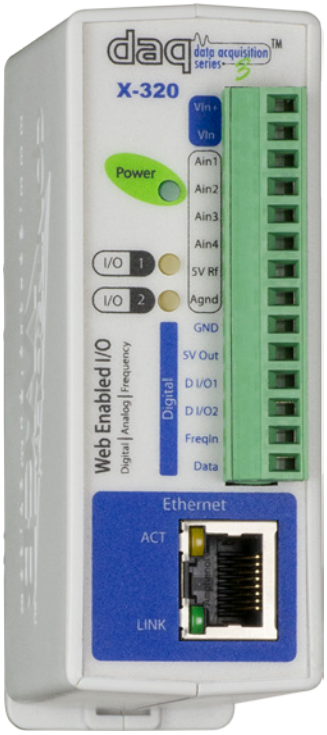
X-320™

Web-Enabled Instrumentation-Grade Data Acquisition

2 Programmable Digital I/O, 4 Analog Inputs, 6 Digital Temperature/Humidity Sensor Inputs, 1 Frequency Input

PRODUCT OVERVIEW



The X-320™ is a high-end web-based instrumentation module that can be used in a variety of scientific and industrial applications such as energy or power monitoring, meteorology, process control, and much more.

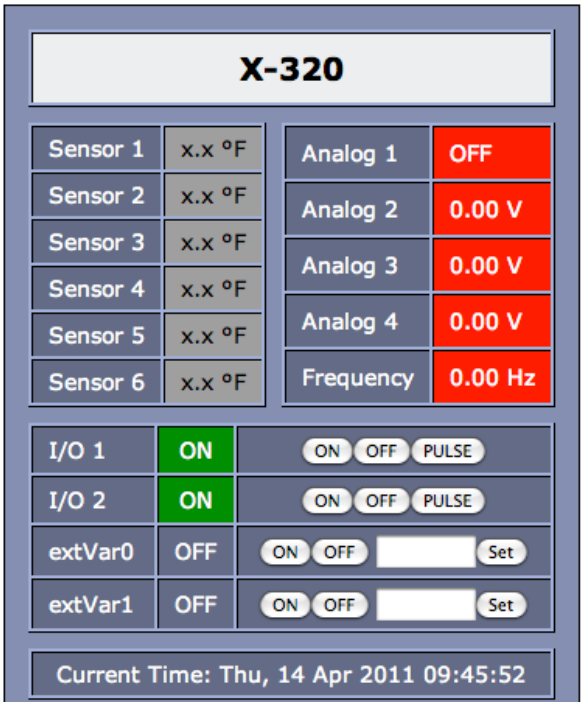
It has a combination of analog and digital inputs that can be used with the appropriate sensors for measuring voltage, current, temperature, humidity, fluid level, flow, frequency, count, etc. Two digital I/O terminals can be user-configured as inputs or outputs capable of driving solid state relays or triggering the input of another controller.

The X-320™ has a built-in web server and the data it measures can be viewed using a web browser (or custom computer application). Setup is simple; there is no app to download, no subscription to buy, no software required, and no programming necessary for setup or use. Even with its simplicity, the X-320™ has many advanced features including the ability to create BASIC scripts, SNMP, peer-to-peer communications, email alerts, and full calendar scheduling.

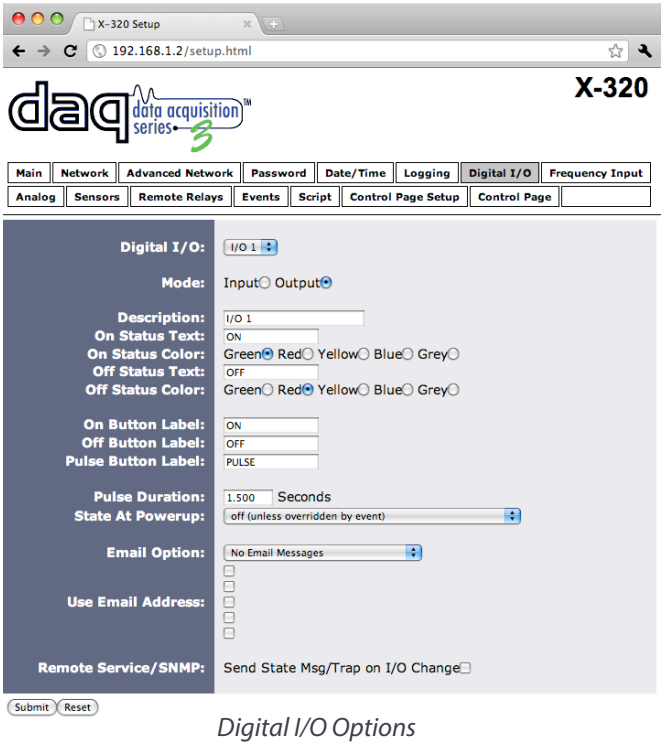
The X-320™ is designed for accuracy and reliability, and is an innovative solution for a number of applications.

Features:

- Two programmable digital I/O.
- Four high-resolution analog inputs.
- One-wire bus for up to 6 temperature and/or humidity sensors.
- Dedicated frequency input, 130kHz max.
- Control up to three remote relays.
- Real-time clock with NTP server synchronization.
- Automatic daylight savings and leap year adjustment.
- Full calendar scheduling with 50 programmable events.
- No software required.
- Customizable web-based control page.
- BASIC script support for advanced flexibility.
- Configurable logging.
- Send email alerts based on user defined conditions.
- Static or DHCP IP address configuration.
- XML, Modbus TCP/IP, and SNMP interface options.
- Field updatable.
- Removable 14-Terminal connector for easy installation.
- Rugged DIN-Rail/wall-mountable enclosure.



