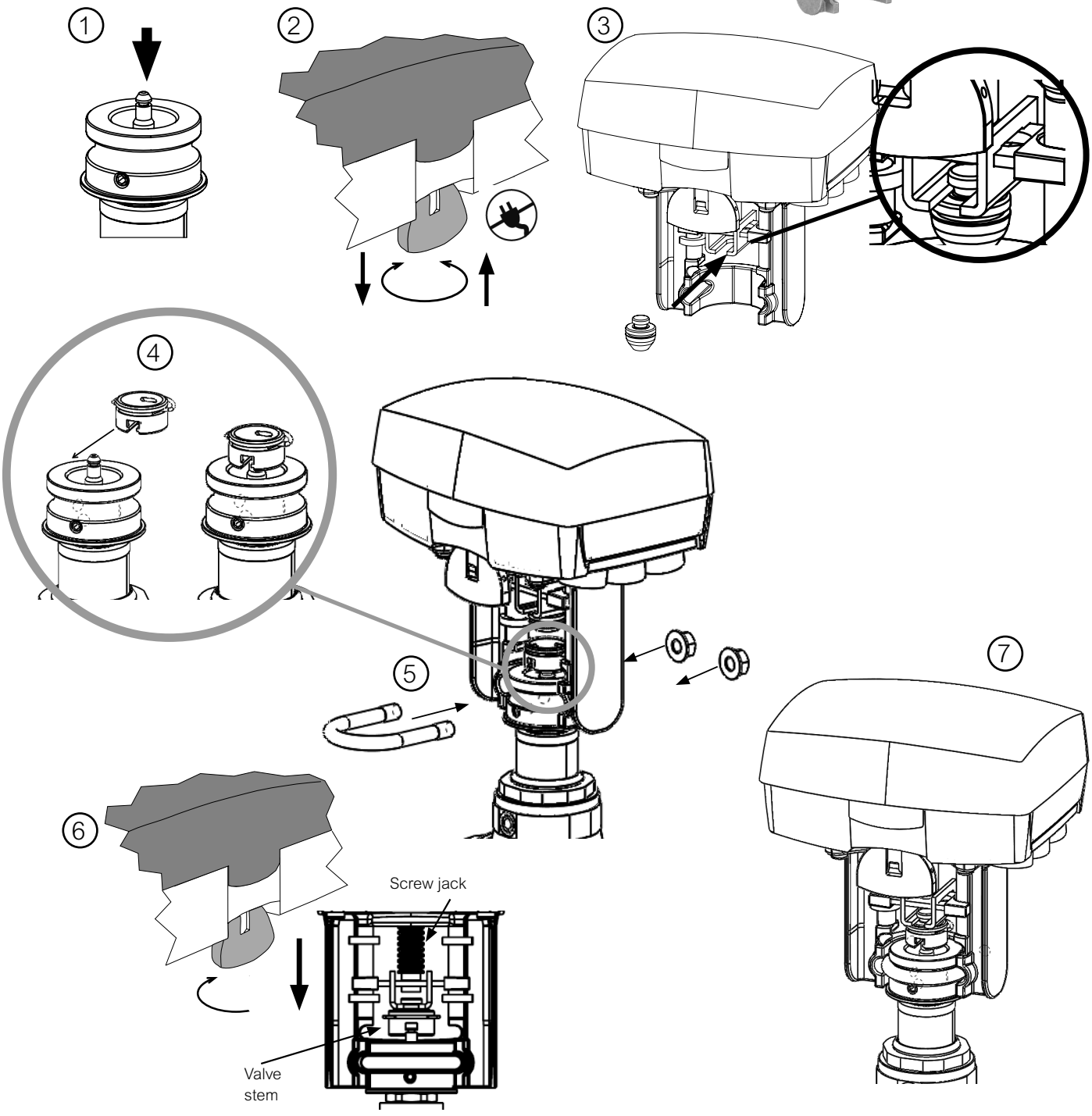
SpaceLogic MP500C

Installation and Configuration Instructions



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Mounting and Installation

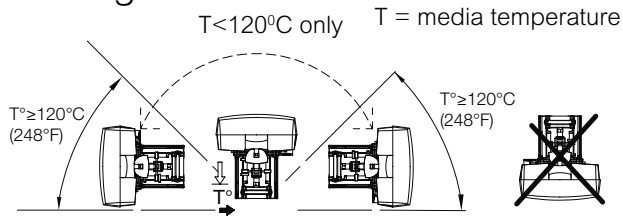


Fig 1 When media T ° exceeds 120° mount the actuator between 45° and the horizontal position.

