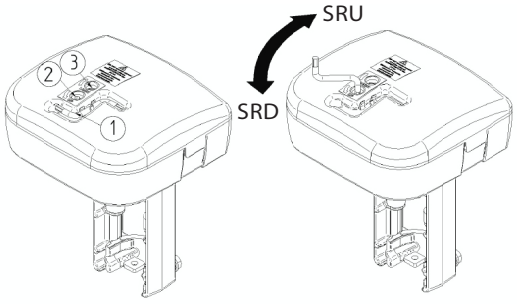
MG900 SR

Calibrate the actuator after finalizing the coupling on the valve.

Manual override operation

Disconnect power supply before operating manual override .

- Only operate the manual override and the lock screw in the direction shown by the arrows on the actuator labels or this instruction manual.
- Upon re-connecting power to the actuator, the actuator will momentarily drive against the spring to ensure disengagement of the lock screw and return the actuator to automatic control.



1. Hex (Allen) Key
2. Manual override hex drive socket
3. Lock screw.
   Flat screwdriver slot

SRU (-SU)


Manual override operation


Lock operation


Unlock operation.
Twist manual override 10°

SRD (-SD)


Manual override operation


Lock operation


Unlock operation.
Twist manual override 10°

Installation

To ensure tight shut off on a valve and spring return actuator assembly, during the installation process it is important to correctly position the actuator spindle up against the desired end stroke of the valve using the manual override and lock functions of the actuator.

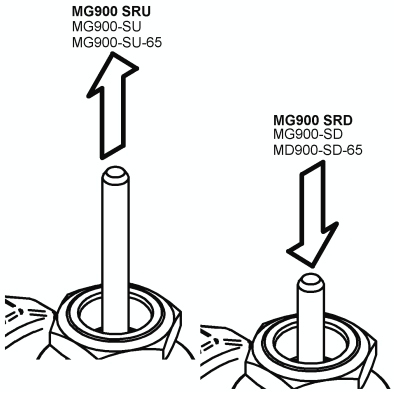
- Position valve spindle at desired spring return position (fig. 1)
- Slide actuator onto valve, secure with U bolt brace (fig. 2)
- Operate manual override to adjust position of actuator screw jack against top of valve spindle (fig. 3) and lock manual override
- Remove actuator from valve
- Screw the square nut supplied with the actuator flush onto the valve spindle. Remount valve onto Actuator, sliding the square nut into the actuator bracket. Secure U bolt brace.
- Tighten lower hex locking nut on valve spindle against actuator bracket
- Operate manual override to release lock
- Check spring return rest position of valve and actuator assembly. Anti-rotation guide should not touch bumper stop (fig. 4)
- Re-position coloured valve end stop guides to end stops of valve stroke.

For IP65 only

- Remove the cover and mount the cable sleeves with the gasket supplied.

Schneider Electric

1



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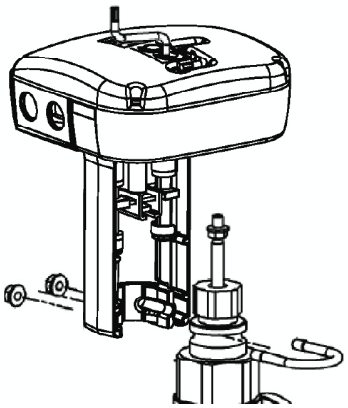

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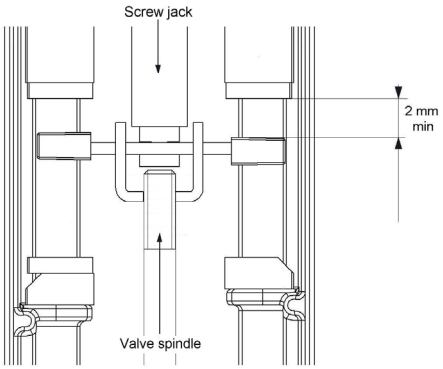

