

MVE2xxR/MVE2xxR-65

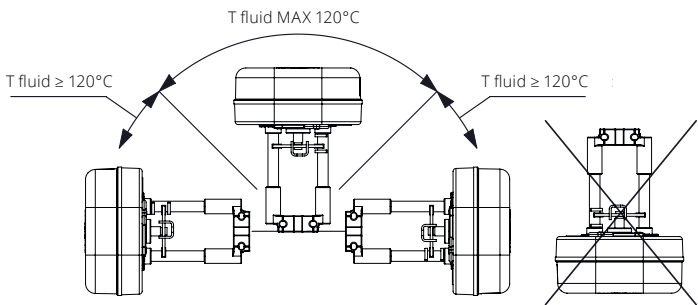
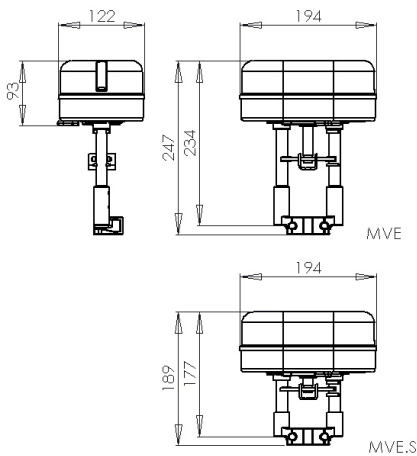


Valve Actuators With Emergency Fail Safe Function

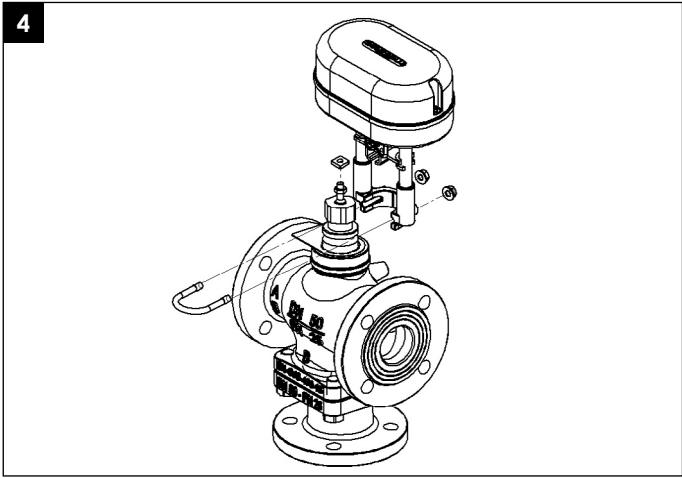
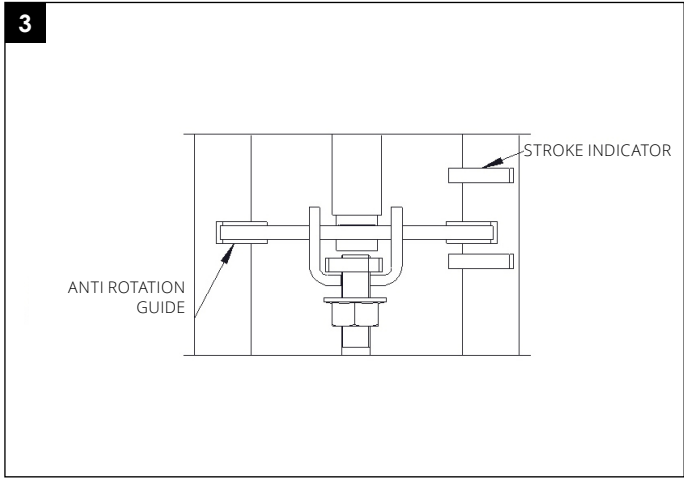
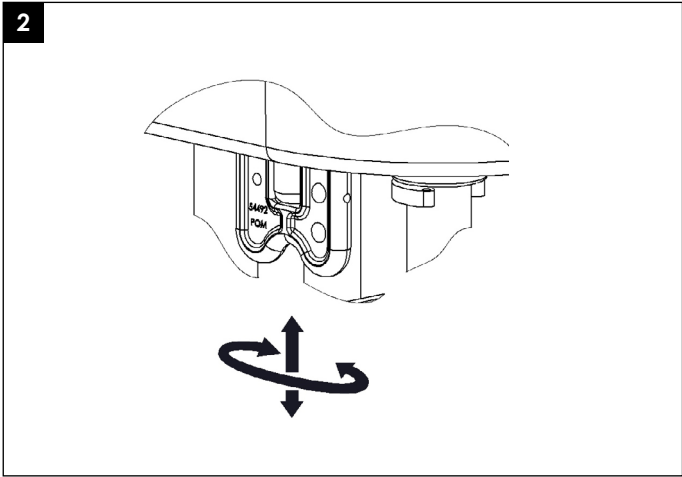
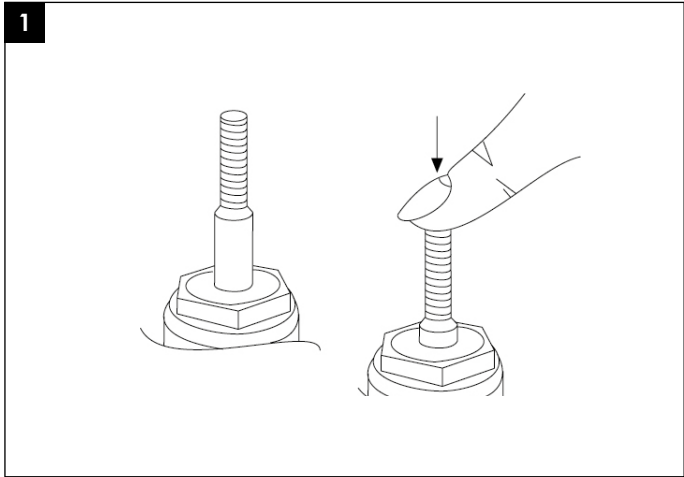
INSTALLATION