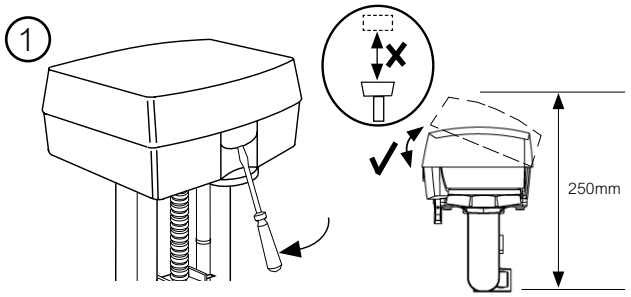
Terminal Connections

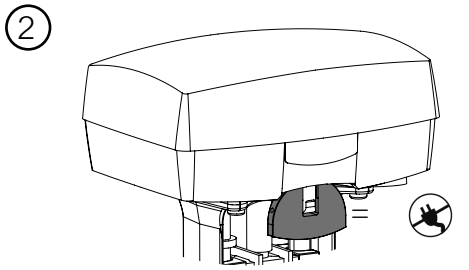
Terminal	Function	Description
24~	24 Vac	Supply voltage
⊥24	Ground	
Y	Input, proportional	Modulating Control signal
M	Input, neutral, proportional	
Y2	Increase, 3-point	Floating/Digital (Y1, Y2 connected to ⊥24)
Y1	Decrease, 3-point	
U	0…100% (2…10 Vdc)	Feedback signal (reference to ⊥24)

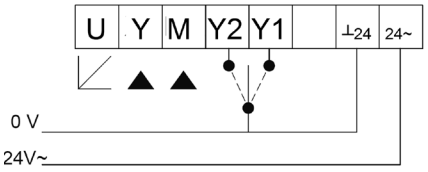
24~, ⊥24= Max 100 m (328ft.), 1.5 mm² (AWG 16)
Other cables: Max 200 m (656 ft.) 0.5 mm² (AWG 20)

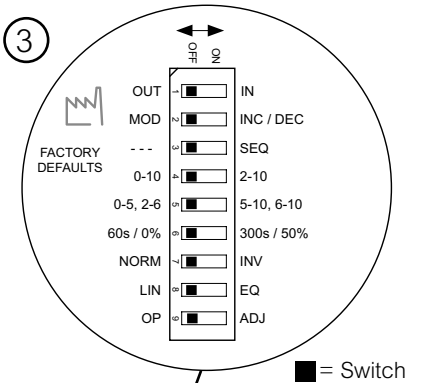
Dip Switch Selection and Electrical Connections

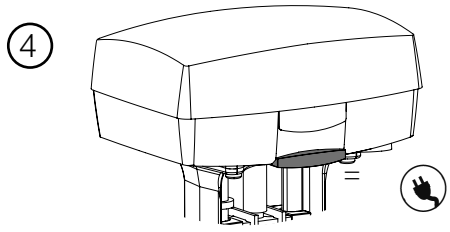
1. Remove cover by levering up the front tab and pivoting backwards. Replace cover by reversing process, locating the rear edge before tilting in to place.
2. Flip down Manual override lever to disengage power and the operating signal to the PCBA. Wire actuator accordingly.
3. Make neccessary electrical connection and dip switch changes (Switch 1-8).
4. Raise manual override lever; the actuator then verifies valve open position.
5. Operate Dip Switch 9 to calibrate valve.

