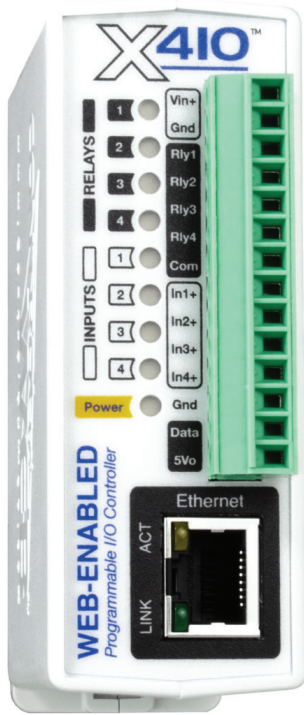


PRODUCT OVERVIEW



The X-410™ is a multifunction web-enabled module for control and monitoring. The X-410 has four internal relays, four digital inputs, four pulse counters, 16 general purpose timers, 16 general purpose registers and a 1-Wire® bus. The 1-Wire bus supports up to 16 sensors for monitoring temperature, humidity and more.

It can be controlled and/or monitored over any TCP/IP network including private networks, IP-based industrial control networks, and the Internet. Users can operate the X-410 using a web browser, the CBW Mobile app, or custom applications written for a computer, PLC, or other automation controller.

The X-410's built-in interface allows you to create custom "Tasks" for simple and advanced control logic.

Create tasks based on time, input or outputs' status, or the responsiveness of remote devices. The X-410 also has a built-in BASIC interpreter for custom applications not achievable through the Task Builder system.

Other features are also included such as, email notification, event scheduling, and logging. The X-410 can control and monitor up to 32 remote devices, graph logged data, FTP logged data, email logged data, send encrypted emails, and monitor its power supply voltage.

The X-410 supports a number of Ethernet protocols including: HTTP/HTTPS, Modbus/TCP, SNMP V1,V2 & V3, NTP, SMTP(Encrypted), and FTP/FTPS. The status of the device can be retrieved in human readable formats XML and JSON.

The X-410 supports TLS V1.2 encryption as well as cloud integration(not required) for easier configuration and access. Specifically the X-410 supports HTTPS connections, can send encrypted emails, can communicate with remote devices using TLS, and send logged data to FTP servers over an encrypted connection.

In addition, the X-410 can be configured to automatically connect to ControlByWeb.cloud, ControlByWeb's cloud service. This feature is not required but does simplify the configuration process and internet access to an X-410 installed behind a network router by eliminating manual configuration of the device and port forwarding setup on routers.

Features:

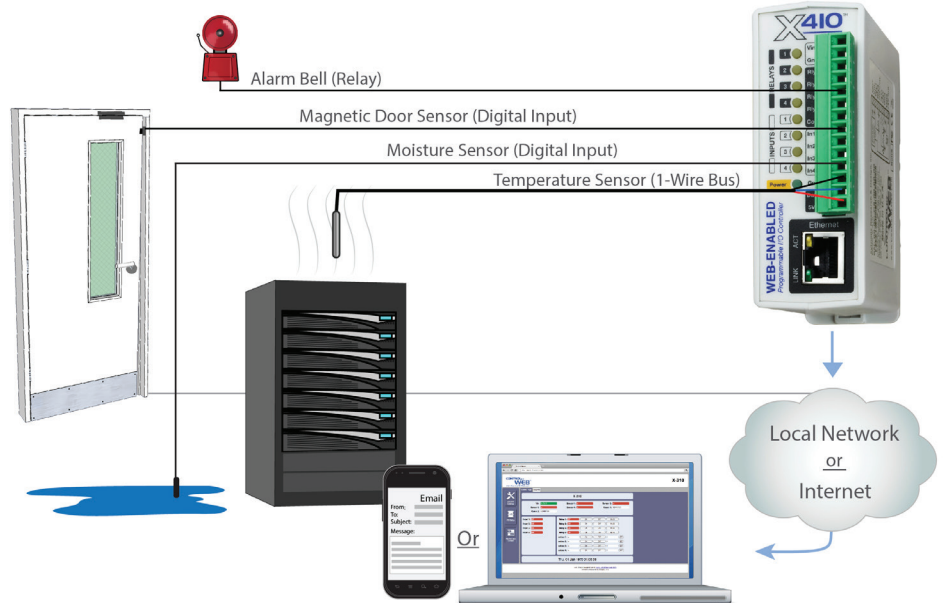
- Four electro-mechanical relays (shared common) independently controlled
- Four digital inputs (shared ground)
- 1-Wire Bus for up to 16 sensors (temperature, humidity, ultrasonic sensors, etc.)
- Control, monitor, and log 32 remote modules, or up to 64 I/O
- User Permissions: Admin, Manager, User
- Tasks
 - 50 Scheduled
 - 50 Conditional
 - 16 Automatic Reboot
 - 20 Override Schedules
- Send email alerts based on user-defined conditions (supports encrypted email servers, such as Gmail)
- Real-Time Clock with NTP server synchronization
- Automatic daylight savings and leap year adjustment
- Highly configurable - Almost any combination of input/relay control possible
- No software required
- Customizable web-based Control Page
- BASIC script support for advanced flexibility
- Configurable logging
- Graphing (logged data)
- HTTPS/TLS encrypted
- Static or DHCP IP address configuration
- Modbus, SNMP, Remote Service, IP Filtering
- Field updatable
- Removable 14-Terminal connector for easy installation
- Rugged DIN-Rail/wall-mountable enclosure
- 5-Year Warranty



