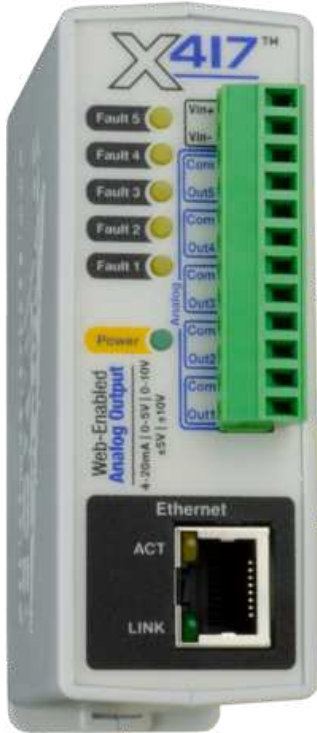


## PRODUCT OVERVIEW



The X-417™ is a web-enabled analog output module with five output channels. The analog outputs are similar to that of a Programmable Logic Controller (PLC). However, unlike a PLC, the X-417 is designed for web-based applications from the ground up. No add-on software or hardware is required.

The X-417 can be fully configured, programmed, and tested using its built-in web server. The web setup pages are intuitive and easy-to-use and do not require special programming skills.

The X-417 can be used as a stand-alone device or can operate as a peripheral for other devices such as a programmable logic controller (PLC), the X-400 Series, or the X-600M™.

The X-417 has five precision 16-bit digital to analog converters (DACs). Each channel

can be programmed for 0-5V, 0-10V,  $\pm 5V$ ,  $\pm 10V$ , 4-20mA ranges. The voltage and current outputs for each channel are on a single connector terminal.

Most industrial analog applications require isolation between the power supply and analog outputs. The X-417 has a built-in DC-DC converter for providing isolated power to the outputs. No external isolated back plane power is needed.

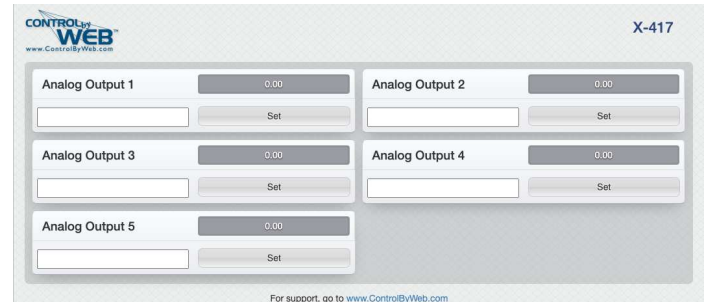
The built-in web setup pages allow the name and settings for each channel to be configured. You can configure the range of a setting to be in engineering units. For example, an input value of 0 to 100% can be scaled and processed for an output range of 4 to 20mA to control a damper motor.

## Features:

- Built with:
  - Industrial grade components
  - High-reliability SLC flash
  - Transient protection
  - Watchdog timers
  - Voltage supervisor circuitry, etc.
- Five separate analog output channels
- 0-5V, 0-10V,  $\pm 5V$ ,  $\pm 10V$ , 4-20mA output ranges
- Outputs are software configured, independently programmable, and scalable
- Built-in isolated DC-DC converter
- Wide power supply range (9-28VDC)
- No special software or device drivers required
- Built-in password protected web setup and control pages
- Static or DHCP IP address configuration
- XML, Modbus TCP/IP, & SNMP interface options
- Field updatable
- Removable terminal connector
- Rugged DIN-Rail/wall-mountable enclosure



