MR-VAV-AX
Application Specific Contoller
I/NET® Seven

The MR-VAV-AX controller is an application specific controller (ASC). The intention of the design is to reduce "total install cost" through pre-engineered control algorithms and simplified installation requirements. This controller is directed at single-duct pressure-independent variable air volume (VAV) box control.

The MR-VAV-AX controller provides sufficient applications flexibility to address multiple VAV configurations. This controller operates in a stand-alone configuration or, with the support of a communications network, as an integral part of a comprehensive building automation system.

Equipped with an integrated air velocity transducer and a motorized bi-directional actuator in a single package, this controller includes built-in hardware for mounting on a standard VAV box damper shaft.

- Plug-on input terminals for a thermostat, communications, power, and four external devices.
- Two input ports for the integrated air velocity sensor.
- Plug-on terminals for three external outputs.
- A 12-position DIP switch for setting up the initial application/ equipment configuration.
- Indicator lamps for communication, power, and self-test.

Installation guide for MR-VAV-AX: TCON147
Installation sheet for MR-VAV-AX: TCON148

Pocket guide for MR-VAV-AX: TCON149

TECHNICAL DATA

Communication Ports:
Sub-LAN port
Baud Rate 9,600
Protocol ..... Proprietary
Transport ..... RS 485 multi-drop asynchronous, polling (open or closed loop)
Connector ..... 2-part screw terminal

Network Wiring Requirements:
Length ..... 5,000 feet per segment
Extended Length ..... 25,000 feet with repeaters
Connector ..... 2-part screw terminal
Cable Type ..... Belden 9184 or equivalent twisted pair shielded
Cable Size ..... <22AWG
Impedance ..... 85 to 150 Ohm
Capacitance ..... >30pF/ft between conductors and >55pF/ft conductor to shield

Hardware Details:
Processor ..... Zilog Z86C193
EPROM 32KB
Static RAM 464Bytes
Non-volatile Memory 4096Bytes

Physical Details:
Dimensions ..... 6.25" W ´ 7.75" L x 2.5" H
Enclosure ..... PC/ABS plastic rated UL94-5V
Operating Temperature ..... 32°F to 122°F
Operating Humidity ... 10-90% RH, Non-condensing
Power Requirements ..... 24Vac, ±10%, 50/60Hz,9VA, plus Triac load, 4 amp fused

Input Details:
May be either thermistor or discrete contacts per the following
Standard Quantity 4
Connector ..... 2-part screw terminal
Analog
Range ..... 25°F to 113°F 10K ohm NTC thermistor (Dale 1M1002-C3)
Accuracy 1%
Resolution ..... .4% Span
Filtering ..... A/D digital filtering: median value filter and 60 Hz notch filter
Calibration ..... Factory-set in NOVRAM, field adjustable, 6 individual pairs

TECHNICAL DATA

Digital Inputs
- Contact Excitation ..... 5v @ 5ma
- Input Duration ..... .2 second minimum

I/STAT Port Details:
- Space Sensor Input .. Supports I/STAT, Slide Stat or 10K ohm NTC thermistor (Dale 1M1002-C3)
- Accuracy ..... 1° F
- Resolution ..... .32° F @ 77° F

Digital Output Details:
- Standard Quantity 3
- Style ..... Low Voltage Triac voltage sourcing)
- Rating ..... 24 VAC @ 0.5 A each (1.5 A maximum)
- Connector ..... 2-part screw terminal
- Operation Mode ..... 2-position, 3-state floating, time proportional modulation

Velocity Sensor Details:
- Quantity ..... 1 each
- Range ..... 0" to 1.0" water column
- Resolution ..... .0029" water column below mid scale and.0049" water column above mid scale
- Accuracy ..... .5% at 1" water column
- Adjustments ..... Factory-set calibration coefficients
- Connections ..... Dual barbed fittings for 1/4" OD tubing
- Tubing Length ..... 4 ft maximum, each tube

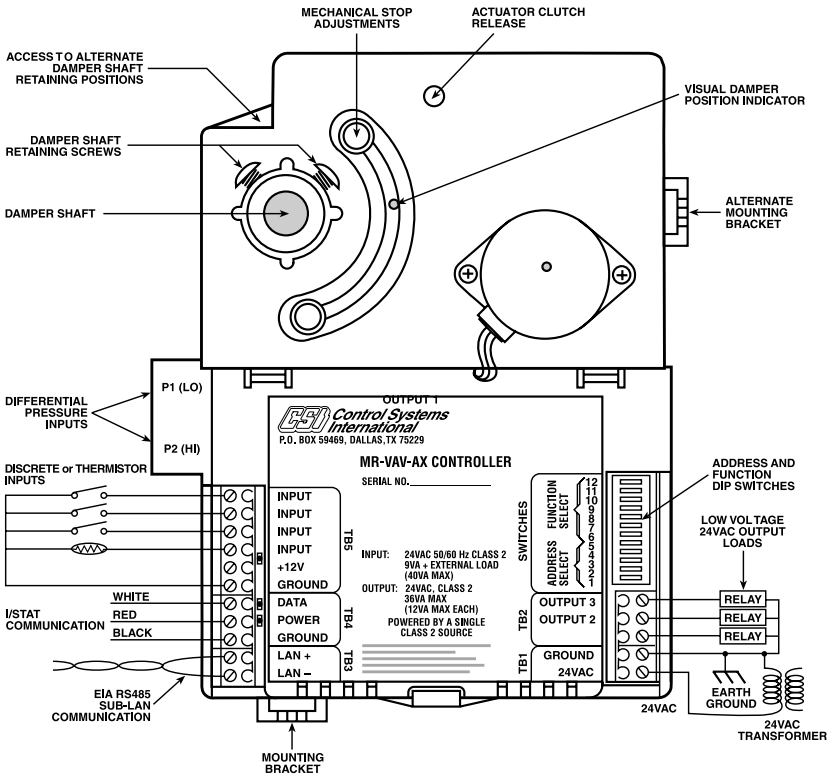
Actuator Details:
- Quantity 1
- Type ..... Integrated
- Test Mode ..... Self-test indications during power up
- Torque Rating ..... 53 in lb
- Stroke ..... Fully adjustable from 0° to 95°
- Timing ..... 2 seconds per degree rotation (60Hz),2.4 seconds per degree rotation (50Hz)
- Position Indication .... Visual indication provided
- Manual Over Ride ..... Push-button clutch release to allow manual positioning of damper
- Damper Linkage ..... .5"D round shaft extending a minimum of 1" from the box, 3/8" shaft adapter optional

LED Details:
- Sub-LAN TX ..... Transmit data
- Sub-LAN RX ..... Receive data
- Test Mode ..... Self-test indications during power up

Listings:
- UL916 ..... Energy management equipment
- UL94-5V ..... Requirements for plenum application
- UL864 UUKL ..... Smoke control and smoke management
- CE Marking ..... Available
- EN61000-4-2 ..... Electro static discharge
- EN61000-4-3 ..... Radiated RF
- EN61000-4-4 ..... EFT
- EN61000-4-5 ..... Surge tested

PART NUMBERS							
			UI	AI I/STAT	DI	AO	DO TRIAC
BASE	MRVAVAX MRVAVAX-C MRVAVAX-U8 MRVAVAXM-C	MicroRegulator, VAV controller, application specific, with velocity transducer	4	1	—	—	3

May optionally be followed by "M" indicating metric engineering unit presentation
Part numbers ending in -C are Ce Marked.
Part numbers ending in -U8 are UL864 UUKL Listed.



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