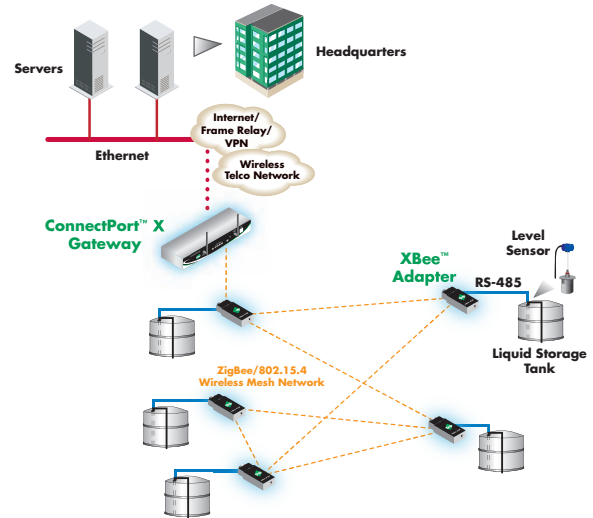


ConnectPort™ X8

Wireless Mesh Gateway



The ConnectPort X8 provides reliable IP connectivity to ZigBee®/802.15.4 networks over a secure cellular, Wi-Fi or Ethernet connection. It makes Drop-in Networking a reality by facilitating remote device connectivity where no wired network infrastructure exists or where access to an existing infrastructure is limited.



Features/Benefits

- Multiple configuration options for high performance Drop-in Networking
- Full network flexibility
 - ZigBee/802.15.4 and proprietary mesh for PAN connections
 - Cellular for WAN connections
 - Wi-Fi (802.11.b/g) and Ethernet for WAN or LAN connections
- Python development environment
- Optional GPS or mass storage up to 2 GB
- Security
 - IPsec and SSL VPNs on WAN connections with DES, 3DES or AES encryption
 - 128-bit AES on mesh network
- Commercial/Industrial grade
 - Enclosed PCIe module to reduce breakage/theft
 - Extended operating temperature (-20° C to 60° C)
 - Hardened metal enclosure with integrated mounting slots
 - Real-time clock



Overview

Companies across many vertical markets are increasingly discovering the value of networking remote electronic devices such as sensors, alarms and controllers using low-cost, low-power ZigBee/802.15.4 wireless mesh technology. Such networks make it simple and cost-effective to poll, monitor, adjust and control systems that previously required laborious and expensive manual processes or extensive wiring.

Digi's ConnectPort X8 mesh gateway provides IP backhaul of mesh network traffic to a central monitoring hub on a LAN/WAN via a secure cellular, Wi-Fi or Ethernet connection. By doing so, devices connected within the mesh network can be monitored and managed remotely, thereby minimizing, or even eliminating, the need to visit each device manually to collect data and verify its operating health.

The ConnectPort X8 is a key element of Digi's Drop-in Networking family of products – a collection of hardware components that also includes our XBee™ series of adapters, modules and extenders for connecting assorted electronic devices to mesh networks. Together, this family of products provides the ability to network devices or groups of devices where no pre-deployed networking infrastructure exists or where access to an existing network is prohibited.

The ConnectPort X8 provides integrated ZigBee/802.15.4 support and features two onboard PCIe modules that can be configured for cellular (3G, 2.5G and 2G options), Wi-Fi (802.11.b/g), GPS or mass storage (2 Gigabyte, user-defined). Configuration of the PCIe modules is flexible and can be defined as needed for the desired application. In addition, the ConnectPort X8 ships with one Ethernet port, one RS-232 port for connecting serial devices, two USB ports for additional device connectivity (e.g., camera, keyboard, memory stick, PDA) and a 1-Wire port for external I/O expansion. The 1-Wire port accepts both third-party electronic devices as well as Digi's Watchport® sensors for monitoring temperature, humidity, moisture, proximity and acceleration/tilt.