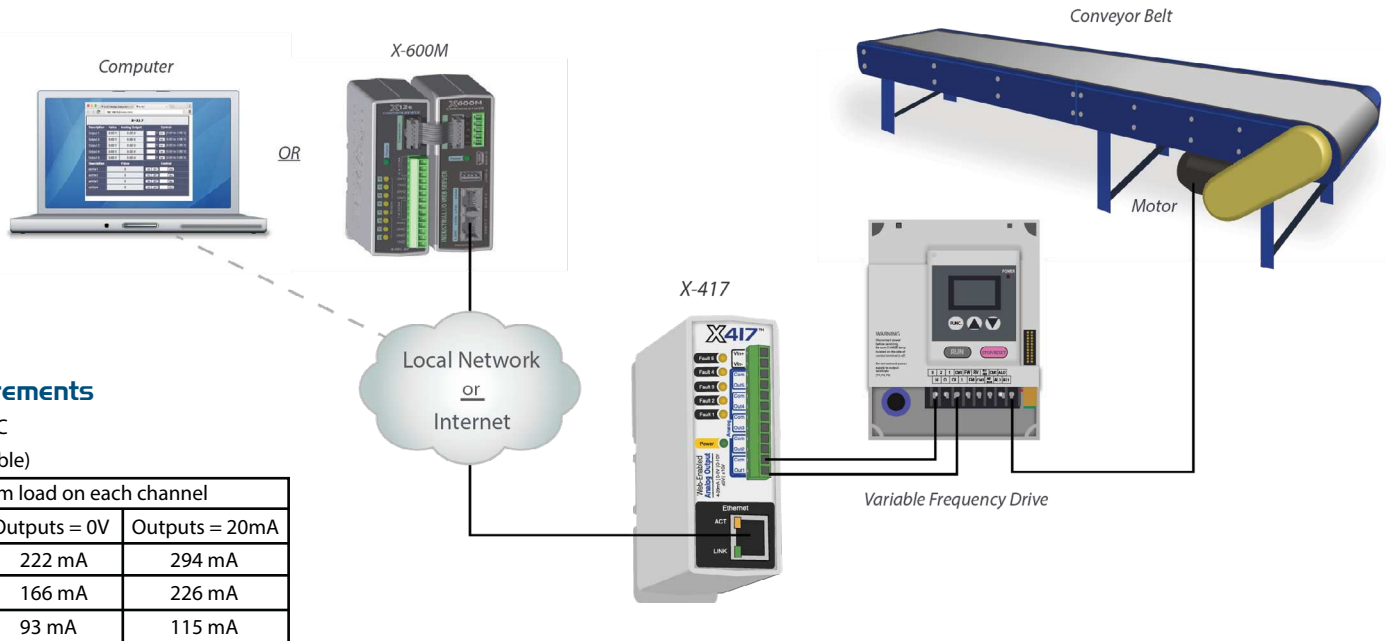
Analog Output Configuration Tab



X-417 Control Page

### APPLICATIONS & SPECS

## X-417 Controlling Conveyor Belt Through X-600M/Computer



### Models:

- X-417-I
- X-417-E

### Power Requirements

- **Voltage:** 9-28VDC
- **Max Current:** (table)

200ohm load on each channel		
Power Supply	Outputs = 0V	Outputs = 20mA
9 VDC	222 mA	294 mA
12 VDC	166 mA	226 mA
24 VDC	93 mA	115 mA

### Analog Outputs

- **Number of channels:** 5 (Individually configurable)
- **Output Ranges:** 0-5V, 0-10V,  $\pm 5V$ ,  $\pm 10V$ , 4-20mA (software selectable)
- **Resolution:** 16-bit DAC (0-65535)
- **Linearity Error:**  $\pm 1$ -count, monotonic DAC
- **Current Output (Voltage Mode):** 10mA max (min load = 1K), 30mA max short circuit
- **Voltage Output Inaccuracy:**  $\pm 0.2\%$  FSR includes offset error, gain error and non-linearity error, -40 to 65°C
- **Max Load Capacitance:** 20nF (no load), 5nF (1K load)
- **Current Output Range:** 4-20mA
- **Current Output Inaccuracy:**  $\pm 0.2\%$  FSR includes offset error, gain error and non-linearity error, -40 to 65°C
- **Isolated Power Supply:** Internal DC-DC converter
- **Isolation:** Galvanic, 1500 VAC
- **ESD Protection:** Integrated 15kV protection (IEC61000-4-2)
- **Output Protection:** Integrated over-temperature, open-line and short circuit protection
- **Output Alarms:** Open current loop, high internal temperature
- **Load Type:** Grounded, COM of all 5-channels are connected together
- **Output at power up:** Programmable

### 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:** 3 days minimum

### Network

- **Type:** 10/100 Base-T Ethernet Port
- **Setup:** Static IP address assignment or DHCP, HTTP port selectable

### Nonvolatile Memory

- **Storage:** Nonvolatile Flash  
Settings will not be lost when power is disconnected.

### Connectors

- **Power, & Outputs:** 12-Position, 3.81mm, Removable
- **Network:** 8-pin RJ-45

### LED Indicators

- Power on
- Fault condition (channels 1-5)
- Network linked
- Network activity

### Physical

- **Operating Temperature:** -40°F to 150°F (-40°C to 65.5°C)
- **Storage Temperature:** -40°F to 185°F (-40°C to 85°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 TCP/IP

### Logging

- **Log File Size:** 3072K (up to 50,688 log entries depending on configuration)
- **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:** 13 Characters

### Electromagnetic Compliance

- IEC CISPR 22, CISPR 24
- FCC 47CFR15 (Class B)
- EN55024 ITE Immunity (2010)
- EN55022 Emissions (2010)

### Product Safety Compliance

- IEC 61010-1

