



2.4 GHZ  
WIRELESS ADAPTERS



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

Adapters utilize the DigiMesh peer-to-peer networking protocol to connect multiple types of devices over a self-healing, low-power mesh network

XBee-PRO DigiMesh adapters deliver wireless connectivity to electronic devices using the DigiMesh protocol. This innovative, peer-to-peer networking protocol offers users increased stability by forming self-healing, self-discovering mesh networks. DigiMesh features dense network operation and support for sleeping routers, extending the operational life of battery dependent networks.

XBee-PRO DigiMesh adapters are available in 2.4 GHz with interface options that include RS-232, RS-485, USB, digital and analog I/O.

XBee-PRO DigiMesh adapters are compatible with other products using the DigiMesh protocol, such as ConnectPort<sup>®</sup> X gateways, and XBee and XBee-PRO wireless modules. By using Digi Device Cloud<sup>SM</sup>, users can securely access and manage devices in their DigiMesh network from anywhere in the world.

## BENEFITS

- Simple topology to deploy and grow
- XBee-PRO platform provides extended range
- DigiMesh peer-to-peer networking protocol
  - Self-healing and discovery for network stability
  - Sleeping routers supported for long battery life
  - No master/coordinator required
- Compatible with other devices using the DigiMesh protocol, like ConnectPort X gateways, RF modules and more

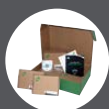
## RELATED PRODUCTS



Gateways



Modules



Development Kits

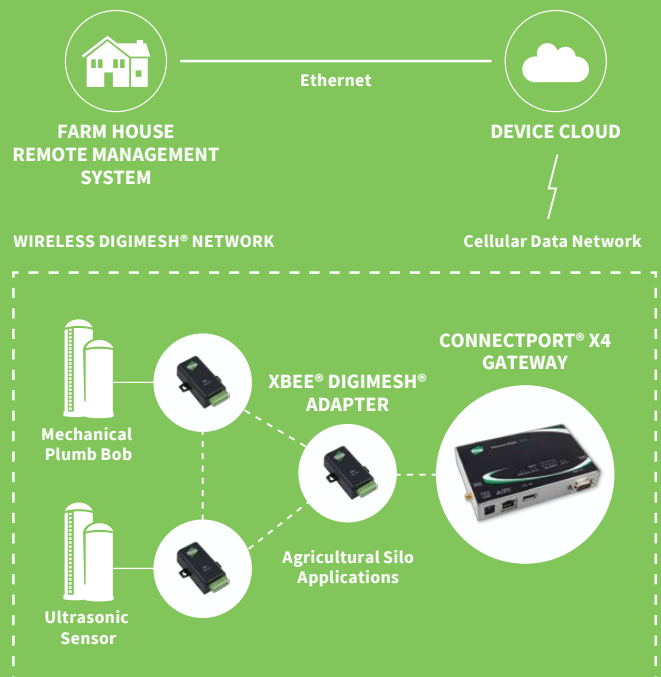


Modems



XBee-PRO<sup>®</sup> ZB Wall Router

## APPLICATION EXAMPLE



# SPECIFICATIONS

# DigiMesh® 2.4

## PERFORMANCE

<b>DATA RATE</b>	250 Kbps
<b>INDOOR/URBAN RANGE</b>	300 ft (90 m) / 200 ft (60 m) Int'l variant
<b>OUTDOOR/RF LINE-OF-SIGHT RANGE</b>	1 mile (1.6 km) / 2500 ft (750 m) Int'l variant
<b>TRANSMIT POWER</b>	63 mW (+18 dBm) / 10 mW (+10 dBm) Int'l variant
<b>RECEIVER SENSITIVITY (1% PER)</b>	-100 dBm

