

Direct Coupled Damper Actuator

Model MY6050A1001

General

Model MY6050A1001 direct coupled damper actuator is a motorized actuator to open/close a damper. Model MY6050A1001 provides 2-position or floating control in response to a command from a controller. Combined with a Model QY9010A1014 auxiliary potentiometer, Model MY6050A1001 provides proportional control in response to a command from a proportional controller.



Features

- Manual open/close function allows easy adjustment without power supply.
- Standard models are equipped with rotation angle adjuster (mechanical stopper), enabling to adjust motor operating position.
- Low power consumption allows energy conservation.
- Large torque is assured despite compact, lightweight design.
- Simple physical structure facilitates installation on most types of the damper shafts.
- Optional auxiliary devices offer a variety of applications.
- Model MY6050A1001 is user-friendly to operate as well as to install and set up.
- Model MY6050A1001 damper actuator conforms to all the applicable standards of CE Marking.



Safety Instructions

Please read instructions carefully and use the product as specified in this manual. Be sure to keep this manual near by for ready reference.

Usage Restrictions

This product is targeted for general air conditioning. Do not use this product in a situation where human life may be affected. If this product is used in a clean room or a place where reliability or control accuracy is particularly required, please contact Azbil Corporation's sales representative. Azbil Corporation will not bear any responsibility for the results produced by the operators.

 WARNING



- Do not disassemble the product. Electrical shock or equipment damage may occur.



- Operate the product within the service life, and avoid application that keeps product operating cycle excessively frequent. Overuse of the product may cause fire or product damage.

 CAUTION



- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.



- This product must be operated under the operating conditions (power, temperature, humidity, vibration, shock, installation position, atmospheric condition, etc) specified in this manual to prevent equipment damages.



- This product must be operated within its rated operating ranges specified in this manual. Failure to comply will cause equipment damages.



- Do not install the product in a location with high temperature radiation. High temperature radiation may result in an actuator malfunction.



- Do not put heavy load on the product. It may get damaged.



- All wiring must comply with local codes of indoor wiring and electric installation rules.



- This product does not have a power switch. Be sure to provide a power circuit breaker in the power source.



- To prevent product damage, always disconnect the power supply from the product before performing any wiring and installation.



- Make sure all the wires are tightly connected. Incomplete connection may result in an actuator malfunction.



- To prevent personal injury, do not touch the moving part of the product in operation.



- Dispose of this product as an industrial waste according to the local regulations. Do not recycle all or part of this product.

Specifications

Item	Specification
Model number	MY6050A1001
Action	2-position / floating action / proportional action in combination with the auxiliary potentiometer Model QY9010A1014
Power supply voltage	24 V AC \pm 20 %, 50 Hz/60 Hz 24 V DC \pm 10 %
Power consumption	2 W, 4 VA (in operation)
Inrush current	5 A or less
Rotating angle	Max. 95° (mechanical limit)
Operating time	Approx. 150 s
Torque at the rated voltage	20 N·m
Holding torque	16 N·m (Torque to hold the damper in a given position for floating or proportional action)
Ambient operating conditions	-20 °C to 50 °C, 95 %RH or less (non-condensing) (This product is not rain-proof and thus is for indoor use only.)
Transport/storage conditions	-20 °C to 60 °C, 95 %RH or less
Enclosure rating	Dust proof and drip-proof equivalent to IEC IP54 (Cable conduit must be facing downward.)
Cable	0.75 mm ² \times 3-cores, 1 m long
Material / Color	PC-GF10 / Silver gray
Weight	Approx. 1.05 kg
Applicable damper shaft	Circular: ϕ 10 mm to ϕ 20 mm, 42 mm long or longer Square: 10 mm diagonal to 20 mm diagonal, 42 mm long or longer
Accessories	<ul style="list-style-type: none"> • M4 tapping screws \times 2 • Position indicator ring \times 1 • Universal bracket \times 1 • Installation instruction sheet \times 1
Auxiliary devices (Separate order is required.)	<ul style="list-style-type: none"> • Power transformer: Model AT72-J1 • Auxiliary potentiometer*¹: Model QY9010A1014 • Auxiliary switch (SPDT \times 1)*¹: Model QY6051A1001 • Auxiliary switch (SPDT \times 2)*¹: Model QY6051B1001 • Mounting bracket for replacement (for replacing Model MY6040A)*²: Model Z-SMA
Requirements for order	<ul style="list-style-type: none"> • Product model number (Model MY6050A1001) • Auxiliary device model number (if necessary)

Notes:

*1. Multiple auxiliary switches or auxiliary potentiometers cannot be connected. Connect single auxiliary potentiometer or auxiliary switch.

