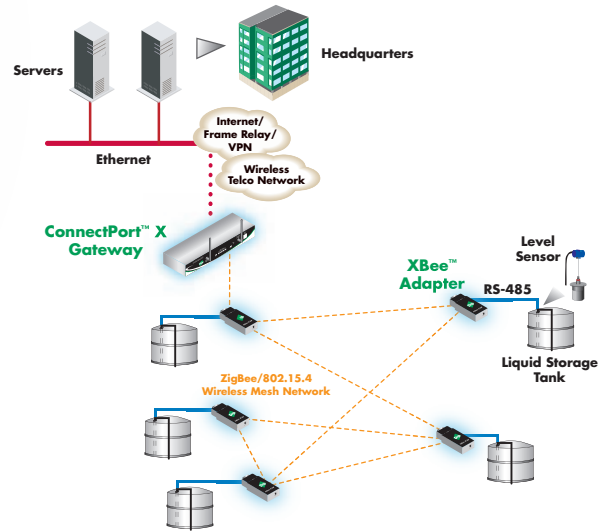


ConnectPort™ X Gateways

ZigBee®-to-IP Gateway Family

ConnectPort X gateways aggregate ZigBee/802.15.4 network traffic for IP connectivity over a secure cellular, Wi-Fi or Ethernet connection.



Features/Benefits

- Multiple configuration options for high performance Drop-in Networking
- Full network flexibility
 - ZigBee/802.15.4 for PAN connections
 - Cellular for WAN connections
 - Wi-Fi (802.11b/g) and Ethernet for WAN or LAN connections
- Python development environment
- Optional GPS or local storage
- 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 error-prone manual processes or extensive wiring.

Digi's ConnectPort X gateways aggregate and feed ZigBee/802.15.4 network traffic to central data applications over cellular, Wi-Fi or Ethernet connections. By doing so, devices connected within the ZigBee network can be monitored and managed remotely, thereby minimizing, or even eliminating, the need to physically visit each device to collect data and verify its operating health.

ConnectPort X gateways are a key element of Digi's Drop-in Networking solutions – a collection of products that also includes our XBee™ adapters, modules and bridges for connecting assorted electronic devices to ZigBee/802.15.4 networks. Together, these products provide the ability to network devices or groups of devices where no wired infrastructure exists or where access to an existing network is prohibited.

ConnectPort X gateways provide integrated ZigBee/802.15.4 support plus cellular (3G, 2.5G or 2G), Wi-Fi, GPS and local storage options. Several physical interfaces are supported as well, including Ethernet, serial, USB and a port that accepts Digi's Watchport sensors and cameras (X8 model only). ConnectPort X gateways are available in multiple configurations to suit various applications and connectivity needs.

For programmability, ConnectPort X gateways offer an embedded Python® engine, giving users a powerful, open source 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 ZigBee Network

The Digi Connectware® Manager software platform allows you to manage the entire Drop-in Networking infrastructure from one central management console. It largely automates device discovery and initial network configuration while providing a window to monitor all gateways and networked devices, set alarms and update firmware.

Digi Connectware Manager provides centralized management of each gateway as well as all nodes associated with a gateway, so you can monitor battery life and signal strength, and change device properties and settings. Digi Connectware Manager will also provide the ability to upgrade firmware on mesh nodes once ZigBee support for over-the-air upgrades is established.

Feature	ConnectPort X2	ConnectPort X4	ConnectPort X8
Positioning	Single Function Gateway	Multifunction Gateway	High-End Multifunction Gateway
Processor	NS7520 ARM7	NS9360 ARM9	NS9750 ARM9
Programming Environment	Python	Python	Python
RAM	8 MB	16 MB	16 MB
FLASH	4 MB	8 MB	8 MB
PCIe Slots	No	1	2
Cellular	No	2G or 2.5G	3G
Wi-Fi	Yes w/o Ethernet	Yes via PCIe	Yes via PCIe
GPS	No	External	Yes via PCIe or External
Storage Module (1 GB)	No	No	Yes via PCIe
Ethernet (RJ-45)	Yes w/o Wi-Fi	1	1
Serial (DB-9)	No	1	1
USB	No	1	2
Sensor Port (RJ-45)	No	No	1

Related Drop-in Networking Products from Digi



XBee™ Adapters

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, Sensor as well as digital and analog I/O.



