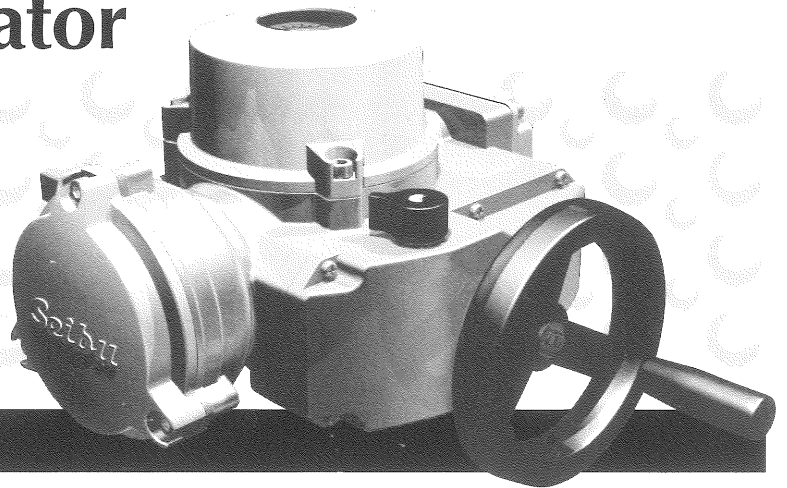


Seibu

Motorized Actuator

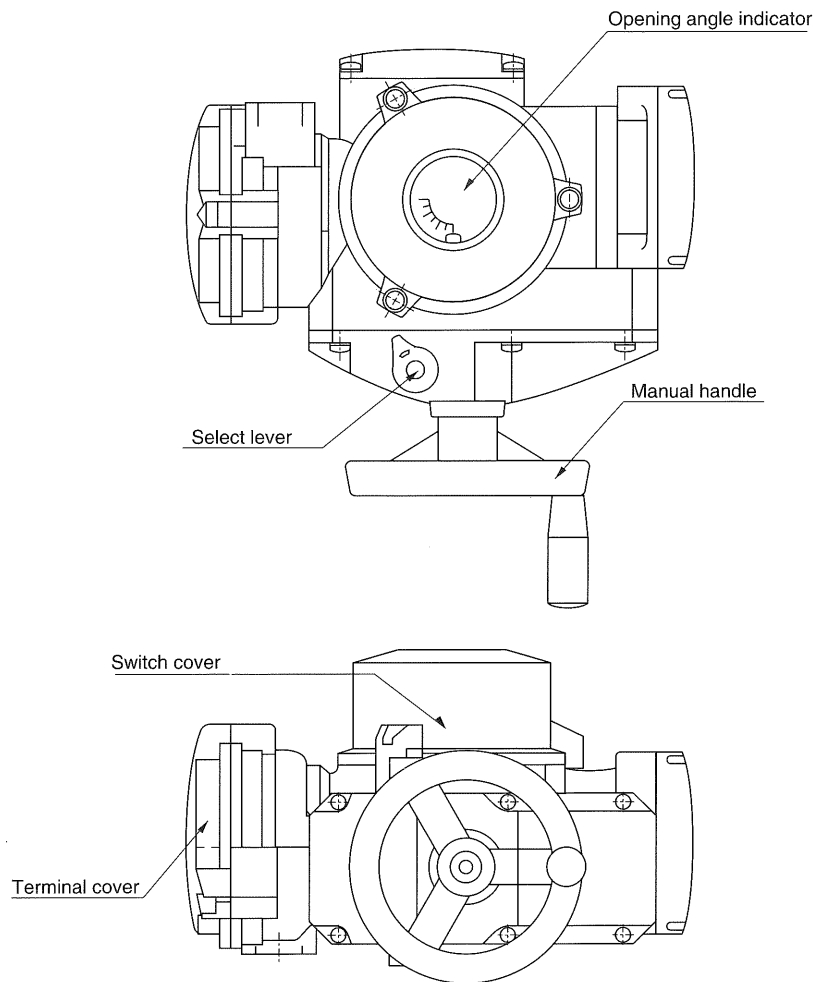
Type SRJ



User's Manual

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Usage

- Storage** — The motorized actuator should be stored in a dry place until installation. Do not remove cable hole plugs or covers.
- Protective structure** — This motorized actuator is of sealed construction in compliance with IP68 submersible. Removing plugs or covers will prevent the system from providing design functions.
- Maintenance** — This motorized actuator is manufactured under a stringent quality control stance. Read this manual thoroughly before use to maintain the sealed performance of the actuator.