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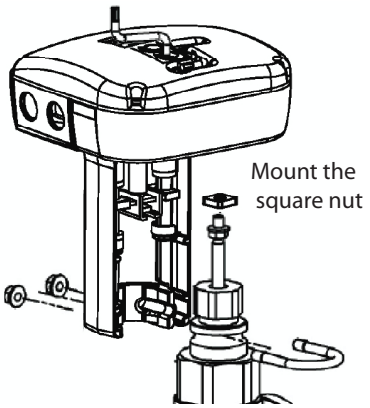

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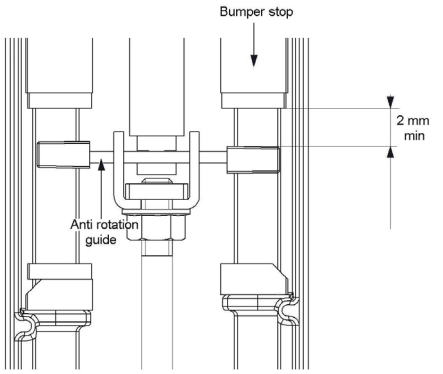
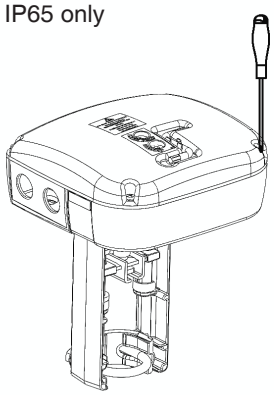
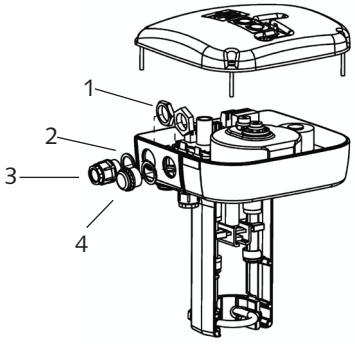


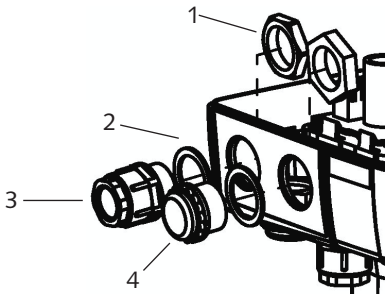
6 For IP65 only



7 For IP65 only

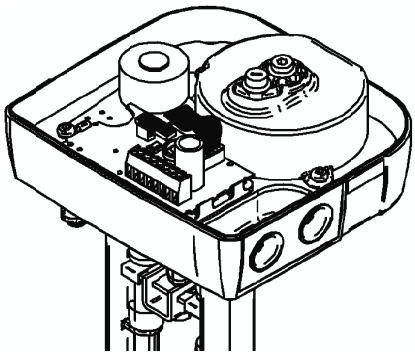


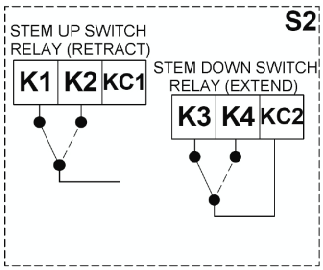
1 Nut
2 Gasket
3 Cable sleeve
4 Plug



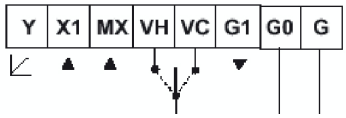
Electrical connections

Terminal	Function	Description
G	24 V AC	Supply voltage
G0	Ground	
X1	Input, proportional	Control signal
MX	Input, neutral, porportional	
VH	Increase, 3-point	VH, VC connected to G0
VC	Decrease, 3-point	
G1	16 V DC	External supply, 25 mA max.
Y	0-100%	Feedback signal





Auxiliary switch block (accessory)



G, G0= Max 100 m (328 ft.) ..... 1.5 mm² (AWG 15)
X1, MX, Y, VH, VC = Max 200 m (656 ft) ..... 0.5 :nm² (AWG 20)

N.B.! When installed with 3 conductors, where the control signal reference is connected to G0, the motor current of the actuator will cause varying voltage loss in the cable and thus in the reference level. Forta, which has a highly sensitive control signal input, will detect the varying signal and follow it, which makes it difficult for the actuator to find a stable position.

