

Basyx 900HP RF Modem

Product Overview

The Basyx 900HP RF modem provides reliable serial cable replacement between Basyx controllers or panels. The modem utilizes the Xbee-PRO 900MHz module in an enclosure with interference options that include RS-232, RS-485, USB and Ethernet with transmission ranges of up to 28 miles. The modems take advantage of the DigiMesh networking protocol, featuring dense network operation using mesh technology, in addition to Point-to-Point technology for simple setup and operation.

The 900HP modem allows the installer to easily make the existing wired systems wireless by simply connecting the modem to the communications bus connection on Basyx PSC2 controllers. The modems are ideal for installations where multiple panels are located within the building, and are also ideal for campus or multiple building applications which eliminates trenching or outdoor cabling.

The modems reduce installation costs in buildings that present physical or financial limitations to hard wiring, with wireless technology eliminating interference and surge damage possible in hard-wired 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.
- Point-to-Point networking available for simple installation.
- Includes mini-USB port for simple device configuration.
- Eliminates hard-wired communications bus installation.
- Reduces installation cost.

Specifications

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:	125-65,000 bps (Software selectable, includes non-standard baud rates).
Receiver Sensitivity:	10 Kbps: -110 dBm; 200 Kbps: -101 dBm.

Specifications (Continued)

Network & 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.

Antenna

Connector:	RPSMA (Reverse polarity SMA).
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Power Requirements

Power Supply:	7-30 VDC.
Receive Current:	60 mA (@9 VDC).
Transmit Current:	140 mA (@9 VDC).

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 (USA):	Yes
IC (Canada):	Yes
C-TICK (Australia):	Yes
ROHS:	Compliant