Attention to 230 Vac voltage.



Only for models MVE2xxR-65: for outdoor installations provide adequate shelter.



The performances stated in this sheet can be modified without any prior notice.

CABLE GLAND

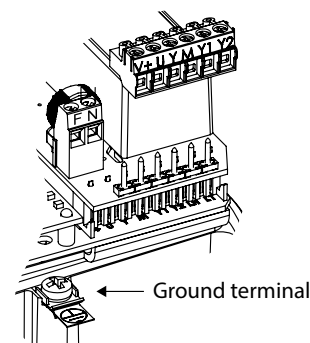
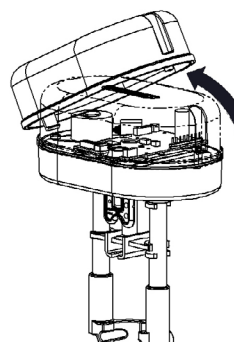
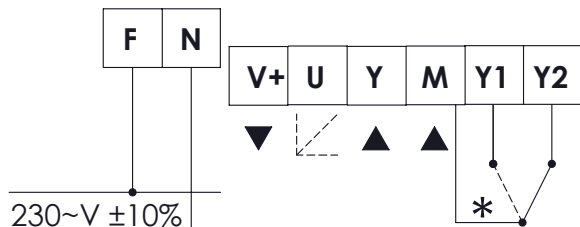
Use cable gland PG13,5 model (not supplied).

IP65 MODEL suitable with PG13,5 cable gland for cables with Ø variable between 6 and 12 mm.

GROUND CONNECTION

Connect the ground terminal to the proper screw labelled with the ground symbol as shown in the following picture.

TERMINAL BLOCK



(*) In order to use the floating control the only possible connection is between terminal M and Y1/Y2. Do not connect Y1/Y2 to phase (F) or neutral (N).

