



Manage this device with X-ON Cloud IoT platform

# 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™ Cloud 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 Cloud 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.

### FEATURES AND BENEFITS

- 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 Cloud platform for easy management
- Typical range up to 15 km (10 miles)

### RELATED PRODUCTS



### APPLICATION EXAMPLE



## 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 Cloud (cloud-based); local USB to serial CLI
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## 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

	IEC-9-LR-O-001	IEC-9-LR-O-002	IEC-8-LR-O-PCA / IEC-9-LR-O-PCA
DIMENSIONS (L x W x H)	152.4 mm x 108.4 mm, 127 mm including glands, x 74.6 mm (6 in x 4.27 in, 5 in including glands, x 2.94 in)	152.4 mm x 108.4 mm, 127 mm including glands, x 74.6 mm (6 in x 4.27 in, 5 in including glands, x 2.94 in)	86.3 mm x 79.6 mm (3.4 in x 3.13 in)
WEIGHTS	246 g (0.54 lb)	264 g (0.58 lb)	45 g (0.10 lb)
ENCLOSURE	IP65	IP65	PCA only (no enclosure)

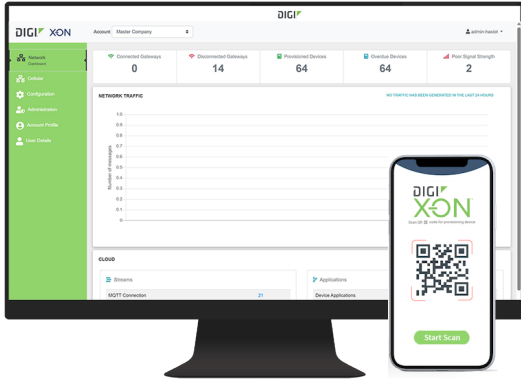
## REGULATORY APPROVALS

EMISSIONS	FCC part 15 Subpart B class B, EN55022: 2010/AC: 2011 class B, ICES-003 Issue 5: 2012 class B; EU868
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## WARRANTY

PRODUCT WARRANTY	1-year*
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\*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™ is a complete device-to-cloud platform for connected IoT devices. The platform provides a data-ready device solution from development through to operation. X-ON contains an integrated LoRaWAN™ network server and join server to support devices and gateways that use the LoRaWAN wireless connectivity standard. X-ON also contains a web server for hosting web applications and platform management services. 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 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. 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 [www.digi.com/lorawan](http://www.digi.com/lorawan)

## CAPABILITIES

- Enables you to configure, monitor and diagnose your mission-critical devices or gateways from the X-ON web and mobile interface
- Automates deployment of devices and gateways with provisioning app
- The Stream feature provides inter-cloud API 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

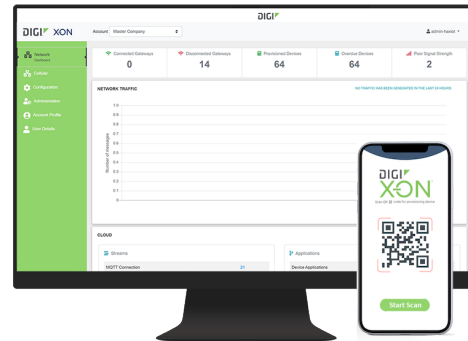
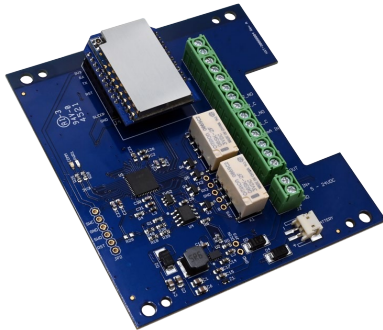
## INFRASTRUCTURE

- Hosted in a commercial-grade cloud server environment that meets SOC 1\*, SOC 2\* and SOC 3\* 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\* (CIS\*)
- AES encryption for LoRaWAN

## PRODUCT IMAGES



### PART NUMBERS

### DIGI XBEE® INTELLIGENT EDGE CONTROLLER

IEC-9-LR-O-001	Digi XBee Intelligent Edge Controller — LoRaWAN, Modbus, DIO, 4 – 20 mA, 902 – 928 MHz, 5 – 24 VDC, U.FL, 1.2 dBi omni antenna, IP65, no battery
IEC-9-LR-O-002	Digi XBee Intelligent Edge Controller — LoRaWAN, Modbus, DIO, 4 – 20 mA, 902 – 928 MHz, 5 – 24 VDC, tilt/shock sensor, U.FL, 1.2 dBi omni antenna, IP65, no battery
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 and accessories sold separately unless otherwise noted.

FOR MORE INFORMATION  
PLEASE VISIT [DIGI.COM](https://www.digi.com)

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