

Series 92 GEN II Modulating Electric Actuator

CAUTION: Proper voltage must be supplied to actuator.

CAUTION: If 120VAC & 220VAC models are PLC driven, output contacts of PLC should be rated at a minimum of 1.5 times required input voltage of actuator

NOTE: To conform to various electrical codes, a green grounding screw has been installed (on the baseplate) inside of actuator.

Terminal strip is suitable for up to #14 AWG wire, and should be wired as per the attached diagrams or the wiring diagram affixed inside of actuator cover.

NOTE: We recommend sealing conduit openings on units installed outdoors or exposed to large temperature swings (15°F or more).

We also recommend the heater and thermostat option in these applications.

Model	Torque (in/lbs)	120 Vac		220 Vac		24 Vac		Cycle Time per 90 Degrees (seconds)
		Amp Draw	Duty Cycle	Amp Draw	Duty Cycle	Amp Draw	Duty Cycle	
S92	400	0.5	100%	0.4	100%	3.0	75%	15
A92	700	0.8	75%	0.6	75%	3.0	75%	15
B92	1100	0.5	100%	0.4	100%	3.0	75%	32
C92	2000	1.0	50%	0.6	50%	3.0	75%	32

NOTE: Amp rating is considered locked rotor.

Duty cycles are for ambient temperature (73°F)

For outdoor or wet locations it is recommended prior to replacing the cover that the top shaft seal be cleaned and coated with silicone grease. Also clean shaft and lightly coat seal area of shaft with silicone grease.

Manual Override Operation Reference Drawing #289S92

Models S-92, A92, & B92

Pull up the declutching knob (Part #18) and apply a 5/8" open end wrench to exposed flats and rotate within labeled limits as indicated by arrows.

To re-engage simply rotate actuator shaft in the opposite direction until declutching knob drops back down into position.

Model C92

Push down on hand wheel (Part #18A) and rotate within labeled limits.

To re-engage simply rotate actuator hand wheel in the opposite direction until it moves up and re-engages.

CAUTION: The manual override should only be used when there is no power applied to actuator. When power is restored the actuator will automatically resume normal operation.

Allow 7.00 inches clearance for cover removal of Models S92, A92, & B92.

Allow 8.00 inches clearance for cover removal of Model C92.

QuickCal Procedure

The MODE button selects a particular function, or mode, and the indicator for the selected mode turns on steady. Pushing the MODE button saves any new setting of the current mode before switching to the next mode. The adjust up (▲) and adjust down (▼) buttons are used to make adjustments to current mode.

1. Apply power to the actuator on Connector J2: terminal #1 (neutral), terminal #2 (line), and terminal #3 (earth). There is no need for a signal connection during calibration.
2. Push the MODE button until the yellow “MANUAL/FB POT CAL” LED is illuminated. The LED may be flashing (at different speeds) through the next several steps. This is expected and will be explained.
3. Use the adjust buttons (▲ and ▼) to move the actuator and verify that the limit switches are set past the desired open and closed positions; then move the actuator to mid stroke.
4. If LED is solid, proceed to step 7.
5. If LED is flashing, loosen the gear on the actuator shaft and rotate the potentiometer gear until the LED is no longer flashing, but on solid - this indicates the center of the potentiometer’s travel. Note that the LED will flash at a slower rate the farther away from the mid position it gets. Once the LED is on solid tighten all gears.
6. Push the MODE button until the “CLOSE” LED is illuminated. Use the adjust buttons (▲ and ▼) to drive the actuator to the desired closed position. Ensure that the close limit switch does not engage.
7. Push the MODE button until the “OPEN” LED is illuminated. Use the adjust buttons (▲ and ▼) to drive the actuator to the desired open position. Ensure that the open limit switch does not engage.
8. Please skip to **Aux Open/Close Setup** if optional Transmitter with Relays is installed; otherwise continue to the next step.
9. Push the MODE button until the “COMMAND TYPE” LED is illuminated. Use the adjust buttons (▲ and ▼) to select appropriate input signal (4-20mA, 1-5VDC, 0-5VDC, 0-10VDC, 2-10VDC or Digital). If 0-5VDC or 0-10VDC is selected, the LOSS OF COMMAND feature is not available, so proceed to step 12.
10. Push the MODE button until the “LOSS OF COMMAND” LED is illuminated; this sets the actuator to a predetermined position upon loss of command. Use the adjust buttons (▲ and ▼) to select appropriate position (OPEN, CLOSE, or LAST POSITION).
11. Please skip to **Aux Position Setup** if optional Transmitter, or optional Transmitter with Switches is installed, otherwise continue to the next step.
12. Push the MODE button until the “AUTO” LED is illuminated. Your calibration is now **COMPLETE**. Connect the command signal wires to connector J2: terminal #4 (signal ground) and terminal #5 (mA input) **OR** terminal #6 (voltage input), depending on the application. If a signal input was already connected, the actuator should have moved to that position.