Label	Description	Function	Wire Size	Max Wire Length
F	230 Vac	Power Supply	AWG16 (min 1 mm ² - max 1.5 mm ²)	75 m
N				
Y	0-10 Vdc	Modulating Control Input	AWG20 (min 0.5 mm ² - max 1.5 mm ²)	200 m
M	0 V (Common)			
Y1	Open	Floating Control Input	AWG20 (min 0.5 mm ² - max 1.5 mm ²)	200 m
Y2	Close			
V+	16 Vdc	Voltage Output (max 25 mA)	AWG20 (min 0.5 mm ² - max 1.5 mm ²)	200 m
M	0 V (Common)			
U	2-10 Vdc	Feedback Output Signal	AWG20 (min 0.5 mm ² - max 1.5 mm ²)	200 m
M	0 V (Common)			

* 1 Vdc during the emergency return phase.

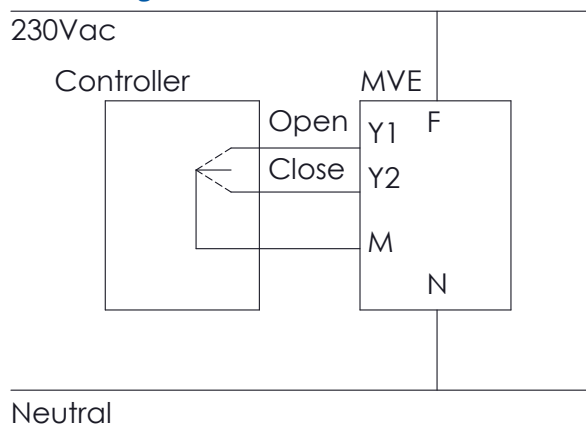
SAFETY PRESCRIPTIONS

230 V products

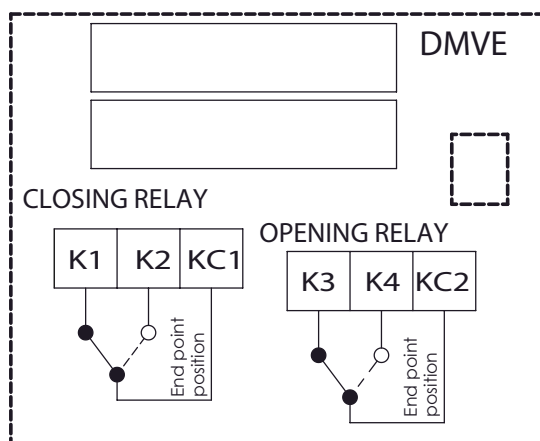
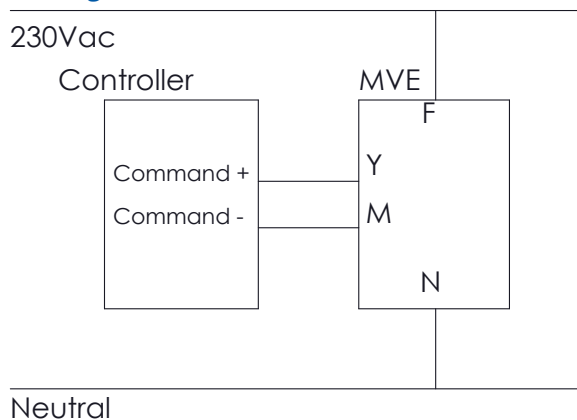
- Install on the power supply line a protecting device to avoid short circuits (fuse or magneto-thermic) according to the specifications in force;
- in case of accidental removal of the cover to make sure that power is disconnected before working on the actuator or near it;
- the products are maintenance free.

WIRING DIAGRAM

3 point Floating Control



Modulating Control (0-10 Vdc)