*2. Mounting dimensions of Model MY6050A are different from those of Model MY6040A (former model). For replacing Model MY6040A with Model MY6050A, the mounting bracket Model Z-SMA allows no change of the universal bracket mounting position.

Dimensions

Actuator

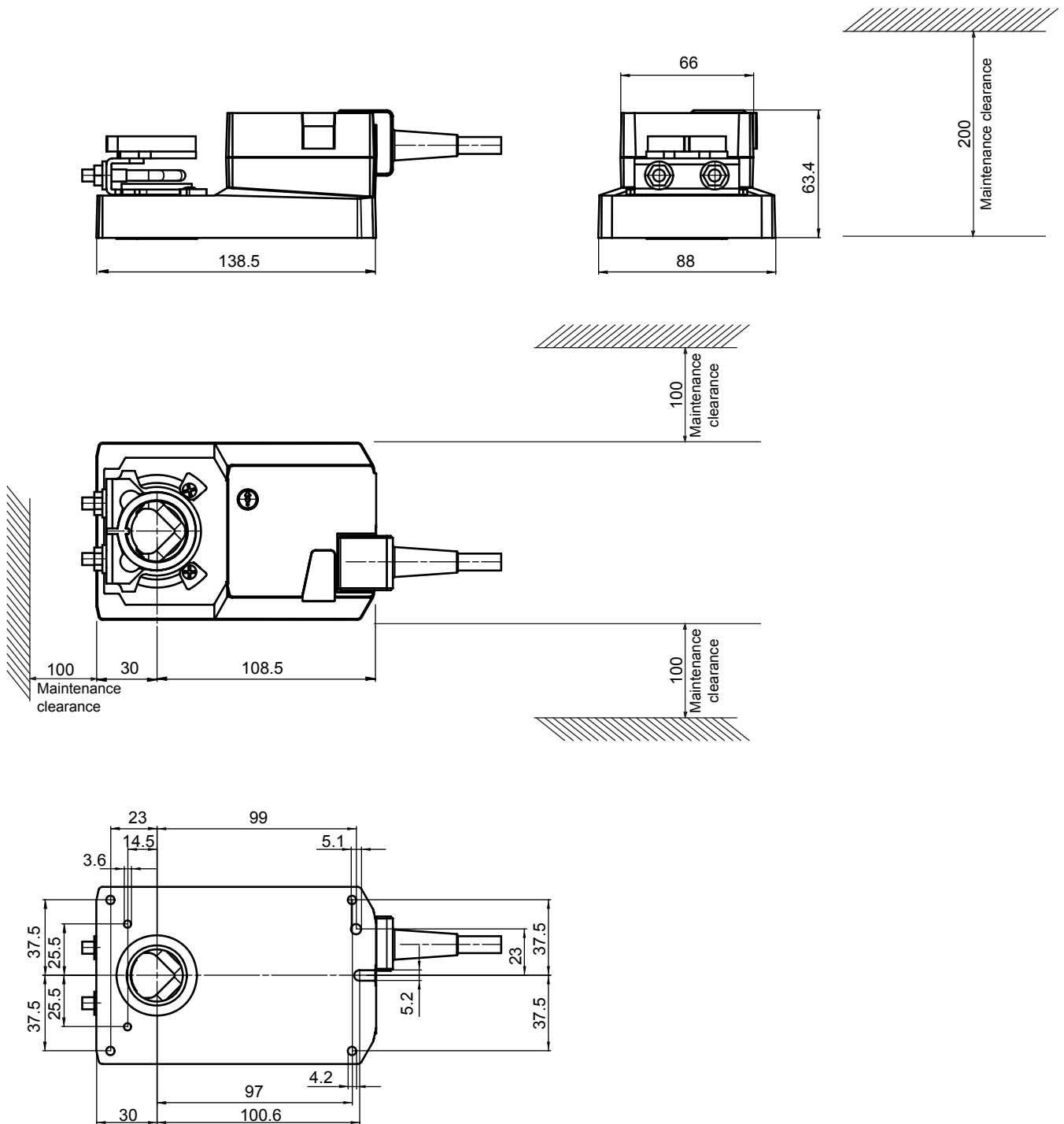
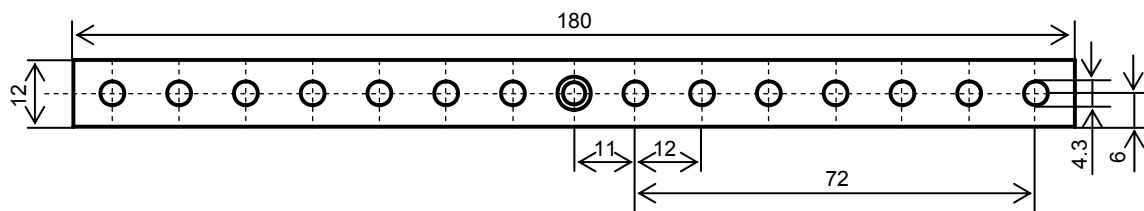


