

# Zlinx® Xtreme IP67 Outdoor Rated Wireless Industrial Radio Modem

Models BB-ZXT9-RM-A, BB\_ZXT24-RM

**B+B SMARTWORX**

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BB-ZXT24-RM

## FEATURES

- Wire replacement for serial communications - cable-free, license-free
- Baud rate: 250 kbps, SW selectable (2.4 GHz, short range); 9.6 or 115.2 kbps (900 MHz, long-range, North America only)
- Wide operating temperature range: -40 to +74 °C
- Heavy-duty, industrial grade, DIN rail mount (panel mount w/ optional adapter)
- 10-30 VDC power input (power supply required, not included, sold separately)
- IP67, UL C1/D2, NEMA TS2, CE (2.4 GHz only)
- Range up to 64 km (40 mi), line-of-sight & antenna dependent, 900 MHz)
- Signal Strength Indicator (SSI), AES encryption, Modbus compatible

Do you need to get a digital signal across a highway or river? Zlinx® Xtreme Radio Modems can do it faster, easier, and less expensively than stringing cable. Easy plug-and-play set-up saves installation and maintenance time. These compact and rugged IP67 units are ideal for outdoor applications requiring Serial-to-Serial (RS-232/422/485) connectivity or to connect Zlinx® Xtreme Wireless I/O's to a Modbus RTU Master over a wireless network. Point-to-Multi Point connections are also possible.

Zlinx® Industrial Wireless products operate in license-free, Proprietary RF 2.4 GHz and 900 MHz (North America only) ISM bands. Select the 900 MHz version for longer distances.

**POWER** - Zlinx® Xtreme wireless radio modems support a 10-30 VDC wide range power input. For further flexibility, the output power is software selectable. An external power source is required (not included, sold separately).

**SECURITY** - The 900 MHz units offer 256-bit AES encryption. The 2.4 GHz units have 128-bit AES encryption.

## ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BB-ZXT9-RM-A *	Zlinx Xtreme IP67 900 MHz Radio Modem, Long Range, RS- 232/422/485
BB-ZXT24-RM	Zlinx Xtreme IP67 2.4 GHz Radio Modem, Short Range, RS-232/422/485

\* 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	Power Supply, 24VDC, 60W, IP67, Panel Mount
BB-ZXT9-ANT	900 MHz Spare Antenna
BB-ZZ24D-ANT1	2.4 GHz Spare Antenna
BB-ZXTMT	Zlinx Xtreme Conduit Kit

All product specifications are subject to change without notice.

ZXTx-RM\_4918ds

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# Zlinx® Xtreme IP67 Outdoor Rated Wireless Industrial Radio Modem

Models BB-ZXT9-RM-A, BB-ZXT24-RM

BB-ZXT9-RM-A  
(North America only)



## SPECIFICATIONS

RF PROPERTIES	
Physical Standard	802.15.4
FREQUENCY	
BB-ZXT9-RM-A	900 MHz ISM (902 to 928 MHz)
BB-ZXT24-RM	2.4 GHz ISM (2.4 to 2.5 GHz)
TRANSMIT POWER	
BB-ZXT9-RM-A (North America only)	1 mW, 10 mW, 100 mW, 500 mW 1 W (software selectable)
BB-ZXT24-RM	10 mW
Receiver Sensitivity	-100 dBm
OVER THE AIR DATA RATE	
BB-ZXT9-RM-A	9.6 or 115.2 kbps
BB-ZXT24-RM	Software selectable 250 kbps
OUTDOOR RANGE	
BB-ZXT9-RM-A	Supplied Antenna: 23 km (14 mi) High Gain Antenna, optional: 64 km (40 mi)
BB-ZXT24-RM	Supplied Antenna: 2.4 km (1.5 mi) High Gain Antenna, optional: 16 km (10 mi)
Range estimates based on optimal RF conditions and an unobstructed line of sight.	
TRANSMISSION METHOD	
BB-ZXT9-RM-A	FHSS
BB-ZXT24-RM	DSSS
Modulation	FSK
CHANNEL CAPACITY	
BB-ZXT9-RM-A	10 Hop Sequences Share 50 Frequencies
BB-ZXT24-RM	12 Direct Sequence Channels
Network Topologies	Peer-to-Peer, Point-to-Point, Point-to-Multi Point
ENCRYPTION	
BB-ZXT9-RM-A	256-bit AES
BB-ZXT24-RM	128-bit AES
SUPPLIED ANTENNA	
BB-ZXT9-RM-A	Impedance – 50 Ω Connector – RPSMA Female VSWR – 2.0 max. (in-band) Gain – 3 dBi Polarization – Vertical Length – 198 mm (7.8 in)
BB-ZXT24-RM	Impedance – 50Ω Connector – RPSMA Female VSWR – 2.0 maximum (in-band) Gain – 2.1 dBi Polarization – Vertical Length – 113 mm (4.38 in)
Modem Antenna Connector	RPSMA Male
SOFTWARE	
OS Support	Windows XP, 7, 8, 8.1, 10
Features	RSSI Signal Range Test
POWER	
Source	External, required (not included, sold separately)
Power Connector	Terminal Block
Input Voltage	10 to 30 VDC
Power Use	BB-ZXT9-RM-A: 1.7 W (typical), 5.8 W (maximum) BB-ZXT24-RM: 1.2 W (typical), 3.5 W (maximum)