XBee™ Modules

Can be used to embed ZigBee/802.15.4 networking capability in stand-alone end-point devices such as sensors, controllers and displays.



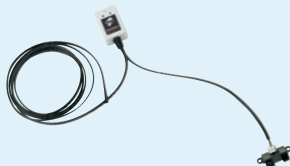
XBee™ XTender

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 (up to 40 miles line-of-sight with high gain antenna).



Watchport® Camera

Can be connected to the USB port on the ConnectPort X to provide video or still-frame images from a chosen physical location (e.g., a gate or security point).



Watchport® Sensors

Can be connected to XBee Sensor adapters to provide environmental data from end-point nodes. Available for temperature, humidity, moisture, distance/proximity and acceleration/tilt.

ConnectPort X8 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/Security 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

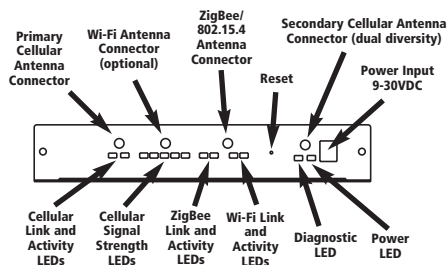
Management

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

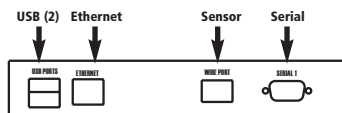
DIMENSIONS

- 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

ConnectPort X8 - Front



ConnectPort X8 - Back



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)

Sensor

- 1 RJ-45 port

ZigBee/802.15.4

- XBee-PRO module (Freescale and Ember supported)

Cellular

- EV-DO/1xRTT or HSDPA/EDGE/GPRS PCI Express modules (2)

Wi-Fi (802.11b/g)

- Ad-hoc & AP Client Modes only; Access Point Mode not supported

Optional (via PCIe Module)

- Global Positioning System (GPS)
- Local storage (up to 1 GB)

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

ANTENNAS

Antenna Types

- 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

ENVIRONMENTAL

- Operating temperature: -20° C to 60° C (-40° 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

MODEL.....PART NUMBERS

Please visit www.digi.com for part numbers



ConnectPort X4 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/Security 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

DIMENSIONS

Width: 3.35 in (8.50 cm)
 Height: 1.00 in (2.54 cm)
 Length: 5.25 in (13.33 cm)

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

- 1 powered USB Type A connector (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)

ZigBee/802.15.4

- XBee-PRO module (Freescale and Ember supported)

Cellular

- EV-DO/1xRTT or EDGE/GPRS PCI Express module (1)

Wi-Fi (802.11b/g)

- Ad-hoc & AP Client Modes only; Access Point Mode not supported
- Not available when gateway is configured with a cellular module

Optional (via PCIe Module)

- Global Positioning System (GPS)
- Local storage (up to 1 GB)

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: 6-30VDC
- 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: 1.5 W, Max: 10.4 W
- Surge protection (with included power supply): 4 kV burst (EFT) per-4-4, 2 kV surge per EN61000-4

ANTENNAS

Antenna Types

- ZigBee/802.15.4 - 4" dipole with 2' cable, tabletop mountable
- Wi-Fi - 4" dipole

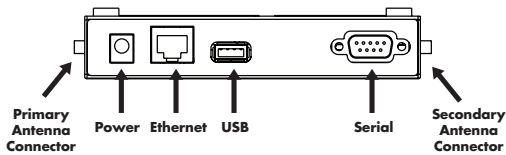
Connector Type (on Gateway)

