

# IP67 Outdoor Rated Industrial Radio Modem

Zlinx Xtreme Wireless Radio Modems



## PRODUCT FEATURES

- IP67 rated for outdoor applications
- RS-232/422/485, serial communications
- Modbus Compatible
- Ranges to 40 miles (64 km) Line of Sight & Antenna Dependent
- Heavy duty machine mount industrial grade case and components
- Signal strength indicator aids trouble shooting
- 900 MHz and 2.4 GHz versions
- Wide temperature range -40 to 74°C
- Wide range power input: 10VDC to 30VDC
- AES Encryption
- UL Class1/Division2
- NEMA TS2

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 900 MHz and 2.4 GHz ISM bands. Select the 900 MHz version for longer distances. For further flexibility, the output power is software selectable.

The 900 MHz units offer 256 bit AES Encryption. The 2.4 GHz units have 128 bit AES Encryption.

## ORDERING INFORMATION

| MODEL NUMBER | DESCRIPTION                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------|
| ZXT9-RM      | Zlinx Xtreme IP67 900MHz Radio Modem, Long Range, RS-232/422/485                                                     |
| ZXT24-RM     | Zlinx Xtreme IP67 2.4GHz Radio Modem, Short Range, RS-232/422/485                                                    |
| ZXT9-RM-KIT  | Zlinx Xtreme IP67 900MHz Radio Modem Kit, (2) Radio Modems, (2) 24VDC IP67 Power Supplies, (1) USB Programming Cable |

### World-wide.

Check with your local distributor for availability and options.

\* Check wireless regulations/standards in your geographic area.

## ACCESSORIES

|            |                                             |
|------------|---------------------------------------------|
| CLG-60-24  | IP67 Power Supply, Panel Mount, 24V DC, 60W |
| ZXT9-ANT   | 900 MHz Spare Antenna                       |
| ZZ24D-ANT1 | 2.4 GHz Spare Antenna                       |
| ZXTMT      | Zlinx Xtreme Conduit Kit                    |

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Zlinx Xtreme Wireless Radio Modems



## SPECIFICATIONS

| RF PROPERTIES                                                                     |                                                                                                                                                   |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical Standard                                                                 | 802.15.4                                                                                                                                          |
| FREQUENCY                                                                         |                                                                                                                                                   |
| ZXT9-RM                                                                           | 900 MHz ISM (902-928 MHz)                                                                                                                         |
| ZXT24-RM                                                                          | 2.4 GHz ISM (2.4 to 2.5 GHz)                                                                                                                      |
| TRANSMIT POWER                                                                    |                                                                                                                                                   |
| ZXT9-RM                                                                           | 1 mW, 10 mW, 100 mW, 500 mW<br>1 W – Software Selectable                                                                                          |
| ZXT24-RM                                                                          | 10 mW, 16 mW, 25 mW, 30 mW<br>63 mW – Software Selectable                                                                                         |
| Receiver Sensitivity                                                              | -100 dBm                                                                                                                                          |
| OVER THE AIR DATA RATE                                                            |                                                                                                                                                   |
| ZXT9-RM                                                                           | 9.6 or 115.2 kbps                                                                                                                                 |
| ZXT24-RM                                                                          | Software Selectable<br>250 kbps                                                                                                                   |
| OUTDOOR RANGE                                                                     |                                                                                                                                                   |
| ZXT9-RM                                                                           | Supplied Antenna 14 mi (23 km)<br>High Gain Antenna 40 mi (64 km)                                                                                 |
| ZXT24-RM                                                                          | Supplied Antenna 1.5 mi (2.4 km)<br>High Gain Antenna 10 mi (16 km)                                                                               |
| Range estimates based on optimal RF conditions and an unobstructed line of sight. |                                                                                                                                                   |
| TRANSMISSION METHOD                                                               |                                                                                                                                                   |
| ZXT9-RM                                                                           | FHSS                                                                                                                                              |
| ZXT24-RM                                                                          | DSSS                                                                                                                                              |
| Modulation                                                                        | FSK                                                                                                                                               |
| CHANNEL CAPACITY                                                                  |                                                                                                                                                   |
| ZXT9-RM                                                                           | 10 hop sequences share 50 Frequencies                                                                                                             |
| ZXT24-RM                                                                          | 12 Direct Sequence Channels                                                                                                                       |
| Network Topologies                                                                | Peer-to-Peer, Point-to-Point,<br>Point-to-Multi Point                                                                                             |
| ENCRYPTION                                                                        |                                                                                                                                                   |
| ZXT9-RM                                                                           | 256 bit AES                                                                                                                                       |
| ZXT24-RM                                                                          | 128 bit AES                                                                                                                                       |
| SUPPLIED ANTENNA                                                                  |                                                                                                                                                   |
| ZXT9-RM                                                                           | Impedance – 50 Ω<br>Connector – RPSMA Female<br>VSWR – 2.0 Max (in-band)<br>Gain – 3 dBi<br>Polarization – Vertical<br>Length – 7.8 in (198 mm)   |
| ZXT24-RM                                                                          | Impedance - 50Ω<br>Connector – RPSMA Female<br>VSWR – 2.0 Max (in-band)<br>Gain – 2.1 dBi<br>Polarization – Vertical<br>Length – 4.38 in (113 mm) |
| Modem Antenna Con.                                                                | RPSMA Male                                                                                                                                        |
| SOFTWARE                                                                          |                                                                                                                                                   |
| Support                                                                           | Win XP, 7                                                                                                                                         |
| Features                                                                          | RSSI signal range test                                                                                                                            |