Figure 1. Dimensions (mm): Damper actuator

Universal bracket



2 pan-head tapping screws (slotted, M4 × 12, 1.4 pitch) equivalent to JIS* B 1115-1976 are attached to the universal bracket.

*JIS: Japanese Industrial Standards

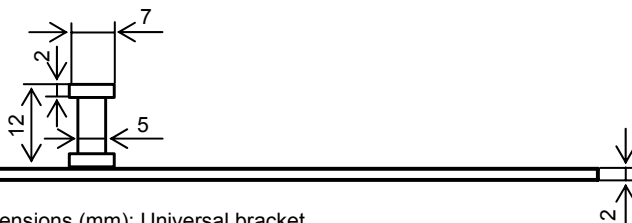


Figure 2. Dimensions (mm): Universal bracket

Parts Identification

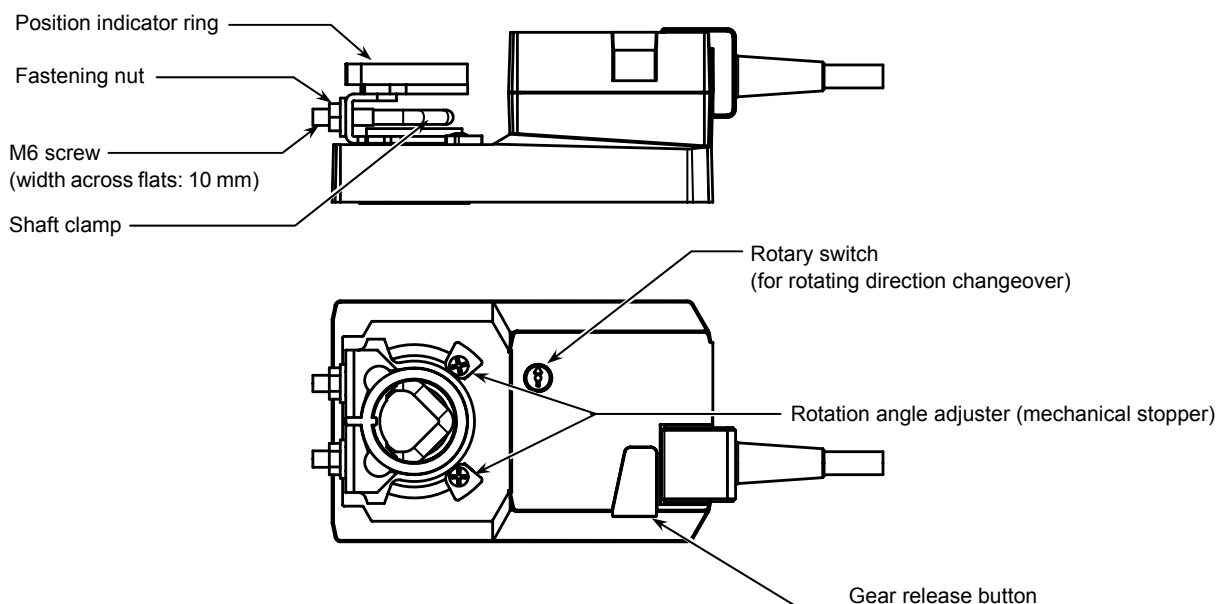



Figure 3. Parts identification

Installation

 CAUTION
<ul style="list-style-type: none"> To prevent product damage, always disconnect the power supply from the product before performing installation.

<p>IMPORTANT:</p> <ul style="list-style-type: none"> Avoid application that keeps product operating cycle excessively frequent. Meet the rotating direction of the actuator with the damper rotating direction. Tighten the screws so that the actuator is securely assembled with the damper. For the product installation, secure maintenance clearance shown in Fig. 1.

