



The X-432™ is a robust, full-featured, web-enabled Ethernet I/O module. It combines 3 major advantages: advanced programmability, 38 on-board I/O, and an easy-to-use digital interface. Not only is it completely self-sufficient, but it can also seamlessly control and/or monitor I/O on other ControlByWeb devices.

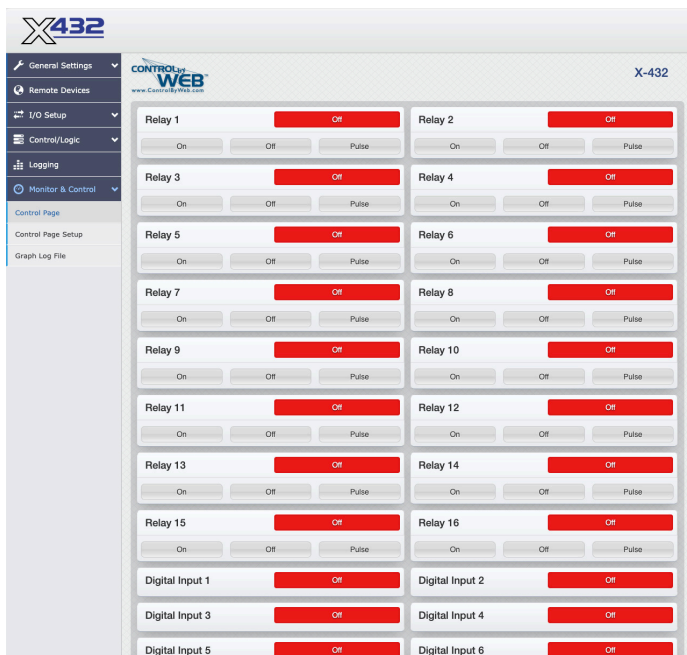
The X-432™ has a built-in web server so its relays and inputs can be controlled and monitored - locally or remote - using a standard web browser (or by using our CBW Mobile smartphone app). Email alerts can be configured based on relay and/or input states, and temperature/humidity thresholds.

16 relays, 16 optically-isolated digital inputs, 2 digital inputs, 4 analog inputs, and support for up to 16 temperature/humidity sensors make this a very capable device ideal for a great many applications in industries including Water/Wastewater, Energy and Building Automation.

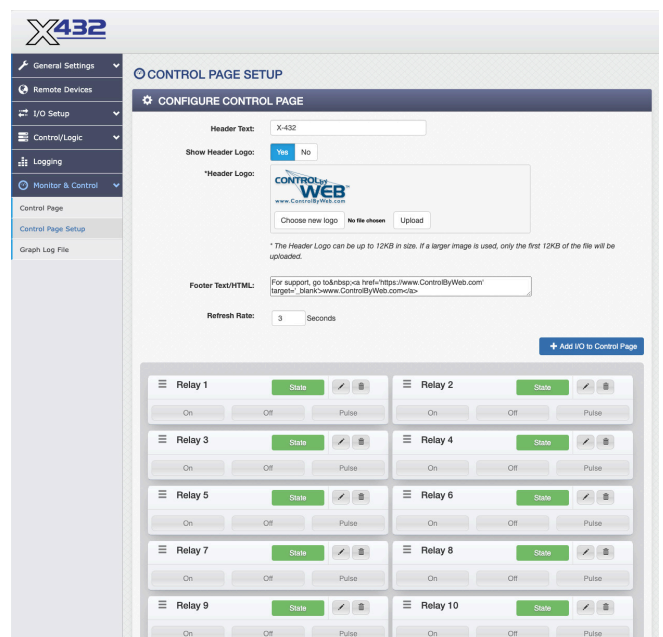
The X-432™ is fully compatible with our optional ControlByWeb Cloud service that makes remote device and log access simple.

## Features:

- 16 electro-mechanical relays (2 Amp NO contacts)
- 16 optically-isolated digital inputs and 2 digital inputs
- 4 analog inputs (0-5VDC)
- One-wire bus for up to 16 temperature and/or humidity sensors
- Highly configurable - almost any combination of input/relay control possible
- Real-Time Clock with NTP server synchronization
- Automatic daylight savings and leap year adjustment
- Calendar scheduling with 50 Scheduled and 50 Conditional Tasks
- Email alerts based on user-defined conditions
- Built-in web server - No software required
- Customizable web-based control page
- BASIC script support for advanced flexibility
- Configurable logging and graphing
- Static or DHCP IP address configuration
- XML, JSON, Modbus TCP/IP, and SNMP interface options
- Field updatable
- Removable terminal connectors for easy installation
- Rugged DIN-Rail/wall-mountable enclosure



Control Page



Control Page Setup

### APPLICATIONS & SPECS

#### Additional Applications

- ✓ Real-Time Clock
- ✓ Scheduling
- ✓ Logging
- ✓ Email Notifications

#### Models:

- X-432-I

#### Power Requirements

- Voltage: 9-28VDC
- Max Current: 1.16A Max

#### Relay Contacts

- Number of Relays: 16
- Max Voltage: 30VDC, 30VAC
- Max Current: 2A
- Contact Type: SPST (Form 1A)
- Load Type: General Purpose
- Contact Resistance: < 100 milliohms initial
- Contact Material: AgSnO2
- 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)