| SERIAL PROPERTIES       |                                                                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Rates              |                                                                                                                                                                                                                   |
| ZXT9-RM                 | 1.2 to 230.4 kbps                                                                                                                                                                                                 |
| 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<br>Signals: TD, RD, RTS, CTS, GND                                                                                                                                                       |
| RS-422                  | Connector: Terminal Block<br>Signals: TDA(-) TDB(+) RDA(-) RDB(+) GND                                                                                                                                             |
| RS-485 (2/4 Wire)       | Connector: Terminal Block<br>Signals (4-Wire): TDA(-), TDB(+), RDA(-), RDB(+), GND<br>Signals (2-Wire): Data A(-), Data B(+), GND                                                                                 |
| SD Control              | Automatic Bit Wise                                                                                                                                                                                                |
| Termination             | 120Ω Ohm DIP Switch Selectable                                                                                                                                                                                    |
| Industrial Bus          | MODBUS RTU                                                                                                                                                                                                        |
| POWER                   |                                                                                                                                                                                                                   |
| Power Connector         | Terminal Block                                                                                                                                                                                                    |
| Input Voltage           | 10 to 30 VDC                                                                                                                                                                                                      |
| Power Use               | ZXT9-RM: 1.7 W (typical), 5.8 W (maximum)<br>ZXT24-RM: 1.2 W (typical), 3.5 W (maximum)                                                                                                                           |
| ENVIRONMENT             |                                                                                                                                                                                                                   |
| Dimensions              | 5.12x5.12x2.37 in /130.1x130.1x60.2 mm                                                                                                                                                                            |
| Operating Temp          | -40° to 74°C (-40 to 165°F)                                                                                                                                                                                       |
| Storage Temp            | -40° to 85°C (-40 to 185°F)                                                                                                                                                                                       |
| Op Humidity             | 0 to 95% (Non-Condensing)                                                                                                                                                                                         |
| Enclosure Rating        | IP67                                                                                                                                                                                                              |
| Use                     | Indoor and Outdoor                                                                                                                                                                                                |
| CERTIFICATIONS          |                                                                                                                                                                                                                   |
| UL                      | UL, cUL, Class 1 Div 2 Groups A, B, C, D File E245458<br>EN55022: 2006 – Class A<br>EN61000-6-1: 2006 – Heavy Industrial<br>EN61000-4-2:2008 – ESD<br>EN61000-4-3:2006 – EFT<br>EN61000-4-6:2005 – Cond. Immunity |
| CE                      | Class A<br>FCC ID – ZXT9-RM – OUR-9XTEND<br>FCC ID – ZXT24-RM – OUR-XBEEPRO                                                                                                                                       |
| FCC                     |                                                                                                                                                                                                                   |
| NEMA TS2                |                                                                                                                                                                                                                   |
| CONTROLS AND INDICATORS |                                                                                                                                                                                                                   |
| Signal Strength         | 8 Green RSSI LED's indicate signal strength                                                                                                                                                                       |
| Power                   | Green LED                                                                                                                                                                                                         |
| Receive Data            | Green LED                                                                                                                                                                                                         |
| Transmit Data           | Green LED                                                                                                                                                                                                         |
| Programming Port        | USB                                                                                                                                                                                                               |
| Reset                   | Push Button                                                                                                                                                                                                       |