

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.



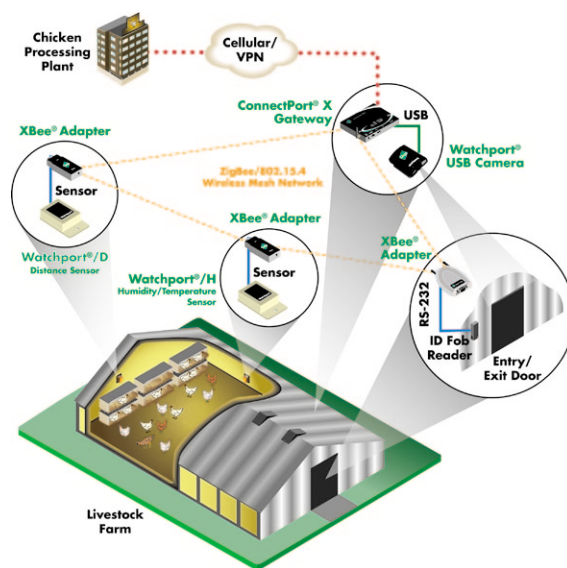
Overview

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/humidity, 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:
+/- 3.6° F (+/- 2° C) at -40° F to +14° F
(-40° C to -10° C) and +/- 0.9° F
(+/- 0.5° C) at +14° F to +185° F
(-10° C to +85° 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: -40° F to +185° F (-40° C to +85° 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

Watchport Sensors for Drop-in Networking

Watchport/H (Humidity/Temperature Sensor)
Watchport/D (Distance/Proximity Sensor)
Watchport/W (Water Detector)
Watchport/A (Accelerometer)

Worldwide

70002335
70002333
70002336
70002337

XBee Sensor Adapters

XBee Sensor Adapter (802.15.4)
XBee-PRO Sensor Adapter (802.15.4)
XBee Sensor Adapter (ZNet 2.5)
XBee-PRO Sensor Adapter (ZNet 2.5)

XA-A14-CS1R
XA-A14-CS1P
XA-B14-CS1R
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.

Visit www.digi.com for part numbers.

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