

ZIGBEE ADAPTERS FOR  
SERIAL AND USB DEVICES



# XBEE-PRO<sup>®</sup> ZIGBEE ADAPTERS

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

XBee-PRO ZigBee 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-PRO ZigBee 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 XBee-PRO modules,

these adapters can be purchased in a broad range of configurations and customized to meet your application needs.

XBee adapters are compatible with ConnectPort<sup>®</sup> X gateways, XBee<sup>®</sup> modules and XBee accessories. This family of hardware, software and management tools provides users with unparalleled flexibility and end-to-end communication between devices.

## BENEFITS

- Hardened design with extended operating temperature (-35° C to +74° C) for hazardous locations
- Class 1, Division 2 certified
- Multi-master/Multi-protocol concurrent support for Allen-Bradley and Modbus protocols
- Serial and Ethernet protocol bridging support for Allen-Bradley and Modbus protocols promotes interoperability
- ASCII to protocol translation for Allen-Bradley and Modbus
- Switch selectable RS-232/422/485 serial port

## RELATED PRODUCTS



Gateways



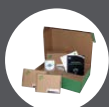
Modules



Network  
Extenders

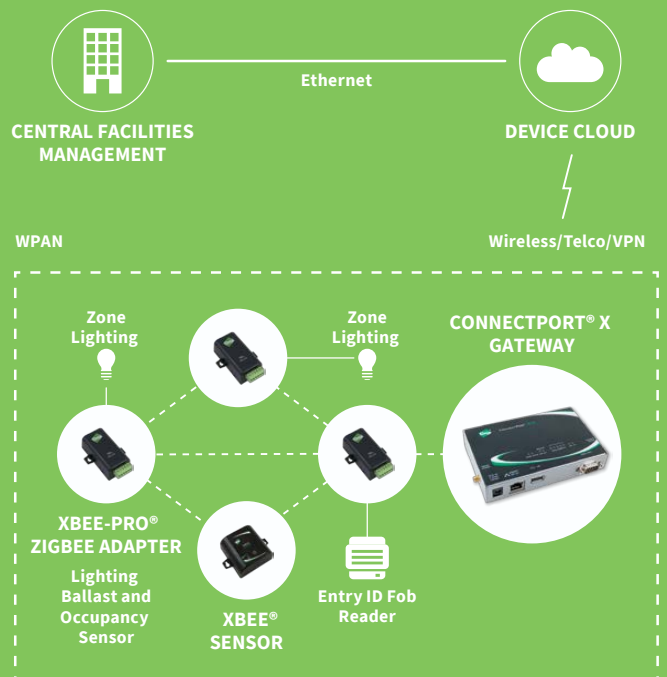


Sensors



Development  
Kits

## APPLICATION EXAMPLE



# SPECIFICATIONS

# XBee-PRO® ZigBee Adapter

## PERFORMANCE

<b>RF DATA RATE</b>	250 kbps
<b>INDOOR/URBAN RANGE</b>	Up to 300 ft (90 m) / 200 ft (60 m) Int'l variant
<b>OUTDOOR/RF LINE-OF-SIGHT RANGE</b>	Up to 2 miles (3200m) / 5000 ft (1500 m) Int'l variant
<b>TRANSMIT POWER</b>	63 mW (+18 dBm) / Int'l version
<b>RECEIVER SENSITIVITY (1% PER)</b>	-102 dBm

## FEATURES

<b>ANTENNA TYPE</b>	XBee ZB Adapters: Internal Antenna; XBee-PRO ZB Adapters: External RPSMA Antenna
<b>FREQUENCY BAND</b>	2.4 GHz
<b>SERIAL DATA INTERFACE</b>	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
<b>USB DATA INTERFACE</b>	USB 2.0 Full Speed (with ESD protection); connects to host via captive 1-meter cable
<b>ANALOG IO (AIO) &amp; DIGITAL IO (DIO)</b>	6-position wire terminal block; Analog IO: 0 - 10V, 4 - 20 mA, or +/- 2VDC Differential; Digital IO: Digital Input or sinking driver output

## NETWORKING & SECURITY

<b>NETWORK TOPOLOGIES</b>	Point-to-point, Point-to-multipoint, Mesh
<b>NUMBER OF CHANNELS</b>	14
<b>SPREAD SPECTRUM TYPE</b>	Direct Sequence Spread Spectrum
<b>FILTRATION OPTIONS</b>	PAN ID, 64-bit MAC, channel
<b>ADDRESSING</b>	65,000 available addresses for each channel

## OTHER

<b>LEDS</b>	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
<b>CONTROLS</b>	Device reset (internal push button); Identification (internal push button) - relays ID to gateway
<b>DIMENSIONS (L X W X H) &amp; WEIGHT</b>	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)
<b>OPERATING TEMPERATURE</b>	-40° C to +70° C

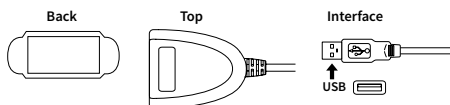
## POWER REQUIREMENTS

<b>INPUT VOLTAGE</b>	RS-232, RS-485, AIO, DIO models: 3.7-6VDC and 9-30 VDC USB models: Bus powered (+5V) USB Models: Bus Powered (+5V)
<b>POWER CONSUMPTION</b>	USB: 70 mA Rx and 250 mA Tx (normal operation) / 200 uA (suspend mode)

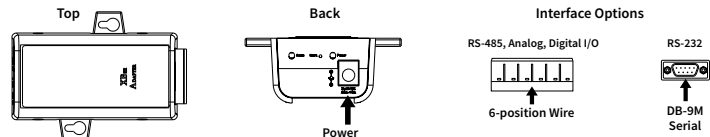
## REGULATORY APPROVALS

<b>EMISSIONS</b>	FCC Part 15.247, IC, ETSI/CE, Telec, EN55022 (Class B)
<b>SAFETY</b>	UL60950, CAN/CSA C22.2 No.60950
<b>ROHS</b>	Yes

**USB MODEL**



**RS-232, RS-485, ANALOG, DIGITAL I/O MODELS**



PART NUMBERS	DESCRIPTION
XA-Z14-CE1P-A	XBee-PRO ZB USB adapter, internal wire antenna
XA-Z14-CE1P-W	XBee-PRO ZB USB adapter, internal wire antenna (International)
XA-Z14-CS2PH-A	XBee-PRO RS-232 adapter, external RPSMA antenna included (9 - 30V)
XA-Z14-CS2PH-W	XBee-PRO RS-232 adapter, external RPSMA antenna included (9 - 30V) (International)
XA-Z14-CS3PH-A	XBee-PRO RS-485 adapter, external RPSMA antenna included (9 - 30V)
XA-Z14-CS3PH-W	XBee-PRO RS-485 adapter, external RPSMA antenna included (9 - 30V) (International)
XA-Z14-CS4PH-A	XBee-PRO DIO adapter, external RPSMA antenna included (9 - 30V)
XA-Z14-CS4PH-W	XBee-PRO DIO adapter, external RPSMA antenna included (9 - 30V) (International)
XA-Z14-CS5PH-A	XBee-PRO AIO adapter, external RPSMA antenna included (9 - 30V)
XA-Z14-CS5PH-W	XBee-PRO AIO adapter, external RPSMA antenna included (9 - 30V) (International)