On/Off & Pulse Width Modulating Globe Valve Actuators

DESCRIPTION

MVA

Electro-thermal, bidirectional, noiseless, zone globe valve actuators with fail-safe control.

certified
ISO 9001

APPLICATION

Actuators with integrated quick clamp and screw for pop-on coupling on 2-way or 3-way zone globe valves for fan coil units, reheat of VAV/VVT boxes, base boards, and other AC units. Can be controlled by any compatible electric or electronic analog controller, DDC/PLC control or automation system.

FEATURES

- *Easy, pop-on valve actuator*
- *Spring return, with V.Z valves*
- *On/Off*
- *Modulating with PI/PID time proportioning/pulse width*
- *2-wire*
- *Compact size*
- *Maintenance free*
- *Two-year warranty*

SPECIFICATIONS

Control

Input signal	Refer to table
- connection	2-wire

Electrical

Power supply	Refer to table
Frequency	50/60 Hz
Power consumption	5 VA, inrush 0.55 A

Actuator type	Electro-thermal (PTC thermistor heats thermostatic element and moves piston/stem downwards, valve spring moves stem/piston upwards)
Noise level	
- actuating and spring return	0 db (A), noiseless

Input Signal	Control Voltage / Power Supply	Aux. Switch SPST built-in	Part Numbers
On/Off or Pulse width modulating	24 VAC, ± 10%	No	**MVA 43**
		Yes	**MVA 43 + D41**
On/Off	110...230 VAC, ± 10%	No	**MVA 23**
		Yes	**MVA 23 + D41**

Performance

Positioning force	
- actuator	24.7 lbf (110 N)
- spring return	24.7 lbf (110 N)
Positioning stroke	0.157 (4.0 mm)
Running time	
- actuator cold start (powered up to 1st movement)	120 sec.
- full stroke opening (stem down)	180 sec.
- full stroke closing, spring return (stem up)	480 sec.
Power failure	Springs back to stem-up w/ V.Z valve series

Environmental

Permissible ambient	
- working temperature	41°F to 122°F (5°C to 50°C)
- storage temperature	-13°F to 149°F (-25°C to 65°C)
- humidity	5-95% RH, non-condensing

Physical

Enclosure	Fire retardant, UL94-HB
- cover (top) material	PA6
- base material	PP
- color	Blue and gray
- protection	NEMA 2 (IP 31), conforms to IES 730-1 (93)/6.5.3
- protection class	II (CEI 107-10)
Mounting position	Horizontal or vertical, avoid cable outlet pointing upwards

SPECIFICATIONS

Physical (cont…)

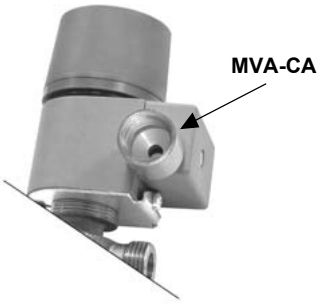
Wire connection	Terminal block, screw type for lead wire
Wire size	Min. 18 AWG (0.75 mm²) Max. 14 AWG (2.5 mm²)
Cable entry	1 slotted hole, 5/16" (7.9 mm) with cable grommet
Weight	
- w/o conduit adapter	0.44 lbs. (0.2 kg)

Valve Body, Compatibilities	VSZ..B, VMZ...B valve series
Valve Coupling	Quick clamp/screw system, easy pop-on/hand connection
Manufacturing	ISO 9001 certified
Conformity	EMC 89/336 directive, EN50081-1 for emission, and EN50082-1 for immunity
Listings/Approvals	CE
Warranty	Two-year material and workmanship

OPTIONS

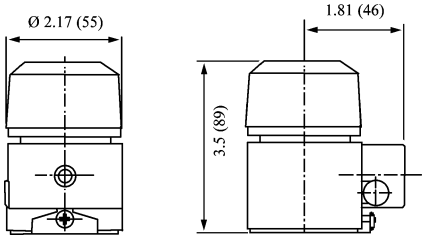
- **D41** (1) Aux. switch built-in or separate for retrofit	SPST 250 VAC, 5(2) A, terminal block, screw type for lead wire connection
- **MVA-CA** (1) Conduit adapter	1/2" NPT female threaded connection with 1/4" pass-through hole

D41



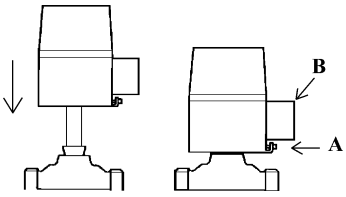
DIMENSIONS

inches (mm)



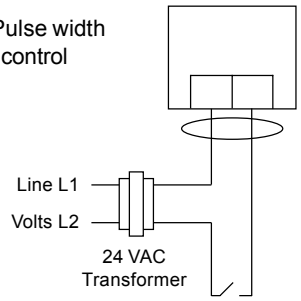
COUPLING TO THE VALVE BODY

Remove protective plastic hood fitted over valve stem prior to coupling actuator on valve body. Loosen up screw (A), fit actuator over stem, push down actuator and position sliding plate into tapered valve neck. Tighten screw (A) tightly.

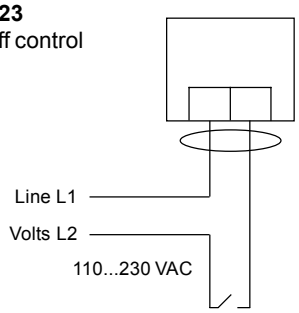


WIRING CONFIGURATION

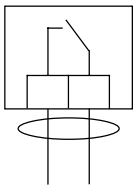
MVA 43
On/Off or Pulse width moduating control



MVA 23
On/Off control



D41
Option



(1) Auxiliary switch, SPST, 250 VAC, 5(2) A

Contact closes when actuator stroke opens/stem downwards, i.e., normally closed valves V.Z starts to open

Notes:
- To access the terminal wiring connection block, remove screw from terminal cover (B).
- Wire connections at the actuator are interchangeable.
- **Do not supply power to the actuator unless the actuator has been coupled to the valve body appropriately.**
- Actuator will be damaged if 110...230 VAC is applied to the 24 VAC actuator.
- When power/signal is applied to the actuator, the actuator piston/valve stem will move downwards (N.C. valves will open, N.O. valves will close). Be patient, cold start will take up to 300 sec. to stroke 100%.