

PRODUCT OVERVIEW



The WebRelay Wireless™ is an easy to use Wi-Fi enabled relay, temperature monitor and status alerting device. The WebRelay Wireless has a built-in relay for controlling lights, motors and other relatively high current loads, a digital input which can be used to monitor and report the status of switch-closure sensors and a “1-Wire” port for connecting up to four digital temperature or other Xytronix 1-wire sensors.

The WebRelay Wireless works well as a standalone device that can be controlled using a web browser. It can be configured using simple menus and drop-down lists. It includes features such as logging, input state monitoring, and the ability to control other relays on other devices.

The WebRelay Wireless can be a self-contained wireless access point that requires no additional servers or ControlByWeb devices. In this mode the WebRelay Wireless provides live, real-time temperatures or input status directly to a user through web browsers or the CBW Mobile app (optional).

Setup is simple. There is no app to download, no subscription to buy, no software required, and no programming necessary for setup or use.

The WebRelay Wireless is ideal for applications where devices must be controlled or where temperature or events

must be monitored and Ethernet wiring is not accessible or practical to install. The module is powered by an external wall transformer (9-28 VDC), solar panel, or other DC power source.

Features:

- Built-in high current relay
- Optically-isolated digital input
- Up to 4 temperature sensors
- Wireless Wi-Fi 802.11 b/g/n
- Transmission range up to 250ft
- Real-Time clock with NTP server synchronization
- Automatic daylight savings and leap year adjustment
- No software required
- Customizable web-based control page
- BASIC script support for advanced flexibility
- Configurable logging of the input, counter, temperature, humidity, relay state, and Vin
- Send email alerts (up to 8 email addresses) based on user-defined conditions
- Supports encrypted email servers, such as Gmail
- Static or DHCP IP address configuration
- XML, Modbus/TCP and Remote Services
- Field updatable
- Removable terminal connectors for easy installation
- Rugged DIN-Rail/wall-mountable enclosure
- 5-Year Warranty

WebRelay Wireless		
Relay 1	ON	ON OFF PULSE
Input 1	OFF	
Counter 1	0.000	Reset Count
Sensor 1	67.4 °F	
Sensor 2	67.6 °F	
Sensor 3	67.3 °F	
Sensor 4	67.4 °F	
Register1	ON	ON OFF
Register2	OFF	ON OFF
Register3	OFF	ON OFF
Register4	OFF	ON OFF

Control Page Options

APPLICATIONS & SPECS

Power Requirements

- **Voltage:** 9-28 VDC
- **Max Current:** 188 mA

Wireless

- **Network Standards:** IEEE 802.11 b/g/n
- **Frequency Band:** 2.412 - 2.462 GHz
- **Wi-Fi Security Standards:** Open, WEP, WPA, WPA2
- **Network Settings:** DHCP or Static
- **Wireless Range:** Up to 250ft (typical for Wi-Fi devices) depends on environment
- **Antenna:** External, 2.4 GHz, 50Ohm, omni directional, 1/4 wavelength, gain: ≤ 2.1 dBi. With articulated reverse SMA connector.
- **RF Output Power (typ):** 14dBm (802.11b/g), 12dBm (802.11n)

Operation

- **Provisioning:** Via internal web server (no cables or PC utilities needed)
- **Access Point:** Yes, push button activated (setup via web page)
- **WPS:** Yes, push button activated (Wi-Fi Protected Setup)
- **Connectivity:** Intermittently connected or always connected
- **XCD Data Packet:** UDP, 10-bytes (See Appendix A)
- **Remote Server:** ControlByWeb's X-600M™, X-300™ or cloud-based server
- **Polling:** state.xml (only with always-connected)

