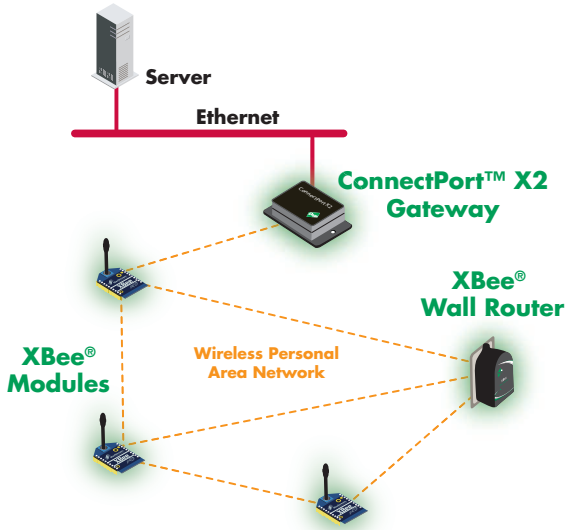
Product Datasheet

Drop-in Networking Professional Development Kit

Proof-of-Concept Low-Power Wireless Connectivity Kit

Cost-effective, out-of-the-box kit for the evaluation and development of wireless sensor/device networks. Can be used as a mobile measurement tool to monitor equipment health, sense environmental conditions or take temporary measurements where short-term data is needed to validate a process or conditions.



Features/Benefits

- **Easily configure a low-power mesh or multipoint sensor/ device network**
- **Conduct a basic wireless range test**
- **Provide IP connectivity to the network using the ConnectPort X2 gateway**
- **Monitor light and temperature readings from the XBee wall router (mesh kit version)**
- **Laptop or PC access to the WPAN via the XBee USB adapter (multipoint kit version)**

Overview

The Drop-in Networking Professional Development Kit provides the hardware and software tools to rapidly deploy a real-world wireless sensor/device network and proof-of-concept system. All hardware components are pre-configured to run either mesh or multipoint networking software, which is optimized for low-power, battery-fueled operation.

The kit includes:

- 3 XBee modules (1 XBee and 2 XBee-PRO®) and 3 interface boards (1 USB and 2 RS-232) to simulate endpoints in the Wireless Personal Area Network (WPAN).
- 1 ConnectPort™ X2 gateway which concentrates data from the XBee modules for connectivity to a PC or the IP network. The gateway provides a Python-based programming engine for custom application development.
- 1 XBee wall router (mesh kit versions) OR 1 XBee USB adapter (multipoint kit versions)
  - The wall router provides network extension and plugs into a standard power outlet. It also includes integrated light and temperature sensors that can be monitored via the gateway.
  - The XBee USB adapter provides easy local connectivity to the WPAN via a laptop or PC.
- Power supplies, user documentation and configuration CD. The CD also provides a set of Python® programming tools to assist with custom application development.

To see the full range of Digi's Drop-in Networking solutions, including off-the-shelf XBee adapters for connecting legacy devices to mesh and multipoint networks, as well as cellular and Wi-Fi gateway models, visit http://www.digi.com/products/wirelessdropinnetworking/.

Product Type	XBee® & XBee-PRO® ZNet 2.5 Modules		XBee® & XBee-PRO® 802.15.4 Modules	
Model	**Regular**	**PRO**	**Regular**	**PRO**
Performance				
RF Data Rate	250 Kbps	250 Kbps	250 Kbps	250 Kbps
Indoor/Urban Range	Up to 133 ft (40 m)	Up to 300 ft (90 m)	Up to 100 ft (30 m)	Up to 300 ft (90 m)
Outdoor/Line-of-Sight Range	Up to 400 ft (20 m)	Up to 1 mile (1.6 km)	Up to 300 ft (90 m)	Up to 1 mile (1.6 km)
Transmit Power	1.25 mW (+1 dBm) / 2 mW (+3 dBm) boost mode	50 mW (+17 dBm) / Int'l 10 mW (+10 dBm)	1 mW (0 dBm)	60 mW (+18 dBm)* / Int'l 10 mW (+10 dBm)
Receiver Sensitivity (1% PER)	-96 dBm in boost mode	-102 dBm	-92 dBm	-100 dBm
General				
Frequency Band	2.4 GHz			
Sleep Modes	Low-power sleep modes enable power-down currents less than 10 uA			
Operating Temperature	-40° C to +85° C (Industrial)			
Product Type	**ConnectPort™ X2 Gateway**			
General				
Network Protocols	UDP/TCP, DHCP			
Interfaces	Physical: 1 RJ-45 Ethernet port; RF: 1 XBee-PRO module, 2.4 GHz			
LEDs	Ethernet status, power, XBee link/activity			
Router/Security Features	NAT, port forwarding, access control lists (IP filtering)			
Management	HTTP web interface, password access control, IP service port control, optional secure enterprise management via Digi Connectware® Manager, Python application customization tool for programmability			
Power Requirements				
Power Input	9-30VDC			
Power Supply	12VDC power supply included			
Power Consumption	1.2 W (idle) / 3.4 W (max)			
Product Type	**XBee® Wall Router**		**XBee® USB Adapter**	
General				
Antenna	Internal		Integrated whip antenna	
Locking Mechanism	Unit secures to power outlet using center oultet screw (U.S. only)		N/A	
LEDs	Power: Solid when external power is supplied Associate: Blinks when unit is associated to an RF network		N/A	
Push Button	Device reset, configuration reset to factory defaults, identification/commissioning mode		N/A	
Integrated Temperature & Light Sensor				
Temperature Sensor	Range: -20° C to +70° C (-4° F to +158° F) Accuracy: +/- 2° C		N/A	
Ambient Light Sensor	Range of spectral bandwidth: 360 to 970 nm (similar to human eye) Wavelength of peak sensitivity: 570 nm		N/A	
Power Requirements				
Power Input	Universal AC input (85VAC to 265VAC)		Bus-powered (+5V)	
Power Consumption	N/A		70 mA (normal operation) / 200 uA (suspend mode)	70 mA Rx and 250 mA Tx (normal operation) / 200 uA (suspend mode)

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