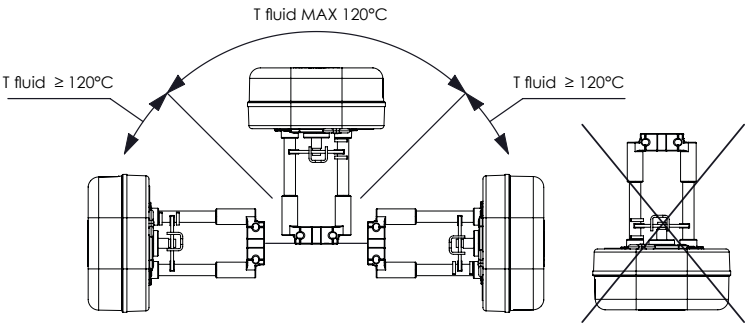
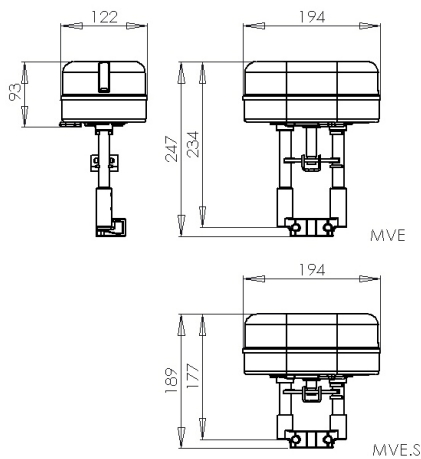


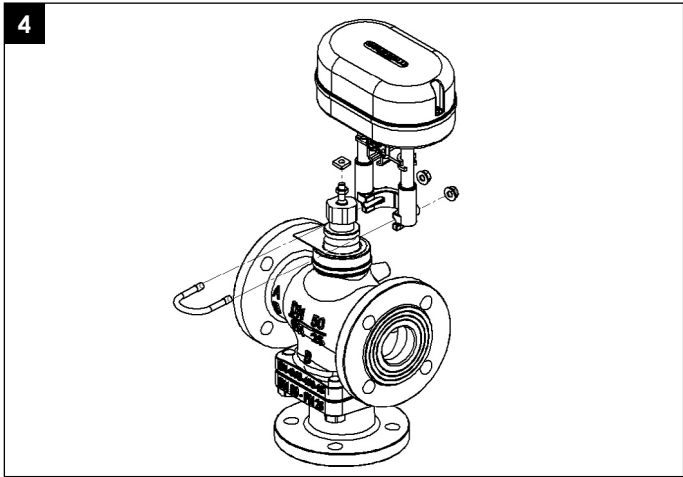
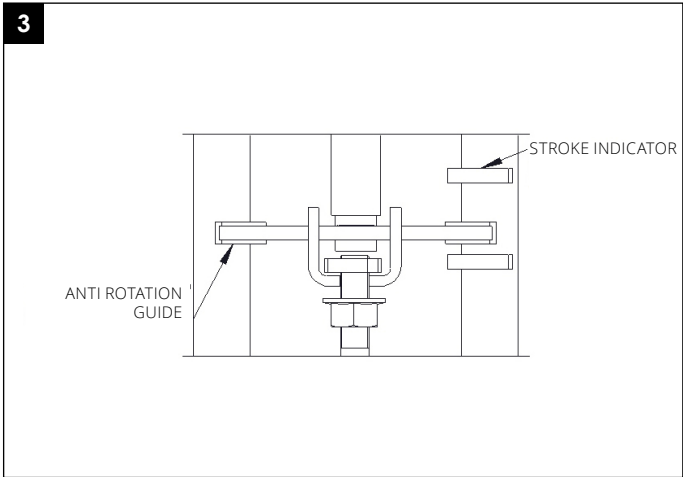
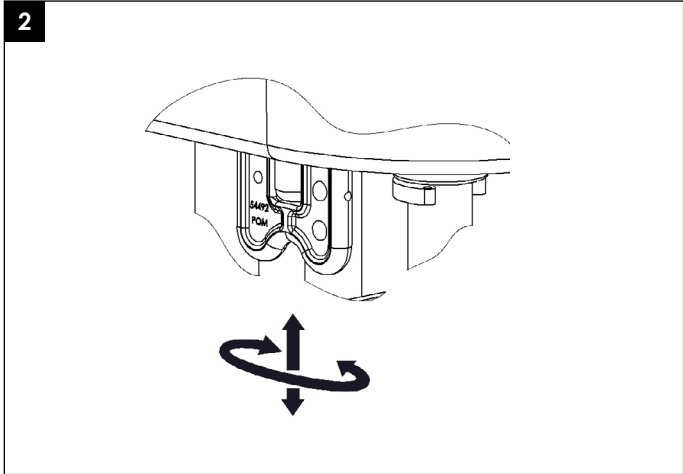
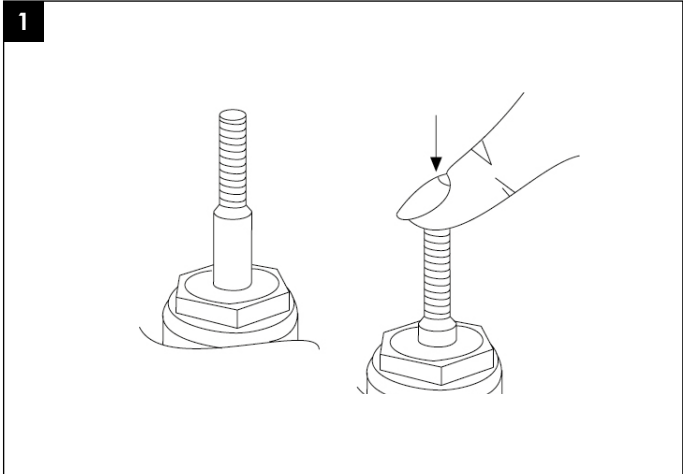
### MOUNTING INSTRUCTIONS