The ConnectPort X8 also features an embedded Python® engine, giving users a powerful software tool to develop custom applications to run on the gateway. The Python environment is noted for its simplicity and can be used to automate many monitoring, notification and device management tasks.








Managing Devices on the Mesh Network

Digi Connectware® Manager is the necessary software platform to manage the entire Drop-in Network hardware infrastructure. Digi Connectware Manager will largely automate device discovery and initial configuration while providing a window to monitor networked devices, receive alarms and update firmware.

Digi Connectware Manager also provides a view through each gateway to the ZigBee/802.15.4 mesh network beyond and an interface from which nodes on the mesh network can be configured and managed much like the gateway. Digi Connectware Manager allows you to change network settings for mesh coordinators as well as for any of the mesh nodes with which a coordinator is associated. Digi Connectware Manager will also provide the ability to upgrade firmware on mesh nodes once ZigBee support for over-the-air upgrades is established.

ConnectPort X2
Single-Function Gateway ZigBee/802.15.4 to Ethernet or Wi-Fi Available Summer 2007
ConnectPort X4
Multi-Function Gateway ZigBee/802.15.4 to Cellular or Wi-Fi and Ethernet Available Summer 2007
ConnectPort X8
Premium Multi-Function Gateway ZigBee/802.15.4 to Cellular and Wi-Fi and Ethernet Available now

Related Drop-in Networking Products from Digi	
	<p>XBee™ Adapters</p> <p>Can be used to retrofit legacy devices with ZigBee/802.15.4 connectivity. Available in a range of interface options including RS-232, RS-485, USB, 1-Wire as well as digital and analog I/O.</p>
	<p>XBee-PRO™ and XBee Module</p> <p>Can be used to embed ZigBee/802.15.4 networking capability in stand-alone end-point devices such as sensors, controllers and displays.</p>
	<p>XBee™ XTender</p> <p>Provides long-range backhaul (up to 40 miles line-of-sight with high gain antenna) for low-power XBee networks by converting data between 2.4 GHz ZigBee/802.15.4 and 900 MHz unlicensed frequencies. Enables ZigBee/802.15.4 mesh networks outside the range of a ConnectPort X gateway to be bridged to the gateway over the longer range 900 MHz band.</p>
	<p>Watchport® Camera</p> <p>Can be connected to the USB port on the ConnectPort X to provide video or still-frame images from the ZigBee/802.15.4 mesh network.</p>
	<p>Watchport® Sensors</p> <p>Can be connected to XBee 1-Wire adapters to provide data from end-point nodes. Available for temperature, humidity, moisture, distance/proximity and acceleration/tilt.</p>

Features/Specifications

FEATURES

- Network protocols: UDP/TCP, DHCP
- LEDs: Ethernet status, power, cellular link/activity, signal strength (4 bars), ZigBee link/activity, Wi-Fi link/activity

- Security - SSL tunnels, SSHv2, FIPS 197 (serial port)

- Real-time clock

Router/Firewall Features

- NAT
- Port forwarding
- Access control lists (IP filtering)

VPN Features

- IPsec with IKE/ISAKMP
- Multiple tunnel support
- DES, 3DES and up to 256-bit AES Encryption
- VPN pass-through, GRE forwarding

Management

- HTTP/HTTPS web interface
- Password access control
- IP service port control
- Optional secure enterprise management via Digi Connectware Manager

INTERFACES

Serial

- 1 RS-232 DB-9M serial port
- Throughput up to 230 Kbps
- Full signal support for TXD, RXD, RTS, CTS, DTR, DSR and DCD
- Hardware and software flow control

USB

- 2 Powered USB Type A connectors (Host)

Ethernet

- 1 RJ-45 port
- Standard: IEEE 802.3
- Physical Layer: 10/100Base-T
- Data rate: 10/100 Mbps (auto-sensing)
- Mode: full or half duplex (auto-sensing)