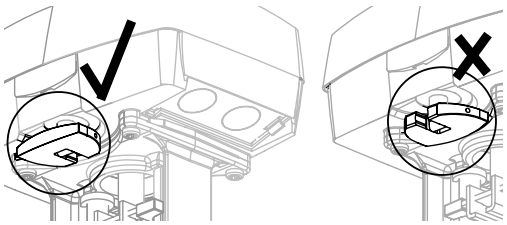


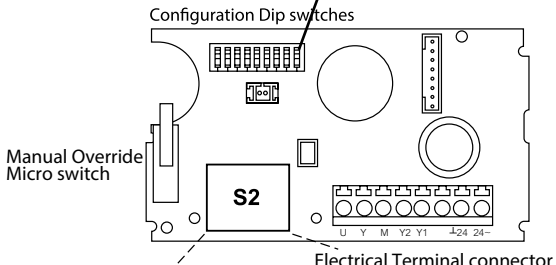






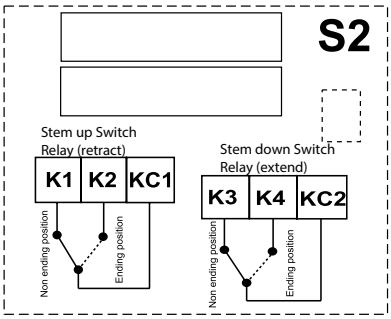






Optional S2 Auxiliary Switch unit accessory

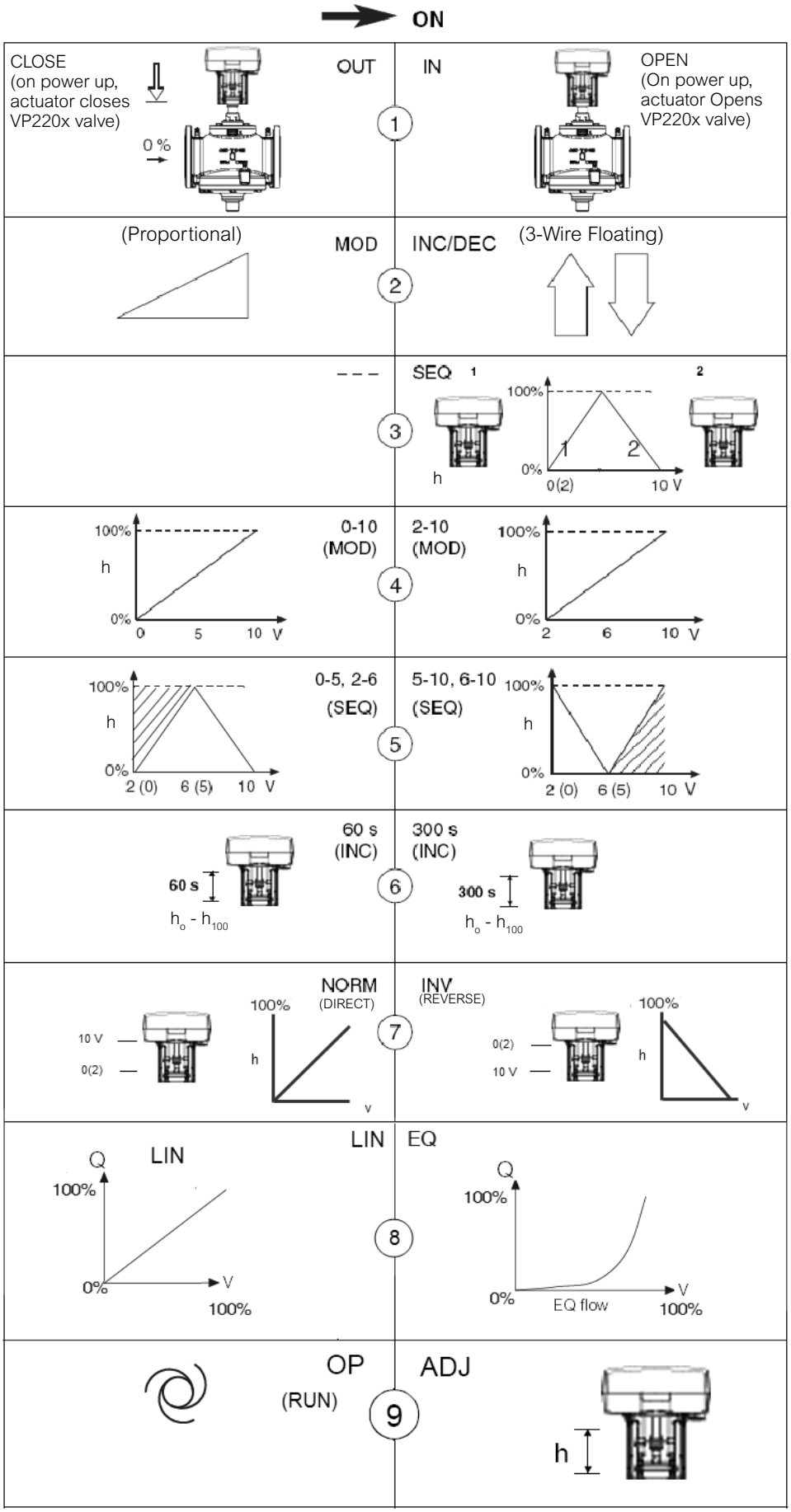
KC1 to K2 closes upon a fully closed valve.
KC2 to K4 opens upon a fully open valve.



