



LONG-RANGE 900 MHZ  
RF MODEMS



# XBEE-PRO® 900HP RF MODEMS

900 MHz stand-alone RF modems provide outstanding range (up to 28 miles) in a reliable wireless solution

Digi's XBee-PRO 900HP RF modems can be configured in minutes to provide reliable serial cable replacement between many different types of electronic devices. These modems utilize the XBee-PRO 900HP 900 MHz RF module in an enclosure with interface options that include RS-232, RS-485, USB and Ethernet with transmission ranges of up to 28 miles.

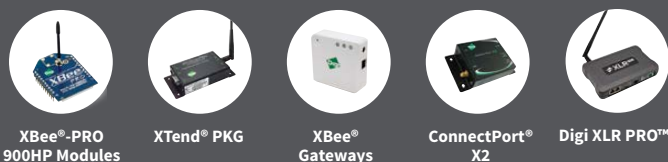
XBee-PRO 900HP RF modems allow the user to easily make their existing wired systems wireless simply by connecting to this product. They take advantage of the DigiMesh® networking protocol, featuring dense network operation using mesh technology.

XBee-PRO 900HP RF modems can wirelessly connect a variety of devices across many applications including remote monitoring, building automation/ security, industrial automation/SCADA, fleet management/asset tracking and sensor data capture in embedded systems.

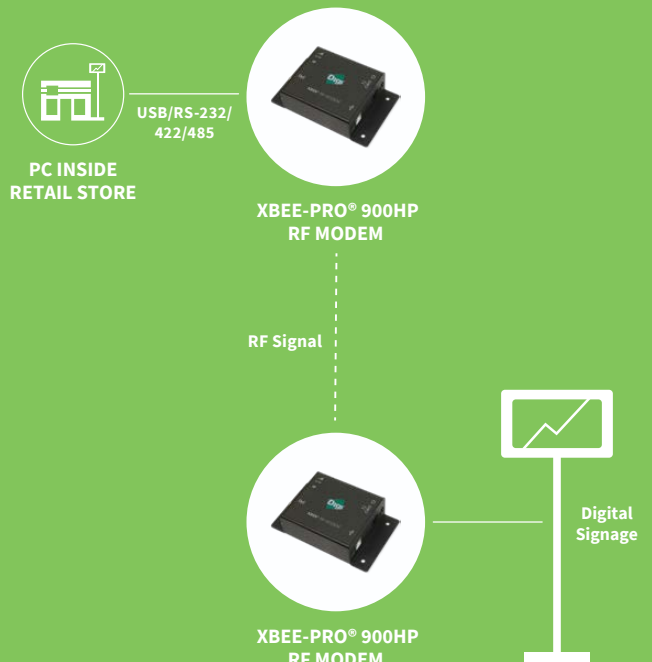
## BENEFITS

- Industrial design with -40° C to 85° C operating temperature
- Superior outdoor LOS range of up to 28 miles
- RF data throughput up to 200 Kbps
- 900 MHz license-free ISM band operation
- Interface options include RS-232, RS-485, USB and Ethernet
- DigiMesh peer-to-peer mesh networking protocol
  - Self-healing and discovery for network stability
- Includes mini-USB port for simple device configuration

## RELATED PRODUCTS



## APPLICATION EXAMPLE



## SPECIFICATIONS

## XBee-PRO® 900HP RF Modems

## PERFORMANCE

INDOOR/URBAN RANGE	10 Kbps: up to 2000 ft (610 m); 200 Kbps: up to 1000 ft (305 m)
OUTDOOR/RF LINE-OF-SIGHT RANGE	10 Kbps: up to 9 miles (15.5 km); 200 Kbps: up to 4 miles (6.5 km); w/2.1 dBi dipole antenna
TRANSMIT POWER OUTPUT	Up to 24 dBm (250 mW) software selectable
THROUGHPUT DATA RATE	10 Kbps: up to 8.8 Kbps; 200 Kbps: up to 105.5 Kbps; (When configured as point-to-multipoint)
RF DATA RATE	10 Kbps or 200 Kbps
INTERFACE DATA RATE	125-65,0000 bps (Software selectable, includes non-standard baud rates)
RECEIVER SENSITIVITY	10 Kbps: -110 dBm; 200 Kbps: -101 dBm

