

Installation Notices

- a. Please read operation manual and wiring diagram carefully before installation.
- b. Verify that supply voltage is in accordance with the data on nameplate to prevent short circuit or electrical / electronic parts damage caused by incorrect power input.
- c. Turn power off before wiring or maintenance.
- d. Connect the ground wire to PE point inside the electric actuator.
- e. To avoid functional failure caused by static, do not touch any components on the PCBA with metal tools or bare hands.
- f. Do not parallel wire multiple actuators together without using an extra relay.
- g. Use suitable water-proof cable gland to ensure it fits the conduit entry size, diameter of the cable and the enclosure protection of the actuator when wiring. The red plastic dust-proof plug is not meant for long-term use. Replace it with suitable water-proof connector to ensure the enclosure protection rating.
- h. Actuator should be installed in an upright or horizontal position. Do not mount upside down or below a horizontal position.
- i. These units are not designed to operate in vacuum spaces or where an explosive atmosphere exists.
- j. Periodically inspect actuator enclosure to prevent dust from accumulating.
- k. Please obey the local environment regulation for equipment scrapping.

Sizing

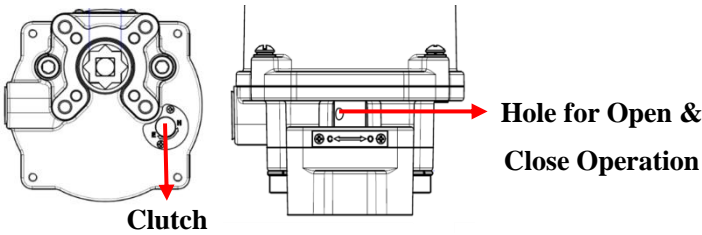
- a. The actuator shall be sized to ensure that its torque output meets the load requirements of valve and its ability to overcome the required duty cycle of application (As a MINIMUM, a 30% safety factor is suggested for the calculation of torque requirement).

- If the maximum torque of 10" valve is 10 Nm  
→ 10 × 1.3 (safety factor) = 13 Nm  
13 Nm < 15 Nm (T-15) →OK!  
13 Nm > 15 Nm (T-6) →Not OK!

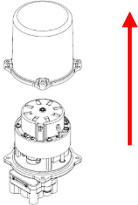
- b. In cases where the actuator does not directly fit onto the valve, a mounting kit is required. Please ensure the bracket and coupling are properly designed and manufactured to withstand the torque output of the actuator.

Valve Mounting Instructions

- a. Make sure both the valve and actuator are in the same position before mounting, either fully-open or fully-closed. If not, refer to manual 4 (P.8) Manual Operation to adjust the actuator position to be the same as the valve. For example, the valve is at the open position, the actuator must be at the open position as well.
- ⚠ **Make sure to switch the clutch from electrical operation (E) to manual operation (H).**



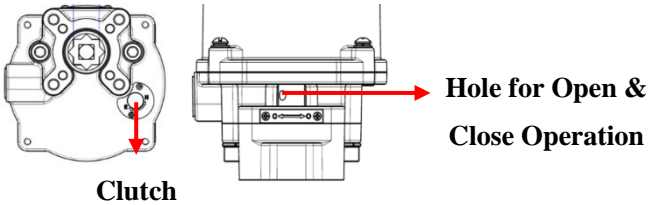
- b. Once mounted together, either directly or with a mounting kit, ensure that they are properly secured together and all fasteners are tightened.
- ⚠ **Remove all of valve handle parts, for example, the handle or open / close mechanical stops so as to not interfere with the actuator.**
- c. Check again that the valve and actuator are in the same position.
- d. Remove the conduit entry plug to relieve the pressure inside the actuator for the ease of the top cover removal and gently remove the cover.
- ⚠ **The power must be off before removing the cover.**



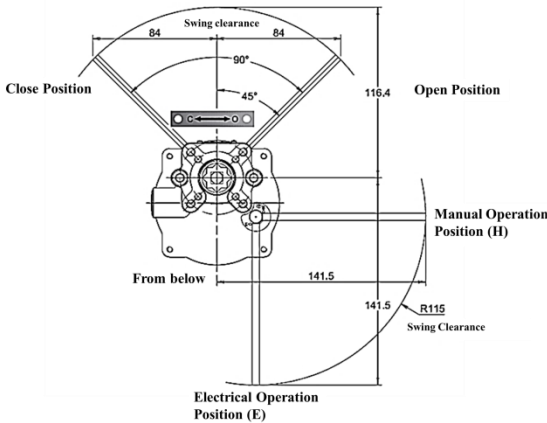
- e. Refer to section 3.7 (P.7) for wiring instructions and connect the wires according to the wiring diagram labeled inside the cover of actuator.
- f. Supply power to actuator.
- ⚠ **Care must be taken at all times as there are live circuits present that may cause electrical shock.**
- g. Re-calibration may be required for the end positions, refer to manual 5.1.1 (P.9) for further instructions.
- h. Assemble the cover and secure cover screws firmly after setting.
- ⚠ **Please ensure that the O-ring seal is in good condition prior to cover installation.**

