

HPU-1

The HPU-1 heat pump controller is a stand-alone microprocessor based controller for liquid source heat pump units. The application would include liquid source heat pump units with two-stage compressor, reversing valve and fan.

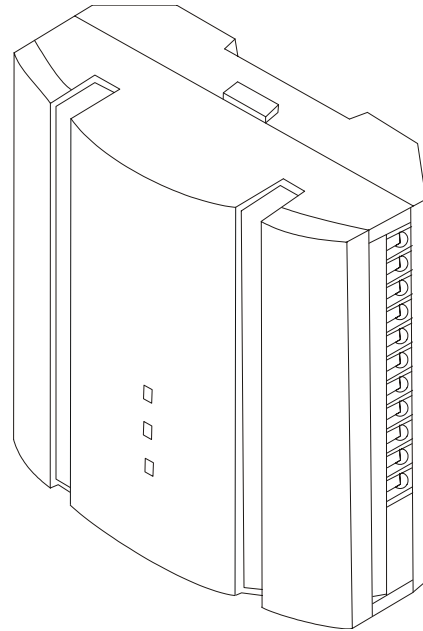
Overview

A digital input is provided to monitor equipment status. A two wire serial interface is provided for the thermostat. The HPU-1 incorporates digital outputs in the form of triacs for fan start/stop, two compressor stages and a reversing valve.

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

Features

- Two stage compressor heating/cooling control
- Reversing valve control
- Local backup schedule
- Individual temperature setpoints for occupied/unoccupied heat and cool
- LONWORKS interface to building automation systems
- Equipment status input for additional safety interlocks
- Thermostat with space temperature, setpoint adjust, fan override, occupancy override
- Fan control energized on call for heating or cooling
- Automatic heat/cool changeover
- Global unit enable for main plant synchronization
- Remote sensor capabilities
- Automatic configuration with the LCI
- Alarm/Event reporting



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Specifications

Electrical

Inputs

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

Equipment Status

- Dry Contact
- Normally Open

Thermostat Network

- 12 Volt nominal, internally limited to 0.04 A

Outputs

Stage 1, Stage 2, Reversing Valve, and Fan

- 24 Volts AC
- 1 A rms

FTT-10A Network

- Speed: 78KBPS
- 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

- 24VAC power (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

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: 32 to 122 °F (0 to 50 °C)
- Humidity: 0 to 95%, non-condensing

Agency Listings

- UL916

Agency Compliances

- FCC Part 15 Class A
- CE