Aux Open/Close Option Setup

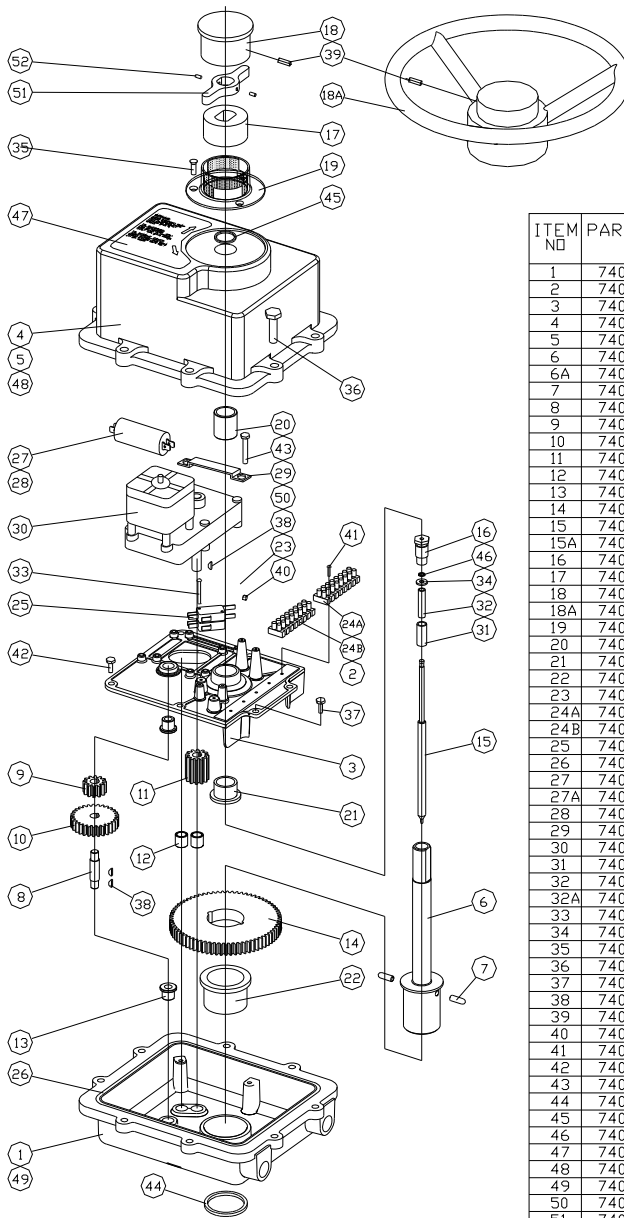
1. Push the MODE button until the “AUX CLOSE OUTPUT” LED is illuminated. Use the adjust buttons (▲ and ▼) to drive the actuator to the desired auxiliary close position.
2. Push the MODE button until the “AUX OPEN OUTPUT” LED is on. Use the adjust buttons (▲ and ▼) to drive the actuator to the desired auxiliary open position.
3. Continue with Step 9 in the **Quick Calibration Procedure** (see above).

Aux Position Option Setup

1. Push the MODE button until the green “AUX POSITION OUT CAL” LED illuminates **while** the “CLOSE” LED flashes.
2. Use the adjust buttons (▲ and ▼) to set the desired output voltage or current (mA) on the option module output for the closed position.
3. Push the MODE button so the “AUX POSITION OUT CAL” LED remains steady **while** the “OPEN” LED flashes. Use the adjust buttons (▲ and ▼) to set the desired output voltage or current (mA) on the option module output for the open position.
4. Continue with Step 12 in the **Quick Calibration Procedure** (see above).

