

B Series

Heavy Duty Actuator for Industrial Applications



The Assured Automation B Series electric valve actuators offer a rugged design for quarter turn industrial applications. Designed for use on quarter turn (90°) ball valves, butterfly valves, plug valves and dampers. Available in a wide range of output torques and operating speeds to fit your specific requirements.

B Series electric actuators are low maintenance, combining rugged design and modular construction with a large array of available options for a variety of applications.

FEATURES

- Heater and thermostat installed in all actuators.
- Hardened steel drive shaft.
- Rugged enclosure for industrial applications.
- Manual override on all units.
- Visual open/close indicator.
- Large terminal strip for easy wiring.
- ISO mounting pattern and square drive shaft allows for direct mounting on ball and butterfly valves.
- Thermal overload protection.

OPTIONAL FEATURES

- Modulating control board with digital calibration.
- Extra switches.
- On-board relays, feedback sensors and timers.
- Failsafe spring return.
- Heavy duty brake.

SPECIFICATIONS

Enclosure:

C4 Enclosure - Certified to weatherproof CSA specifications that conform to NEMA Type 1, 2, 3, 3R, 4, 4X & 12.

C7 Enclosure - Certified to explosionproof CSA specifications that conform to NEMA 7 Class 1 & 2, Groups C, D, E, F & G.

Electrical Connection:

Two 1/2" NPT conduit (female) with wire leads.

Duty Rating:

EM300 & EM500 - 30% to 100%.

EM800 - 100%.

B SERIES MODEL NUMBERING

Model Number:

EM XXX - XX - XX - XX - XXX

Version: ————

See additional spec. tables

Speed: ————

See additional spec. tables

Enclosure: ————

C4 = NEMA 4X

C7 = Explosionproof

Voltage: ————

01 = 24 VAC

02 = 115 VAC

03 = 220 VAC, 1 PH, 60 Hz

10 = 12 VAC

11 = 24 VDC

Options: ————

001 = None

100 = 4-20mA positioner with brake

003 = 2 aux. limit switches

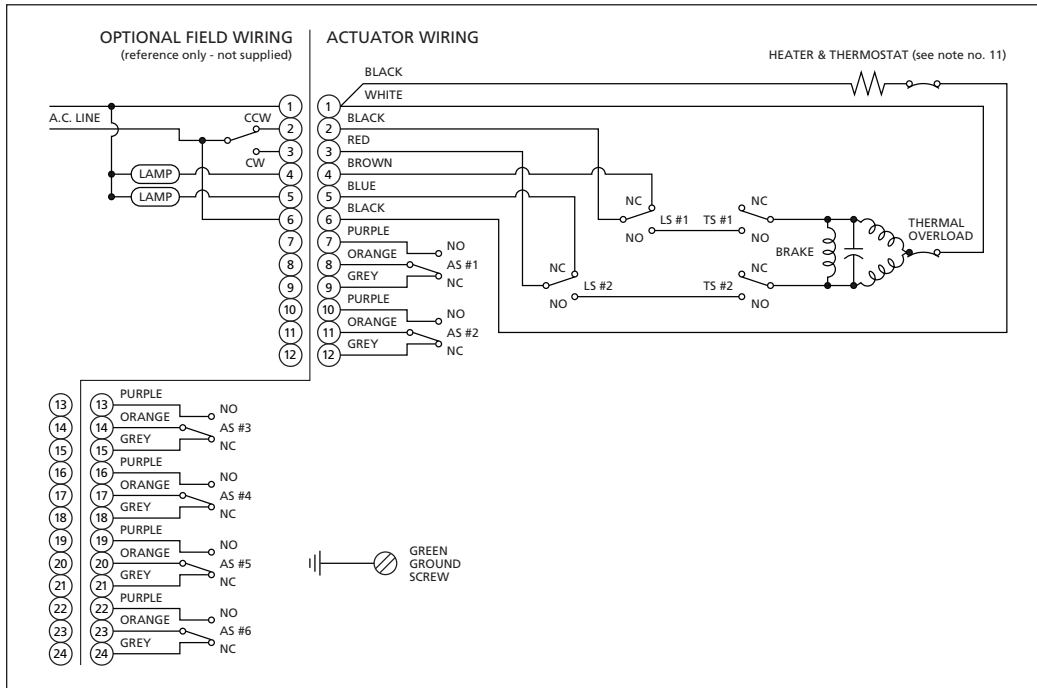
TEMPERATURE RANGE

-40°F to 140°F

B Series

Heavy Duty Actuator for Industrial Applications
(150 to 20,000 in/lbs output torque)