## NETWORK AND SECURITY

FREQUENCY	902-928 MHz (located in the 900 MHz ISM Band)
SPREAD SPECTRUM	Frequency hopping
SUPPORTED NETWORK TOPOLOGIES	Mesh, Point-to-point, Point-to-multipoint, Peer-to-peer
CHANNEL CAPACITY	8 hop sequences share 25 channels, 64 channels available (there are 64 channels available, of which the user can select 25 that are hopped through in 8 different patterns.)

## ANTENNA

CONNECTOR	RPSMA (Reverse polarity SMA)
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## POWER REQUIREMENTS

POWER SUPPLY	7-30 VDC
RECEIVE CURRENT	60 mA (@9V)
TRANSMIT CURRENT	140 mA (@9V)

## PHYSICAL PROPERTIES

SIZE	4.5 in x 2.75 in x 1.125 in (11.4 cm x 7 cm x 2.9 cm)
WEIGHT	5.25 oz (150 g)
DATA CONNECTION	RS-232 female DB-9, RS-485/422 screw terminal, USB Type B, Config USB mini-B, 10/100 Ethernet
OPERATING TEMPERATURE	-40° C to 85° C (Industrial)

## REGULATORY APPROVALS

FCC PART 15.247 (U.S.A)	Yes
IC (CANADA)	Yes
C-TICK (AUSTRALIA)	Yes
ROHS	Compliant

PART NUMBERS	DESCRIPTION
XM-M92-2P-U	XBee Modem, RS232 to XBee-PRO 900HP, 200 Kbps
XM-M92-2P-UA	XBee Modem, RS232 to XBee-PRO 900HP, 200 Kbps w/Accessories
XM-M92-4P-U	XBee Modem, RS485 to XBee-PRO 900HP, 200 Kbps
XM-M92-4P-UA	XBee Modem, RS485 to XBee-PRO 900HP, 200 Kbps w/ Accessories
XM-M92-UP-U	XBee Modem, USB to XBee-PRO 900HP, 200 Kbps
XM-M92-UP-UA	XBee Modem, USB to XBee-PRO 900HP, 200 Kbps w/ Accessories
XM-P91-2P-U	XBee Modem, RS232 to XBee-PRO 900HP, 10 Kbps
XM-P91-2P-UA	XBee Modem, RS485 to XBee-PRO 900HP, 10 Kbps
XM-P91-4P-U	XBee Modem, RS485 to XBee-PRO 900HP, 10 Kbps
XM-P91-4P-UA	XBee Modem, RS485 to XBee-PRO 900HP, 10 Kbps w/ Accessories
XM-P91-UP-U	XBee Modem, USB to XBee-PRO 900HP, 10 Kbps w/ Accessories
XM-M92-2P-AA	XBee Modem, RS232 to XBee-PRO 900HP, 200 Kbps w/Accessories for Australia
XM-M92-4P-AA	XBee Modem, RS485 to XBee-PRO 900HP, 200 Kbps w/ Accessories for Australia
XM-M92-UP-AA	XBee Modem, USB to XBee-PRO 900HP, 200 Kbps w/ Accessories for Australia
XM-P91-2P-AA	XBee Modem, RS232 to XBee-PRO 900HP, 10 Kbps w/ Accessories for Australia
XM-P91-4P-AA	XBee Modem, RS485 to XBee-PRO 900HP, 10 Kbps w/ Accessories for Australia
XM-P91-UP-AA	XBee Modem, USB to XBee-PRO 900HP, 10 Kbps w/ Accessories for Australia

FOR MORE INFORMATION  
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