

LONG-RANGE 900 MHZ  
OEM RF MODULE



# DIGI XBEE-PRO® 900HP

Best-in-class range RF module features software-complete mesh or multipoint topologies with advanced sleep modes

Digi XBee-PRO 900HP embedded modules provide best-in-class range wireless connectivity to devices. They take advantage of the DigiMesh® networking protocol, featuring dense network operation and support for sleeping routers, and are also available in a point-to-multipoint configuration. Supporting RF line-of-sight ranges up to 28 miles (with high-gain antennas), and data rates of up to 200 Kbps, these modules are ideal for extended-range applications requiring increased data throughput.

The Digi XBee-PRO 900HP requires no programming and can be configured easily using Digi's free XCTU software or

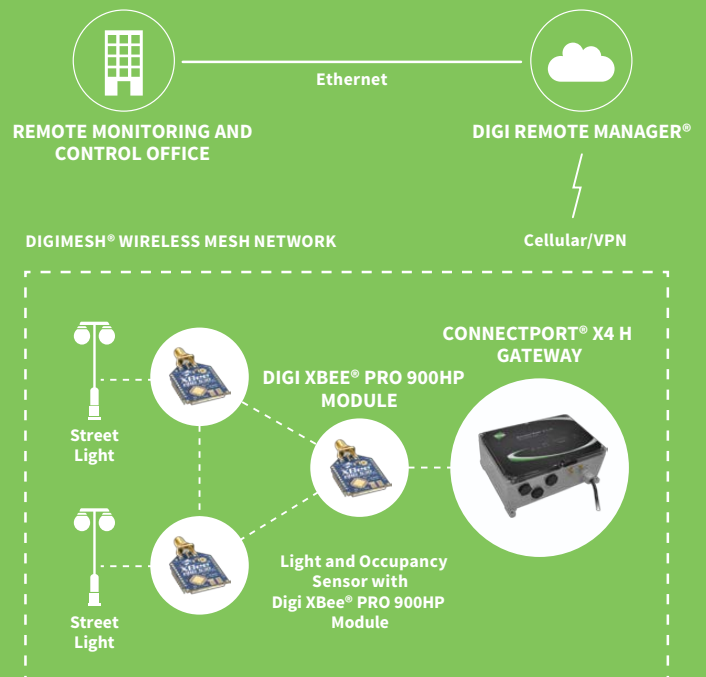
via a simplified AT command set. Digi XBee® modules are pre-certified for use in multiple countries, further reducing development costs and time to market.

The programmable version of the Digi XBee-PRO 900HP module makes customizing long-range wireless applications easy. Programming directly on the module eliminates the need for a separate host processor. Because the wireless software is isolated, applications can be developed with no risk to RF performance, security or additional certifications.

## BENEFITS

- Superior outdoor LOS range of up to 28 miles with high-gain antenna
- Over-the-air firmware updates via other Digi XBee-PRO 900HP modules or Digi Remote Manager®
- Software-selectable channel mask for interference immunity
- Programmable versions of the Digi XBee-PRO 900HP enable custom application development
  - 8-bit Freescale™ S08 microprocessor brings custom intelligence to the module
  - Digi XBee-specific CodeWarrior® development tools for easy programming
- RF data rate up to 200 Kbps
- Patented channel selectivity algorithm allows for more dense networks

## APPLICATION EXAMPLE



## RELATED PRODUCTS



Gateways



Modules



Digi XLR PRO®



XCTU



Development Kits

# SPECIFICATIONS

## Digi XBee-PRO® 900HP

## Programmable Digi XBee-PRO® 900HP

### HARDWARE

<b>PROCESSOR</b>	ADF7023 transceiver, Cortex-M3 EFM32G230 @ 28 MHz; Programmable includes: Freescale MC9S08QE32
<b>FREQUENCY BAND</b>	902 to 928 MHz, software selectable channel mask for interference immunity
<b>ANTENNA OPTIONS</b>	Wire, U.FL and RPSMSA

### PERFORMANCE

<b>RF DATA RATE</b>	10 Kbps or 200 Kbps
<b>INDOOR/URBAN RANGE</b>	10 Kbps: up to 2000 ft (610 m); 200 Kbps: up to 1000 ft (305 m)
<b>OUTDOOR/ LINE-OF-SIGHT RANGE</b>	10 Kbps: up to 9 miles (15.5 km); 200 Kbps: up to 4 miles (6.5 km) (with 2.1dB dipole antennas)
<b>TRANSMIT POWER</b>	Up to 24 dBm (250 mW) software selectable
<b>RECEIVER SENSITIVITY</b>	-101 dBm @ 200 Kbps, -110 dBm @ 10 Kbps

### FEATURES

<b>DATA INTERFACE</b>	UART (3V), SPI
<b>GPIO</b>	Up to 15 Digital I/O, 4 10-bit ADC inputs, 2 PWM outputs
<b>NETWORKING TOPOLOGIES</b>	DigiMesh, Repeater, Point-to-Point, Point-to-Multipoint, Peer-to-Peer
<b>SPREAD SPECTRUM</b>	FHSS (Software Selectable Channels)

