ConnectPort X2e® Family

Programmable ZigBee IP Gateway

Programmable gateway connects ZigBee devices with cloud-based applications over Cellular, Wi-Fi or Ethernet.

Overview

The ConnectPort X2e ZigBee to IP gateway provides low-cost IP networking of RF devices and sensor networks. Featuring a simple Python-based development platform, the gateway enables custom applications to run locally while interfacing across existing cellular/Wi-Fi/Ethernet networks for WAN connectivity to cloud-based software applications.

ConnectPort X2e products feature an end-to-end development environment based on the DIA framework for Device Cloud by Etherios™, allowing for rapid M2M-specific application development on the industry standard Python scripting engine. In addition, Web Services provide an IDE featuring device detection, debugging, compiling and downloading of DIA/Python code to Digi gateways.

ConnectPort X2e products can be managed remotely via Device Manager, the management platform included with Device Cloud. Device Manager allows users to remotely manage thousands of deployed devices, supporting features like remote firmware upgrades and event alarms.

Related Products

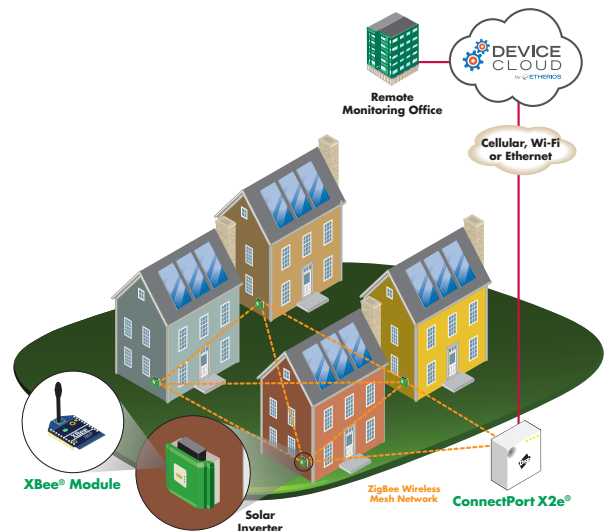Device Cloud Solutions
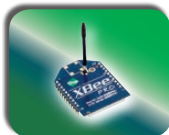
Modules

Adapters

Dev Kits

Range Extenders

Sensors

Application Highlight

Features/Benefits

- Cellular, Wi-Fi and Ethernet options for flexible broadband connectivity

- Interoperable with ZigBee PRO or ZigBee Smart Energy networks

- Easy-to-use Digi ESP development environment for open source Python or Device Integration Application (DIA)

- Device Cloud manages connectivity, configuration and software upgrades as well as application integration via published APIs

- Device Cloud offers secure, scalable access to an unlimited number of remote assets and seamless web services integration from Digi gateways into customer back office applications