Example Control Page

APPLICATIONS & SPECS

Server Room Control & Monitoring



Power Requirements

- **Voltage:**
 - X-410-I: 9-28 VDC
 - X-410-E: POE and/or 9-28VDC
 - X-410W-I: 9-28VDC
 - X-410CW-I: 9-28VDC
- **Max Current:** 295mA

Relays

- **Number of Relays:** 4
- **Max Voltage:** 28VAC, 24VDC
- **Max Current:** 1A
- **Contact Type:** SPST (Form 1A) - All relays have a shared common
- **Load Type:** General Purpose
- **Contact Resistance:** 1 milliohm max
- **Contact Material:** AgNi
- **Electrical Life:** 100K operations (Min)
- **Mechanical Life:** 5M cycles (Min)
- **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:** 4
- **Type:** Non-Isolated
- **Voltage Range:** 4-26 VDC
- **Current:** 950uA @ 4V, 8.5mA @ 26V
- **Minimum Hold Time:** 20ms
- **Input Functions:** Monitor State, Control Relays, Control Remote Relays, Scalable Counter, On Timer, Total On Timer, Frequency
- **Maximum Count:** 24-bit
- **Max Count Rate:** 20Hz Max (Dependent on Configuration)
- **Edge Trigger:** Rising, Falling or Both

Temperature Sensors

- **Maximum Number of Sensors:** 16
- **Type:** Dallas Semiconductor DS18B20
- **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, Log Temperature, Email Alerts, SNMP Traps
- **Humidity Type:** Xytronix Model X-DTHS-P sensor
- **Humidity Range:** 0-100% RH
- **Accuracy:** ±2%
- **Max Cable Length:** 600 feet (180m) maximum combined cable length

Real-Time Clock

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

Capacitor Power Backup

- **Backup Functions:** Retain Real-Time Clock, External Variables, Relay State, and Counters
- **Backup Duration:** 24 hours

Network

- **Type:** 10/100 Base-T Ethernet Port
- **Setup:** Static IP address assignment. TCP port selectable
- **Wireless:** WiFi Communication (X-410W/CW models only)
- **Cellular:** Cellular Modem (X-410CW model only)

WiFi

- Network Standards: IEEE 802.11 b/g/n
- Frequency Band: 2.412 – 2.462 GHz
- Wi-Fi Security Standards: WPA2, WPA3
- Network Settings: DHCP or Static

Connectors

- **Power/Input/Relays:** 14-Position, 3.81mm, Removable
- **Network:** 8-pin RJ-45
- **Cell Antenna:** Male SMA Connector (X-401CW model only)

LED Indicators

- **Number of LEDs:** 11
 - Power on
 - Relay coil energized 1-4
 - Digital Input 1-4
 - Network linked
 - Network activity

Physical

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

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:

- **Weight:** 5 oz (142 grams)
- **Enclosure Material:** Lexan 940 Polycarbonate Plastic
- **Enclosure Flame Rating:** UL94 V0

Protocols

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

Logging

- **Log File Size:** 512K (up to 8,448 logs)
- **Storage:** Nonvolatile Flash
- **Buffer Architecture:** Circular Buffer
- *Log data can be periodically read and stored on a computer*

Advanced Features

- Task Builder
- 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:** 18 Characters

Electromagnetic Compliance

- IEC CISPR 22, CISPR 24
- EU EN55024, EN55022
- X-410-I: FCC 47CFR15 (Class B)
- X-410-E: FCC 47CFR15 (Class A)

