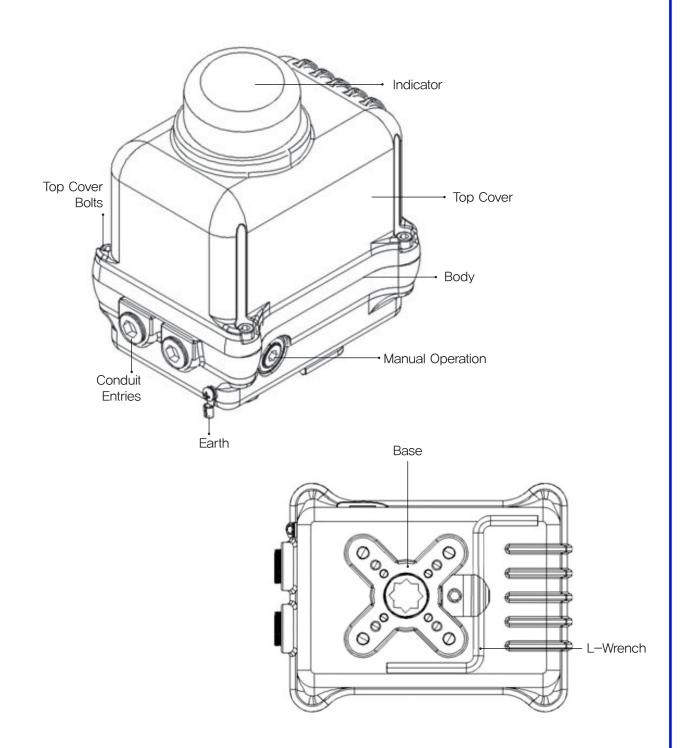


	Enclosure	Weatherproof Enclosure IP68 Nema 4 and 6		
	Ambient Temperature	-20°C ~ 70°C		
	Power Supply	DC24V 110 / 230V AC 50/60Hz		
	Limit Switches	Open / Close + Dry Contact Open / Close		
	Stall Protection	Thermal Protection (Open 120°C)		
	Travel Angle	90°±5°		
Actuator Specification	Indicator	Dome Type (LED Light inside)		
	Manual Override	By L-Wrench (6mm haxagon)		
	Self Locking	Provided by Means of Worm Gearing		
	Space Heater	5W (110 / 230VAC, 24VDC)		
	Conduit Entries	Two PF 1/2" (Option: NPT 1/2", M20 Pitch 1.5)		
	Lubrication	Shell Gadus S2 V220 2		
	Materials	Aluminium		
	Surface Treatment	Anodizing		
	External Coating	Polyester (TGIC - Free)		
	Battery Size	57 x 51 x 39		
	Charging Time	3H		
RBP	Battery Type	NI-MH 1,2VDC 10EA		
Specification	Emergency Time (In an emergency, the product operating time)	15 min (Max)		
	Battery Weight	0.5Kg		

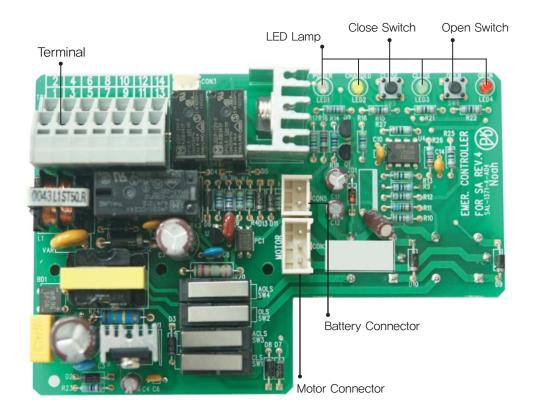
5. Performance

Model	Max Output Torque		Operating Time(90°)		Rated Current(A)		Motor Class	Duty Cycle	i idi idio	Weight(Kg)	
	Kgm	N.m	50Hz	60Hz	110V	230V	DC24V	W	S4(%)	Turns	
SA005L	5	50	17	14	0.35	0.23	1.8	6	75	6	3.2









8-1 Operating Switch

8-1-1 Close Switch



*Actuator installation to operate as an emergency or when you will use.

Button operation, Full Close to the action.

8-1-2 Open Switch

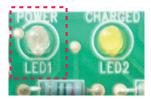


*Actuator installation to operate as an emergency or when you will use.

