



LONG-RANGE 900 MHZ  
OEM RF MODULE



# DIGI XBEE-PRO<sup>®</sup> 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<sup>®</sup> 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

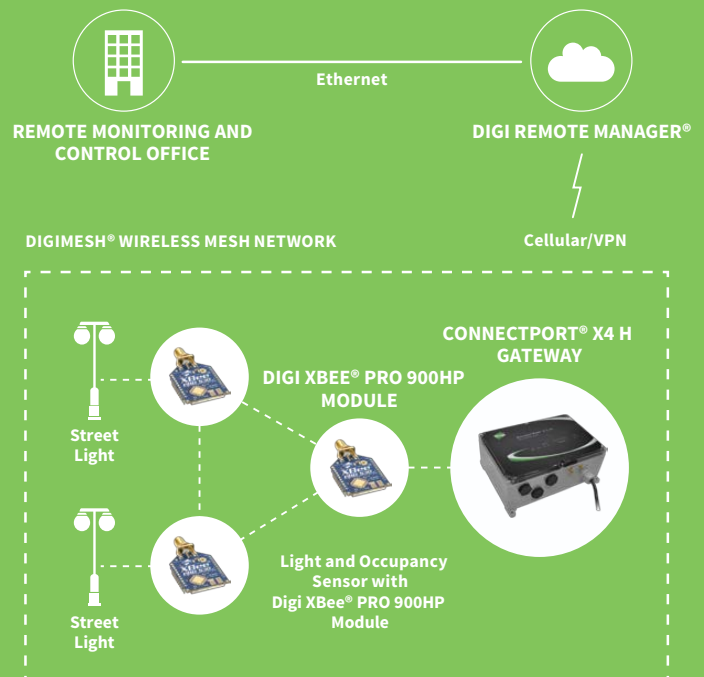
via a simplified AT command set. Digi XBee<sup>®</sup> modules are pre-certified for use in multiple countries, further reducing development costs and time to market.

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<sup>®</sup>
- Software-selectable channel mask for interference immunity
- Programmable versions of the Digi XBee-PRO 900HP enable custom application development
  - 8-bit Freescale<sup>™</sup> S08 microprocessor brings custom intelligence to the module
  - Digi XBee-specific CodeWarrior<sup>®</sup> 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<sup>®</sup>



XCTU



Development Kits

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

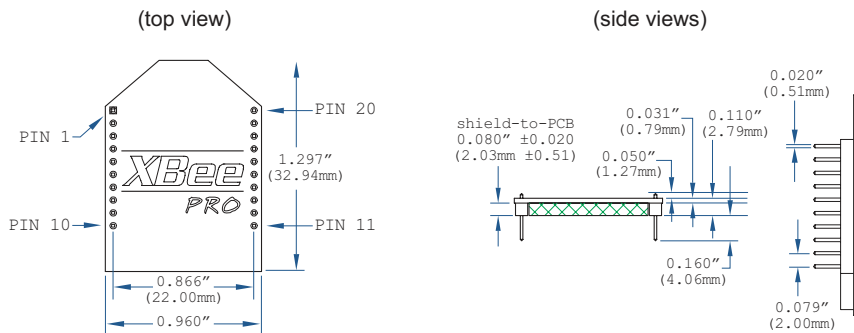
<b>MEMORY</b>	N/A	32 KB Flash / 2 KB RAM
<b>CPU/CLOCK SPEED</b>	N/A	HCS08 / Up to 50.33 MHz

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



\*Range figure estimates are based on free-air terrain with limited sources of interference. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting antenna, height of receiving antenna, weather conditions, interference sources in the area, and terrain between receiver and transmitter, including indoor and outdoor structures such as walls, trees, buildings, hills, and mountains.

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

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