Read these instructions carefully before using the device.
Damage caused by failure to follow these instructions is not covered by the warranty.

When operating electrical devices, certain parts of these devices are inevitably under dangerous voltage. Failure to observe general electrical safety rules and VDE regulations can therefore result in serious personal injury or property damage. Only suitably qualified personnel may work on or near these devices. Personnel must be familiar with all safety instructions and maintenance measures in accordance with these operating instructions.

GENERAL INTRODUCTION

These electric rotary actuators are designed to control and regulate industrial valves.
The actuator operates within its configured rotary range, which can be freely adjusted.
The position indicator shows the current position of the valve. In the event of a blockage, the internal torque protection circuit protects against damage.

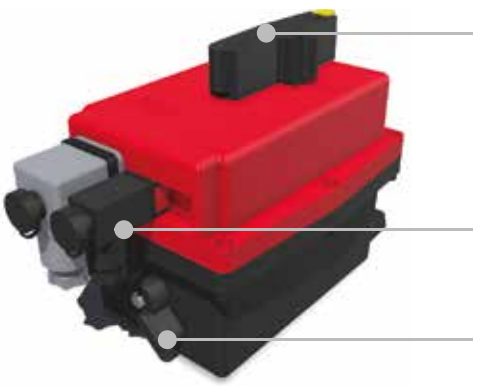
ENVIRONMENT

When the outside temperature fluctuates, the internal heating protects against condensation in the interior. To do this, the drive must be permanently supplied with power.
When used outdoors, adequate protection (roofing) against climatic influences such as UV radiation, heat build-up, and icing of the manual override should also be provided.
Vibrations in the piping must be absorbed by appropriate pipe compensators.

MAINTENANCE

Maintenance of these quarter-turn actuators is not necessary. Regular functional testing is recommended in accordance with the safety requirements of the system, especially for actuators that are rarely used.

OVERVIEW



Manual lever with position indicator

Plug

Manual switch Automatic - Manual

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ELECTRICAL CONNECTION

The actuator protects itself against increased current consumption, so that only a protection fuse is required. Since it is considered a capacitive load due to the internal power supply, an external fuse with appropriate tripping characteristics for increased switching currents (e.g., LS switch type C or D) must be provided.

Switching contacts should have a suitable contact material (e.g., silver-tin oxide AgSnO) or a zero-voltage switch. Interference caused by coupling parallel consumers must be avoided. All actuators must be connected single-phase and controlled by relays or switches that are interlocked with each other.

Model	Voltage range / current consumption		Runtime without load s/90° ±10%
	H = Model J10 H 100-240V DC/AC (50/60Hz)	L = Model J2 L10 24V DC/AC (50/60Hz)	
10	110V AC = 0,08A (8,8W) 230V AC = 0,04A (9,2W)	390mA (9,36W)	H10 = 16s L10 = 19s

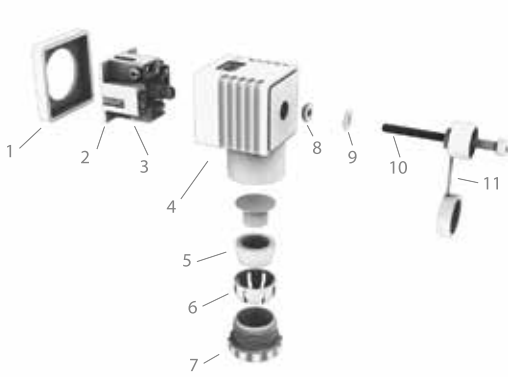
CONNECTOR PLUG

Attention: Before connecting, ensure that the voltage to be applied to the actuator is within the range specified. DIN plugs are supplied for connection to the actuator. The diameter of the cable to be used must meet the minimum and maximum requirements.

Plug	Small, Black		Large, gray, or black	
	EN175301-803 Form CI		EN175301-803 Form A	
Cable diameter	min. Ø 5mm	max. Ø 6mm	min. Ø 8mm	max. Ø 10,5mm

Attention: Ensure that the rubber seal (1) is in place when attaching the plug to the drive. When installing the cable, also ensure that the seals (5 & 9) are installed correctly. Water ingress and damage caused by the installation error will void any warranty. The DIN plugs are attached to their respective sockets on the actuator housing with a screw. Do not overtighten the screw (10) during assembly (max. 0.5 Nm).

1. **Seal**
2. **Clamping block**
3. **Clamps**
4. **Housing**
5. **Sealing ring**
6. **Clamping ring**
7. **Screw-in sleeve**
8. **Sealing ring**
9. **Washer**
10. **Fixing screw**
11. **EMC cap**



TECHNICAL DATA

Working Torque	10Nm
Breakaway Torque	12Nm
Weight	0,81kg
Temperature range	-20°C bis +70°C

Protection class IEC60529	IP65
Duty cycle (Motor)	75%
Operating mode	S4
Insulation class	B

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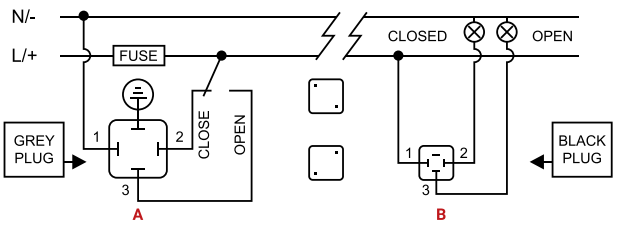
WIRING DIAGRAM

All three of these wiring variants can be used without further configuration.