Attention to 230Vac voltage.



Only for models MVE2xx-65: for outdoor installations provide adequate shelter.



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

## CABLE GLAND

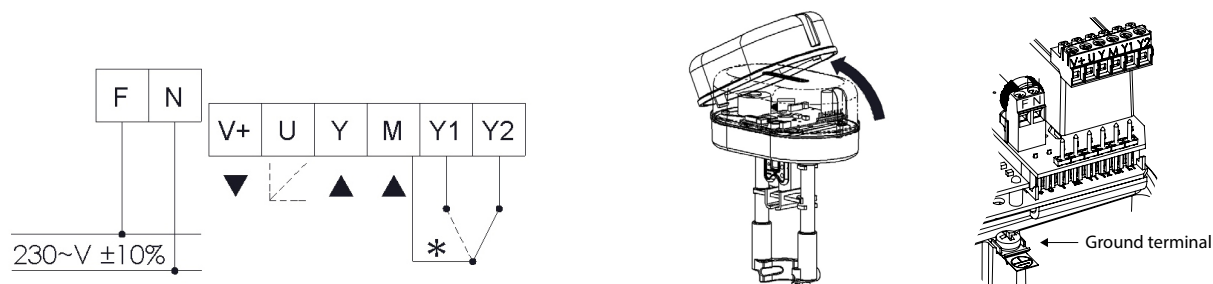
Use cable gland PG13,5 model (not supplied).

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



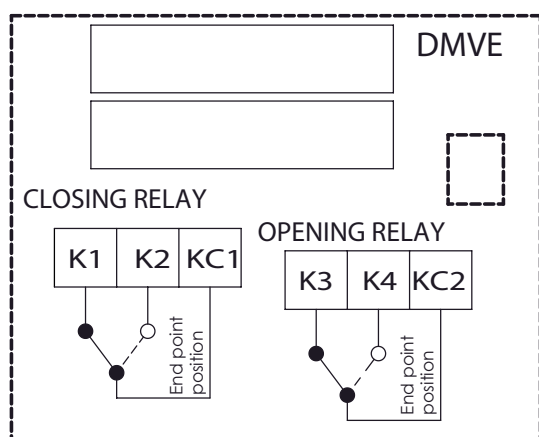
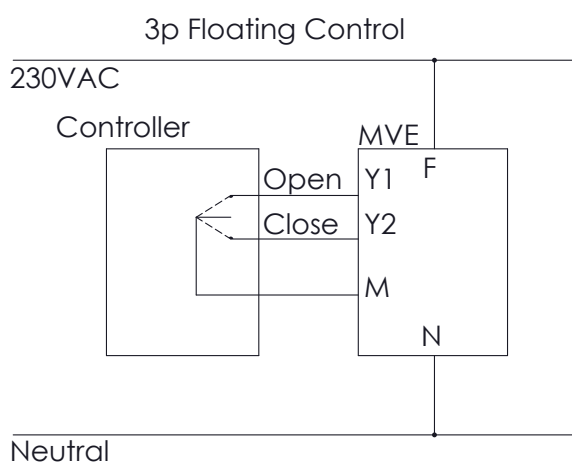
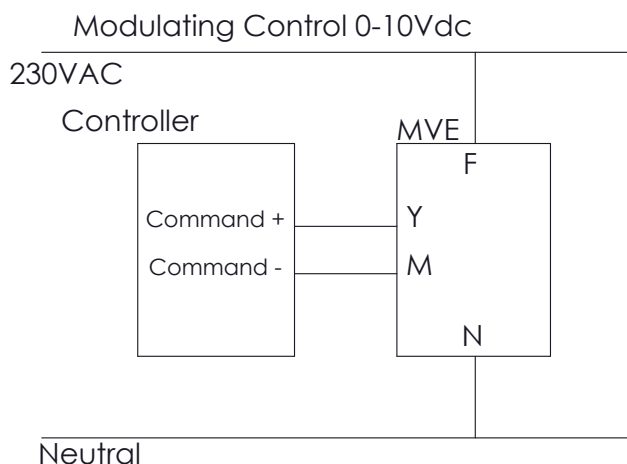
**(\*) In order to use the floating control the only possible connection is between terminal M and Y1/Y2. Do not connect Y1/Y2 to phase (F) or neutral (N).**