This variation may be accepted in simplified installations on the following conditions: the cables between the controller and actuator are shorter than 100 m (328 ft.), the cross-sectional area is larger than 1.5 mm^2 (AWG 16) and the cables are only connected to one actuator.

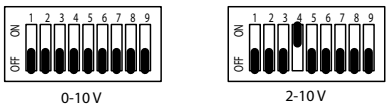
Cable lengths
The cables to G, G0 and G1 should be max. 100 m (328 ft.) and have a cross-sectional area of min. 1.5 mm^2 (AWG 16).
Other cables should be max. 200 m (656 ft.) and have a cross-sectional area of min. 0.5 mm2 (AWG 20).

For IP65, lock the cable sleeve checking the correct positioning of the gasket.

For IP65, mount the cover again locking properly the 4 screws and checking the correct positioning of the gaskets placed under the cover.

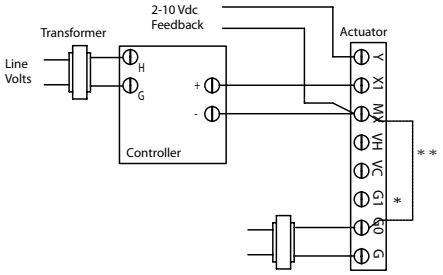
Wiring examples

PROPORTIONAL

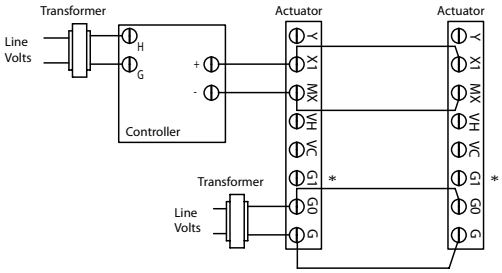


0-10 V 2-10 V

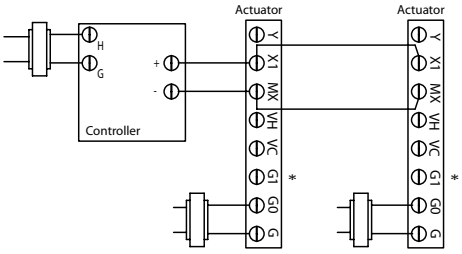
50 VA transformer required per actuator



0-10/2-10 Vdc Proportional Application
* Provides 16 Vdc, 25mA output source
** Optional Ground connection



0-10/2-10Vdc Proportional Multiple
Actuators powered from single source.
* Provides 16 Vdc, 25mA output source

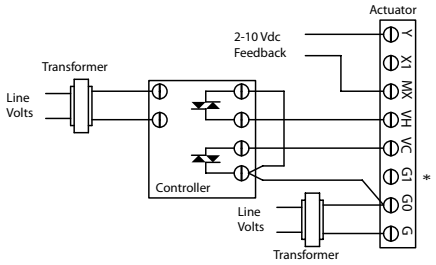


0-10/2-10Vdc Proportional Multiple
Actuators powered from separate sources.
* Provides 16 Vdc, 25mA output

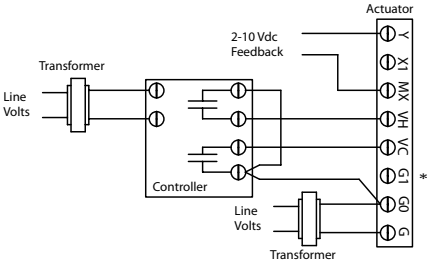
Caution: this product contains a half-wave retifier power supply and must not be powered off transformers used to power other devices utilizing non-isolated full-wave retifier power supplies.