Your Application

ConnectPort X2e®

Cellular, Wi-Fi or Ethernet
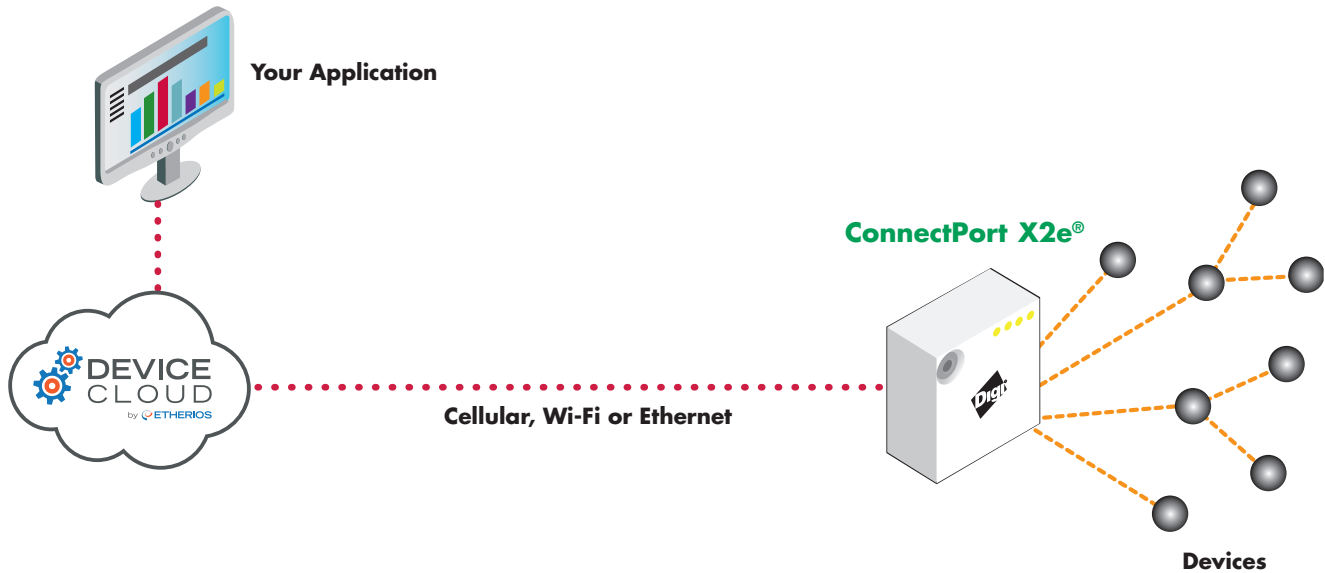
Devices

Device Cloud

Connecting Any Application to Anything, Anywhere

Device Cloud is a public cloud platform-as-a-service (PaaS) that provides highly effective application integration with device networks. It is driving The Internet of ANYthing®, connecting any application, anywhere, to anything, anywhere.

Device Cloud simplifies device network management and application development. Connecting devices and web, mobile or traditional applications to Device Cloud is made easy through published APIs and development kits, such as Etherios Cloud Connector.

Device Cloud provides a safe test-bed for research, development, prototyping and demonstration, while also scaling to accommodate the full production requirements of large-scale network deployments.

Features/Benefits

- Free application development platform
- Simple application integration through open, published APIs
- No costly infrastructure and scalability planning
- Broadcast network grade service availability
- Usage-based fees and low cost of service
- Adheres strictly to industry-leading security protocols
- Asynchronous event updates and alerts facilitate optimum monitoring and control
- VPN service provides encrypted Internet tunnel to Device Cloud
- Securely store and access time-series data to facilitate operational analysis
- Two device clouds located in the US and Europe

DIA

Software for Connecting Devices in an M2M World

Device Integration Application (DIA) is software that simplifies connecting devices (sensors, PLCs, etc.) to communication gateways. DIA includes a comprehensive library of plug-ins that work out-of-the-box with common device types and can also be extended to include new devices. Its unique architecture allows the user to add most devices in under a day.

DIA is a tested architecture that provides the core functions of remote device data acquisition, control and presentation between devices and information platforms. It collects data from any device that can communicate with a Digi gateway, and is supported over any gateway physical interface. DIA presents this data to upstream applications in fully customizable formats, significantly reducing a customer's time to market.

Written in the Python® programming language for use on Digi devices, DIA may also be executed on a PC for prototyping purposes when a suitable Python interpreter is installed.

Features/Benefits

- Standardized, well-documented device connectors result in very short learning curve
- Abstraction of device connector internals to allow developers to focus on application functionality
- Scalable from one to dozens of addressable devices to suit the needs of the enterprise
- Extensible – Developers can enhance DIA with additional device types and presentation protocols
- Simplifies emerging technologies and handles complex features such as managing ZigBee sleeping nodes and sending alarms for low battery alerts

Digi ESP for Python

Integrated Development Environment

Digi ESP is an easy-to-use and powerful Integrated Development Environment (IDE) optimized for professional software development on a wide range of Digi product platforms.

Built on the open Eclipse™ framework, Digi ESP offers an intelligent source code editor, compiler/code generation, visual source code debugging, hardware and software debug support, build management, CVS version control, and code deployment tools for local and remote targets.

Features like the intelligent editor coding aids for Python/DIA with syntax highlighting, auto-indent, code completion assistance, context-sensitive API help, and on-the-fly template insertion make software development easier and faster than ever before.

Features/Benefits

- Complete IDE with full integration of Digi software, hardware and services provides simplified and highly accelerated development and deployment
- Built on open Eclipse framework – feature-rich and future-proof; common look-and-feel minimizes effort required to learn new development tools
- Digi ESP for Python offers Python/DIA development on Microsoft Windows and Mac OS X systems for Digi products with Python support
- Integrated reference information, tutorials and user documentation enables easy and direct access to information

Private Labeling

Your Brand, Your Firmware and Configuration

Digi knows that a gateway is only one part of our customers' complex market offering. We are therefore pleased to offer a simple private branding process as a value-add to the ConnectPort X2e product family.
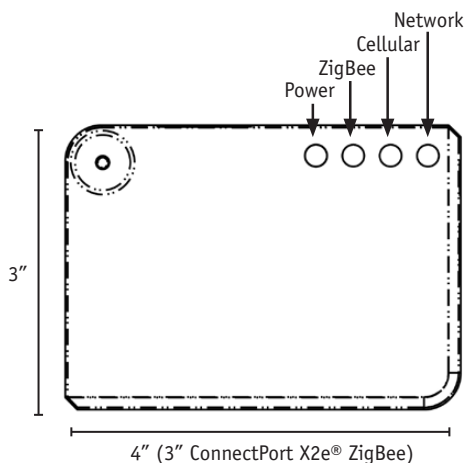
For a fixed initial charge and a minimum order commitment, Digi customers get a custom part number with their brand, fixed (or "frozen") firmware, and custom default configuration.
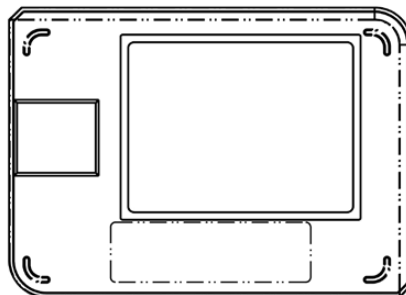
Features/Benefits

