

X-320 Web Enabled Programmable Controller

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/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, wind speed, solar radiation, fluid level, flow, frequency, count, etc. Two digital inputs can be user-configured as outputs capable of driving solid state relays or triggering the input of another controller.

The X-320™ has a built-in web server and all of 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 required 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.

X-320 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, and SNMP interface options
- Field updatable
- Removable I4-Terminal connector for easy installation
- Rugged DIN-Rail/wall-mountable enclosure



Model #	Digital I/O	Analog Inputs	Temperature Sensors	Frequency Input	*Power Supply
X-320-I	2	1-4 (24-bit)	1-6	1	9-28VDC

** These devices are sold as components and do not include a power supply.*

Power Requirements:

Voltage:

Model X-310-I: 9-28VDC

Model X-310-24I: 9-28VDC

Model X-310-E: POE or 5 VDC Current: 372mA Max

I/O: 4 Relays, 4 Inputs

Relay Contacts:

Number of Relays: 4

Max Voltage: 28VAC, 24VDC

Max Current: 1A

All Relays have a shared common

Optically Isolated Inputs:

Number of Inputs: 4

X-310-I Input Voltage Range: 4-12VDC

X-310-24I Input Voltage Range: 11-26VDC

X-310-E Input Voltage Range: 5-12VDC

Current: 4.7-25mA

Minimum Hold Time (high or low): 20ms

Maximum Count Frequency: 25Hz Max (Dependant on Configuration)

Input Functions: Monitor State, Control Relays,

Control Remote Relays, Scalable Counter (Inputs 1 & 2), High Timer

Digital Temperature Sensors:

Number of Sensors: 1-4

Dallas Semiconductor DS18B20

Temperature Range: -55°C to +125°C

Accuracy: $\pm 0.5^\circ\text{C}$ (from -10°C to $+85^\circ\text{C}$)

Temperature Sensor Functions:

Sensor Functions: Thermometer, Thermostat, Relay Control, Remote Relay Control, Email Alarms, SNMP Traps, Temperature Logging

Real-Time Clock:

Manual or NTP(Network Time Protocol) setup

NTP Sync Period: Once, Daily, Weekly, On Powerup

Auto Daylight Savings Adjustment

Battery (capacitor) Power Backup

Capacitor Power Backup:

Backup Functions: Retain Real-Time Clock, External Variables, Relay State, and Counters

Backup Duration: 3 days minimum

Network: 10/100 Base-T Ethernet Port

Connectors:

Power/Inputs: 14-Position Removable

Network: 8-pin RJ-45

LED Indicators: 7

-Module Powered

-Relay Coil Energized 1-4

-Network linked

-Network activity

Physical:

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

Size:

1.41in (35.7mm) wide

3.88in (98.5mm) tall

3.1in (78mm) deep (not including connector)

Weight: 5oz (142 grams)

Enclosure Material:

Lexan 940. Flame rating UL94 V0

Monitor/Control:

Web Browser, XML, Modbus/TCP, SNMP, Remote Services, Data Logging and Graphing

Logging:

Storage: Nonvolatile Flash

Buffer Architecture: Circular Buffer

Log file size: 512K (max 28,829 logs)

Unlimited data storage from Web Monitoring Service

Advanced Features:

BASIC interpreter

Remote services

Avoid most firewall issues with outbound connection to Web Services

Password Settings:

Password protection on setup page: Yes

Password protection on control page: Optional

Password Encoding: Base 64

Max password length: 13 characters