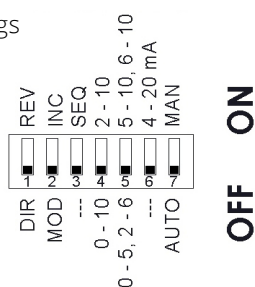


DMVE - Electrical rating: 24V AC/DC, 4A

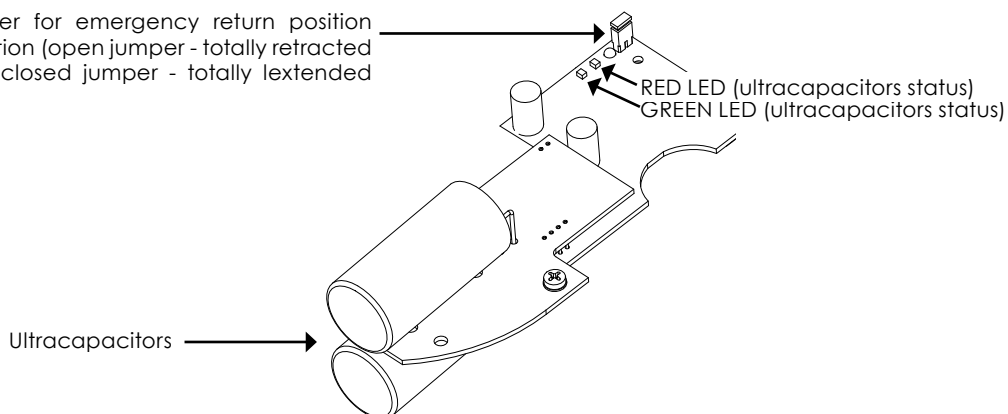
DIP SWITCHES AND JUMPER SETTINGS

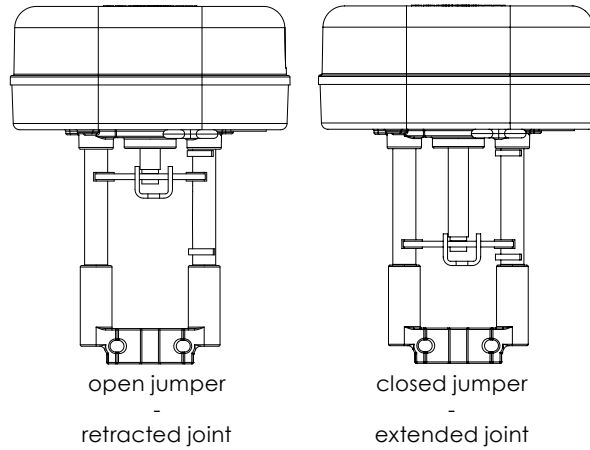
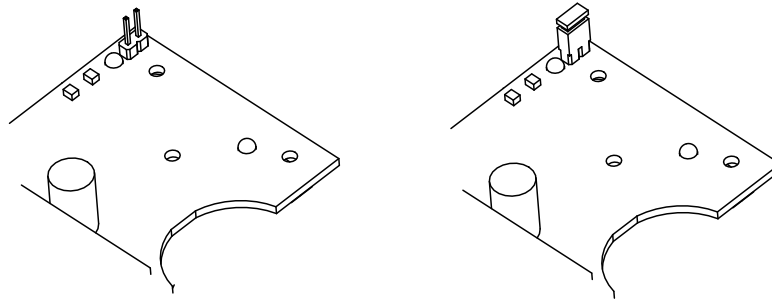
Set the DIP switches according to the tables here below. In order to be sure that any modification has been accepted by the actuator, power down and power up it again or act on the manual operation handle to be sure that settings will be recognized.

Factory settings



Jumper for emergency return position selection (open jumper - totally retracted joint; closed jumper - totally lextended joint)





Factory settings

DIR		REV
MOD		INC
---		SEQ
0 - 10		2 - 10
0 - 5, 2 - 6		5 - 10, 6 - 10
---		4 - 20 mA
AUTO		MAN

OFF ON

DIP Switch	OFF	ON
1	Direct Action U= feedback U = 2V U = 10V	Reverse Action U= feedback U = 10V U = 2V
2	Modulating Control (MOD) (Input between Y [+] and M [-])	3 point floating (INC) (Y1 open-extend , Y2 close-retract connected to M)
3	-	Selection of sequence mode, control range defined by DIP n. 5
4	Modulating Control 0-10 Vdc (DIP n. 2 OFF only)	Modulating Control 2-10 Vdc (DIP n. 2 OFF only)
5	Sequence Control 0-5 Vdc with DIP n. 4 OFF only Sequence Control 2-6 Vdc with DIP n. 4 ON only (DIP n. 3 ON only)	Sequence Control 5-10 Vdc with DIP n. 4 OFF only Sequence Control 6-10 Vdc with DIP n. 4 ON only (DIP n. 3 ON only)
6	Voltage Input Signal Vdc (input between Y [+] and M [-])	Current Input Signal 4-20 mA (input between Y [+] and M [-]). In this case DIP n. 4 must be set to ON.
7	Automatic Calibration: the actuator updates the stroke range if an unexpected mechanical stop is detected for at least 10 s	Manual Calibration: the actuator calibration is started moving the DIP from OFF to ON or vice versa. With DIP in ON in case of extra stroke or if an unexpected endpoint is detected, the actuator will never update the stroke