Installation procedure

- 1) Fully close the damper shaft.

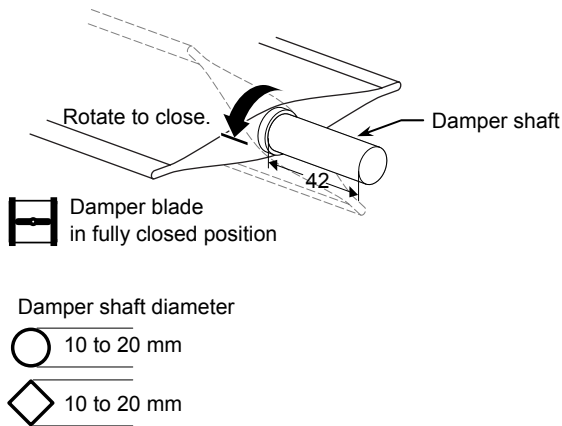


Figure 4. Damper shaft

- 2) Fully close the actuator Model MY6050A, and mount it to the damper shaft. Finger-tighten the fastening nuts of the shaft clamp to temporarily fix the actuator.

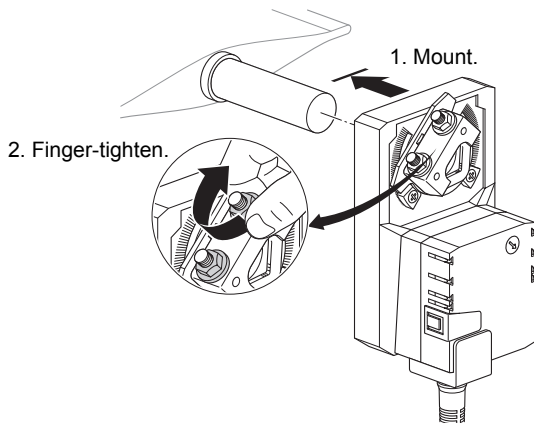


Figure 5. Temporal installation of the actuator body

- 3) With the gear release button pressed, manually rotate the shaft clamp until it is in the position shown in Fig. 6. Then, insert the universal bracket into the slit of the actuator and fix the bracket onto the damper with the two M4 tapping screws.

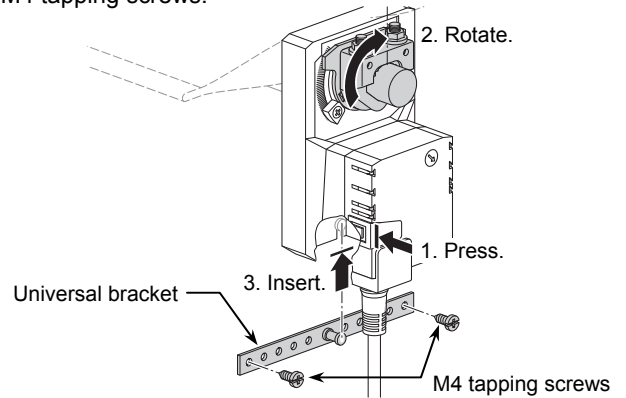


Figure 6. Attaching the universal bracket

- 4) Manually rotate the shaft clamp back to the fully closed position with the gear release button pressed. At this time, be sure to leave a clearance (approx. 1 mm) between the shaft clamp and the rotation angle adjuster (mechanical stopper). Using a wrench, tighten the fastening nuts of the shaft clamp to completely fix the actuator.

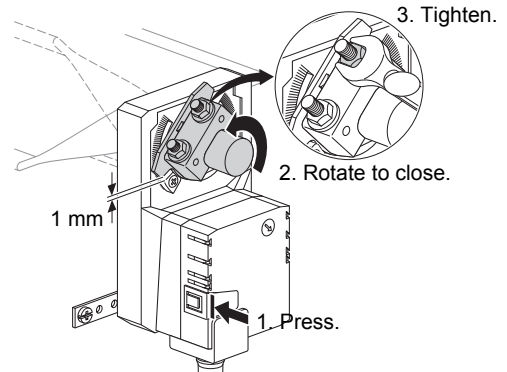


Figure 7. Complete installation of the actuator body

- 5) Attach the position indicator ring to the damper shaft so that the tip of the damper blade and the pointer of the indicator ring point to the same direction. Adjust the rotation angle adjuster on the fully open side depending on the damper rotating angle.

