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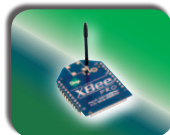
XBee & XBee-PRO ZB adapters can be battery or mains powered. They are available in a wide range of physical interfaces, including RS-232, RS-485, USB (power harvesting), digital I/O and analog I/O. Built upon either low-power and low-cost XBee modules or extended-range XBee-PRO modules, these adapters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

Related Products

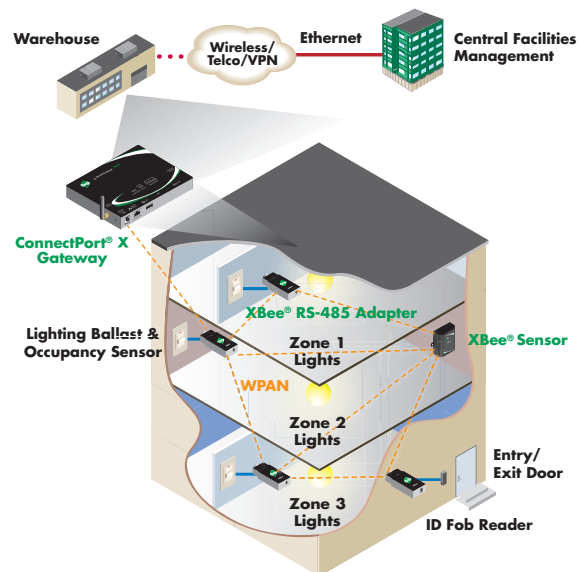Gateways

Modules

WPAN Adapter

Dev Kits

Network Extenders

Sensors

Application Highlight

Warehouse — Wireless/Telco/VPN — Ethernet — Central Facilities Management

ConnectPort® X Gateway

Lighting Ballast & Occupancy Sensor

XBee® RS-485 Adapter

Zone 1 Lights

XBee® Sensor

WPAN

Zone 2 Lights

Zone 3 Lights

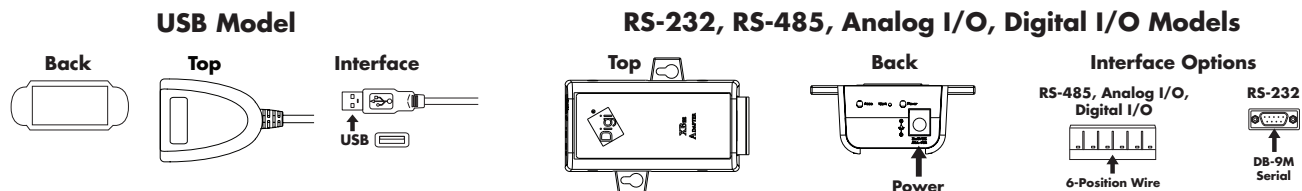Entry/Exit Door

ID Fob Reader

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 1 mile with XBee-PRO**
- **Easy to install and configure for rapid deployment**
- **Low-power XBee or extended-range XBee-PRO**

www.digi.com

Platform	XBee® ZB	XBee-PRO® ZB
Performance		
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 1 mile (1.6 km) / 2500 ft (750 m) Int'l variant
Transmit Power	1.25 mW (+1 dBm) / 2 mW (+3 dBm) boost mode	50 mW (+17 dBm) / 10 mW (+10 dBm) Int'l version
Receiver Sensitivity (1% PER)	-96 dBm in boost mode	-102 dBm
Features		
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	
NEMA 4X/IP66 Enclosure (Optional)	Fully protected from water, dust and dirt: Internal metal mounting plate; 1 cable inlet with water-tight grommet Dimensions: 7.50 in x 4.50 in x 3.25 in (19.05 cm x 11.43 cm x 8.25 cm)	
Networking & Security		
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	
Other		
LEDs	Power: Glows green when external power is supplied (not active when battery powered to limit power drain) 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) 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	
Power Requirements		
Input Voltage	3.7-6VDC and 9-30VDC options	
Power Supply (RS-232, RS-485, AIO, DIO)	120VAC/240VAC to 5VDC power supply, internal lithium battery pack, or external 6-cell D battery holder (all sold separately)	
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)
USB Model	Bus powered (+5V)	
Regulatory Approvals		
Emissions	FCC Part 15.247, IC, ETSI/CE, Telec, EN55022 (Class B)	
Safety	UL60950, CAN/CSA C22.2 No.60950	
RoHS	Yes	

USB Model

Back   Top   Interface

USB

RS-232, RS-485, Analog I/O, Digital I/O Models

Top   Back   Interface Options

Power

RS-485, Analog I/O, Digital I/O
6-Position Wire

RS-232
DB-9M Serial

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

MAKING Wireless M2M EASY™

91001420
D2/1010

BUY ONLINE • www.digi.com