FLOATING

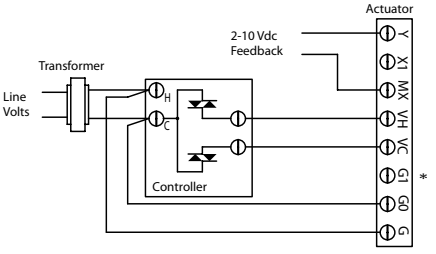
50 VA transformer required per actuator



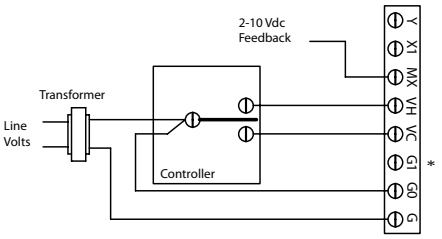
TRIAC SINK Application
Two power sources
* Provides 16 Vdc, 25mA output source



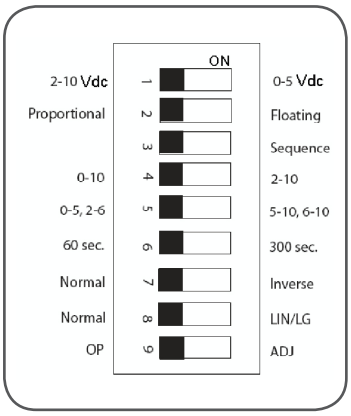
RELAY SINK Application
Two power sources
* Provides 16 Vdc, 25mA output source



TRIAC SINK Application
One power source
* Provides 16 Vdc, 25mA output source



RELAY SINK Application
One power source
* Provides 16 Vdc, 25mA output source



Switch Setting	Description	Off Position (1)	On Position
1	Feedback signal	2-10 Vdc	0-5 Vdc
2	Control mode	Proportional signal	Floating signal
3	Sequence operation (2)	Normal operation	"SW 2 off, SW 3 on, SW 4 select base range (0-10 or 2-10) SW 5 select sequence range."
4	Input voltage range	0 to 10 Vdc	2 to 10 Vdc
5	Working voltage range (3)	0 to 5 Vdc or 2 to 6 Vdc	5 to 10 Vdc or 6 to 10 Vdc
6	"Running time (floating control only)"	60 sec.	300 sec.
7	Direction of movement	This switch will change the proportional or floating input signal to direct or reverse action similar to switch 1.	This switch will change the proportional or floating input signal to direct or reverse action similar to switch 1.
8	Linearization	Normal	Used to adjust the actuator's linear or logarithmic characteristics. With this setting, the characteristics of an equally modified percentage valve can be modified to almost linear and a linear valve can operate with "quick open" characteristics based on the application requirements.
9	Input signal/ Stroke Calibration	Normal	Used to calibrate the input control signal and the valve stroke. With the actuator powered, turn switch nine on, then off. The actuator will match the control input signal to the valve stroke. Note: Switch 9 must be in the off position for normal operation.

Calibrate the actuator by DipSwitch No. 9 after carrying out the first coupling and everytime some component and/or the coupling parts are changed on the valve.

1) Units are shipped with all nine switches in a default "off" position.
2) Switch 3 must be in the off position if sequence control is not used.
3) Switch 5 is only active if switch 2 is off and switch 3 is on.

Note:
For the actuator to register new settings of the switches, the supply voltage must be removed by cutting power to the actuator, then change any of switches one through eight as required and then restore power to the actuator.

Actuator spring return direction vs valve function

	MG900-SRU (Stem up)	MG900-SRD (Stem down)
V241	Normally closed	Normally open
V211T	Normally closed	Normally open
V212T	Normally closed	Normally open
V211	Normally closed	Normally open
V212	Normally closed	Normally open
VG211 (up to DN65)	Normally open	Normally closed
VG222 (DN65 only)	Normally closed	Normally open
V231	Normally closed	Normally open
V232	Normally closed	Normally open
V341	Normally closed	Normally open
V311T	Normally closed	Normally open
V311	Normally closed	Normally open
VG311 (up to DN65)	Normally closed	Normally open
VG222 (DN65 only)	Normally closed	Normally open