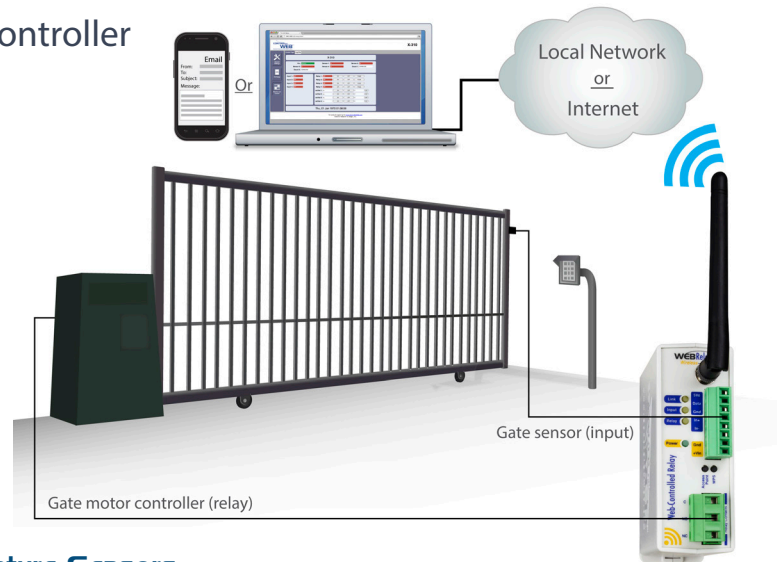
Relays

- **Number of Relays:** 1
- **Max Voltage:** 277VAC, 30VDC
- **Max Current:** 12A
- **Contact Type:** SPDT (Form 1C)
- **Load Type:** General Purpose
- **Contact Resistance:** < 30 milliohms initial
- **Contact Material:** AgSnO₂
- **Electrical Life:** 100K cycles (Typical)
- **Mechanical Life:** 10M cycles (Typical)
- **Environmental Rating:** Over voltage Category II, Pollution Degree 2
- **Relay Modes:** ON/OFF or Pulsed
- **Pulse Timer Duration:** 0.1 to 86,400 Seconds (1-day)

Digital Inputs

- **Number of Inputs:** 1
- **Type:** Optically-Isolated
- **Voltage Range:** 4-26 VDC
- **Current:** 950uA @ 4V, 8.5mA @ 26V
- **Minimum Hold Time:** 25mS
- **Input Functions:** Monitor, Local Relay Control, Remote Relay Control
- **Maximum Count:** 24-bit
- **Max Count Rate:** 20Hz Max (Dependent on Configuration)
- **Edge Trigger:** Rising, Falling or Both

Gate Controller



Temperature Sensors

- **Maximum Number of Sensors:** 4
- **Type:** Dallas Semiconductor DS18B20
- **Temperature Range:** -67°F to 257°F (-55°C to +125°C)
- **Accuracy:** $\pm 0.5^\circ\text{C}$ (from -10°C to $+85^\circ\text{C}$)
- **Sensor Functions:** Monitor Temperature, Email Alerts, Control Relays
- **Humidity Type:** Xytronix Model X-DTHS-P sensor
- **Humidity Range:** 0-100% RH
- **Accuracy:** $\pm 2\%$

Real-Time Clock

- Manual or NTP(Network Time Protocol) setup
- **NTP Sync Period:** Once, Daily, Weekly, On Power-up
- Auto Daylight Savings Adjustment

Network

- **Type:** 10/100 Base-T Ethernet Port
- **Setup:** Static IP address assignment. TCP port selectable

Connectors

- **Power/Input/Temperature:** 5-Position Removable
- **Relays/Inputs:** 3-Position Removable
- **Network:** 8-pin RJ-45

Push Buttons

- **Button 1:** Force access-point mode
- **Button 2:** Activate WPS mode

LED Indicators

- **Number of LEDs:** 4
 - Power on
 - Relay coil energized
 - Digital Input
 - Network linked

Physical

- **Operating Temperature:** -40°F to 150°F (-40°C to 65.5°C)
- **Size:**

- 1.41 in (35.7mm) wide
- 3.88 in (98.5mm) tall
- 3.1 in (78mm) deep (not including connector)
- **Weight:** 5 oz (142 grams)
- **Enclosure Material:** Lexan 940 Polycarbonate Plastic
- **Enclosure Flame Rating:** UL94 V0

Protocols

- HTTP, XML, SSL, Modbus TCP/IP, SMTP, Remote Services

Logging

- **Log File Size:** 512K (max 28,829 logs)
- **Storage:** Nonvolatile Flash
- **Buffer Architecture:** Circular Buffer
- *Log data can be periodically read and stored on a computer*

Advanced Features

- BASIC interpreter
- Remote services

Password Settings

- **Password protection on setup page:** Yes
- **Password protection on control page:** Optional
- **Password Encoding:** Base 64
- **Max Password Length:** 13 Characters

Electromagnetic Compliance

- FCC ID: 2AE4Z-XWD002
- FCC 47CFR15 (Class B)
- IEC CISPR 22, CISPR 24
- EN55024 ITE Immunity (2010)
- EN55022 Emissions (2010)
- IC: 21441-XWD002
- EMC95120-ETSI328 (Australia)
- EMC95120-IEC62311 (Australia)



Product Safety Compliance

- UL: E468316 61010-1 3rd Edition
- CSA: C22.2 No. 61010-1-12 3rd Edition
- CCN: QUXX, QUXX7 (Process Control Equipment, Electrical)