

Watchdog Wi - WDWi

Wireless Sensor Gateway



The WDWi is a revolutionized wireless platform. A complete system of sensors, gateway manager, and range extenders monitors your facility for changes in temperature, humidity, and dew point and allows you to fine tune your environment to meet energy efficiency goals, maintain optimal equipment performance parameters and ensure your facility is operating under optimal conditions.

The WDWi receives data from wireless sensors which is displayed on a web interface, accessible from any browser or mobile device. Designed to keep the most relevant information close at hand, the web interface provides direct alarm notification which allows users to quickly and effectively locate areas of concern. The WDWi will also send email alarm notifications and provides trending information to help pinpoint potential trouble spots in any monitored areas.

An open protocol approach streamlines communications and allows the WDWi to easily integrate into larger BMS and NMS systems via SNMP, Modbus, or BACnet. There are no licensing fees and as our firmware evolves you can update your WDWi to ensure your unit always has the newest features.

WDWi temperature and temperature/humidity sensors are compact and unobtrusive, yet provide an industry leading battery life - sensor batteries will last up to 12 years at room temperatures. WDWi sensors maintain this extended battery life while communicating readings to the WDWi every 10-20 seconds.

The WDWi system has an unprecedented transmission range: up to 600 feet indoor, direct line of sight. While this range is more than ample for most situations, sometimes applications require signals to be pushed through more complex physical or noisy RF environments. The Wireless Range Extender (WRE) can be implemented in these situations to add up to 1,000 feet direct line of sight transmission distance per range extender to the application.

Features

- Proprietary wireless design
- A transmission range between manager and sensors that is second to none:
 - Up to 100 ft (30.5m) through multiple walls
 - Up to 270 ft (82.3m) through one wall
 - Up to 600 ft (183m) direct line of sight
 - Add up to 1,000 ft (305m) direct line of sight with each range extender
- Unparalleled sensor battery life:
 - Up to 5 years across full operating range: -13°F to 185°F (-25°C to 85°C)
 - Up to 8 years at temperatures up to 122°F (50°C)
 - Up to 12 year battery life at room temperature
- Support 250 sensors on a single manager, up to 400 sensors with range extenders
- Open protocols support integration with BMS/NMS/DCIM via:
 - SNMP, Modbus and BACnet
- Polling rate of 10-20 seconds
- Web interface enables direct alarm notification and stand-alone operation

Watchdog Wi Specifications

| | |
|---------------------------------------|---|
| Power | 24VAC @ 600mA max, 50/60Hz, 24VDC @ 600mA max |
| Included Equipment | WDWi, PSWA-DC-24 power supply, antennas, rack mount tabs |
| Wired Relay Outputs | Two (2) Dry Contact, Form C, 1A @ 24VDC resistive, 0.5A @ 120VAC |
| Max Number of Wireless Sensors | It is recommended to not exceed 250 sensors per WDWi; 400 sensors per WDWi may be accomplished with range extenders, but signal conflict will increase. |
| Communication Ports | |
| Ethernet | 10/100 BASE-T, RJ45 connector; 500VAC RMS isolation |
| RS232 | DB9 female connector; 9600 baud; no parity; 8 data bits; 1 stop bit |
| EIA-485 | 1200, 2400, 9600 or 19200 baud (selectable); no parity; even or odd; 8 data bits; 1 stop bit |
| USB | Serial port emulation for diagnostics; 115200 baud; no parity; 8 data bits; 1 stop bit |
| Protocols | |
| TCP/IP, HTML, TFTP, SNMP | V1: V2C MIB-2 compliant; NMS Manageable with Get; IPv4; IPv6 |
| Modbus (EIA-485) | Modbus Slave; RTU mode; Supports function codes 03 |
| Modbus TCP/IP UDP/IP | Modbus Slave; TCP/IP transmission protocol |
| BACnet/IP | ASHRAE STD 135-2004 Annex J |
| BACnet/MSTP | EIA-485 |
| Terminal Emulation (RS232) | VT100 compatible |
| Wireless Interface | Proprietary protocol from sensors to manager/range extender; mesh backbone between manager and range extender; 900MHz receivers for configuration, RP/SMA connectors for 900MHz antennas. |
| Login Security | Web browser access (Ethernet); 8 users and passwords can be configured |
| Data Trending | |
| Temperature | Records temperature data at 5 minute intervals; daily records; retains 30 days of information |
| Temperature/Humidity | Records temperature and humidity data at 10 minute intervals; daily records; retains 30 days of information |
| Operating Environment | |
| Temperature | 32°F to 140°F (0°C - 60°C) |
| Humidity | 5% to 95% RH (Non-condensing) |
| Altitude | 15,000 ft (4572m) max.; 9,842 ft (3000m) max. if applying more than 150V, 50/60Hz to relays from overvoltage category II circuit |
| Storage Temperature | -4°F to 185°F (-20°C - 85°C) |
| Mounting | Desktop, rack mount (tabs included) |
| Dimensions and Weight | 9.7"W x 4.8"D x 1.8"H (24.6cmW x 12.2cmD x 4.6cmH), 2.7lb (1.23kg) |
| Certifications | ETL listed; conforms to UL 61010-1, EN 61010; certified to CSA C22.2 NO, 61010.1; RoHS compliant; FCC ID: XTJ-A11072401 and MCQ-XB900HP; IC: 8975A-A11072401 and 1846A-XB900HP |

Wireless Temperature Sensor & Wireless Temperature/Humidity Sensor Specifications

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|------------------------------|--|
| Power | 3.6V AA lithium battery |
| Battery Life | Up to 5 years when system spans full operating temperature range. Up to 8 years at room temperatures up to 122°F (50°C) Up to 12 years at room temperature |
| Shelf Life | 10 years in quiescent mode with battery installed |
| Transmission | |
| Interval | 10-20 seconds (random) |
| Frequency | 868 or 900 MHz |
| Range | Up to 600 ft line of sight |
| Accuracy | |
| Temperature | +/- 0.2°C at room temperature; +/- 0.5°C over full operating range |
| Humidity | +/- 2% over full operating range |
| Operating Environment | |
| Temperature | -13°F to 167°F (-25°C - 75°C) |
| Altitude | -200 ft to 15,000 ft (-70m to 4572m) max. |
| Mounting | Free standing, magnets (included), 1U screw, mini din rail, zip ties |
| Dimensions and Weight | 2.8"L x 1.1"W x 1.1"H (7.1cmL x 2.8cmW x 2.8cmH), 0.08lb (0.036kg) |
| Certifications | FCC ID: X7J-A11072401; IC: 8975A-A11072401 |

