X-300™

Advanced Web-Enabled Temperature Monitoring & Thermostat
3 Relays, 1-8 Temperature/Humidity Sensors, 7-Day Programmable Web-Enabled Thermostat
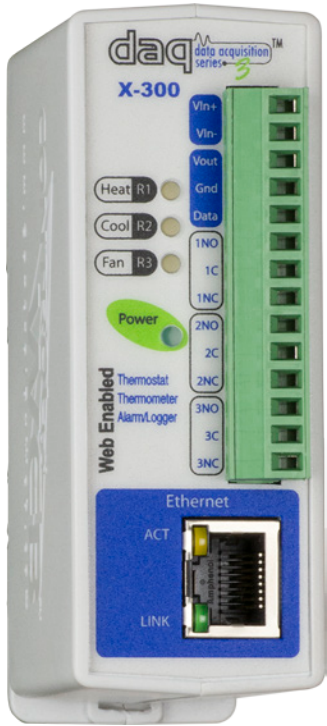
PRODUCT OVERVIEW

The X-300™ is two products in one package!

First, the X-300™ is a powerful web-based temperature logging instrument that allows you to monitor temperatures via an IP network.

Up to eight temperature/humidity sensors can be connected at a time, and temperature/humidity can be viewed in real-time using a web browser.

It has three relays that can be used for control of fans, heaters, coolers, or just about anything. Relay control can be based upon temperature or can be independent.

In addition, the X-300™ has many advanced features including email alerts, relay control, a BASIC interpreter, and much more.

Second, the X-300™ is a 7-day programmable web-enabled thermostat. Users can adjust and set temperatures for heating and cooling systems and view current indoor and outdoor temperatures from any web browser.

As a web-enabled thermostat, it provides an attractive control web page that works great on desktop computers as well as most web-enabled smartphones.
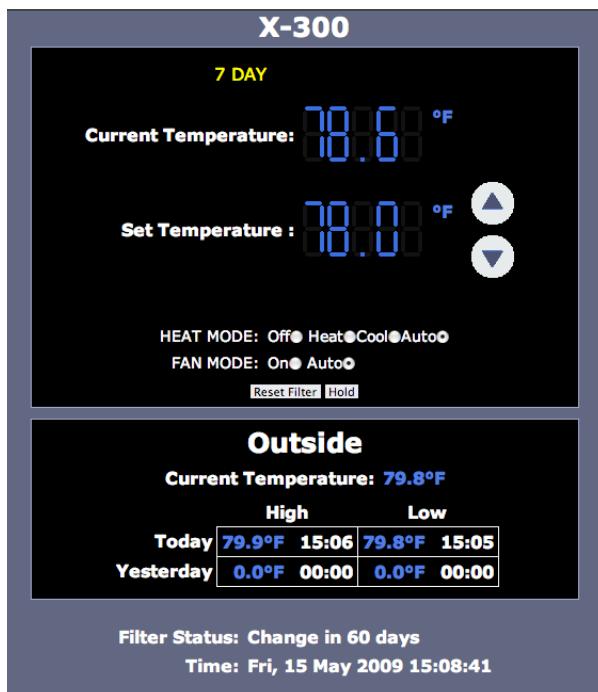
Features:

- Web-browser based - no software required.
- Self contained - no external server or services required.
- Email alerts.
- Three, 3-Amp relays.
- Built-In real-time clock w/ capacitor backup.
- Temperature Logger.
- Supports HTTP, TCP, SNMP, Modbus TCP/IP.
- Supports additional data logging and management from web services.
- Internal temperature and voltage monitoring for diagnostics.
- Wide operating temperature range.
- Removable terminal connector for convenient wiring.
- Field updatable.
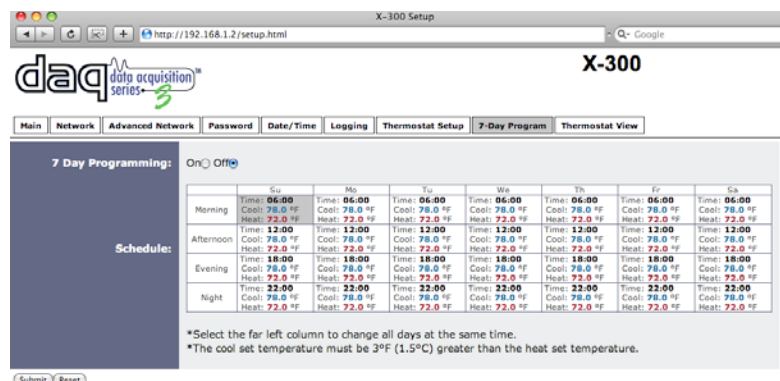- Rugged DIN-Rail/wall mountable enclosure.

