

# XBee® & XBee-PRO® ZB Adapters

ZigBee® Device Adapters for Drop-in Networking

Easy-to-use adapters bring wireless connectivity to electronic devices in legacy wired applications.



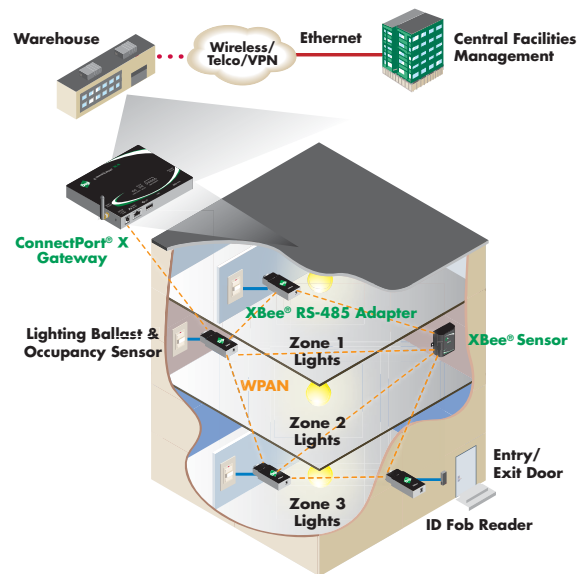
## Overview

XBee & XBee-PRO ZB adapters deliver wireless connectivity to electronic devices through advanced mesh networks. These adapters utilize the ZigBee PRO Feature Set, for robust self-healing, self-configuring networks. They are ideal for wirelessly enabling sensors, controllers and other devices in legacy wired applications, or where a common hardware interface is preferable.

XBee & XBee-PRO ZB adapters can be battery or mains powered. They are available in a wide range of physical interfaces, including RS-232, RS-485, USB (power harvesting), digital I/O and analog I/O. Built upon either low-power and low-cost XBee modules or extended-range XBee-PRO modules, these adapters can be purchased in a broad range of configurations and customized to meet your application needs.

Part of Digi's Drop-in Networking solutions, XBee adapters are compatible with ConnectPort® X gateways, XBee modules and XBee accessories. This family of hardware, software and management tools provides users with unparalleled flexibility and end-to-end communication between devices.

## Application Highlight



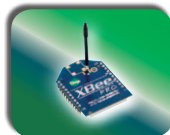
## Features/Benefits

- ZigBee mesh wireless connectivity for all types of end-point devices
- Multiple interface options available for a range of devices including RS-232, RS-485, USB, digital I/O and analog I/O
- ModBus fragmentation support
- Flexible powering options
- Small form factor for easy handling and installation
- Outdoor RF line-of-sight range up to 2 miles with XBee-PRO
- Easy to install and configure for rapid deployment
- Low-power XBee or extended-range XBee-PRO

## Related Products



Gateways



Modules



WPAN Adapter



Dev Kits



Network Extenders



Sensors



[www.digi.com](http://www.digi.com)

| Platform                           | XBee® ZB  | XBee-PRO® ZB   |
|------------------------------------|---|--|
| <b>Performance</b>                 |   |  |
| RF Data Rate                       | 250 kbps  |  |
| Indoor/Urban Range                 | Up to 133 ft (40 m)   | Up to 300 ft (90 m) / 200 ft (60 m) Int'l variant                      |
| Outdoor/RF Line-of-Sight Range     | Up to 400 ft (120 m)  | Up to 2 miles (3200m) / 5000 ft (1500 m) Int'l variant                 |
| Transmit Power                     | 1.25 mW (+1 dBm) / 2 mW (+3 dBm) boost mode   | 63 mW (+18 dBm) / Int'l version  |
| Receiver Sensitivity (1% PER)      | -96 dBm in boost mode   | -102 dBm   |
| <b>Features</b>                    |   |  |
| Antenna Type                       | XBee ZB Adapters: Internal Antenna; XBee-PRO ZB Adapters: External RPSMA Antenna  |  |
| Frequency Band                     | 2.4 GHz   |  |
| Serial Data Interface              | RS-232 DB9M/DTE or RS-485 (6-position wire terminal block) switch selectable between RS-422 half-duplex, RS-422 full duplex and RS-485  |  |
| USB Data Interface                 | USB 2.0 Full Speed (with ESD protection); connects to host via captive 1-meter cable  |  |
| Analog IO (AIO) & Digital IO (DIO) | 6-position wire terminal block; Analog IO: 0 - 10V, 4 - 20 mA, or +/- 2VDC Differential; Digital IO: Digital Input or sinking driver output   |  |
| <b>Networking &amp; Security</b>   |   |  |
| Network Topologies                 | Point-to-point, Point-to-multipoint, Mesh   |  |
| Number of Channels                 | 16  | 14   |
| Spread Spectrum Type               | Direct Sequence Spread Spectrum   |  |
| Filtration Options                 | PAN ID, 64-bit MAC, channel   |  |
| Addressing                         | 65,000 available addresses for each channel   |  |
| <b>Other</b>                       |   |  |
| LEDs                               | Power: Glows green when external power is supplied (not active when battery powered to limit power drain)<br>Associate: Blinks when unit is connected and associated on an RF network                   |  |
| Controls                           | Device reset (internal push button); Identification (internal push button) – relays ID to gateway   |  |
| Dimensions (L x W x H) & Weight    | RS-232, RS-485, AIO, DIO models: 3.60 in x 1.90 in x 1.20 in (9.14 cm x 4.82 cm x 3.04 cm) 2.29 oz (64.92 g)<br>USB models: 2.87 in x 1.80 in x 0.83 in (7.29 cm x 4.57 cm x 2.10 cm) 1.60 oz (45.36 g) |  |
| Operating Temperature              | -40° C to +70° C  |  |
| <b>Power Requirements</b>          |   |  |
| Input Voltage                      | RS-232, RS-485, AIO, DIO models: 3.7-6VDC and 9-30 VDC<br>USB models: Bus powered (+5V)   |  |
| Power Consumption                  | USB: 70 mA (normal operation) / 200 uA (suspend mode)   | USB: 70 mA Rx and 250 mA Tx (normal operation) / 200 uA (suspend mode) |
| <b>Regulatory Approvals</b>        |   |  |
| Emissions                          | FCC Part 15.247, IC, ETSI/CE, Telec, EN55022 (Class B)  |  |
| Safety                             | UL60950, CAN/CSA C22.2 No.60950   |  |
| RoHS                               | Yes   |  |



A complete list of models and part numbers is available at [www.digi.com/products/wireless/zigbee-mesh/xbee-zb-adapters.jsp](http://www.digi.com/products/wireless/zigbee-mesh/xbee-zb-adapters.jsp)

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