DIAGNOSTIC - ALARM FUNCTIONS

N°	LEDs Behaviour	Error	Actuator Use	Actuator Behaviour		Typical Troubleshooting Condition	Reset Procedure
				Automatic Calibration (DIP N. 7 OFF)	Manual Calibration (DIP N. 7 ON)		
1	RED ON	Valve stroke less than 5mm	Calibration/first installation	The actuator pushes/pulls 2 times (unexpected stall) trying to remove the possible obstacle. After 2 tries an alarm is signalled and the actuator moves to initial position and does not respond to control signal. Stroke value is not updated because out of range	The actuator pushes/pulls 2 times against endpoint during calibration and the actuator moves to the initial position and then it does not respond to the control signal. The actuator keeps the previous stroke	Valve with a stroke length lower than 5mm	Remove power and power up again
2	RED quick blinking + GREEN ON	Stroke longer than 60mm	Calibration/first installation	The actuator exits the 60mm stroke range and it moves toward the new stroke limit signalling an anomaly. The actuator pushes/pulls 2 times against the new stroke limit, then it goes back to the initial position still signalling the anomaly until it is not within 60mm. The actuator does not calibrate the stroke after 10s (wrong range)	The actuator exits the 60mm stroke range and it moves toward the new stroke limit signalling an anomaly. The actuator pushes/pulls 2 times against the new stroke limit, then it goes back to the initial position still signalling the anomaly until it is not within 60mm. The actuator does not calibrate the stroke after 10s (wrong range)	Valve with a stroke length longer than 60mm	Remove power and power up again
3	RED Quick Blinking	Unexpected stall within the calibrated stroke range	normal operation	The actuator tries 5 times against the new stall condition and then after 10s the actuator updates the new stroke length	The actuator tries 5 times against the new stall condition. At the end of the attempts the fault will be signalled. The actuator does not update the new stroke length, but after 60s makes other attempts to verify the stall condition	Valve stuck	Inverted control signal
4	RED Quick Blinking	Stroke longer than expected	Normal operation	The actuator moves toward the new stall condition with a lower speed; after 10s the actuator updates the new stroke value	The actuator moves toward the new stall condition with a lower speed; after 10s the actuator does not update the new stroke value	Stem connection loose or valve damaged	Inverted control signal
5	RED slow Blinking	Low Power Voltage	Normal operation	The actuator is still working but performance cannot be guaranteed	The actuator is still working but performance cannot be guaranteed	1. Wrong transformer size	Correct Voltage Power
						2. Unstable power	
6	RED slow Blinking	High Power Voltage	Normal operation	The actuator is still working but performance cannot be guaranteed	The actuator is still working but performance cannot be guaranteed	1. Wrong transformer size	Correct Voltage Power
						2. Unstable power	

Lower Electronic Control Board

N°	LEDs	Actuator Status
1	GREEN ON	The actuator arrived at the extreme point of the stroke
2	GREEN BLINKING	The actuator is moving or arrived at the intermediate point of the stroke
3	RED GREEN BLINKING ALTERNATING	Calibration or initialization phase
4	RED GREEN ON	Manual control enabled, the actuators ignores the control signal. ATTENTION! The electronic board is electrically supplied
5	RED GREEN BLINKING SIMULTANEOUS	The actuator is in emergency return phase

Upper Electronic Board

LED	Ultracapacitors Status
GREEN	Ultracapacitors charged
RED	Ultracapacitors discharging
OFF	Ultracapacitors totally discharged

