Watchport® Sensors for Drop-in Networking

Environmental Monitoring Solutions



Create a Drop-in Network with sensors to monitor critical environmental data over a wireless connection.

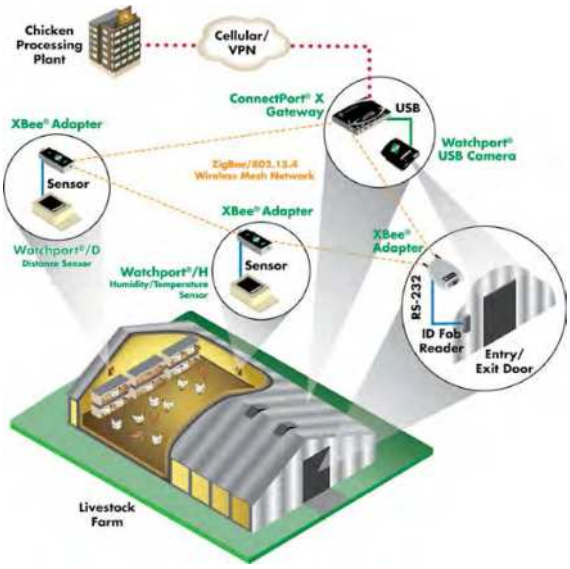
Overview

Watchport sensors provide a plug-and-play solution for Drop-in Networking applications. Each sensor connects to Digi's XBee® sensor adapter (sold separately) for wireless connectivity to sensor data over a low power ZigBee network. Sensors are available to measure distance, proximity, temperature/humdity, acceleration/tilt, and the presence of water. Monitoring remote assets with Watchport sensors can preempt damage to facilities, reduce costly maintenance and warn of threatening environmental conditions.

When used in a Drop-in Network with Digi's ConnectPort® X gateways, Watchport sensors can be monitored over a Wide Area Network (WAN) connection, providing centralized monitoring of geographically distributed sensor points. Plus, the Python® programming engine on the ConnectPort X provides the software tools to integrate multiple sensors and create custom applications using sensor readings.

Watchport sensors can be used in many Drop-in Networking applications. Monitor temperature and humidity levels in a refrigeration unit or grain silo; detect the presence of water in a livestock pen; activate a Watchport camera or an alarm when an access point is encroached; or reduce energy consumption by automatically powering down lights or other environmental systems when inhabitants are no longer detected.

Application Highlight



Features/Benefits

- **Ideal for remote monitoring of critical environmental data**
- **Plug into Digi's XBee sensor adapter (via RJ-45 connector) for wireless ZigBee® connectivity**
- **No external power supply required; draws power from XBee sensor adapter (via RJ-45 connector)**
- **A´ la carte product selection allows total customization**
- **Easy to install and configure**
- **Extend distance between sensor and XBee Sensor Adapter with CAT5 UTP cable**

Features Comparison

FEATURES

- Each sensor has a 6" cable lead with RJ-45 connector (1-Wire interface)

Watchport/H Humidity/Temperature Sensor

- Collects both relative humidity (RH) and temperature data
- Temperature compensated RH readings
- ASCII command interface
- Maximum reading rate: 20 per second
- Temperature accuracy: +/- 3.6º F (+/- 2º C) at -40º F to +14º F (-40º C to -10º C) and +/- 0.9º F (+/- 0.5º C) at +14º F to +185º F (-10º C to +85º C)
- RH accuracy: +/- 5% at 0-90% non-condensing; +/- 8% over 90%
- RH stability: +/- 1% RH (typical) at 50% RH in 5 years
- Power consumption: 15 mA (normal), 1.0 mA (suspend mode)
- Maximum CAT5 UTP cable length: 500 ft (152.46 m)

Watchport/D Distance/Proximity Sensor

- Photo-electric sensor with hardware controlled sensitivity
- Detection range 1.6 to 4.9 ft (0.5 to 1.5 m)
- Maximum reading rate: 3 per second
- Maximum switching frequency: 100 Hz
- Response delay: ≤5.0 ms (typical)
- Power consumption: 70 mA (max)
- Maximum CAT5 UTP cable length: 500 ft (152.46 m)

Watchport/W Water Detector

- 2 gold plated pins detect wetness on a non-conductive surface
- Binary output with "Wet" or "Dry"readings
- Waterproof enclosure
- Maximum reading rate: 5 per second
- Power consumption: 15 mA (normal), 1.0 mA (suspend mode)
- Maximum CAT5 UTP cable length: 1,000 ft (304.8 m)

Watchport/A Accelerometer

- Dual axis accelerometer
- Measures dynamic acceleration such as vibration or static acceleration (gravity)
- Measures tilt to 0.1°
- Acceleration from -2g to +2g

POWER REQUIREMENTS

- No external power supply required

ENVIRONMENTAL

- Operating temperature: -40º F to +185º F (-40º C to +85º C)
- Relative humidity: 0% to 95% (non-condensing)

USABILITY REQUIREMENTS

- Watchport Sensors for Drop-in Networking must be used with XBee Sensor Adapters (sold separately). Please see www.digi.com/products/wirelessdropinnetworking/ for XBee Adapter information.

REGULATORY APPROVALS

- FCC Part 15, Class B
- CE
- EN55022
- EN55024
- EN60950
- UL 1950
- CSA 2.2 No. 950
- IEC-950

DIMENSIONS

Watchport/H, Watchport/W, Watchport/A

- Length: 2.12 in (5.39 cm)
- Width: 1.19 in (3.02 cm)
- Height: 0.69 in (1.75 cm)
- Weight: 3.00 oz (85.05 g)

Watchport/D

- Length: 1.75 in (4.45 cm)
- Width: 0.74 in (1.88 cm)
- Height: 0.85 in (2.16 cm)
- Weight: 3.00 oz (85.05 g)

MODEL.....PART NUMBERS

	Worldwide
Watchport Sensors for Drop-in Networking	
Watchport/H (Humidity/Temperature Sensor)	70002335
Watchport/D (Distance/Proximity Sensor)	70002333
Watchport/W (Water Detector)	70002336
Watchport/A (Accelerometer)	70002337
XBee Sensor Adapters	
XBee Sensor Adapter (802.15.4)	XA-A14-CS1R
XBee-PRO Sensor Adapter (802.15.4)	XA-A14-CS1P
XBee Sensor Adapter (ZNet 2.5)	XA-B14-CS1R
XBee-PRO Sensor Adapter (ZNet 2.5)	XA-B14-CS1P

Watchport Sensors for Drop-in Networking must be used with XBee Sensor Adapters.

See www.digi.com/products/wirelessdropinnetworking/ for XBee Adapter specifications.

You can purchase with confidence knowing that Digi is always available to serve you with expert technical support and our industry leading warranty. For detailed information visit www.digi.com/support

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