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

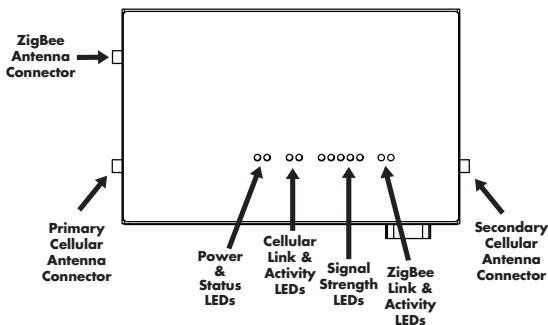
ENVIRONMENTAL

- Operating temperature:
 - CDMA models: -30° C to 60° C (-22° F to 140° F)
 - GSM models: -30° C to 70° C (-22° F to 158° 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

ConnectPort X4 - Front



ConnectPort X4 - Top



MODEL.....PART NUMBERS

Please visit www.digi.com for part numbers



ConnectPort X2 Features/Specifications

FEATURES

- Network protocols: UDP/TCP, DHCP
- LEDs: Ethernet status, power, ZigBee link/activity

Router/Security Features

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

Management

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

DIMENSIONS

- Width: 2.75 in (7.0 cm)
- Height: 1.13 in (2.9 cm)
- Length: 5.50 in (13.9 cm)
- Weight: 0.44 lb (0.20 kg)

INTERFACES

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)

Wi-Fi

- Standard IEEE 802.11b
- Frequency: 2.4 GHz
- Data rate: Up to 11 Mbps w/ fallback
- Modulation: DBPSK (1 Mbps), DQPSK (2 Mbps), CCK (11,5.5 Mbps)
- Transmit power: 16 dBm typical
- Receiver sensitivity: -82 dBm @ 11 Mbps
- Connector: 1 x RP-SMA

ZigBee/802.15.4

- XBee-PRO module (Freescale and Ember supported)

REGULATORY APPROVALS

- Emissions/Immunity: CE, FCC Part 15 (Class A)

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: 1.2 W, Max: 3.4 W
- Surge protection (with included power supply): 4 kV burst (EFT) per-4-4, 2 kV surge per EN61000-4

ANTENNAS

Antenna Types

- ZigBee/802.15.4 - 4" dipole
- Wi-Fi - 4" dipole with 2' cable, tabletop mountable

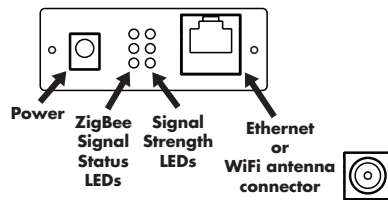
Connector Type (on Gateway)

- 50 ohm SMA, female

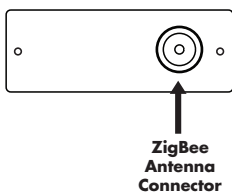
ENVIRONMENTAL

- Operating temperature: -30° C to 70° C (-22° F to 158° F)
- Relative humidity: 5% to 95% (non-condensing)
- Ethernet isolation: 1500VAC min per IEEE802.3/ANSI X3.263