MODEL.....PART NUMBERS

Model	North America	International
Series 1		
ConnectPort X8, Ethernet	X8-A11F-E-A	N/A
ConnectPort X8, Ethernet and 3G Cingular HSDPA	X8-A11F-C02-A	N/A
ConnectPort X8, Ethernet and 3G Sprint EVDO-A	X8-A11F-C10-A	N/A
ConnectPort X8, Ethernet and 3G Verizon EVDO-A	X8-A11F-C11-A	N/A
Series 2		
ConnectPort X8, Ethernet	X8-B11M-E-A	N/A
ConnectPort X8, Ethernet and 3G Cingular HSDPA	X8-B11M-C02-A	N/A
ConnectPort X8, Ethernet and 3G Sprint EVDO-A	X8-B11M-C10-A	N/A
ConnectPort X8, Ethernet and 3G Verizon EVDO-A	X8-B11M-C11-A	N/A

INTERFACES (CONTINUED)

1-Wire

- 1 RJ-45 port

Cellular

- Sierra Wireless 5725 Rev A EV-DO PCI Express Module (Sprint/Verizon)
- Sierra Wireless 8775 HSDPA PCI Express Module (Cingular)

ZigBee/802.15.4

- XBee-PRO (Freescale and Ember supported)

Optional (via PCIe Module)

- Global Positioning System (GPS)
- Wi-Fi (802.11b/g)
- Mass storage (up to 2 GB)

ENVIRONMENTAL

- Operating temperature: -20° C to 60° C (-4° F to 140° F)
- Relative humidity: 5% to 95% (non-condensing)
- Ethernet isolation: 1500VAC min per IEEE802.3/ANSI X3.263
- Serial port protection (ESD): +15 kV Air Gap and +8 kV contact discharge per IEC 1000-4-2

REGULATORY APPROVALS

- Safety: UL 60950, CSA 22.2 No. 60950, EN60950
- Emissions/Immunity: CE, FCC Part 15 (Class A), AS/NZS CISPR 22, EN55024, EN55022, Class A
- Mobile Certifications - CDMA/EV-DO: CDG, TIA/EIA-690, TIA/EIA-98-E
- Mobile Certifications - GSM/UMTS: PTCRB, NAPRD.03, GCF-CC, R&TTE, EN 301 511

POWER REQUIREMENTS

- Power input: 9-30VDC
- 12VDC power supply for 0° C to 60° C (32° F to 140° F) with locking barrel connector included; extended temperature power supply available separately
- Power consumption: Idle: 3.1 W, Max: 9 W
- Surge protection (with included power supply): 4 kV burst (EFT) per-4-4, 2 kV surge per EN61000-4

DIMENSIONS

- Width: 4.11 in (10.40 cm)
- Height: 1.30 in (3.30 cm)
- Length: 7.7 in (19.5 cm)
- Weight: 1.50 lb (0.68 kg) with one PCIe module

ANTENNAS

Antenna Type

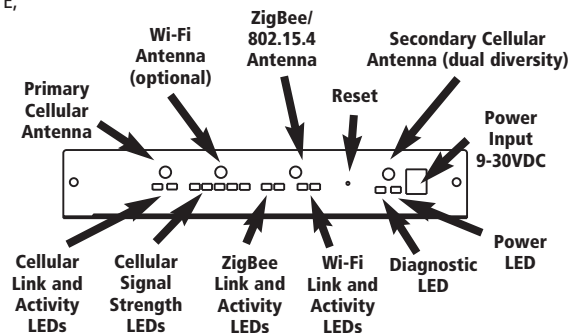
- ZigBee/802.15.4 - 4" dipole with 2' cable, tabletop mountable (same type antenna is used for Wi-Fi configured gateways)

- Cellular - 7" dipole

Connector Type (on Gateway)

- 50 ohm SMA
- Female for ZigBee & Wi-Fi
- Male for cellular

ConnectPort X8 - Front



ConnectPort X8 - Back