#### Optically-Isolated Digital Inputs (I-16)

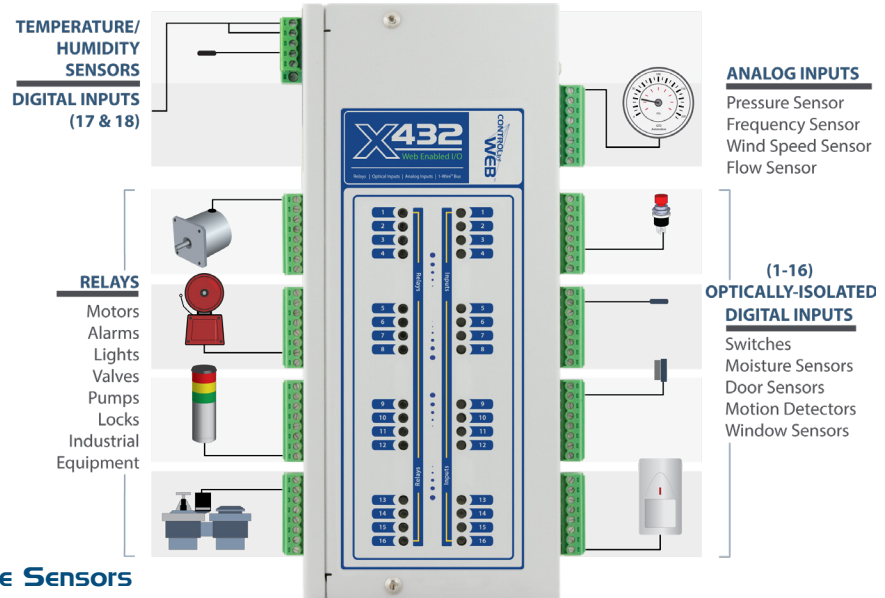
- Number of Inputs: 16
- Voltage Range: 3-26VDC
- Current: 0.6mA @ 3V, 8.2mA @ 26V
- Minimum Hold Time: 20ms
- Input Isolation: 1500V
- Input Functions: Monitor State, Control Relays, Control Remote Relays, Count, High Timer
- Maximum Count: 24-bit
- Max Count Rate: 25Hz Max

#### Digital Inputs (17 & 18)

- Number of Inputs: 2
- Type: Non-Isolated
- Voltage Range: 0-5VDC
- Current: 47K Pull-Up
- Minimum Hold Time: 20ms
- Input Functions: Monitor State, Control Relays, Control Remote Relays, Count, High Timer
- Maximum Count: 24-bit
- Max Count Rate: 200Hz Max
- Edge Trigger: Rising, Falling or Both

#### Analog Inputs

- Number of Inputs: 4
- Type: Single-ended Channels
- Input Range: 0-5VDC
- Resolution: 12-bit
- Reference: 5.00V, 0.04%, 3ppm/C, 50mA Max



#### 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: Thermometer, Thermostat, Relay Control, Remote Relay Control, Email Alerts, SNMP Traps, Temperature Logging
- Humidity Type: Xytronix Model X-DTHS-P sensor
- Humidity Range: 0-100% RH
- Accuracy: ±1.8%

#### Real-Time Clock

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

#### Capacitor Power Backup

- Backup Functions: Retain Real-Time Clock, 1 Register, 2 Counters, 16 Relay States
- Backup Duration: 2 weeks minimum

#### Network

- Type: 10/100 Base-T Ethernet Port
- Setup: Static or DHCP IP address configuration

#### Connectors

- Power: 3-Position, 5.08mm, Removable
- Relays & Inputs: 8-Position, 3.81mm, Removable
- Inputs 17 & 18: 5-Position, 3.81mm, Removable
- Network: 8-pin RJ-45

#### LED Indicators

- Number of LEDs: 35
  - Power on
  - Relay coil energized 1-16
  - Optically-Isolated Digital inputs (1-16)
  - Network linked
  - Network activity

#### Physical

- Operating Temperature: -40°F to 150°F (-40°C to 65.5°C)
- Size:
  - 8.725in (221.6mm) wide
  - 1.815in (46.1mm) tall
  - 3.735in (94.9mm) deep (not including connector)
- Weight: 31.3 oz (887.3 grams) with connectors
- Material: Powder-Painted Steel

#### Protocols

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

#### Logging

- Log File Size: 3,072-Kbyte (max 50,688 logs)
- Storage: Nonvolatile Flash
- Buffer Architecture: Circular Buffer
- Log data can be periodically read and stored on a computer

#### Advanced Features

- Data Graphing
- BASIC interpreter
- Task Builder

#### Password Settings

- Password protection on setup page: Yes
- Password protection on control page: Optional
- Password Encoding: Base 64
- Max Password Length: 6-18 Characters

#### Electromagnetic Compliance

- IEC CISPR 22, CISPR 24
- EU EN55024, EN55022
- FCC 47CFR15 (Class B)

#### Product Safety Compliance

- IEC 61010-1

