

# Zlinx™ Wireless Radio Modems – Industrial, IP30, indoor/outdoor

Models: BB-ZP24D-250RM-SR, BB-ZP9D115RMLR-A, BB-RM-LR-KIT, BB-RM-SR-KIT

**B+B SMARTWORX**

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BB-ZP24D-250RM-SR

## FEATURES

- Wire replacement for serial communications - cable-free, license-free
- Baud: 115.2 kbps (2.4 GHz, short range); 230.4 kbps (900 MHz, long-range, North America only)
- Wide operating temperature: -40 to +85 °C
- DIN rail mount, 35mm (panel mount with optional adapter)
- 10-48VDC or 18-30VAC power input (external power source required for modem units, sold separately)
- Modbus support
- UL C1/D2 (900 MHz, long range model or kit, North America only)

Do you need to get a digital signal across a highway or river or to the other end of a big warehouse? Zlinx industrial serial radio modems can do the job faster, easier and less expensively than stringing cable. Zlinx radio modems connect serial devices over a wireless network with easy plug-and-play set-up that saves installation and maintenance time and cost. Modbus and Profibus compatible – no additional converters required.

## NETWORK CONFIGURATION OPTIONS

**Serial-to-Serial Connectivity:** Two or more serial (RS-232/422/485) devices connected over a wireless network via Zlinx Radio Modems. One radio modem required per serial device (all radio modems must be of same frequency).

**Modbus I/O Connectivity:** Analog, digital and temperature I/Os (up to 247 base I/O modules, of one frequency type) can be connected wirelessly to a Modbus RTU Master (PLC, SCADA, HMI) via a Zlinx Radio Modem of the same frequency.

## INDUSTRIAL-GRADE

Zlinx radio modems are designed to handle the heat, cold and environments of industrial operations and feature a wide operating temperature, dual power, a heavy-duty IP30 DIN mount case, industrial components and circuitry. UL Class 1/Division 2 rated (900 MHz model).

Model BB-ZP9D115RMLR-A (North America only) supports an indoor maximum range of 91 m (3000 ft) and outdoor maximum range of 22.5 km (14 mi). Includes RPSMA male dipole antenna.

Model BB-ZP24D-250RM-SR supports an indoor maximum range of 91m (3000 ft) and outdoor maximum range of 1.6 km (1 mi).

## POWER SOURCE

10 to 48 VDC or 18 to 30 VAC wide range power input options. External power source required:

\_\_Stand-alone radio modems do not include power supply (sold separately).

\_\_Each kit includes (two each): radio modems, power supplies, cables.

## ORDERING INFORMATION <sup>1</sup>

MODEL NUMBER	DESCRIPTION
BB-ZP24D-250RM-SR	Zlinx Radio Modem 2.4 GHz, Short Range, RS-232/422/485
BB-ZP9D115RMLR-A <sup>2</sup>	Zlinx Radio Modem 900 MHz, Long Range, RS-232/422/485
BB-RM-LR-KIT <sup>3</sup>	Long Range Starter Kit, 900 MHz, Radio Modem
BB-RM-SR-KIT <sup>2, 3</sup>	Short Range Starter Kit, 2.4 GHz, Radio Modem

Note 1: Order one radio modem for each serial device that you want to connect (use same frequency).

Note 2: 900 MHz model for North America only.

Note 3: Kits contain: (2) radio modems, (2) 24VDC 30W power supplies, (2) 1.8 m (6 ft) serial cables

World-wide. Check with your local distributor for availability and options.

## ACCESSORIES - sold separately

- BB-MDR-20-24 – 24W, 24VDC, 1A, DIN Power Supply, Slim Case
- BB-ZP9D-ANT1 – 900 MHz Spare Antenna
- BB-ZP24D-ANT1 – 2.4 GHz Spare Antenna
- BB-ZP9D-DIN1 – Replacement DIN Clip Kit
- BB-DRPM25 – Panel Mount Adapter

All product specifications are subject to change without notice.  
BB-ZP9Dx & BB-ZP24Dx WirelessRadioModems\_4918ds

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BB-ZP9D115RMLR-A  
(North America only)



## SPECIFICATIONS

MODEL NUMBER:	BB-ZP24D-250RM-SR	BB-ZP9D115RMLR-A (North America only)
<b>RF PROPERTIES</b>		
Standard	IEEE 802.15.4	Proprietary Radio
Range (with included antenna)	Up to 91 m (3000 ft) indoor, or 1.6 km (1.0 mi) outdoor	Up to 91 m (3000 ft) indoor, Up to 22.5 km (14 mi) outdoor
Frequency	2.4 GHz	900 MHz
Transmit Power	10 mW (max)	1W (selectable)
<b>SOFTWARE</b>		
O/S Support	Windows XP, 7, 8, 8.1, 10	
Features	RSSI signal range test modem emulation	
<b>INCLUDED OMNI ANTENNA</b>		
dBi	2.1 dBi	3 dBi
Antenna Connector	External Reverse Polarity SMA male jack connector, omni directional (included with product)	
<b>SERIAL PROPERTIES</b>		
Baud	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400
Data Bit; Parity; Stop Bit	8 only; none only; 1 only	7, 8; None, even, odd, mark, space; 1, 2
RS-232	DB9F DCE or Terminal Block (TX, RX, GND available on Terminal Block)	
RS-422	Removable terminal block, 2- or 4-wire: TX+, TX-, RX+, RX-, GND, 120 Ohms, Dip Switch selectable	
RS-485	Removable terminal block, 2- or 4-wire: TX+, TX-, RX+, RX-, GND, bit-wise, 120 Ohms, Dip Switch selectable	
Wireless Link Failure Output	Removable terminal block, source (PNP) transistor output, 40mA	
<b>POWER</b>		
Power Source	External, required (not included with radio modem units; included in kits)	
Power Supply	10-48 VDC, 18-30 VAC, removable terminal block	
Power Consumption	2.0W, maximum	5.0W, maximum
<b>DIMENSIONS</b>		
Enclosure	3.1W x 8.4D x 11.4H cm (1.2W x 3.3D x 4.7H in)	
<b>ENVIRONMENTAL</b>		
Operating Temperature	-40 to +85 °C	
Storage Temperature	-40 to +85 °C	
Operating Humidity	10 to 90% non-condensing	
<b>ENCLOSURE RATING</b>		
Rating	IP30	
Mounting	DIN rail mount, 35mm	
LED Status	Power, Signal Strength, Wireless Data	
<b>MEANTIME BETWEEN FAILURE (MTBF) - MIL 217F</b>		
MTBF	BB-ZP24D-250RM-SR: 1108125 hours BB-ZP9D115RMLR-A: 1137313 hours	
<b>REGULATORY, APPROVALS, DIRECTIVES, STANDARDS</b>		
CE (2.4 GHz models only, BB-ZP24D-250RM-SR and BB-RM-SR-KIT) FCC Part 15 GFR Title 47 – Digital Apparatus (Federal Communications Commission) ICES-003 Class B – Digital Apparatus (Industry Canada)		
CE (Models BB-ZP24D-250RM-SR, BB-RM-SR-KIT only)	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	UL508 (E222870) (all models) UL Class 1/Division 2 (E245458) (Model# BB-ZP9D115RMLR-A only)	