Button operation, Full Close to the action.



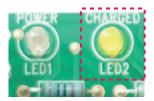
8-2-1 Power LED



* LED power status display

Check power to the LED is not lit, please.

8-2-2 Charged LED



* Charging status LED

ON: Charging

Flashing: Charging the state OFF: Discharge the state

8-2-3 Close LED



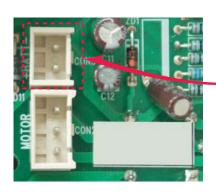
On: Full Closed
Off: Closing or Stop

8-2-4 Open LED



On: Full Open
Off: Opening or Stop

8-3 Battery Connector





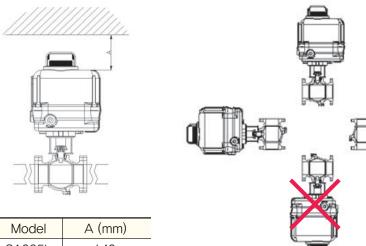


Discharge of the battery pack factory because of a problem is the connector is disconnected. Open the battery cover and battery connector board to connect to the input power after connection.



11. Actuator Installation

When installing an ACTUATOR, proper clearance around the ACTUATOR is required to ensure that the cover can be removed to allow for maintenance.



Model	A (mm)
SA005L	140
SA009L	140

Earth

12. Limit Switch Setting

12-1 Close/Open Limit Cam Switch 설정

12-1-1

With the power off, remove the cover and manually rotate the ACTUATOR to the closed, clockwise, position.

12-1-2

Loosen the close cam set screw and rotate the cam in a clockwise direction to actuate the close limit switch. Also, the close auxiliary switch cam can be adjusted at this time too.

AOLS	Dry Open Limit Switch	
ACLS	Dry Close Limit Switch	
OLS	Open Limit Switch	
CLS	Close Limit Switch	

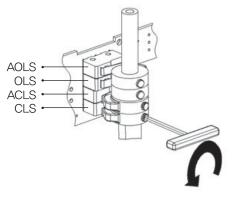
12-1-3

Firmly tighten the cam set screws.



To set the open cam switches, repeat the previous instructions except rotate the ACTUATOR to the open, counter-clockwise position and rotate the open cams in the counter-clockwise direction to actuate the open switches.

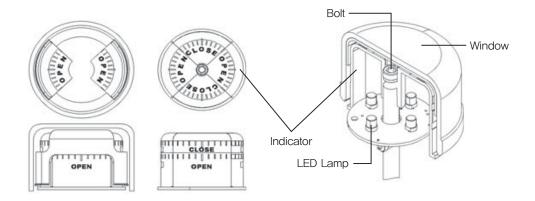






13. Indicator Setting

The position of the valve is indicated by the visual DOME indicator.



LED lights illuminate to allow for easy visual confirmation of valve position.

If the position of the indicator is not aligned correctly, an adjustment can be made by simply loosening the bolt and manually turning the indicator to the proper location, then re—tightening the bolt.

14. Wire Connection

The two conduit entries on the SA-Series ACTUATOR are PF1/2". The ACTUATOR is sold worldwide, so there maybe some differences as to the thread and pitch standards. Check with your supplier to confirm which standard is supplied in your area,

Cable Entry Specifications				
Korea, Japan, China	PF 1/2"			
Europe, UK, Australia, NZ	M 20			
US, Canada	NPT 1/2"			

14-1

Standard conduit and conduit seal fittings may be used when installing and wiring the ACTUATOR. To prevent moisture and humidity from entering the ACTUATOR, it is highly recommended that a seal fitting be installed in the ACTUATOR conduit entry.

After all the conduit and wiring has been completed, then the seal fitting can be sealed with packing and or a potting material.

14-2

Any unused conduit entry must remain plugged with the pipe plug provided with the ACTUATOR. Do not remove the remaining plug as it is already sealed.



15. Electric Wiring

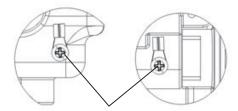
- 15–1 Remove the ACTUATOR cover by loosening the four captive cover bolts.
- 15-2 Confirm that the wiring diagram located in the ACTUATOR and the wiring number on the nameplate match with each other.
- 15-3 Confirm that the main power and supply described on the nameplate of the ACTUATOR match with each other.
- 15–4 Connect the wire to the terminal strip according to the wiring diagram provided. The SA–Series ACTUATOR uses the push type WAGO brand terminal strip. The push type strip makes wiring connections easy and also helps to protect against pipeline vibration.



