

# Digi XBee Intelligent Edge Controller

Cloud-managed LPWAN smart industrial IoT solution for edge sensors and systems

**Digi XBee® Intelligent Edge Controller** provides a development-ready upgrade to existing industrial sensors with the latest innovation in wireless and cloud technologies. Combine **Digi X-ON™** IoT platform with Digi XBee Intelligent Edge Controller to monitor sensor or remote-control assets over LoRaWAN™. Industrial devices can be monitored with sub-second accuracy using Modbus RTU or digital or analog I/O. Alarms and data are wirelessly delivered to the Digi X-ON IoT platform.

Provision and verify secure wireless connectivity with the Digi X-ON mobile app. Add custom workflows to streamline the installation process in the field. Deploy pre-configured device templates from the cloud with support for over-the-air configuration updates.

Leverage the complete, deployment-ready device-to-cloud XBee Intelligent Edge Controller IoT solution for sensor monitoring and real-time data insights. Ideal for predictive maintenance, the remotely configurable edge controller lowers network and operational costs with rapid deployment and secure, long-range connectivity.

Local edge monitoring of up to 80 different parameters eliminates site visits with cloud management. Retrofit existing Modbus or analog industrial sensors in the field, configure Modbus device settings remotely, and reduce network traffic by over 99%.

Digi XBee Intelligent Edge Controller is a turnkey solution for intelligent agent edge processing, rapid polling, and long-range, low-power wireless connectivity with mobile provisioning and cloud control.

## Key features, benefits and applications

- Low-Power Wide-Area Network — LPWAN
- 80x local intelligent edge rules and unlimited cloud-based rules
- Cloud-based configuration
- On-demand cloud polling and configuration for any Modbus register
- Device portal
- Intelligent edge processing
- Sub-second local monitoring and alarms
- Mobile provisioning app
- **Digi X-ON** IoT platform for easy management modulation technique
- Typical range up to 15 km (10 miles)

## Application example



## Related Digi devices



Digi HX20 Gateway



Digi HX15 Gateway



Digi X-ON IoT platform



Digi XBee LR RF for LoRaWAN



Digi Wireless Design Services

## DIGI XBEE INTELLIGENT EDGE CONTROLLER

# Specifications



Manage this device with  
Digi X-ON IoT platform

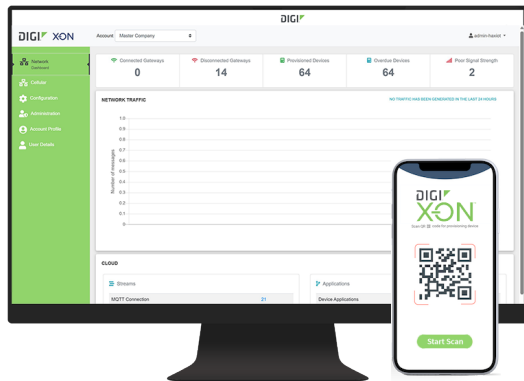
### Specifications

### Digi XBee® Intelligent Edge Controller

LPWAN	
LORAWAN REGIONAL SUPPORT	US915, EU868
ANTENNA CONNECTOR	U.FL (for IEC-8-LR-O-PCA and IEC-9-LR-O-PCA models)
MANAGEMENT	
CONFIGURATION AND MANAGEMENT	Digi X-ON IoT platform (cloud-based); local USB to serial CLI
POWER (Does not include power draw of external sensors)	
EXTERNAL POWER INPUT RANGE	5 VDC – 24 VDC
MAXIMUM DC INPUT	30 V
BATTERY AND BATTERY LIFE	3.6 V, 8 Ah, lithium thionyl chloride, non-rechargeable, replaceable; approximately 8 years (at 10 msgs / day)
POWER CONSUMPTION — SLEEPING	30 uA (battery)
POWER CONSUMPTION — CONTINUOUS	8 mA (battery)
POWER CONSUMPTION — TRANSMIT	135 mA (battery)
SENSOR PROTOCOL SUPPORT	
MODBUS	Modbus RTU RS-485 up to 32 devices direct or 192 devices with Modbus RTU I/O port expanders
EDGE COMPUTE	80 local rules, unlimited cloud rules
ANALOG I/O	
INPUTS	1x 4 – 20 mA with 24 VDC power on battery or 5 – 24 VDC when on external DC
INPUT VOLTAGE RANGE	0 – 3.3 VDC (analog input)
INPUT CURRENT RANGE	4 – 20 mA (current loop input)
INTERNAL A/D CONVERTER	12-bit
DIGITAL I/O	
PORTS	1x RS-485/Modbus, 1x I2C or 4x Digital I/O
INPUT RANGE	0 – 0.6 VDC logic low; 3.3 VDC logic high
MAX INPUT VOLTAGE	24 VDC
DIGITAL OUTPUT	Latching relay, max current, 2 A 0 – 150 VDC / 0 – 240 VAC
ENVIRONMENTAL	
OPERATING TEMPERATURE	–35 °C to 70 °C (–31 °F to 158 °F)
STORAGE TEMPERATURE	–40 °C to 85 °C (–40 °F to 185 °F)
RELATIVE HUMIDITY	90%
BATTERY DISCHARGE	<1% per year if stored at 30 °C (86 °F)
PHYSICAL	
DIMENSIONS (L x W x H)	86.3 mm x 79.6 mm (3.4 in x 3.13 in)
WEIGHTS	45 g (0.10 lb)
ENCLOSURE	PCA only (no enclosure)
REGULATORY APPROVALS	
EMISSIONS	FCC part 15 Subpart B class B, EN55022: 2010/AC: 2011 class B, ICES-003 Issue 5: 2012 class B; EU868
WARRANTY	
PRODUCT WARRANTY	1-year*

\*Standard 1-year warranty upgradeable to 3 years with purchase of a Digi X-ON 3-year subscription applicable to the product purchased at time of first installation.

