



The XW-110 is an easy-to-use wireless temperature sensor with a built-in web server. It measures environmental temperatures using up to 3 external temperature probes (one included) for precise measurement outside of the unit. Users can view current temperature using a web browser, smart phone app, or the XW-110 can send temperature information via email. The XW-

110 can be easily and quickly mounted to a wall or any other workable surface.

The XW-110 Plus model, allows you to periodically log temperature data. The temperature data is stored internally (max 28,829 logs), and can be sent daily via email. The XW-110 Plus is an ideal solution for maintaining compliance with FDA requirements to maintain food temperatures in coolers and freezers. No more manually logging temperature data by hand!

Stand-Alone mode makes the XW-110 a self-contained device that requires no additional servers or ControlByWeb devices. In this mode the XW-110 products can provide live, real-time temperatures status directly to users through web browsers or the CBW Mobile app. In addition, stand-alone mode offers the ability to simply monitor temperature status and send out email alerts (which can be converted to text message alerts) either periodically or whenever an alarm condition occurs.

### Stand-Alone Mode Configuration Options

**-View Real-Time Temperatures** - Use the XW-110's built in web pages to view real-time temperatures: Connects directly to Wi-Fi network, no gateway devices required - AC adapter for main power and batteries for backup - No cloud server required.

**-Email alerts during alarm conditions** - Send emails for high/low temp alarms or power failures: Connects directly to Wi-Fi network, no gateway devices required - Battery/AC adapter powered DHCP or static IP address (no static IP required) - No cloud server required - No port forwarding required - Supports encrypted & un-encrypted email servers.

**-Control relays in remote locations** - Control the relays on other ControlByWeb devices to turn on lights, bells, alerts, etc.: Connects directly to Wi-Fi network - no gateway devices required - Battery or AC adapter powered - Control remote relays on other ControlByWeb products.

*Note on power: The XW-110 is powered by an external 5VDC wall transformer, or by two internal AA batteries. Only use batteries to provide backup power, or for modes where the web server is not being used. Some configurations consume more power than others which can make battery operation unpractical. Having more features enabled and/or increased sampling frequencies lead to lower battery life.*

There is no special software to download, no drivers to install, and no monthly

## PRODUCT OVERVIEW

subscription. Using the XW-110 is just as easy to monitor whether you are in the field, in the office, or on vacation. It is the ultimate solution to your wireless temperature monitoring needs!

### Features:

- Monitor up to 3 temperature sensors
- Wireless Wi-Fi 802.11 b/g/n
- Transmission range up to 250ft\*
- Log temperature data (data sent via daily email)
- Send power failure email alerts
- No sensor calibration needed
- Small data packets provide long battery life
- Built-in web server for configuration and remote monitoring
- Temperature sensor is accurate to +/-0.5°C from -10°C to +85°C
- Powered by external DC power adapter or two AA batteries (battery usage for backup/low power applications only)
- Longer length air/submersible temperature probes available - Sensors are interchangeable and need no calibration
- Temperature status can control relay on another ControlByWeb device
- Protocols supported: HTTP, XML, SMTP, Modbus, Remote Services, Data Logging
- Simple and easy to use

\*Transmission distance can vary depending upon environmental conditions, interference from other Wi-Fi devices, obstacles, etc.

### XW110 Plus™ Wireless Temperature Sensor

Main | WiFi Networks | Email | Password | Date/Time | Sensor | Control Page

**MODULE SETTINGS**

Module Description: XW-110P

Temperature Update Interval: 5 Minutes  Seconds

Units: Fahrenheit  Celsius

Logging: Off  On

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**SENSOR 1**

Sensor Description: Sensor 1

Sensor Address: 0000000000000000

Offset: 0.0

Alarm 1: 100.0 High  Low

Alarm 2: 40.0 High

Deadband: 1.0

Include Temperature: On Control Page

Email Option: No email messages

Remote Services: No action

Remote Relay Action: No Action when Al

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**SENSOR 2**

XW-110P	
Sensor 1	x.x °F
Sensor 2	x.x °F
Sensor 3	x.x °F
Battery	External
Current Time: Fri, 01 Jan 2016 08:11:23	

Sensor Page

Control Page

## APPLICATIONS & SPECS

### Monitoring temperature on a computer/smart phone



#### Models:

- XW-110P

#### Power Requirements

- Voltage: 2AA batteries, or external 5VDC power supply
- Max Current: 500ma max (via DC power wall adapter)
- DC Jack: 5.5mm barrel x 2.5mm center pin (positive)

#### Battery

- Internal: Two replaceable 1.5V "AA" cells
- Power Consumption: 27-770uA sleep, 59mA active RX, 229mA TX (at +12dBm)
- Battery Life: Up to 1-year, depending on mode, security and reporting frequency. Battery life is affected by mode, reporting interval, security, DHCP, DNS, battery temperature, and other variables.
- Battery Usage: Battery voltage is measured and periodically reported

#### 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: Integral chip antenna, 1.9 dBi.
- 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)

#### Internal Push Buttons

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

#### Temperature Sensors:

- Number of Sensors: 1-3
- Type: Digital "1-wire" thermometer probe
- Temperature Range: -67°F to 257°F (-55°C to +125°C)
- Accuracy: ±0.5°C (from -10°C to +85°C)
- Sensor Functions: Monitor Temperature, Email Alerts, Control Remote Relay

#### Real-Time Clock

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

#### Protocols

- HTTP, XML, SMTP, Modbus (XW-110 Plus), Remote Services, Data Logging (XW-110 Plus)

#### Logging

- Log File Size: 1,800 Entries
- Buffer Architecture: Circular Buffer
- (Log data can be emailed every 24 hours)

#### Physical

- Location: Indoor use or NEMA-4 protected location
- Using Alkaline Batteries: -18°C to 55°C (0°F to 130°F)
- Operating Temperature: -40°C to 65°C (-40°F to 150°F)
- Storage Temperature: -40°C to 85°C (-40°F to 185°F)
- Humidity: 5-95%, non-condensing

- Size:
  - 3.16 (80mm) wide
  - 3.04in (77mm) tall
  - 0.91in (23mm) deep
- Weight: 2.4 oz (68g), no batteries
- Enclosure Material: Lexan 940 Polycarbonate Plastic
- Enclosure Flame Rating: UL94 V0

#### 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-XWD001
- IC: 21441-XWD001
- FCC 47CFR15 (Class B)
- IEC CISPR 22, CISPR 24
- EN55024 ITE Immunity (2010)
- EN55022 Emissions (2010)