Terminal Board



15–5 Be sure to properly ground the ACTUATOR by using the grounding lugs provided on the inside and outside of the ACTUATOR body.



Interior/Exterior earth / ground terminal

- 15-6 Be sure to wire and energize the heater as shown in the wiring diagram.
- 15-7 Each ACTUATOR must be powered by their own individual relays to prevent voltage feedback and ACTUATOR damage.
- 15-8 After the wiring is completed in the ACTUATOR, use wire ties to group the wires together and clean up their appearance. Be certain that the wires are secure and away from any moving parts. Remove any loose debris before replacing the cover.
- 15-9 When all the work is completed, replace the top cover and secure it using the four cover screws.
- 15-10 Apply power and do a final check to confirm proper operation.

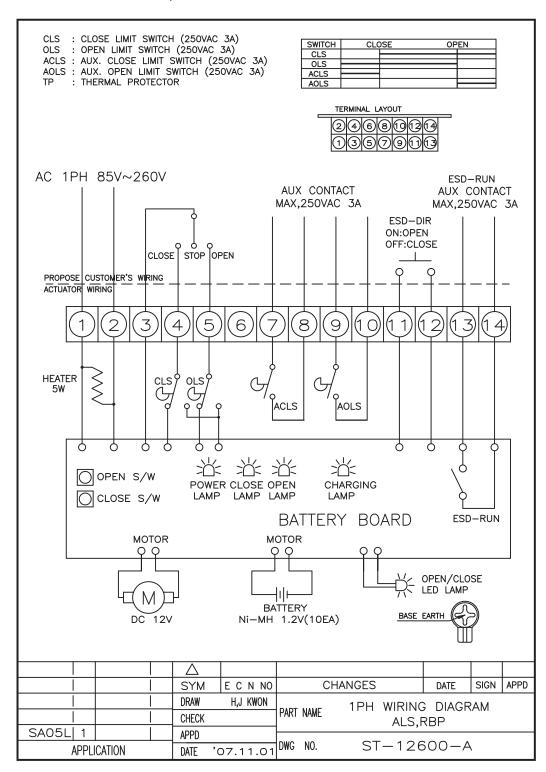


Main power must only be applied when the top cover is re—installed on the ACTUATOR body. If the main power is on while wiring the ACTUATOR, Stop work immediately and turn the power off, only then is it safe to proceed.



16. Wiring

16-1 SA RBP AC110/230V





17. Maintenance

It is recommended that the ACTUATOR be cycled every two weeks after purchase. To minimize the effects of condensation in the ACTUATOR, it is recommended that the conduit entries to be sealed at the ACTUATOR and that the heater is energized.

18. Warranty Information

The warranty will be void under the following conditions:

- 18-1 Failure or damage caused by misuse or abuse.
- 18-2 Failure or damage caused by unauthorized modifications or repairs done to the ACTUATOR.
- 18-3 Failure caused by the unauthorized modification / change or the wiring.
- 18-4 Failure caused by water entering the ACTUATOR due to improper sealing of the cable entries.
- 18-5 Failure caused by improperly set limit switches.
- 18-6 Failure caused by fire, flood damage or other "Acts of God".
- 18-7 Failure occurring more than one year after shipment date.

19. Troubleshooting

If the ACTUATOR fails to function correctly, first check for any mechanical / alignment problems, then check for any electrical problems. See chart below for more information.

Problem	Cause	Solution		
	Gear Failure	Disassemble the ACTUATOR and replace the GEAR		
	Main Power Failure	Main Power Check		
Manual override not	Motor/condenser damage	Replace Motor/condenser		
functioning	Motor over Heated and Thermal Protector Disengaged	Check Frequency of Operation or JAMMED GEARS.		
	Wiring failure	Confirm Unit is Properly Wired Per Wiring Diagram		
	Main Board failure	Replace Main Board		
LED lights not operating	LED Board failure	Replace LED Board		
LED lights hot operating	Main Board failure	Replace Main Board		
Actuator continues to move even after the cam has tripped the limit switch.	Main Board failure	Replace Main Board		