



Overview

The Air Valve Interface (AVI) connects long-running jack-screw style Variable Air Volume (VAV) floating point actuators with mechanical end switches to DDC controllers. The unit has two input signal modes;

PULSE

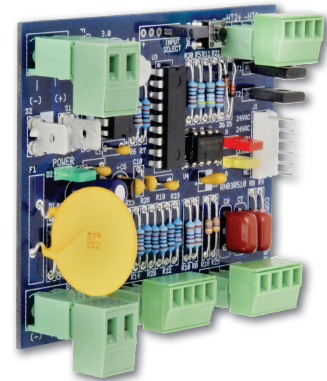
The DDC controller's 24 VAC actuator drive power pulses are timed, the timing is multiplied by the AVI's Gain Filter potentiometer setting and appropriately long 24 VAC power pulses are sent from the AVI to the air valve actuator.

ANALOG

A 0 to 10 VDC proportional control voltage is turned into 24 VAC power pulses to position the actuator accordingly, fully closed (0 VDC) to fully open (10 VDC). The Gain Filter potentiometer sets a hysteresis dead band for the input voltage to prevent motor wear due to controller hunting or noisy signal.

Additionally, the AVI provides;

- Self resetting 3-Ampere fuse
- Fused 24 VAC output to power auxiliary equipment (VAV Box Controller).
- 0 to 10 VDC proportional output that indicates damper position.
- Manual air valve actuator stroke time training switch, used to calibrate the damper position proportional output voltage.
- Duty cycle protection to prevent actuator motor failure.



AVI Module

Ordering Information

Part Number

Description

BA/AVI..... Air Valve Interface

BA/AVI-TRK Air Valve Interface with 4" piece of 2.75" snaptrack

See end of Section G for list pricing.

Specifications

ELECTRICAL

| | MIN | TYP | MAX |
|------------------------------------|-------------------------------|-------|-------------------------------|
| Input Voltage, (J3, S1, J7) | 18.0VAC | 24VAC | 32VAC Note: AC voltage ONLY |
| Input Voltage, (J5-IN 0-10V) | 0VDC | - | 10VDC |
| Output Voltage, (J4, J5-24) | Input voltage fused at 3 Amps | | |
| Output Voltage, (J7 OUT DMPPOS) | 0VDC | - | 10VDC |
| Output Current, (J7 OUT DMPPOS) | 0VDC | - | ±10mA (short circuit limited) |
| Current Draw, Dependent on load | | | 3A @ 24VAC |
| Triac Current, (J1-open, J1-close) | 250mA | 350mA | 500mA |
| Power, Dependent on loads | | | 96VA |

ENVIRONMENTAL

Temperature – Operating: -20 to 70 °C
 Temperature – Storage: -40 to 85 °C
 Humidity: 0 to 95% RH, Non-condensing

MECHANICAL

Screw Terminals:

(J3, J4, J5, J6, J7), 28-16 AWG / 0.5-1.5mm

Enclosure: None

Mounting: 2.75" or 3.25" Snaptrack – not included

PCB: FR4, 94V0, 2.75" x 3.25" x 1.25"

Agencies: RoHS