4-20 mA Control with 500 Ohm Resistor

Controllers requiring 4…20 mA DC current control will need to utilize the 500 Ohm resistor (included with the actuator) added to actuator terminals M-Y with SW4 (2-10V) in ON position.

Dip Switch Settings



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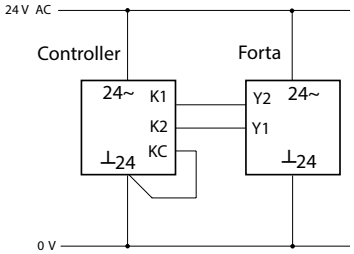
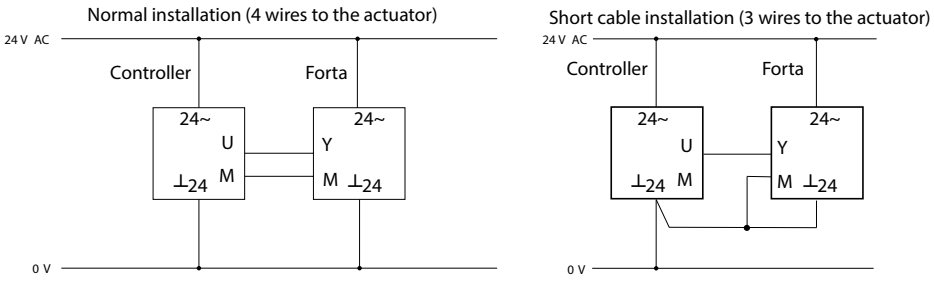
Wiring Diagrams

Increase/Decrease (Floating)



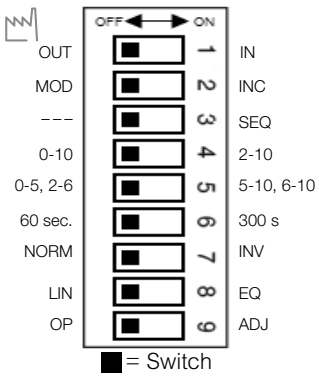
50VA transformer required per actuator.

Modulating (Proportional)



50VA transformer required per actuator.

Dip Switch Settings



Sw	Description	OFF Position	ON Position
1	Valve closing direction	OUT (extends down to close the valve)	IN (Retracts on a closing signal)
2	Control mode	Modulating	Increase/decrease (floating)
3	Sequence control	-	Sequence
4	Input voltage range	0…10 Vdc	2…10 Vdc
5	Sequential voltage range	0…5 Vdc or 2…6 Vdc	5…10 Vdc or 6…10 Vdc
6	Running time (increase/decrease)	60 s	300 s
7	Normal Direction of movement	Normal	Inverted
8	Flow Characteristic	Linear	EQ Changes a Linear PIBCV valve to a logarithmic behavior
9	Operation/Stroke Calibration	Operation	Stroke Calibration

There is a 9 switch configuration block on the circuit board. The factory setting is all switches in the “OFF” position. Adjust these settings prior to engaging power and any subsequent changes to the DIP switches will not be registered until the power is interrupted, or when switch No. 9 is initiated for stroke calibration.

