	---	---
ZZ-4DI4DO-DCT	4 (Pull-up Resistors)	4 (Sourcing)	---	---
ZZ-4DI4DO-DCT1	4 (Pull-up Resistors)	4 (Sinking)	---	---
ZZ-4AI	---	---	4 (mA, V)	---
ZZ-4AO	---	---	---	4 (V, mA, Sinking)
ZZ-4AO-2	---	---	---	4 (V, mA, Sourcing)
ZZ-2AI2AO	---	---	2 (mA, V)	2 (V, mA, Sinking)
ZZ-8DO-R	---	8 (Relay)	---	---
ZZ-4RTD1	---	---	4 (RTD)	---

SOFTWARE PROGRAMMING KITS – REQUIRED TO PROGRAM YOUR SYSTEM

Model Number	Description
ZZ-PROG1-USB	Programming Module (USB Interface), USB cable and Software CD

Note: The Software CD is only available with the programming kit. Software and Firmware can also be downloaded at www.bb-elec.com