ConnectPort X2 - Side



ConnectPort X2 - Side

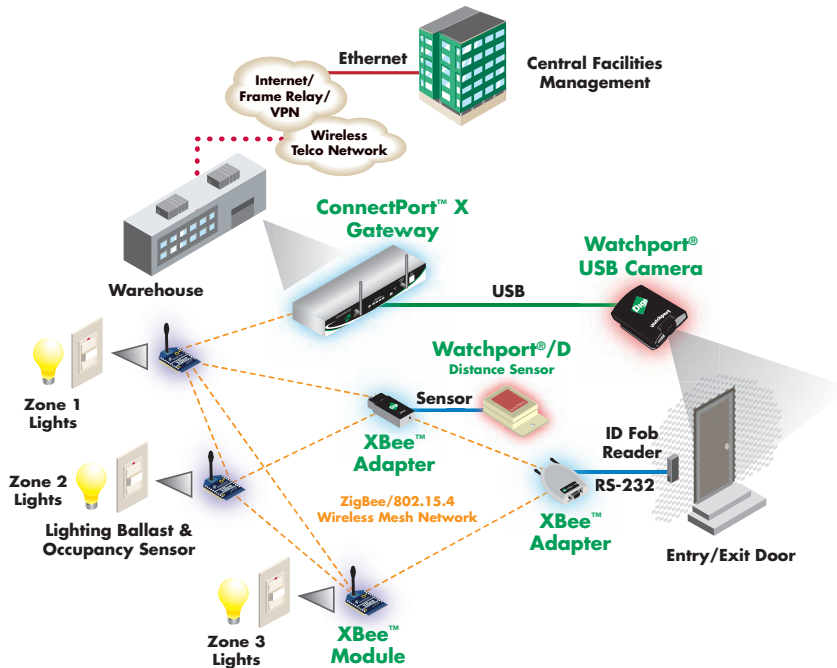


MODEL.....PART NUMBERS

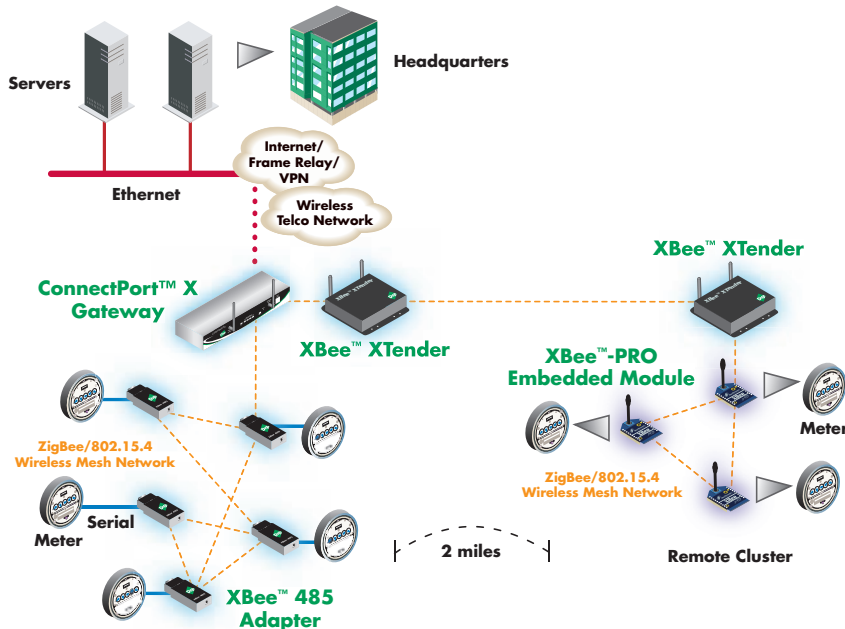
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Drop-in Network for Building Control



Drop-in Network for Automated Meter Reading



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FX: 952-912-4952
email: info@digi.com

Digi International France
31 rue des Poissonniers
92200 Neuilly sur Seine
PH: +33-1-55-61-98-98
FX: +33-1-55-61-98-99
www.digi.fr

Digi International KK
NES Building South 8F
22-14 Sakuragaoka-cho,
Shibuya-ku
Tokyo 150-0031, Japan
PH: +81-3-5428-0261
FX: +81-3-5428-0262
www.digi-intl.co.jp

Digi International (HK) Limited
Suite 1703-05, 17/F.,
K Wah Centre
191 Java Road
North Point, Hong Kong
PH: +852-2833-1008
FX: +852-2572-9989
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