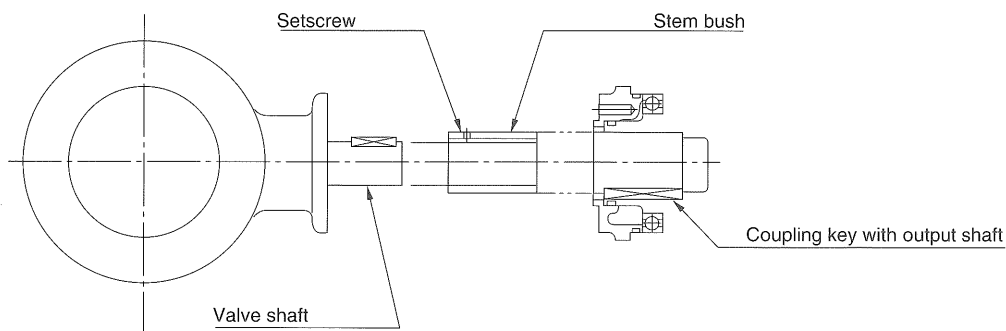
1. Installation

1) Site

- Ambient temperature range from -10°C to +50°C.
- Assure access space on the switch cover side for maintenance.

2) Connection with valve

- Set both valve and actuator to fully closed.
- Mount a stem bush on the valve shaft. Note that the actuator does not have a stem bush retention function, so unless the valve shaft can hold it, secure it in place with a setscrew or similar method.



- Pull the actuator manual/motor select lever in the direction of the arrow, and rotate the manual handle. Verify that the valve moves smoothly, without eccentricity.
- Adjust the stopper in accordance with 4) Adjustment below. The stopper can be adjusted over a range of $\pm 5^\circ$.

3) Electrical connections

Precautions

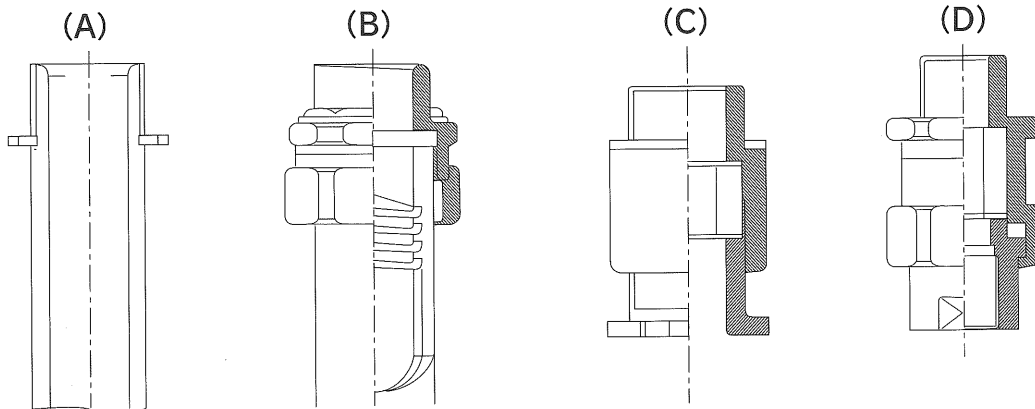
- Do not perform electrical work in the rain.
- Install measures to prevent water from entered the external power supply cable port.
- When mounting other fittings using the actuator bolt-hole, coat the fitting bolt with liquid gasket and mount securely.
- After electrical wiring is complete, tighten switch and terminal covers securely. (Insufficient torque on covers will cause internal condensation through breathing.)
- Tightening torque for switch and terminal covers: Screw size M8
Tightening torque: 300 N cm

Outline

- Remove the terminal cover.
- Make connections in accordance with the wiring diagram (terminal assignment chart) affixed to the inside of the terminal cover. Terminal screws are M4.
- When rotation is indicated on the wiring diagram and microswitch chart, R indicates rotation to the right facing from the actuator toward the valve, and L the opposite. In other words, assuming the valve rotates right to close, then R will be close and L will be open.

