Zlinx® Xtreme Wireless I/O

IP67 Industrial Outdoor Rated
Models BB-ZXT9-IO-222R2, BB-ZXT24-IO-222R2

B+B SmartWorx

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PRODUCT FEATURES

- Wire replacement for serial communications - cable-free, license-free
- Baud: 250 kbps (2.4 GHz, short range); 9.6 or 115.2 S/W selectable (900 MHz, long-range, North America only)
- Wide operating temperature range: -40 to +74 °C
- IP67, heavy-duty, industrial grade, DIN rail mount
- Wide range power input: 10 - 30 VDC
- Flexible configuration for multiple types of analog/digital I/Os
- Signal Strength Indicator (SSI), AES encryption, Modbus compatible
- UL C1/D2; CE (2.4 GHz only)

Do you need to monitor remote assets via discrete analog and digital sensors or control remote control equipment from a central SCADA/PLC? Is your remote equipment outdoors? Zlinx Xtreme I/Os can do the job faster, easier and more economically than running cable.

These compact and rugged IP67 units are ideal for outdoor applications and extreme weather conditions for connecting remote I/Os to local I/Os wirelessly (via peer-to-peer mode) or to connect remote I/Os in multiple locations to a central PLC/SCADA/HMI system via a serial radio modem (via Modbus mode).

Zlinx industrial wireless products operate in license-free, proprietary RF 900 MHz and 2.4 GHz ISM bands. Select the 900 MHz version for longer distances (North America only). For further flexibility, the output power is software selectable. The 900 MHz unit offers 256-bit AES encryption. The 2.4 GHz has 128-bit AES encryption.

A starter kit, Model BB-ZXT9-IOA-KIT, conveniently bundles two 900 MHz IO units, two power supplies and a USB programming cable to set up your application. (North America only.)

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION	ANALOG INPUTS	ANALOG OUTPUTS	DIGITAL INPUTS	DIGITAL RELAY OUTPUTS
Zlinx Xtreme Wireless I/O					
BB-ZXT9-IO-222R2	900 MHz*	2	2	2	2
BB-ZXT24-IO-222R2	2.4 GHz*	2	2	2	2

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
900 MHz Zlinx Xtreme Wireless I/O Kit *	
BB-ZXT9-IOA-KIT	**Zlinx Xtreme IP67 Peer-to-Peer I/O Kit:** 2 - BB-ZXT9-IO-222R2 (I/O modules) 2 - BB-CLG-60-24 (power supply) 1 - BB-USBAMBM-6F (programming cable)

* 900 MHz for North America only.
Check with your local distributor for availability and options.
Check wireless regulations/standards in your geographic area.

ACCESSORIES - sold separately

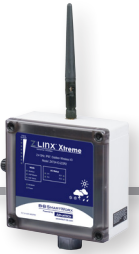|	
BB-CLG-60-24	IP67 Power Supply, Panel Mount, 24VDC, 60W
BB-ZXT9-ANT	900 MHz Spare Antenna
BB-ZZ24D-ANT1	2.4 GHz Spare Antenna
BB-ZXTMT	Conduit Mounting Kit