- Place your brand on the enclosure
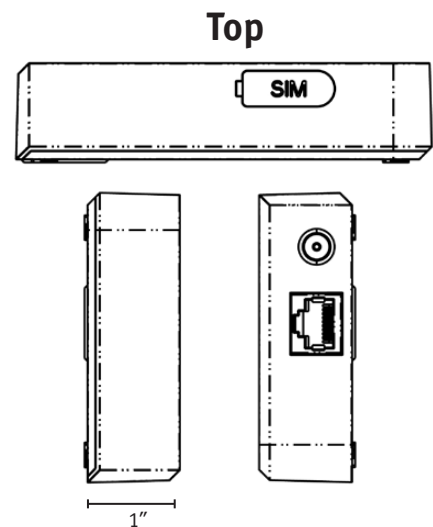- Pre-load your specific firmware and configuration
- All for a fixed price

Line Art

Front

Power
ZigBee
Cellular
Network

3"

4" (3" ConnectPort X2e® ZigBee)

Back

Top

SIM

Sides

1"

Specifications	ConnectPort X2e®	ConnectPort X2e® Cellular
General		
Management	Secure enterprise management via Device Cloud	
Protocols	UDP/TCP, DHCP	
LEDs	Power, Network (LAN/WAN), ZigBee (HAN/PAN)	Power, Network (LAN/WAN), ZigBee (HAN/PAN), Cellular signal strength
Security	SSL tunnels, WEP-40, WEP-104, WPA/WPA2, Authentication with PSK and EAP	SSL tunnels, Cellular network security
Dimensions (L x W x H)	3 in x 3 in x 1 in (7.62 cm x 7.62 cm x 2.54 cm)	3 in x 4 in x 1 in (7.62 cm x 10.16 cm x 2.54 cm)
Development		
Python Version	2.7.1	
Operating System	Digi Embedded Linux	
Digi ESP for Python	Source code editor; Visual smart editor for Device Cloud DIA; Debugging; Python interpreter; Project and build management; Project package export; DIA channel explorer; Terminal view. See www.digi.com/pdf/fs_esp.pdf for complete specs.	
Processor and Memory (Varies by firmware and OS version)	Freescale i.MX28, 20 MB RAM, 10 MB file space	
ZigBee		
ZigBee Stack	ZigBee PRO Feature Set, Ember EM357	
ZigBee Module	Digi XBee® ZB SMT (S2C)	
ZigBee Public Application Profile	ZigBee SEP 1.1 (backwards compatible to 1.0) optional	
Transmit Power/Receive Sensitivity	Worldwide version: XBee ZB SMT transmit power 6.3 mW (+8 dBm); Receiver sensitivity (1% PER) -102 dBm; North American version: XBee-PRO® ZB SMT transmit power: 63 mW (+18 dBm); Receiver sensitivity (1% PER) -102 dBmP	
Cellular		
Cellular Module	N/A	Telit 910 Series
GSM Bands	N/A	800/850/900/AWS/1900/2100 MHz 3G/UMTS
CDMA Bands	N/A	800/1900 MHz 1x RTT
Wi-Fi		
802.11	b/g/n	N/A
Data Rate	Up to 72.2 Mbps	N/A
Transmit Power	18 dBm typical (varies by mode and channel)	N/A
Receiver Sensitivity	Up to -87 dBm @ 11 Mbps	N/A
Modes	AP Client Modes only; Access Point Mode not supported	N/A
Ethernet		
Ports	1 RJ-45 port	
Physical Layer	10/100Base-T	
Routing	Ethernet port designed for WAN backhaul only	Ethernet port designed for configuration only
Power Requirements		
Power Supply	5 VDC power supply with barrel connector included	
Power Consumption	Typical: 1.2 W, Max: 2.5 W	Typical: 3.5 W, Max: 15 W
Environmental		
Operating Temperature	0° C to 40° C (32° F to 104° F)	
Relative Humidity	5% to 95% (non-condensing)	
Regulatory Approvals		
Mobile Certifications (GSM)	N/A	AT&T
Mobile Certifications (CDMA)	N/A	Verizon / (Sprint Pending)
Safety	EN60950	
Emissions/Immunity	CE, FCC Part 15 (Class B), IC, ETSI	