Examples of external connection

- (A) Thick rigid steel conduit
- (B) Pliable plastics conduit with grade 1 or 2
- (C) Marine watertight cable gland
- (D) Union with watertight packing

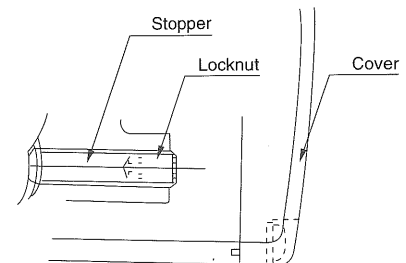


● For waterproof (IP67) and submersible (IP68) types, use (C) or (D) above.

4) Adjustment

Stopper

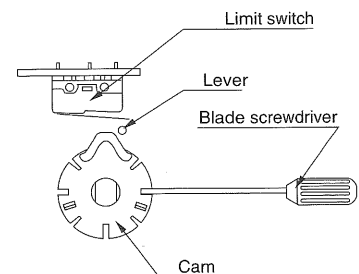
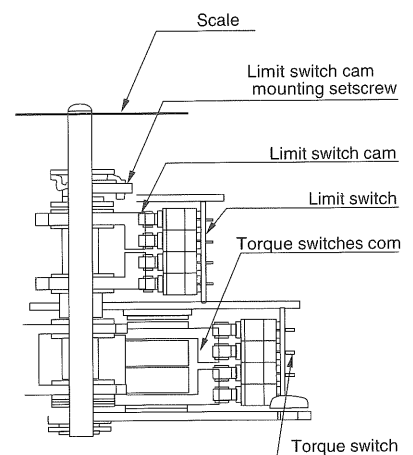
1. Open the cover.
2. Set the valve fully open or fully closed, manually.
3. Remove the stopper locknut, and screw the stopper in until it hits the bottom.
4. Return the stopper two complete turns, then tighten the locknut.
5. Adjust the opposite side in the same way.



Limit switches

The limit switches are adjusted at the factory and should not require adjustment. If required, use the following procedure.

- The two upper limit switches (RLS) are for right rotation, and the lower two (LLS) for left rotation. Each pair of microswitches is operated by a single cam, and the lamp circuits (RLS2, LLS2) operate slightly early.
1. Manually set the value to fully open.
 2. Loosen the scale plate mounting screw on the opening angle indicator, and align the indicator to show fully open.
 3. Use an Hexagon socket screw key (#1.5) to loosen the setscrew (M3) securing the limit switch cam. Loosen it while pressing in with the Hexagon socket screw key.
 4. Use a blade screwdriver to move the open-direction cam, and check that the microswitches click and operate twice.



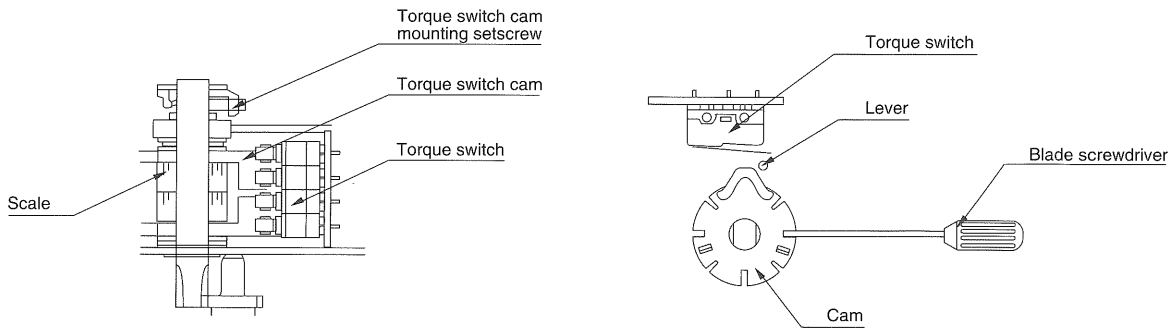
5. The cam is secured with coned disc spring, utilizing frictional force. A whirl-stop washer has been inserted between the two cams so that even when one rotates, the other does not.
6. Set the valve to fully closed and set the close-direction cam in the same way.
7. When cams are set for both directions, secure them in position with the cam mounting screws.

Torque switches

Torque switches are set for a permissible torque range of 0 to +10% at the factory and should not require adjustment. If settings must be changed to match special valves use the following procedure.

1. Use an Hexagon socket screw key (#1.5) to loosen the setscrew (M3) securing the torque switch cam. Loosen it while pressing in with the Hexagon socket screw key.
2. Use the blade screwdriver to move the cam so that the arrow points at the desired marking on the scale.
3. When adjustment is complete, tighten the setscrew to secure the cam.