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SPECIFICATIONS

RF PROPERTIES	
Physical Standard	802.15.4
FREQUENCY	
BB-ZXT9-IO-222R2	900 MHz ISM (902 – 928 MHz)
BB-ZXT24-IO-222R2	2.4 GHz ISM (2.4 – 2.5 GHz)
TRANSMIT POWER	
BB-ZXT9-IO-222R2 (NATAM only)	1 mW, 10 mW, 100 mW, 500 mW 1 W – software selectable
BB-ZXT24-IO-222R2	10 mW, 16 mW, 25 mW, 30 mW 63 mW – software selectable
RECEIVER SENSITIVITY	
BB-ZXT9-IO-222R2	-100 dBm
BB-ZXT24-IO-222R2	-105 dBm
OVER THE AIR DATA RATE	
BB-ZXT9-IO-222R2	9.6 or 115.2 kbps, software selectable
BB-ZXT24-IO-222R2	250 kbps
OUTDOOR RANGE*	
BB-ZXT9-IO-222R2	Supplied Antenna – 23 km (14 mi) High Gain Antenna – 64 km (40 mi)
BB-ZXT24-IO-222R2	Supplied Antenna – 2.4 km (1.5 mi) High Gain Antenna – 6 km (10 mi)
*Range estimates based on optimal RF conditions and an unobstructed line of sight.	
TRANSMISSION METHOD	
BB-ZXT9-IO-222R2	FHSS
BB-ZXT24-IO-222R2	DSSS
Modulation	FSK
CHANNEL CAPACITY	
BB-ZXT9-IO-222R2	10 hop sequences share 50 frequencies
BB-ZXT24-IO-222R2	12 direct sequence channels
Network Topologies	I/O to I/O: one-to-one (peer-to-peer mode) Radio Modem to I/O: one-to-many (Modbus I/O mode)
ENCRYPTION	
BB-ZXT9-IO-222R2	256-bit AES
BB-ZXT24-IO-222R2	128-bit AES
SUPPLIED ANTENNA	
BB-ZXT9-IO-222R2	Impedance – 50 Ω Connector – RPSMA female VSWR – 2.0 maximum (in-band) Gain – 3 dBi Polarization – vertical Length – 198 mm (7.8 in)
BB-ZXT24-IO-222R2	Impedance – 50Ω Connector – RPSMA female VSWR – 2.0 maximum (in-band) Gain – 2.1 dBi Polarization – vertical Length – 113 mm (4.38 in)
Antenna Connection	RPSMA male
CONTROLS AND INDICATORS	
Signal Strength	8 Green RSSI LEDs indicate signal strength
Power	Green LED
Receive Data	Green LED
Transmit Data	Green LED
Programming Port	USB
Reset	Push Button
OPERATING SYSTEM	
O/S	Windows XP, 7, 8, 8.1, 10

DIGITAL INPUTS	
Voltage Range, Configuration	0 – 48 VDC PNP (default) / NPN (selectable)
Low Voltage (0)	1 VDC maximum
High Voltage (1)	Greater than 1 VDC
Pull Up/Down Current	38 µA
Frequency Input	2 DI per module, software selectable as counters with 0 to 20 KHz range
DIGITAL OUTPUTS (RELAY)	
Number of Relays	2
Type	C (Normally Open and Normally Closed)
Output Connection	3 Terminals per relay (Common, NO, NC)
Communication Connection	3.5 mm Terminal Block
Ratings	250 VAC @ 4 A, 30 VDC @ 4 A
ANALOG INPUTS / OUTPUTS	
Ranges	0 – 5 VDC, 0 – 10 VDC, 0 – 20 mA, 4 – 20 mA
Resolution	16-bit (Inputs), 12-bit (outputs)
AI Load Resistance	100 MΩ – configured for Voltage 250 Ω – configured for Current
AO Output Current	1 mA maximum, configured for Voltage
AO Source Load	450 Ω maximum, configured for current
Input Protection	Over-voltage to 2x maximum input voltage
POWER	
Power Connector	Terminal Block
Input Voltage	10 – 30 VDC
Power Use:	
BB-ZXT9-IO-222R2	6.8 W maximum
BB-ZXT24-IO-222R2	4.5 W maximum
TERMINAL BLOCKS	
Wire Size	26 – 4 AWG
Torque	0.5 Nm (minimum), 0.6 Nm maximum
ENVIRONMENT	
Dimensions	13.01 x 13.01 x 6.02 cm (5.12 x 5.12 x 2.37 in)
Operating Temperature	-40 to +74 °C (-40 to +165 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Operating Humidity	0 – 95% (non-condensing)
Enclosure Rating	IP67
Use	Indoor and Outdoor
MEANTIME BEFORE FAILURE (MTBF) - MIL 217F	
MTBF	BB-ZXT9-IO-222R2: 386969 hours BB-ZXT24-IO-222R2: 383331 hours
APPROVALS, DIRECTIVES, STANDARDS	
FCC, Class A	
CE (BB-ZXT24-IO-222R2 only)	2011/65/EU - Reduction of Hazardous Substances Directive
EMC	EN55022 Class A - Information Technology Equipment, RF Emissions EN55024 - Information Technology Equipment - Immunity EN61000-6-1 - Generic Standards for Residential, Commercial and Light-Industrial Environments
UL	C1D2, File – E245458