

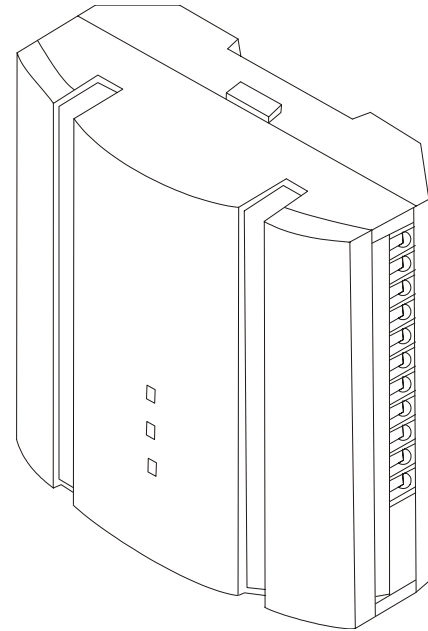
AHU-1

The AHU-1 air handler controller is a stand-alone microprocessor based controller for single zone air handler units with an economizer. The application includes air handler units with modulated cooling, modulated heating and a modulated economizer.

Overview

Digital inputs are provided for fan status, freeze indication, smoke detector, and filter status. Analog inputs are provided for mixed air temperature, return air humidity and supply air temperature. A two wire serial interface is provided for the thermostat. Analog outputs are provided for the heating valve, cooling valve and economizer. The unit supply fan is controlled by a digital output in the form of triac. In addition, a digital output is provided to control a two-position economizer if required.

The controller is based on the LONWORKS® networking technology. The controller can be networked to a higher-level control system for monitoring and control applications.



Features

- Modulated cooling valve
- Modulated heating valve
- Modulated or two-position economizer control
- Local backup schedule
- Individual temperature setpoints for occupied/unoccupied heat and cool
- P+I Control of cooling, heating and economizer
- Economizer enabled based on enthalpy or dry bulb calculations
- LONWORKS interface to building automation systems and host products
- Mixed air low limit protection
- Filter status input
- Smoke detection input
- Thermostat with space temperature, setpoint adjust, fan override, occupancy override
- Fan control energized on call for heating or cooling
- Automatic heat/cool changeover
- Remote sensor capabilities
- Automatic configuration with the LCI
- Alarm/Event reporting



Innovex Technologies
511 Braddock Avenue
Turtle Creek, PA 15145
www.innovextechnologies.com

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Specifications

Electrical

Inputs

- Cabling: twisted shielded pair, 18 AWG recommended—500 feet max. (152 meters)
- Resolution: 10 bit

Return Humidity

- 0-10 Volt

Mixed Air and Supply Air

- Precon Type III 10K thermistor

Fan Proof

- Dry Contact
- Normally Closed
- 5 Volts DC Max

Filter, Mixed Air Low Limit, and Smoke

- Dry Contact
- Normally Open
- 5 Volts DC Max

Thermostat Network

- 12 Volt nominal, internally limited to 0.04 A

Outputs

Economizer DO and Fan

- 24 Volts AC Triac
- 1 A rms

Economizer AO, Cooling Valve, and Heating Valve

- 0-10 Volt
- 2K Ohm minimum load
- 8 bit resolution

FTT-10A Network

- Speed: 78 KBPS
- Cabling: Maximum node-to-node distance: 1312 feet (400 meters)
- Maximum total distance: 1640 feet (500 meters)

Table 1: Network Wire Specifications

Cable Type	Pairs	Details	Connect Air Catalog No.
Level 4 22AWG (0.65mm)	1	Unshielded, Plenum, U.L. Type CMP	W221P-2001
Level 4 22AWG (0.65mm)	1	Unshielded, Non-Plenum, U.L. Type CM	W221P-1002

For detailed specifications, refer to the FTT-10A Free-Topology Transceiver User's Guide published by Echelon Corporation. For information on ordering Connect Air items, contact Connect Air International; 4240 B Street; Auburn, WA 98001 <www.connect-air.com>.

Power

Power Requirements

- 24 Volts AC nominal (requires an external supply)

Power Consumption

- With no external loads: 15 VA

Mechanical

Housing

- Dimensions: 4 3/8" high, 4 5/16" wide, 2" deep (111 mm high, 110 mm wide, 51 mm deep)
- ABS Polycarbonate

Weight

- Controller Weight: 0.45 pounds (0.22 kilograms)
- Shipping Weight: 0.60 pounds (0.28 kilograms)

Electronics

- Processor: 3150 Neuron 10 MHz
- Flash: 48 Kilobytes
- SRAM: 8 Kilobytes
- Termination: 0.197" (5.0 mm) Pluggable Terminal Blocks, 14-22 AWG

Environmental

- Temperature: -40 °F to 185 °F (-40 °C to 85 °C)
- Humidity: 0 to 90%, non-condensing

Agency Listings

- UL916

Agency Compliances

- FCC Part 15 Class A
- CE