Caution The part with the scale inscribed on it should never be touched, because it is zero-adjusted.



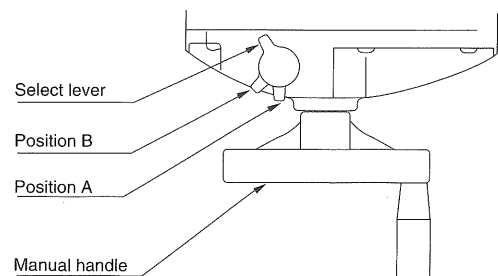
2. Trial operation

1) Manual

- Pull the select lever in the direction of the arrow (to position A indicated below) to disengage the motor and enter the manual operation state.
- The output shaft rotates in the same direction as the manual handle. In other words, if the valve closes when it rotates to the right under motor drive, it will also close when rotated to the right manually.
- The select lever is auto-return.
- If the select lever stops in position B (below), the internal clutch is jammed. Without applying undue force, operate the select lever again while rotating the handle left or right.

Caution Never perform manual operation during motor drive.

| | | | | | |
|----------------------------|-----|-----|-----|----|-----|
| Size | 010 | 020 | 060 | 1 | 2 |
| Manual operating force (N) | 72 | 144 | 170 | 96 | 191 |
| Handle turns/90° (rev) | 21 | 21 | 26 | 80 | 80 |



2) Motorized

- Manually set the valve to an intermediate position. Verify that the valve operation and OPEN-CLOSE reading on the opening angle indicator of actuator match.
- Verify that the limit switches (RLS, LLS) operate and stop motor operation in the corresponding open and close directions during operation.
- Verify that the OPEN button causes the valve to open, and the CLOSE valve to close.
- Operate the valve in both directions. Verify that the limit switches work and the valve stops in the specific position.
- Trigger the relay in the thermal protector circuit to turn on the fault lamp.

3. Maintenance

- Lubrication ————— A special, long-lasting grease has been used, so greasing should not be required in normal operation.
- Regular operation ——— If the valve is only operated infrequently, draw up a schedule for periodic operation (for example, once a week) and verify normal operation.
- Periodic inspection ——— If you are covered by a periodic inspection contract with one of our authorized service supplies you will be assured of long-term operation.

4. Faults and corrective measures

| Fault type | Cause | Corrective measure |
|--|---|--|
| Motor does not operate | Power off Broken wire or terminal not connected Abnormal supply voltage Thermal protector action (high ambient temperature or frequent use) Starting capacitor fault (for single-phase specification) | Turn on power Replace wire, connect terminal Check with voltage tester Lower ambient temperature, reduce usage frequency Replace capacitor |
| Fully open or fully closed lamp does not light | Broken lamp Broken microswitch | Replace lamp Replace microswitch |

5. Optional parts

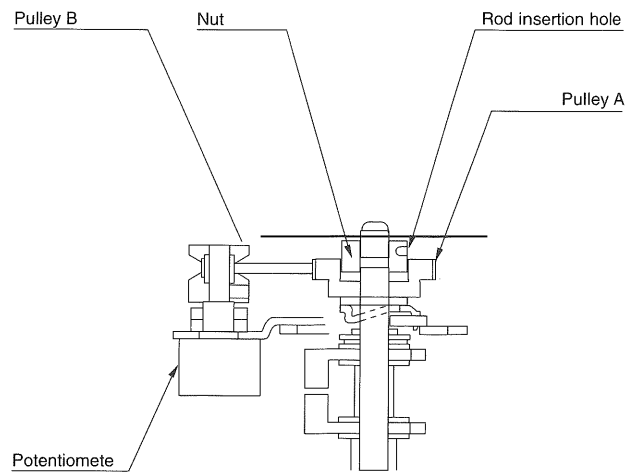
The following parts can be mounted internally.

- Potentiometer: 135Ω , 200Ω , 500Ω
- Positioner: Seitroller
- R/I converter: Seimitter
- Intermediate open switch: 1a1b, 2 locations

SRJ optional part manual

Potentiometer

1. Set the valve to fully closed.
2. Loosen the nut with an Hexagon socket screw key (#1.5) or other rod less 2mm OD. Rotate it a quarter to a half turn.
3. While reading the resistance of the potentiometer with the tester, rotate pulley A or B to find the zero point.
4. Tighten the nut when the tester reads zero ohms.





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