SUBMITTAL

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SYSTEMS
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DT4U
Universal Gas Electric/Heat Pump 4-Zone Controller

DESCRIPTION

The DT4U is a microprocessor based, auto change- over 2H/2C GE or 3H/2C HP system controller. The DT4U supports up to four zones utilizing pressure dependent, two position motorized dampers. Mode management is vote initiated, based upon first called first served, with an opposite mode caller to initiate a changeover sequence. Upon a thermostat call for the opposite mode, an adjustable 5 - 15 minute cycle timer is initiated in an attempt to satisfy current mode callers. Upon time completion, a successive three-minute purge cycle is initiated prior to mode changeover.

The DT4U Gas/Electric operation stages two compressor and two gas/electric heat outputs based upon time and temperature conditions. In the heat mode, W2 will energize after W1 has run for a minimum of 4 minutes and with a LAT of HI limit minus 25° or less. W2 will terminate when the LAT is greater than HI limit. W1 will terminate when the LAT is greater than 145°F., or when all heat calls are satisfied.

The DT4U Heat pump operation stages two compressor outputs and one auxiliary heat output based upon time and temperature. On board fossil fuel control is based upon time and temperature or based on outdoor air temperature balance point when FOAS outdoor air sensor is installed. When emergency heat is called for, compressor's operation is locked out and AUX heat is enabled.

In the heat mode, Y2 will energize after Y1 has run for a minimum of 4 minutes and with a LAT of high limit minus 25° or less. Y2 will terminate when the LAT is less than the high limit minus 5°F. Y1 will terminate when the LAT is greater than high limit. With a fossil fuel application, controller will energize furnace if OAS is less than Balance Point set point, or after 8-minute heat stage. W2 will energize after Y1 has run for 8 minutes and the LAT is below 92°F.

In the cool mode, Y2 will energize after Y1 has run for a minimum of 8 minutes and with a LAT greater than low limit plus 12°F. Y2 will terminate when the LAT is less than low limit plus 5°F. Y1 will terminate when the LAT is less than low limit, or when all cool calls are satisfied.

The DT4U can be field configured for either GE or HP operation. By moving the Jumper for GE/HP, controller is reset for desired operation. If controller will control a B mode system, the O/B jumper will need to be placed in the B position. If fossil fuel operation is desired place the FF jumper on the top two pins.

TECHNICAL DATA

Electrical:
Supply Voltage: 24vac
Power consumption: 3.0 VA
Inputs:
- Digital leaving air temperature sensor
- 4- Digital / mechanical Gas / Electric thermostats for Gas / Electric operation.
  -Or-
  4- Digital / mechanical Heat pump thermostats for Heat pump operation.

Outputs:
- 5- SPST dry contacts, 12A @ 120vac

Environmental:
Operating temperature: 32 to 160° F (0 to 71° C)
Operating humidity: 10-95%, non-condensing
Storage temperature: 0 to 160° F (-18 to 71° C)

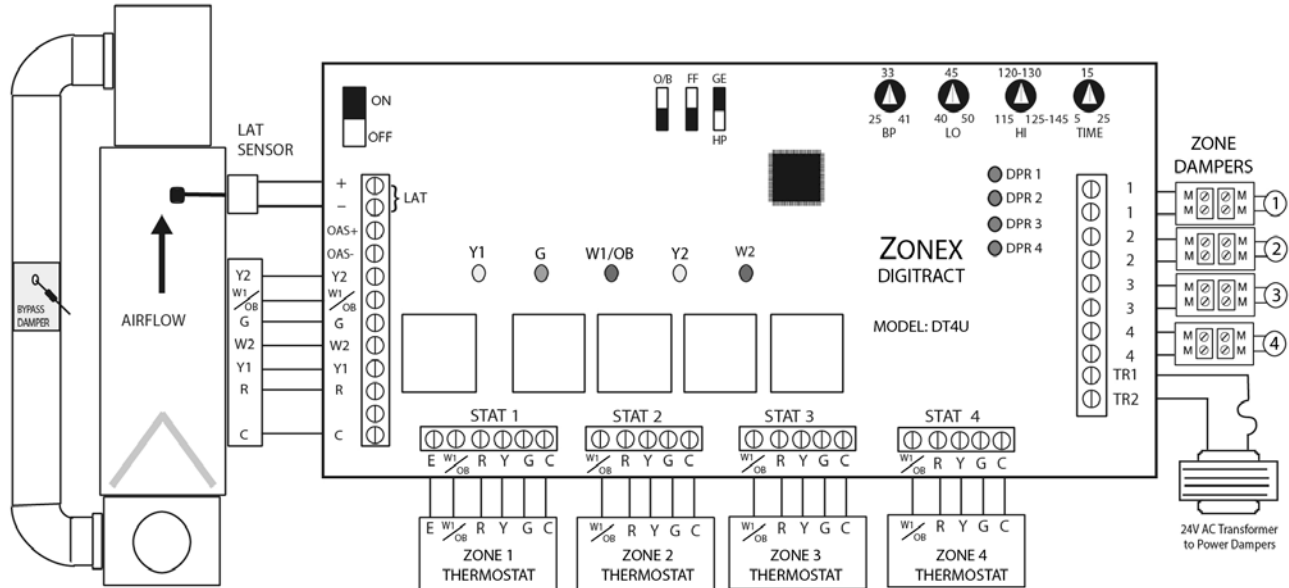### *General:*
Dimensions: 6" H x 9 3/4" W x 1 1/2" D

Rev 11/28/17

DT4U UNIVERSAL 4-ZONE CONTROLLER

ORDERING INFORMATION

Part No.   **Description**
DT4U   Universal 4-zone controller with LAT sensor included

TERMINAL FUNCTIONS

OUTPUTS:

Equipment terminal strip
+/- FOAS Fossil Fuel
+/- Nominal 5V DC to leaving air sensor, LAT
W2- Auxiliary heat relay output
G- Fan relay output
Y1- Compressor first stage output
Y2- Compressor second stage output
O/B / W1- Reversing valve output or Heat output
R- 24vac input from equipment transformer
C- 24vac common input from equipment transformer

Damper terminal strip

1/1-4/4- 24vac output to power close damper
TR1- 24vac damper power input, from external transformer
TR2- 24vac damper common, from external transformer

THERMOSTAT INPUTS:

R- 24vac input.
C- 24vac common (not required with all thermostats)
G- Fan relay input
Y- Cooling / heating input
O/B / W1- Reversing valve or Heat input
E- Emergency / auxiliary heat input (STAT 1 only)

FEATURES

- Intelligent time and temperature staging
- On board leaving air temperature control
- Auto changeover controller
- Supports 2-4 zones
- Uses standard 18 gauge thermostat wire
- 24vac operation

- Automatic purge mode
- Supports two speed or two independent compressors
- LED status indicators for all system functions
- Dampers can be slaved for larger air volume requirements
- Commercial and residential application
- Initiate Auto / On fan control from any thermostat