## FEATURES

<b>CONFIGURATION METHOD</b>	API or AT commands
<b>FREQUENCY BAND</b>	2.4 GHz ISM
<b>INTERFERENCE IMMUNITY</b>	DSSS (Direct Sequence Spread Spectrum)
<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 INTERFACE &amp; DIGITAL I/O</b>	6-position wire terminal block; Analog: 0 - 10V, 4 - 20 mA, or +/- 2VDC differential; Digital IO: Digital input or sinking driver output
<b>ANTENNA TYPE</b>	RPSMA (USB uses internal wire antenna)
<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>OPERATING TEMPERATURE</b>	-40° C to +70° C (-40° F to +158° F)
<b>DIMENSIONS</b>	RS-232, RS-485, Analog, Digital I/O models: 3.60 in x 1.90 in x 1.20 in (9.14 cm x 4.82 cm x 3.04 cm) USB models: 2.87 in x 1.80 in x 0.83 in (7.29 cm x 4.57 cm x 2.10 cm)
<b>WEIGHT</b>	RS-232, RS-485, Analog, Digital I/O models: 2.29 oz (64.92 g); USB models: 1.60 oz (45.36 g)

## NETWORKING & SECURITY

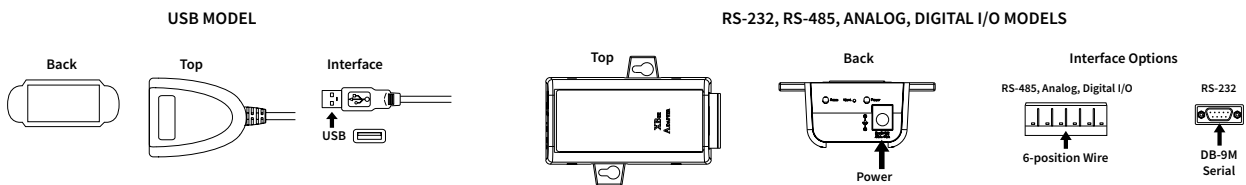
<b>ENCRYPTION</b>	128-bit AES
<b>RELIABLE PACKET DELIVERY</b>	Retries/Acknowledgements
<b>ADDRESSING OPTIONS</b>	PAN ID, channel, 64-bit address
<b>CHANNELS</b>	16

## POWER REQUIREMENTS

<b>POWER INPUT</b>	3.7 - 6.0VDC
<b>POWER SUPPLY</b>	120VAC/240VAC to 5VDC power supply, internal lithium battery pack or external 6-cell D battery holder (all sold separately)
<b>USB MODEL</b>	Bus powered (+5V)
<b>TRANSMIT CURRENT</b>	210 mA
<b>RECEIVE CURRENT</b>	55 mA

## REGULATORY APPROVALS

<b>EMISSIONS</b>	FCC Part 15, EN55022:2006 Class B, ICES-003Iss.4, EN55024:1998+A1 (2001) + A2 (2003), AS/NZS CISPR 22:2006, VCCI V 3/2007.04
<b>SAFETY</b>	IEC/EN 60950-1 (2001), CB Certificate, UL/cUL 60950-1
<b>ROHS</b>	Yes



PART NUMBERS	DESCRIPTION
XA-M14-CE1P-A	XBee-PRO DigiMesh 2.4, USB adapter
XA-M14-CE1P-W	XBee-PRO DigiMesh 2.4, USB adapter (International)
XA-M14-CS2P-A	XBee-PRO DigiMesh 2.4, RS-232 adapter (3-6V)
XA-M14-CS2P-W	XBee-PRO DigiMesh 2.4, RS-232 adapter (3-6V) (International)
XA-M14-CS3P-A	XBee-PRO DigiMesh 2.4, RS-485 adapter (3-6V)
XA-M14-CS3P-W	XBee-PRO DigiMesh 2.4, RS-485 adapter (3-6V) (International)
XA-M14-CS4P-A	XBee-PRO DigiMesh 2.4, digital IO adapter (3-6V)
XA-M14-CS4P-W	XBee-PRO DigiMesh 2.4, digital IO adapter (3-6V) (International)
XA-M14-CS5P-A	XBee-PRO DigiMesh 2.4, analog input adapter (3-6V)
XA-M14-CS5P-W	XBee-PRO DigiMesh 2.4, analog input adapter (3-6V) (International)

FOR MORE INFORMATION  
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