### PROGRAMMABILITY

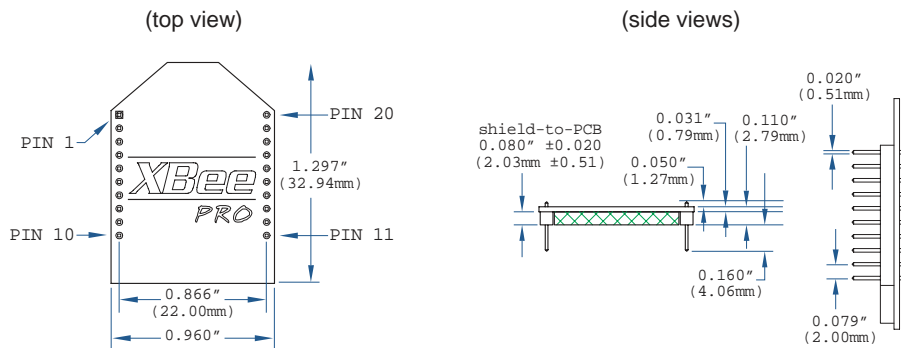
<b>MEMORY</b>	N/A	32 KB Flash / 2 KB RAM
<b>CPU/CLOCK SPEED</b>	N/A	HCS08 / Up to 50.33 MHz

### POWER

<b>SUPPLY VOLTAGE</b>	2.1 to 3.6 VDC	2.4 to 3.6 VDC
<b>TRANSMIT CURRENT</b>	215 mA	229 mA
<b>RECEIVE CURRENT</b>	29 mA	44 mA
<b>SLEEP CURRENT</b>	2.5 uA	3 uA

### REGULATORY APPROVALS

<b>FCC (USA)</b>	MCQ-XB900HP
<b>IC (CANADA)</b>	1846A-XB900HP
<b>C-TICK (AUSTRALIA)</b>	Yes
<b>ANATEL (BRAZIL)</b>	Yes
<b>IDA (SINGAPORE)</b>	Yes



PART NUMBERS	DESCRIPTION
<b>KITS</b>	
XKB9-DMT-UHP	Digi XBee-PRO 900HP DigiMesh Kit (US/Canada)
XKB9-DMT-AHP	Digi XBee-PRO 900HP DigiMesh Kit (Australia)
<b>NORTH AMERICA</b>	
XBP9B-DMWT-002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, Wire Antenna, 200 Kbps
XBP9B-DMST-002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, RPSMA, 200 Kbps
XBP9B-DMUT-002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, U.FL, 200 Kbps
XBP9B-DPWT-001	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 900 MHz, 250 mW, Wire Antenna, 10 Kbps
XBP9B-DPST-001	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 900 MHz, 250 mW, RPSMA, 10 Kbps
XBP9B-DPUT-001	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 900 MHz, 250 mW, U.FL, 10 Kbps
XBP9B-DMWTB002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, Wire Antenna, 200 Kbps, 32 K Programmable
XBP9B-DMSTB002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, RPSMA, 200 Kbps, 32 K Programmable
XBP9B-DMUTB002	Digi XBee-PRO 900HP (S3B) DigiMesh, 900 MHz, 250 mW, U.FL, 200 Kbps, 32 K Programmable
<b>AUSTRALIA</b>	
XBP9B-DMWT-022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920 MHz (Australia), 250 mW, Wire Antenna, 200 Kbps
XBP9B-DMST-022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920 MHz (Australia), 250 mW, RPSMA, 200 Kbps
XBP9B-DMUT-022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920 MHz (Australia), 250 mW, U.FL, 200 Kbps
XBP9B-DPWT-021	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 920MHz (Australia), 250mW, Wire Antenna, 10Kbps
XBP9B-DPST-021	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 920MHz (Australia), 250mW, RPSMA, 10Kbps
XBP9B-DPUT-021	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 920MHz (Australia), 250mW, U.FL, 10Kbps
XBP9B-DMWTB022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Australia), 250mW, Wire Antenna, 200Kbps, 32K Programmable
XBP9B-DMSTB022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Australia), 250mW, RPSMA, 200Kbps, 32K Programmable
XBP9B-DMUTB022	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Australia), 250mW, U.FL, 200Kbps, 32K Programmable
<b>BRAZIL</b>	
XBP9B-DMWT-012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920 MHz, 250 mW, Wire Antenna, 200 Kbps (Brazil)
XBP9B-DMST-012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920 MHz, 250 mW, RPSMA Antenna, 200 Kbps (Brazil)
XBP9B-DMUT-012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920 MHz, 250 mW, U.FL Antenna, 200 Kbps (Brazil)
XBP9B-DPWT-011	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 905/920 MHz, 250 mW, Wire Antenna, 10 Kbps (Brazil)
XBP9B-DPST-011	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 905/920 MHz, 250 mW, RPSMA Antenna, 10 Kbps (Brazil)
XBP9B-DPUT-011	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 905/920 MHz, 250 mW, U.FL Antenna, 10 Kbps (Brazil)
XBP9B-DMSTB012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920MHz, 250mW, RPSMA, 200Kbps, 32K Programmable (Brazil)
XBP9B-DMUTB012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920MHz, 250mW, U.FL, 200Kbps, 32K Programmable (Brazil)
XBP9B-DMWTB012	Digi XBee-PRO 900HP (S3B) DigiMesh, 905/920MHz, 250mW, Wire Antenna, 200Kbps, 32K Programmable (Brazil)
<b>SINGAPORE</b>	
XBP9B-DMWT-042	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Singapore), 250mW, Wire Antenna, 200Kbps
XBP9B-DMST-042	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Singapore), 250mW, RPSMA, 200Kbps
XBP9B-DMUT-042	Digi XBee-PRO 900HP (S3B) DigiMesh, 920MHz (Singapore), 250mW, U.FL, 200Kbps
XBP9B-DPST-041	Digi XBee-PRO 900HP (S3B) Point2Multipoint, 920MHz (Singapore), 250mW, RPSMA, 10Kbps