Control Page



Digital I/O Options

CONTROL by WEB™
www.ControlByWeb.com

Phone: 435-750-5999

Email: Sales@ControlByWeb.com

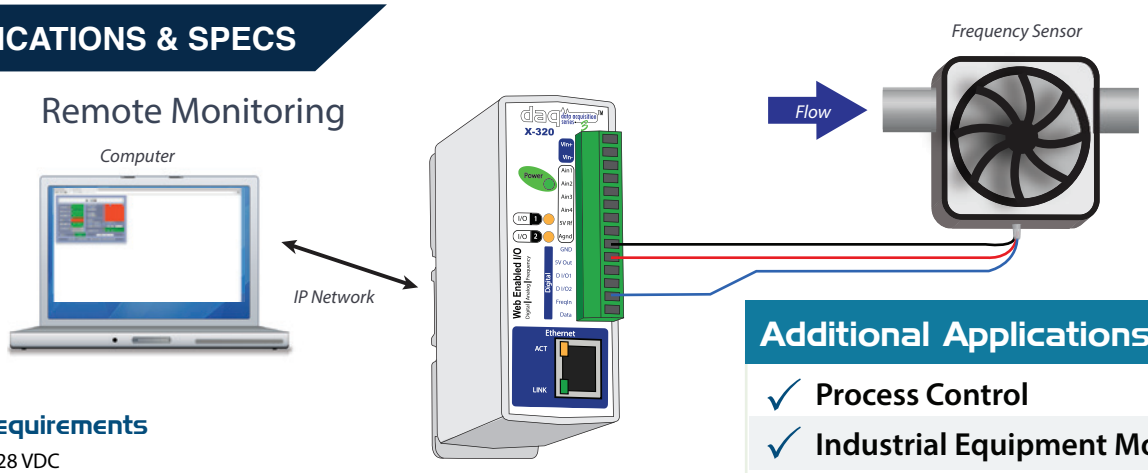
X-320™

Web-Enabled Instrumentation-Grade Data Acquisition

2 Programmable Digital I/O, 4 Analog Inputs, 6 Digital Temperature/Humidity Sensor Inputs, 1 Frequency Input

APPLICATIONS & SPECS

Remote Monitoring



Models:

- X-320-I

Power Requirements

- Voltage: 9-28 VDC
- Max Current: 290mA Max

Output Mode

- Logic output to external controllers 5V high through 49.9 Ohm resistor

Digital Inputs

- Number of Inputs: 2 (Configurable)
- Type: Non-Isolated
- Voltage Range: 0-5VDC
- Current: Switchable 47K Pullup/Pulldown
- Minimum Hold Time: 1ms (Configurable)
- Input Isolation: Non-Isolated
- Input Functions: Control Remote Relays, Control Digital Output, Email Alerts, High Timer, Pulse Rate
- Max Count Rate: 25Hz Max
- Edge Trigger: Rising, Falling or Both

Frequency Input

- 0 - 130 kHz input frequency
- AC or DC input, 20 V peak to peak
- Sine or Square Wave
- (Triangle wave, add 10% to Min Vin)
- 2 second average
- 0.5 Hz read rate
- Auto-zero, positive slope detection
- Accuracy and minimum input level:

Input Frequency	Min Vin	Read Error
1 - 2 Hz	90 mV	±0.5 Hz
2 - 200 Hz	60 mV	±0.1 Hz
200 - 1000 Hz	60 mV	±1 Hz
1 - 10 kHz	60 mV	±1.5 Hz
10 - 50 kHz	60 mV	+1/-2 Hz
50 - 100 kHz	60 mV	+1/-6 Hz
100 - 130 kHz	60 mV	+2/-16 Hz

Analog Inputs

- Number of Inputs: 4
- Type: 4 Single-ended, 2 differential, or a combination
- Input Range: 0-5V, full scale
- **Note that inputs have high impedance so input range can easily be adjusted using external resistors. Example: 0 to 10 Volt or 4-20mA
- Resolution: 24-bit

Additional Applications

- ✓ Process Control
- ✓ Industrial Equipment Monitoring
- ✓ Environmental Site Monitoring
- ✓ Remote Generator Control and Monitoring
- ✓ Fluid Level Monitoring
- ✓ More...

Temperature Sensors

- Maximum Number of Sensors: 6
- 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, Control Relays, Control Remote Relays, Log Temperature, Email Alerts
- Humidity Type: Xytronix Model X-DTHS-WM wall mount 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, External Variables, Output State
- Backup Duration: 3 days minimum

Network

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

Connectors

- Power, Outputs, and Inputs: 14-Position, 3.81mm, Removable
- Network: 8-pin RJ-45

LED Indicators

- Number of LEDs: 5
  - Power on
  - I/O (1-2)
  - 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: 4.8 oz. (136 g)
- Enclosure Material: Lexan 940 Polycarbonate Plastic
- Enclosure Flame Rating: UL94 V0

Protocols

- HTTP, XML, Modbus, SNMP, SMTP, Remote Services

Logging

- Log File Size: 512K min 6,477 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

Regulatory Compliance

- Electromagnetic Compliance:
- IEC CISPR 22, CISPR 24, FCC 47CFR15 (Class B), EU EN55024, EN55022
- Product Safety:
- IEC 60950-1 / EN 60950-1

CONTROL by WEB™
www.ControlByWeb.com

Phone: 435-750-5999
Email: Sales@ControlByWeb.com