- **SW1 Valve closing direction.**
  - OFF: Actuator fully extends to a closing control signal (normal operation for VP220x SmartX PIBCV).
  - ON: Actuator fully retracts on a closing control signal. On power up, the actuator will move to the closed position as set from Switch 1 before becoming under the command of the control signal. The direction of operation from the input control signal and the position feedback signal will also be influenced by switch 7.
- **SW2 Control signal MOD / INC.**
  - MP500C is either controlled by a variable direct voltage, for a modulating signal (MOD), or by a 3-point increase/decrease signal (INC).
- **SW3 Sequence or parallel control - - -/SEQ.**
  - With sequence (or parallel) control (SEQ), two actuators/valves can be controlled by only one control signal. See switch 4 and 5 to select the control signal range
  - If sequence or parallel control is not used, the switch – – – / SEQ must be in the OFF position.
- **SW4 Input Voltage range 0…10 / 2…10.**
  - Choose between 0…10 Vdc or 2…10 Vdc control signal range. 0…20mA or 4…20mA is possible with connection of the optional 500 Ohm resistor.
- **SW5 Operational voltage range (0..5, 2..6 / 5…10, 6..10)** When switch 3 (SEQ) is ON choose the operational voltage range.
  - OFF: low: 0…5 V (2…6 V)
  - ON: high: 5…10 V (6…10 V) The bracketed control voltage is operational with switch 4 ON.
- **SW6 Running time 60 s / 300 s.**
  - On increase/decrease control, this switch selects the running time between 60 s (Off) or 300 s (On). With modulating control, the running time is always 15 s.
- **SW7 Direction of movement NORM / INV.**
  - OFF (NORM): Normal direction of movement. Actuator retracts to provide an open valve on an open control signal.
  - ON (INV): Inverse direction of movement. Actuator extends to provide a closed valve on an open control signal. This operation is reversed with Sw.1 ON but this may be desired if the power up position according to switch 1 needs to be flipped. Feedback is directly linked to switch 7 and is not influenced by switch 1.
- **SW8 Flow Characteristic LIN/EQ.** The motorized valve characteristics can be modified.
  - The setting EQ will change the VP220x valve from a linear flow characteristic to an equal percentage.
- **SW9 Input signal and stroke Calibration OP / ADJ.**
  - This switch is only used to calibrate the stroke end positions.
  - To initiate, momentarily move the switch to the ON position then back to the OFF position. At the end of the adjustment all the other dip switch settings (1 to 8) will be registered again.

Commercial Reference	Range Name	Product Description	
880XXXXXXX MXXX(X)A(X)(X)(-S2)(-VB) MGXXX(-S(R)X)(-W) MPXXXX(-SRX)(-W)	SPACELOGIC VALVES & ACTUATORS	SPACELOGIC 800 SERIES GLOBE VALVE ACTUATOR SR/NSR SPACELOGIC M SERIES GLOBE VALVE ACTUATOR SR/NSR SPACELOGIC MG SERIES GLOBE VALVE ACTUATOR SR/NSR SPACELOGIC MP SERIES PIBCV ACTUATOR SR/NSR	
	有害物质 - Hazardous Substances		

部件名称 Part Name	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
属部件 Metal Parts	X	O	O	O	O	O
塑料部件 Plastic Parts	O	O	O	O	O	O
电子件 Electronic	X	O	O	O	O	O
触点 Contacts	O	O	O	O	O	O
线缆和线缆附件 Cable & Cabling Accessories	O	O	O	O	O	O

本表格依据 SJ/T11364 的规定编制。
O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。
（企业可在此处，根据实际情况对上表中打 "X" 的技术原因进行进一步说明。）

This table is made according to SJ/T 11364.
O: indicates that the concentration of hazardous substance in all of the homogeneous materials for this part is below the limit as stipulated in GB/T 26572.
X: indicates that concentration of hazardous substance in at least one of the homogeneous materials used for this part is above the limit as stipulated in GB/T 26572

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