Screw	Torque	
	Nm	in-lb
M4	1.3	12

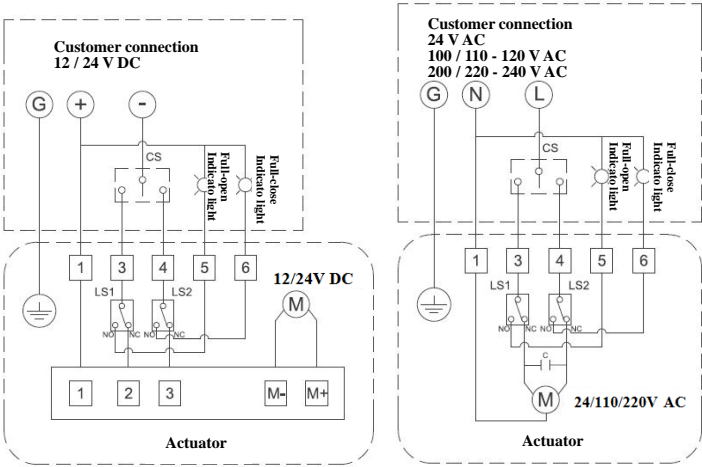
Manual Device Installation



- a. Switch the clutch from electrical operation (E) to manual operation (H) with attached handle.
- b. Insert the handle into the hole for open & close operation. ( O : Open direction ; C : Close direction)
- c. Switch the clutch back to electrical operation (E) mode after the manual operation (H) is completed.
- ⚠ **After manual operation, switch to electrical operation (E) to enable motorized actuator, otherwise the actuator will not operate properly.**



Wiring Diagram



- It is recommended to use proper sizes of wire and fuse to prevent actuator failure. The specifications of wire and fuse are showed as below table.

Wire gauge	Max current	fuse
24 (0.205mm <sup>2</sup> )	3A	2A

Wiring connection:  
#N connect to #1.  
#L connect to #3 for open.  
#L connect to #4 for close.  
LS – limit switch.  
CS –control switch or relay.

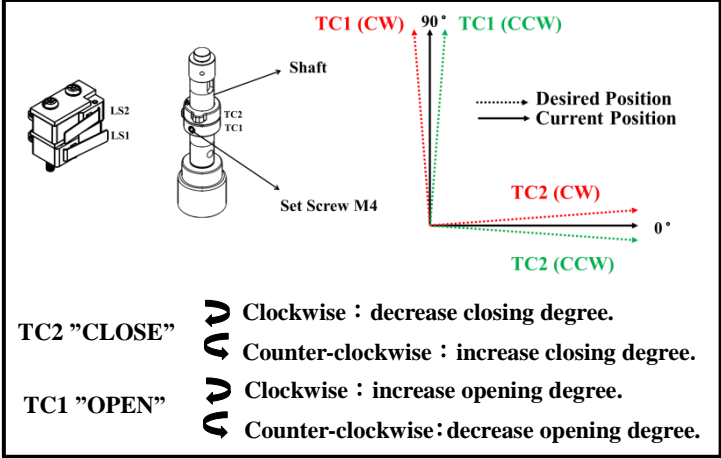
Actuator Set-up

- The power must be off during this procedure so as to avoid damage to the actuator.
- All steps below must be completed before normal operation.

Actuators come with two limit switches. LS1 for fully-open and LS2 for fully-closed positioning. They limit the fully-open and fully-closed travel range by disabling the electric motor.

Adjustment Steps

- Turn power off.
- Switch the clutch from electrical operation (E) to manual operation (H) with attached handle.
- Insert the handle into the hole for open & close position and manually operate the actuator to the fully-open or fully-closed position.
- Remove the cover.
- Loosen the M4 set screw of cam TC1 and TC2 repsectively with a 2 mm Allen Key and refer to the illustrations below to adjust fully-open (TC1) and fully-closed (TC2) positions.



- Securely tighten the M4 set screw and switch from manual operation (H) back to electrical operation (E).
- Supply the power to confirm that the limit switches achieve the fully open-close stroke.
- The setting procedure is now completed.