SERIAL PROPERTIES	
Data Rates	
BB-ZXT9-RM-A	1.2 to 230.4 kbps
BB-ZXT24-RM	1.2 to 115.2 kbps
Data Bits	8
Parity	None, Even, Odd, Mark, Space
Stop Bits	1 or 2
Flow Control	None or Software
RS-232	Connector: Terminal Block Signals: TD, RD, RTS, CTS, GND
RS-422	Connector: Terminal Block Signals: TDA(-) TDB(+) RDA(-) RDB(+) GND
RS-485 (2 or 4-wire)	Connector: Terminal Block Signals (4-wire): TDA(-), TDB(+), RDA(-), RDB(+), GND Signals (2-wire): Data A(-), Data B(+), GND
SD Control	Automatic Bit Wise
Termination	120Ω Ohm DIP Switch Selectable
Industrial Bus	Modbus RTU
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 to 95% (non-condensing)
Enclosure Rating	IP67
Use	Indoor and Outdoor
CONTROLS AND INDICATORS	
Signal Strength Indicators	8 Green RSSI LEDs
Power	Green LED
Receive Data	Green LED
Transmit Data	Green LED
Programming Port	USB
Reset	Push-button
MEANTIME BETWEEN FAILURE (MTBF) MIL 271F	
MTBF	BB-ZXT9-RM-A: 1646998 hours BB-ZXT24-RM: 1444273 hours
REGULATORY, APPROVALS, DIRECTIVES, STANDARDS	
CE (BB-ZXT24-RM only) FCC Part 15 CFR Title 47 – Digital Apparatus (Federal Communications Commission) ICES-003 Class B – Digital Apparatus (Industry Canada)	
CE (BB-ZXT24-RM only)	<b>EMC:</b> ETSI EN 301 489-1 v1.9.2 ETSI EN 301 489-1 v2.2.1 Applied in accordance with the specific requirements of EMC and Radio Spectrum Matters: Broadband Data Systems EN 55032 Class B – Electromagnetic Compatibility of Multimedia Equipment – emission requirements EN 61000-6-3 + A1 – Generic Emission Standard for Residential, Commercial and Light-industrial Environments EN 61000-6-2 – Generic Immunity Standard for (heavy) Industrial Environments
	<b>SAFETY:</b> EN 60950-1 +A11 +A1 +A12 +A2 - Information Technology Equipment – Safety - Part 1: General Requirements EN 62479 – RF Exposure Limits
	<b>ENVIRONMENTAL:</b> IEC 60068-2-6 – Vibration, 10-500 Hz, 4G, 3 axes IEC-60068-2-27 – Shock, 50G peak, 3 axes IEC-60068-2-32 – Drop, 10 total drops from 1 meter, from sides, edges and corner
	UL, cUL, Class 1 Division 2 Groups A, B, C, D File E245458
NEMA TS2	