OPEN - CLOSE AC/DC

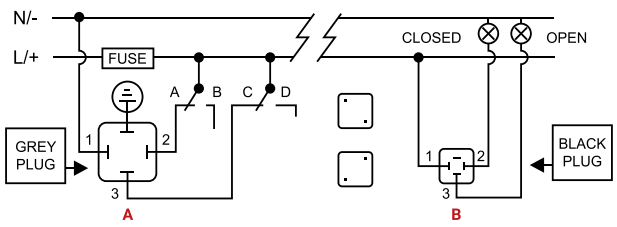


A = Power connector (grey)
Neutral / - PIN 1 & Phase / + PIN 2 = Close Neutral / -
PIN 1 & Phase / + PIN 3 = Open

Earth/protectective conductor-flat PIN ⏚

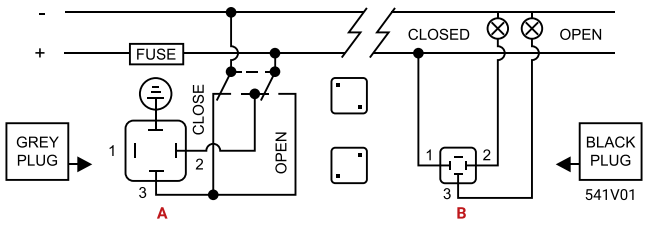
Optional Open - Close - Stop:
Neutral / - PIN 1 & Phase / + PIN 2 & PIN 3 = Stop

OPEN - CLOSE - STOP AC/DC



B = Limit switch connector (black)
2x SPST NO 5A 125V AC / 3A 250V AC
Com PIN 1 & PIN 2 = End position Closed
Com PIN 1 & PIN 3 = End position Open

OPEN - CLOSE 2 WIRE DC



A = Power connector (grey)
Minus PIN 3 & Plus PIN 2= Close Minus
PIN 2 & Plus PIN 3= Open
Earth/protectective conductor-flat PIN ⏚

B = Limit switch connector (black)
2x SPST NO 5A 125V AC / 3A 250V AC
Com PIN 1 & PIN 2 = Endlage Position Closed
Com PIN 1 & PIN 3 = Endlage Position Open

POSITION INDICATOR

The rotary actuator is equipped with a visual position indicator consisting of a black lever with a yellow attachment. This lever also serves as a manual control.
The position indicator shows the current position and direction of rotation.

The end positions are marked with an embossed stamp.

Swing direction when viewing the position indicator:

Turn counterclockwise = OPEN

Turn clockwise = CLOSE

0° = CLOSED

90° = OPEN

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MOUNTING ON VALVE

The torque of the valve should never exceed the working torque of the actuator, taking into account the application and after multiplying by a sufficient safety factor. Before installation, components that could block the valve (e.g., limit stops) must be removed. Installation is carried out via the threaded holes of the flange in accordance with ISO 5211 and can be performed using threaded pins or screws, which must be screwed sufficiently into the actuator. The shaft mount is designed in accordance with DIN 3337.
The shaft of the valve must never be longer than the insertion depth of the shaft mount in the actuator!
It must be ensured that the valve shaft is centered with respect to the mounting holes. If the flange pattern and the shaft of the valve are not aligned with the actuator, the manual override can be used for this purpose.

OPENING THE CASING

The housing must be opened to adjust the swivel angle.
Before opening, the power must be switched off and all drive connectors must be removed.

1

Remove hand lever

2

Remove housing screws (Torx 20)

3

Carefully remove the lid

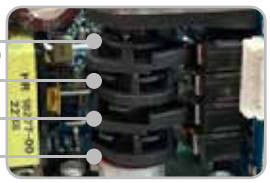
Closing the casing

When putting the housing cover back in place, check that the circumferential housing seal and the seal on the hand lever shaft are correctly positioned. All screws, individual parts, and cable routing must be placed in their original positions.

ADJUSTING THE CAM SYSTEM

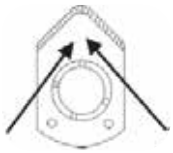
The cam system is used to set the swivel angle and the end position feedback. The actuator is pre-adjusted at the factory and may need to be adjusted if necessary.

1. End position feedback OPEN
2. End position feedback CLOSED
3. Motor stop ON
4. Motor stop CLOSED



To ensure reliable functioning of the end position feedback, the corresponding cam is set so that it signals approx. 3° before reaching the end position.

To adjust the cams, insert an Allen key or screwdriver into the hole.



Cam 1 & 3 (OPEN)
Move the cam to the left to drive further in the open direction.

Move the cam to the right to drive less in the open direction.

Cam 2 & 4 (CLOSED)
Move the cam to the right to drive further in the closed direction.

Move the cam to the left to drive less in the closed direction.

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