SERIES 92

PARTS LIST & MATERIALS OF CONSTRUCTION



S92= 400 IN*LBS
 A92= 700 IN*LBS
 B92=1100 IN*LBS
 C92=2000 IN*LBS

ITEM NO	PART NO	QUANTITY				DESCRIPTION
		S92	A92	B92	C92	
1	7401920	1	1	1	1	BASE
2	7401440	1	1	1	1	WIRING HARNESS - 4 PCS
3	7401060	1	1	1	1	BASE PLATE
4	7401940	1	1	1	1	COVER
5	7401925	1	1	1	1	WIRING DIAGRAM LABEL
6	7401900	1	1	1	-	SHAFT MAIN
6A	7401905	-	-	-	1	SHAFT MAIN
7	7401360	2	2	2	2	PIN
8	7401280	-	-	1	1	SHAFT STUB
9	7402003	-	-	1	1	SPUR GEAR 1B
10	7402002	-	-	1	1	SPUR GEAR 1A
11	7401400	1	1	1	1	GEAR PINION
12	7401540	1	1	1	1	BEARING PINION
13	7402006	-	-	2	2	BEARING FL - SPUR GEAR
14	7401380	1	1	1	1	GEAR MAIN
15	7401200	1	1	1	-	SHAFT INNER
15A	7401210	-	-	-	1	SHAFT INNER
16	7401180	1	1	1	1	SHAFT RETAINER
17	7401300	1	1	1	1	KNOB LOWER
18	7401320	1	1	1	-	KNOB UPPER
18A	7401995	-	-	-	1	HANDWHEEL
19	7401260	1	1	1	1	COLLAR
20	7401120	1	1	1	1	BEARING UPPER COVER
21	7401080	1	1	1	1	BASE PLATE BEARING
22	7401020	1	1	1	1	BASE BEARING
23	7401480	2	2	2	2	CAM
24A	7401420	2	2	2	2	TERMINAL BLOCK 1-8
24B	7401425	2	2	2	2	TERMINAL BLOCK 9-16
25	7401460	2	2	2	2	SWITCH ACTUATOR
26	7401560	1	1	1	1	O-RING BASE/COVER
27	7401948	1	-	1	-	CAPACITOR 4.2 MFD
27A	7402004	-	1	-	-	CAPACITOR 6.7 MFD
28	7403008	-	-	-	1	CAPACITOR 7.6 MFD
29	7401520	1	1	1	1	CLAMP CAPACITOR
30	7401340	1	1	1	1	MOTOR
31	7401250	1	1	1	1	SHELL
32	7401220	1	1	1	-	SPRING
32A	7401230	-	-	-	1	SPRING
33	7401620	2	2	2	2	SCREW ROUND HD. 4-40 x 1.00 LG.
34	7401240	1	1	1	1	WASHER, FLAT #10 Ø.450 x .06 THK
35	7401680	3	3	3	3	SCREW FLAT HD. 8-32 x .25 LG. SS.
36	7401640	8	8	8	8	SCREW HEX HD. 5/16-18 x 1.00 LG. SS.
37	7401521	1	1	1	1	SCREW SELF TAP (GREEN) #10 x .50 LG.
38	7401880	1	1	3	3	KEY, WOODRUF 3/32
39	7401700	1	1	1	1	SCREW SLOT SET 8-32 x .50 LG. SS.
40	7401740	4	4	4	4	SCREW SET 8-32 x .12 LG.
41	7401600	4	4	4	4	SCREW SELF TAP #4 x .50 LG.
42	7401660	5	5	5	5	SCREW SELF TAP SLOT/HEX #10 x .50 LG.
43	7401720	4	4	4	4	SCREW SLOT/HEX 10-32 x 1.62 LG.
44	7401040	1	1	1	1	SEAL BASE
45	7401140	1	1	1	1	SEAL COVER
46	7401580	1	1	1	1	O-RING SHAFT
47	7401950	1	1	1	1	OVERRIDE LABEL
48	7401960	1	1	1	1	COVER NAMEPLATE
49	7401970	1	1	1	1	BASE NAMEPLATE
50	7401430	1	1	1	1	CAPACITOR HARNESS- 2 PCS
51	7401485	-	-	-	1	HANDWHEEL CAM
52	8100179	-	-	-	2	CAM SCREW SET 1/4-20 x /250 LG.

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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.



SERIES 92 EXPLODED VIEW

	NAME	DATE
DR	A.SELEZNEV	2/17/98

SIZE A	DWG. NO. 289S92	REV 3
SCALE NTS	SHEET 1 OF 1	

PATH \ACAD11\S92
 DO NOT SCALE DRAWING