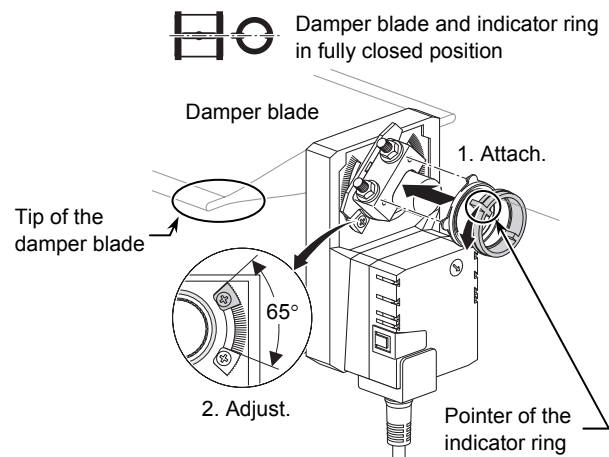


Figure 8. Attaching the position indicator ring

Wires Connection

Connect the lead wires as follows:

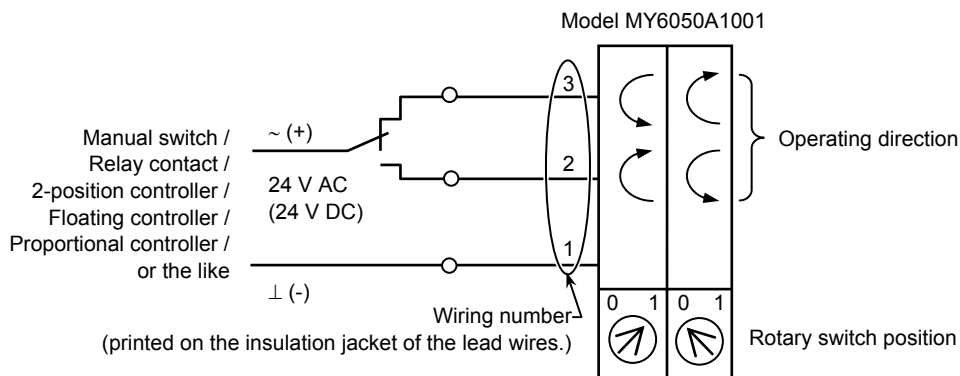


Figure 9. Lead wires connection and the actuator operating direction

Connection example for single actuator

<2-position or floating action>

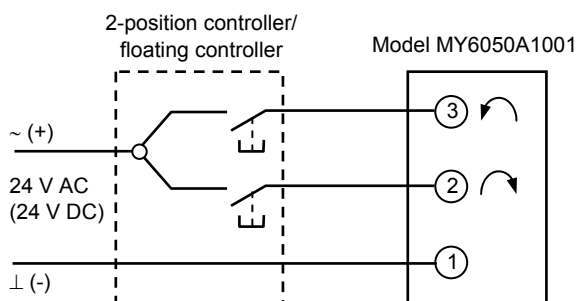


Figure 10. Connection example: Single actuator for 2-position/floating action

<Proportional action (floating with feedback potentiometer)>

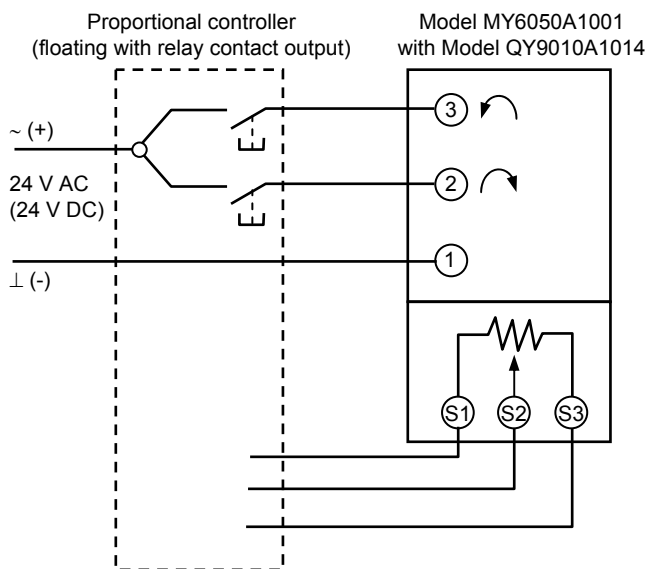


Figure 11. Connection example: Single actuator for proportional action

IMPORTANT:

- For Model R30/R31/R35/R36/SDC40 single loop controller (Model with MFB* input) connected to Model MY6050A1001, automatic setting function of feedback potentiometer is not available. Manually perform the potentiometer setting. * MFB: Motor feedback
- For the controller with time-limit feedback connected to Model MY6050A1001, error may be detected. In such a case, reset longer time limit.

