

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 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

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