Temp/Humidity Logger:

- The temperature logger can receive data from up to eight sensors (one temperature sensor included).
- Both temperature and humidity sensors are supported.
- Supports BASIC scripts for advanced configuration.

Thermostat:

- Attractive thermostat user interface.
- Connect up to two temperature sensors (indoor and outdoor).
- 7-day programming schedule.
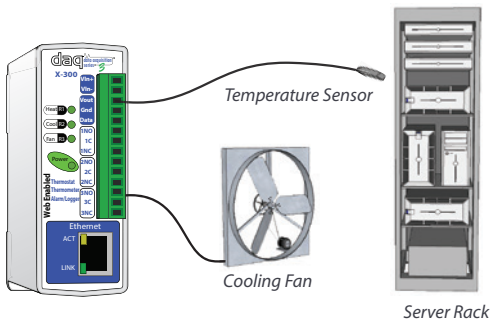- Connect to single stage heating/cooling system.
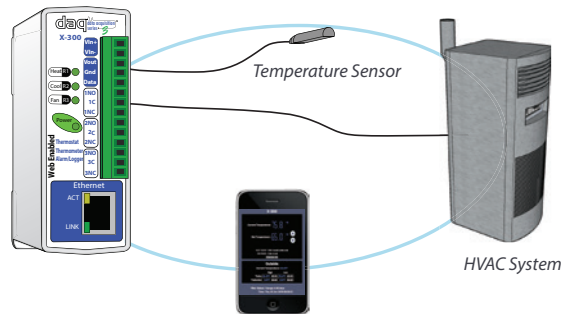

Control Page User Interface

7-Day Programmable Schedule

X-300™

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APPLICATIONS & SPECS

Remote Temperature Monitoring/Logging

Temperature Sensor

Cooling Fan

Server Rack

Web-Enabled Thermostat

Temperature Sensor

HVAC System

Additional Applications

✓ **Server Rooms**

✓ **Freezers**

✓ **Green Houses**

✓ **Vacation Homes**

✓ **Refrigeration Systems**

✓ **Apartment Complexes**

✓ **Car Washes**

✓ **More...**

Models:
- X-300-I+PS12-A, X-300-I, X-300-E

Power Requirements:
- **Voltage:**
  - X-300-I: 9-28 VDC
  - X-300-E: POE Class 1 (0.44 to 3.84 Watts)
- **Current:** 44mA - 374mA*

*Current based upon voltage applied and device settings. See users manual for complete breakdown.

Relays
- **Number of Relays:** 3
- **Max Voltage:** 28VAC, 24VDC
- **Max Current:** 3A
- **Contact Type:** SPDT (Form 1C)
- **Load Type:** General Purpose
- **Contact Resistance:** < 50 milliohms initial
- **Contact Material:** AgSnO2
- **Electrical Life:** 100K cycles (Typical)
- **Mechanical Life:** 10M cycles (Typical)
- **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)

Temperature Sensors
- **Maximum Number of Sensors:** 8
- **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 Alarms, SNMP Traps, Temperature Logging
- **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, Relay State, and Counters
- **Backup Duration:** 3 days minimum

Network
- **Type:** 10/100 Base-T Ethernet Port
- **Setup:** Static IP address assignment. TCP port selectable

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

LED Indicators
- **Number of LEDs:** 6
  - Power on
  - Relay coil energized 1-3
  - 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 grams)
- **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 11,049 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 - 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