Connection example for multiple actuators (in parallel operation)

Precautions for parallel operation

- Confirm the total power supply voltage of the actuators to operate in parallel.
- Operating time of each damper may differ due to error. This may result in difficult synchronization of the actuators operation.
- Parallel operation of the multiple actuators may affect the operation life of the controller contact.
- Due to different operating time, Model MY6050A actuators cannot be combined with Model MY6040A actuators.

<2-position or floating action>

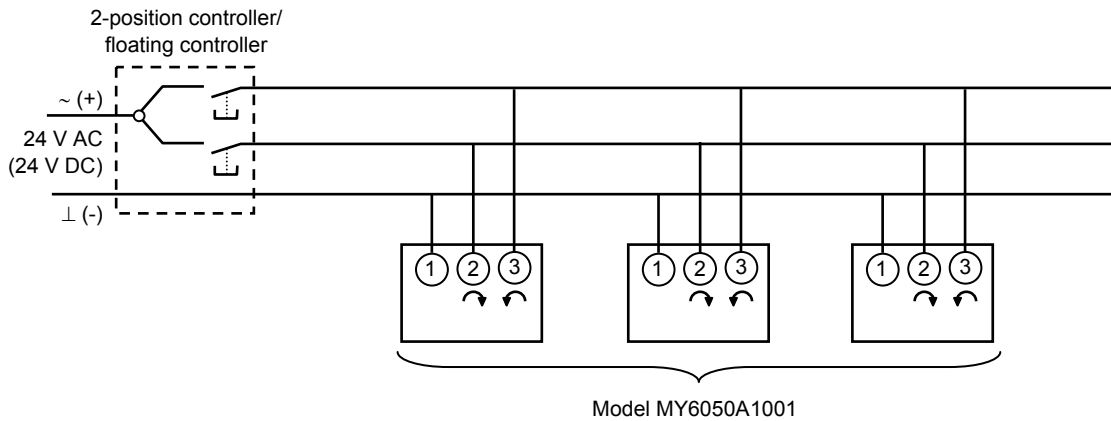


Figure 12. Connection example: Multiple actuators (in parallel operation) for 2-position/floating action

<Proportional action (floating with feedback potentiometer)>

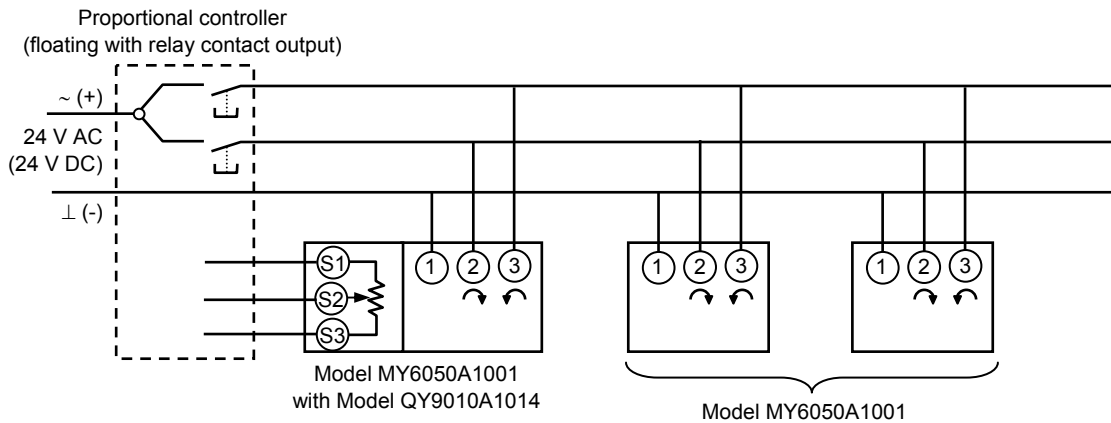


Figure 13. Connection example: Multiple actuators (in parallel operation) for proportional action



Specifications are subject to change without notice.

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