# Digi X-ON IoT Platform



**Digi X-ON** is a complete device-to-cloud platform for connected IoT devices. The platform provides a data-ready device solution from development to operation. Digi X-ON contains an integrated LoRaWAN network server and JOIN server to support devices and gateways that use the LoRaWAN wireless connectivity standard. Digi X-ON also contains a web server for hosting web applications and platform management services. Digi X-ON with LoRaWAN provides cloud-enabled secure, long-range and low-power wireless connectivity for self-built or commercial off-the-shelf LoRaWAN devices.

The Digi X-ON platform is designed to collect and analyze data directly from devices and manage the wireless network base stations that provide campus, city or nationwide coverage. Digi X-ON and LoRaWAN support many different applications and use cases such as connected cities, smart utility, industrial IoT and smart agriculture.

Learn more at [digi.com/x-on](https://digi.com/x-on).

## Capabilities

- Enables you to configure, monitor and diagnose your mission-critical devices or gateways from the Digi X-ON web and mobile interface
- Automates deployment of devices and gateways with the provisioning app
- The Stream feature provides inter-cloud API support for real-time two-way device data between multiple cloud platforms
- Data templates include Transform functions for simplified integration of device data to multiple cloud platforms, including support for MQTT, WebSocket and cloud service providers including Microsoft Azure and Amazon AWS)
- Provides a multi-tenant hierarchy of accounts for OEMs, resellers and end users for managing complex business structures with role-based access controls
- Users can create comprehensive IoT applications by utilizing the X-ON platform AppEngine
- Provides advanced scheduling for events or timers for proactive maintenance, automated business operations and process control
- Enables real-time alerts and notifications with email, SMS or API
- Provides on-demand or scheduled reporting with business insights, network health or custom reports
- Enables logging and tracing of real-time data messages for interactive operations and troubleshooting with devices and gateways
- Lets you integrate data through open APIs to develop more complex applications with third-party utilities
- Ability to configure custom triggers using the intuitive IEC Configuration Tool

## Infrastructure

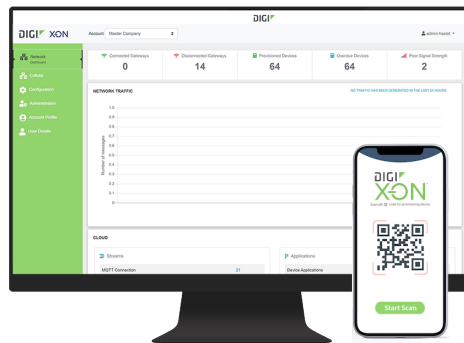
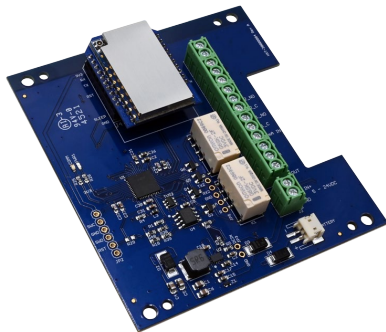
- Hosted in a commercial-grade cloud server environment that meets SOC 1<sup>®</sup>, SOC 2<sup>®</sup> and SOC 3<sup>®</sup> standards
- Superior availability, operating to 99.9% or greater with N+1 high-availability microservices
- Open APIs available to support application development
- Auto-scale elastic capacity 2M devices/min, 20k gateways/min, 6k users/min

## Security

- TLS PKI security across all applications
- Member of the Center for Internet Security<sup>®</sup> (CIS<sup>®</sup>)
- AES encryption for LoRaWAN

## DIGI XBEE INTELLIGENT EDGE CONTROLLER

### Product Photos and Part Numbers



Part Numbers	Digi XBee® Intelligent Edge Controller
IEC-8-LR-O-PCA	Digi XBee Intelligent Edge Controller — LoRaWAN, Modbus, DIO, 4 – 20 mA, 863 – 870 MHz, 5 – 24 VDC, U.FL connector, PCA only
IEC-9-LR-O-PCA	Digi XBee Intelligent Edge Controller — LoRaWAN, Modbus, DIO, 4 – 20 mA, 902 – 928 MHz, 5 – 24 VDC, U.FL connector, PCA only

\*Antennas, subscriptions and accessories sold separately unless otherwise noted.

Part Numbers	Available Subscriptions and Accessories**
XON-DEV-1MTH	Digi X-ON IoT Platform Developer Edition Subscription
XON-STD-1MTH	Digi X-ON IoT Platform Standard Edition Subscription
XON-PRE-1MTH	Digi X-ON IoT Platform Premium Edition Subscription
XON-PLT-1MTH	Digi X-ON IoT Platform Platinum Edition Subscription
XON-SUP-MTH	Digi X-ON IoT Platform Advanced Technical Support
XON-CELL-2GB	Digi X-ON Cellular Connectivity 2 GB AT&T SIM card (North America)
XON-CELL-EU-2GB	Digi X-ON Cellular Connectivity 2 GB AT&T SIM card (Europe)
XON-CLOUD-TEST-1MTH	Digi X-ON IoT Platform Dedicated Development Server Subscription

\*\*Subscriptions and accessories not included with Digi XBee Intelligent Edge Controller unless otherwise noted.

For more information, visit [digi.com](https://www.digi.com).



For more information about Digi XBee Intelligent Edge Controller, visit [www.digi.com/xbee-iec](https://www.digi.com/xbee-iec).