**Note:** To avoid damages to electronic components caused by the PCB bending, do not press too much while fixing the terminal block.

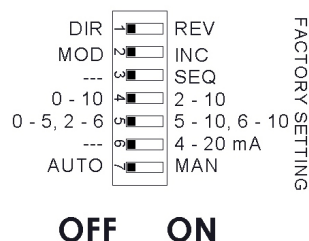
| Label | Description  | Function                      | Wire Size                                                     | Max Wire Length |
|-------|--------------|-------------------------------|---------------------------------------------------------------|-----------------|
| F     | 230 Vac     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

## SAFETY PRESCRIPTIONS

- 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.



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



| DIP Switch | OFF                                                                                                                           | ON                                                                                                                                                                                                                              |
|------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1          | <p>Direct Action</p> <p>U= feedback</p> <p>U = 2V</p> <p>U = 10V</p>                                                          | <p>Reverse Action</p> <p>U= feedback</p> <p>U = 10V</p> <p>U = 2V</p>                                                                                                                                                           |
| 2          | <p>Modulating Control (MOD) (Input between Y [+] and M [-])</p>                                                               | <p>3 point floating (INC) ( Y1 open-extend , Y2 close-retract connected to M)</p>                                                                                                                                               |
| 3          | --                                                                                                                            | Selection of sequence mode, control range defined by DIP n. 5                                                                                                                                                                   |
| 4          | Modulating Control 0-10Vdc (DIP n. 2 OFF only)                                                                                | Modulating Control 2-10Vdc (DIP n. 2 OFF only)                                                                                                                                                                                  |
| 5          | <p>Sequence Control 0-5Vdc with DIP n. 4 OFF only</p> <p>Sequence Control 2-6Vdc with DIP n. 4 ON only (DIP n. 3 ON only)</p> | <p>Sequence Control 5-10Vdc with DIP n. 4 OFF only</p> <p>Sequence Control 6-10Vdc with DIP n. 4 ON only (DIP n. 3 ON only)</p>                                                                                                 |
| 6          | Voltage Input Signal Vdc (input between Y [+] and M [-])                                                                      | Current Input Signal 4-20mA (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 trouble shooting condition             | Reset procedure                 |
|                              |                                      |                                                     |                                 | Automatic calibration (DIP N. 7 OFF)                                                                                                                                                                                                                                                                                                            | Manual calibration (DIP N. 7 ON)                                                                                                                                                                                                                                                                                                                 |                                                |                                 |
| 1                            | <b>RED ON</b>                        | Valve stroke less than 5 mm                         | 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 5 mm     | Remove power and power up again |
| 2                            | <b>RED Quick blinking + GREEN ON</b> | Stroke longer than 60 mm                            | 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 60 mm. The actuator does not calibrate the stroke after 10s (wrong range) | Valve with a stroke length longer than 60 mm   | Remove power and power up again |
| 3                            | <b>RED Quick Blinking</b>            | 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                            | <b>RED Quick Blinking</b>            | 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                            | <b>RED Slow Blinking</b>             | 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<br>2. Unstable power | Correct Voltage Power           |
| 6                            | <b>RED slow Blinking</b>             | 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<br>2. Unstable power | Correct Voltage Power           |

| STANDARD LEDs BEHAVIOUR |                    |                                                                                                                          |
|-------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|
| N°                      | LED behaviour      | Actuator status                                                                                                          |
| 1                       | GREEN ON           | The actuator arrived at the extreme point of the stroke read                                                             |
| 2                       | GREEN BLINKING     | The actuator arrived at the intermediate point of the stroke read                                                        |
| 3                       | RED GREEN BLINKING | The actuator is reading the stroke or it is going to initial position                                                    |
| 4                       | RED GREEN ON       | Manual control ON, the actuators ignores the control signal.<br>ATTENTION! The electronic board is electrically supplied |