X-404™

Web-Enabled Modbus Controller
Up to 32 modbus devices/sensors, , 1-Wire Bus, Task Builder, Data Logging & Graphing, Email/Text Notifications, Configurable Web Pages

PRODUCT OVERVIEW

The X-404™ is a powerful web-enabled Modbus controller with advanced logic and modular expansion capabilities.

The X-404 can be programmed either by using its web-page-based "Task Builder" or by writing a BASIC script. The X-404 can seamlessly share I/O on other ControlByWeb devices over the Ethernet network.

Modbus/RS485 Sensors

Monitor RS485 Modbus sensors, and use the X-404's built-in firmware to view and edit modbus/RS485 registers.

Temp/Humidity Sensors

Use the X-404's 1-Wire Bus to monitor up to 16 temperature/humidity sensors.

Remote I/O *(Ethernet Connection Only)*

The X-404 can also seamlessly communicate and share I/O with any other 400-Series modules (X-410, X-418, etc.) through the TCP/IP network. This remote I/O can be used by the X-404 for any function and works the same as if the I/O was directly connected to the X-404.

Built-in Web Server

Users can operate the X-404 using a web browser, the CBW Mobile app, or custom applications written for a computer, PLC, or other automation controller. No gateways, cloud servers, or external services are required.

Cloud Server (Optional)

The X-404 can, however, be used with our cloud service if desired which simplifies network setup. The X-404 supports standard HTTP requests or encrypted HTTPS requests.
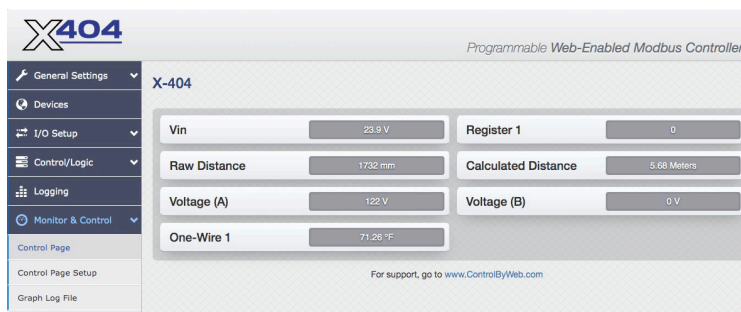
Control/Logic Task Builder

Easily program up to 50 Scheduled task, 50 Conditional tasks, 20 Automatic Reboot tasks, and 20 Override Schedules.

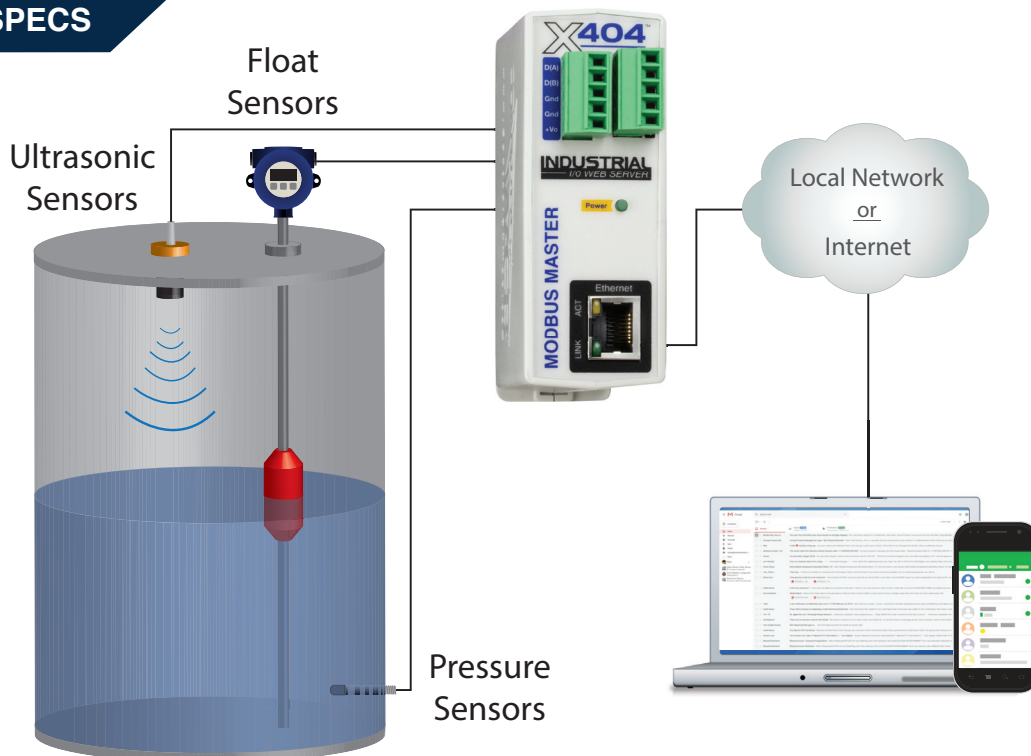Logic is setup and executed locally on the device, not on the cloud!

Features:

- Connect up to 32 modbus devices/sensors
- 1-Wire Bus for up to 16 sensors (temperature, humidity, etc.)
- Monitor,log, and control up to 32 remote modules, or up to 100 I/O
- User Permissions: Admin, Manager, User
- Tasks
  - 50 Scheduled
  - 50 Conditional
  - 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
- 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
- Rugged DIN-Rail/wall-mountable enclosure

Web-Based Control Page Example

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APPLICATIONS & SPECS

Float Sensors

Ultrasonic Sensors

Local Network or Internet

Pressure Sensors

Models:
- X-404-I

Power Requirements
- Voltage: 9-28 VDC
- Max Current: No Modbus Sensors: 134mA
- X-404 + 1.7A for modbus sensors: 1.834A (See users manual for more information)

RS-485 Connector
- Sensors Supported: Up to 32
- Connector: 5-position, removable terminal strip, 3.81 mm spacing
- Communication: RS-485

Temperature Sensors
- Maximum Number of Sensors: 16
- Type: Dallas Semiconductor DS18B20 digital 1-Wire thermometer
- 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
- Battery (capacitor) Power Backup

Capacitor Power Backup
- Backup Functions: Retain Real-Time Clock, 1 Register, 2 Counters , 64 relay states (remote modules only)
- Backup Duration: 2 week minimum

Nonvolatile Memory
- Industrial grade eMMC NANDrive, single level cell (SLC)
- All user settings are stored in nonvolatile memory. Settings will not be lost when power is disconnected.

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

Connectors
- Modbus Bus: 5-Position, 3.81mm terminal spacing, Removable. For 16-28 AWG wire.
- Power and 1-Wire Bus: 5-Position, 3.81mm, Removable
- Network: 8-pin RJ-45

LED Indicators
- Number of LEDs: 3
  - Power on
  - Network linked
  - Network activity

Physical
- Operating Temperature: -40°F to 150°F (-40°C to 65.5°C)
- Size:
  - 1.41in (35.7mm) wide
  - 3.88in (98.5mm) tall
  - 3.1in (78mm) deep (not including connector)
- Weight: 5 oz (142 g)
- Enclosure Material: Lexan 940 Polycarbonate Plastic
- Enclosure Flame Rating: UL94 V0

Protocols
- HTTP, HTTPS, SSL, XML, Modbus TCP/IP, Modbus RTU, SNMP V1,2C,V3, SMTP

Logging
- Log File Size: 3,072-Kbyte (up to 50,688 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 (up to 4-Kbytes script file size)
- Remote services

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
- X-404-I: FCC 47CFR15 (Class B)

Product Safety Compliance
- IEC 61010-1

CE