

11. Pressure Independent Balancing and Control Valves and Actuators

MP500C NSR, MP500C-SRU/ SRD Multi-Signal Actuators

Multi-Signal Non-Spring/Spring Return Actuators for VP220x SmartX PIBCV, DN40...100 (1½...4")

Product Description

MP500C are linear electro-mechanical actuators for use with VP220x SmartX PIBCV valves, DN40...100, controlled by either an increase/decrease floating signal or by a range of modulating control signals in the range 0...10V. SRU/SRD models have a spring return feature. The U-Bolt connection allows quick and easy direct mounting onto the SmartX PIBCV VP220 valves.

Specifications

MP500C	Non-Spring Return
MP500C-SRU	Stem up (retract)
MP500C-SRD	Stem down (extend)
Voltage supply	24 Vac ±20% 50-60Hz 24 Vdc ±20%
Power consumption	
MP500C-SRU/SRD: Running	30 VA (21 W)
Rest	7 W
MP500C	average 15 VA
Running Time	
Modulating	15 sec.
Increase/decrease	60/300 sec. (selectable)
MP500C-SRU/SRD Spring Return:	13 sec.
Transformer Sizing	50 VA
Stroke	2...35 mm
Force, nominal	500 N
Duty cycle	20%/60 minutes (full load, high amb. temp.) 80%/60 min. (half load, room temp.)
Analog input Voltage range (selectable)	0...10, 2...10, 0...5, 2...6, 5...10, 6...10 Vdc
Impedance	Min. 100 k Ohm
Digital inputs	
Voltage across open input	24 Vac
Current through closed input	5 mA
Pulse time	min. 20 ms
Position Feedback	
MP500C	2...10 Vdc
MP500C SRU/SRD	2-10 Vdc or 0-5 Vdc (0-100%) - Load 2 mA
Environmental	
Operation Temperature	14...122°F (-10...50 °C)
Storage Temperature	-13...149°F (-25...65 °C)
Ambient Humidity	max 90% RH (non-condensing)
Enclosure rating	IP54 (NEMA 2)



MP500C-SRU/SRD



MP500C

Features

- Brushless DC motor.
- High resolution control board allows precise fluid control.
- Working range and end point switches adjusted automatically to the stroke of the valve.
- When driven electrically, firmware calibrates a consistent running time regardless of the valve stroke.
- During power loss SRU/SRD spring return drives the motor, generating power to the board, controlling braking speed which avoids mechanical stress and system water hammer.
- Actuators can be configured for either 3 point increase/decrease signal or various modulating control signals including sequencing.
- Stroke Indicators on the yoke provide clear visual indication of the valve opening/stroke status.

Sound power level	
MP500-SRU/SRD	43 dba
MP500C	32 dba
Standards	
Heat	IEC-68-2-2
Humidity	IEC-68-2-3
Cold	IEC-68-2-1
Vibration	IEC-68-2-6
Regulatory Compliance:	c-UL-us LISTED mark compliance per UL 60730-1 & -2-14 and CAN/CSA E60730-1 & -2-14. CE mark compliance per directives [2014/35/EU] LVD, [2014/30/EU] EMC, and [2011/65/EU] RoHS2. RCM mark compliance for Australia/New Zealand community.
Material	
Housing	Aluminum
Max cable core diameter	2.5 mm²
Cover	
MP500C SRU/SRD	Aluminum
MP500C	ABS/PC plastic
S2 Auxillary Switch Relay (optional accessory)	SPDT, 24 Vac 4A AC1: contacts made at 1) 5% and 2) 95% of end stroke
Weight	
MP500C-SRU/SRD:	2.8 Kg (6.17 lbs)
MP500C	1.8 Kg (3.96 lbs)

Part Numbers & Accessories

Part Number	Description	On Power Loss
MP500C	Non-Spring Return Actuator	-
MP500C-SRU	Spring return stem up	Valve Open
MP500C-SRD	Spring return stem down	Valve Closed
880-0104-000	S2 auxiliary end point switches	-