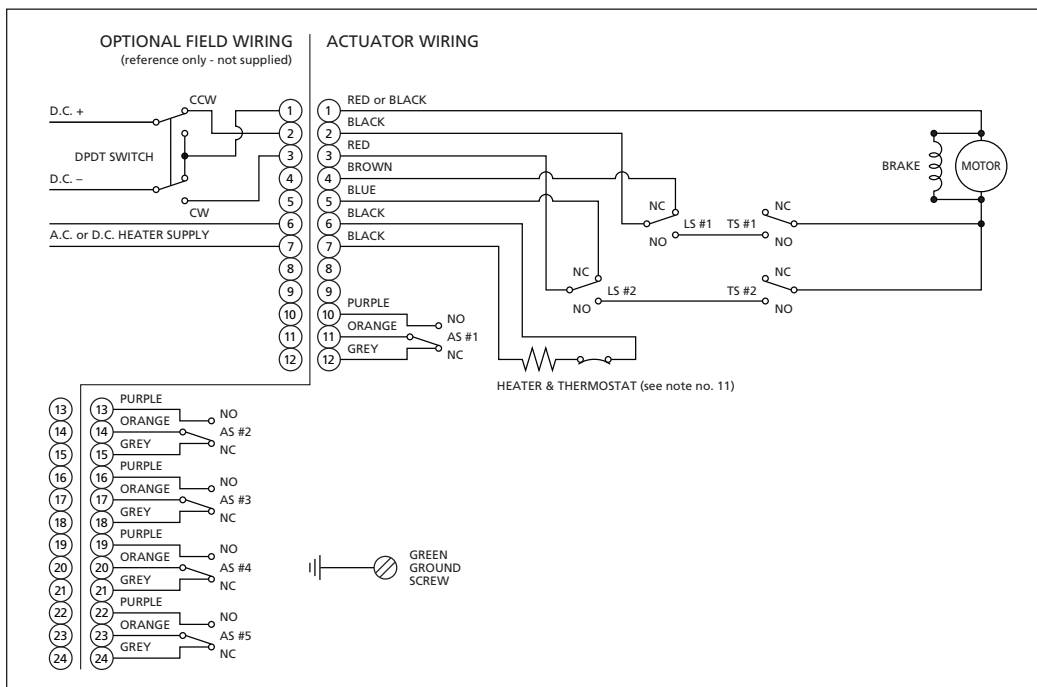
WIRING DIAGRAM (VAC)



NOTES

- Field wiring is shown for reference only and is not supplied with the actuator.
- Always verify specific actuator wiring to specification before installing.
- Rotation is viewed from above the actuator.
- Thermal overload shown resets automatically and is standard on all units.
- Switches are configured from bottom to top (i.e. Switch 1 is on the bottom, Switch 2 is the next on up, etc.). Limit Switches are always mounted below Auxiliary Switches.
- AS defines Auxiliary Switch. AS #1 through #6 are optional and are supplied only if ordered with the actuator or as a kit.
- TS #1 and TS #2 are Torque Switches and are provided only on the 800 series actuators.
- Terminals 13 to 24 will be supplied only when required.
- CAUTION: Electrical operation of the actuator must be made through an individual single pole control switch in order to isolate the unused motor windings.
- LS defines Limit Switch or End of Travel Switch.
- Electrical brake, heater, and thermostat are optional on some equipment.

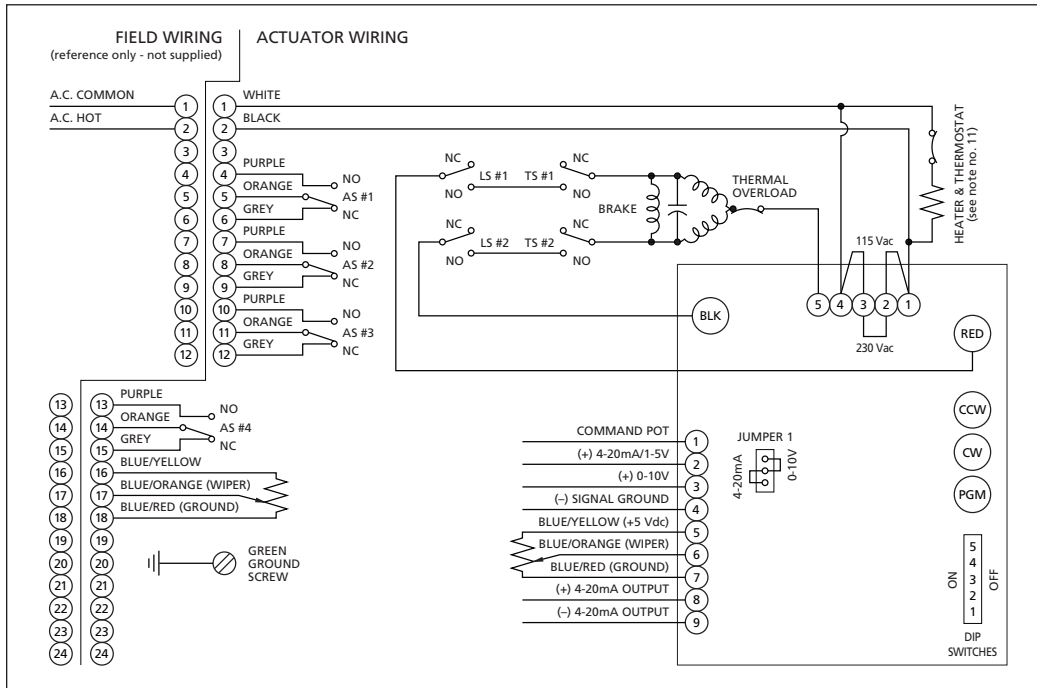
WIRING DIAGRAM (VDC)



B Series

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(150 to 20,000 in/lbs output torque)

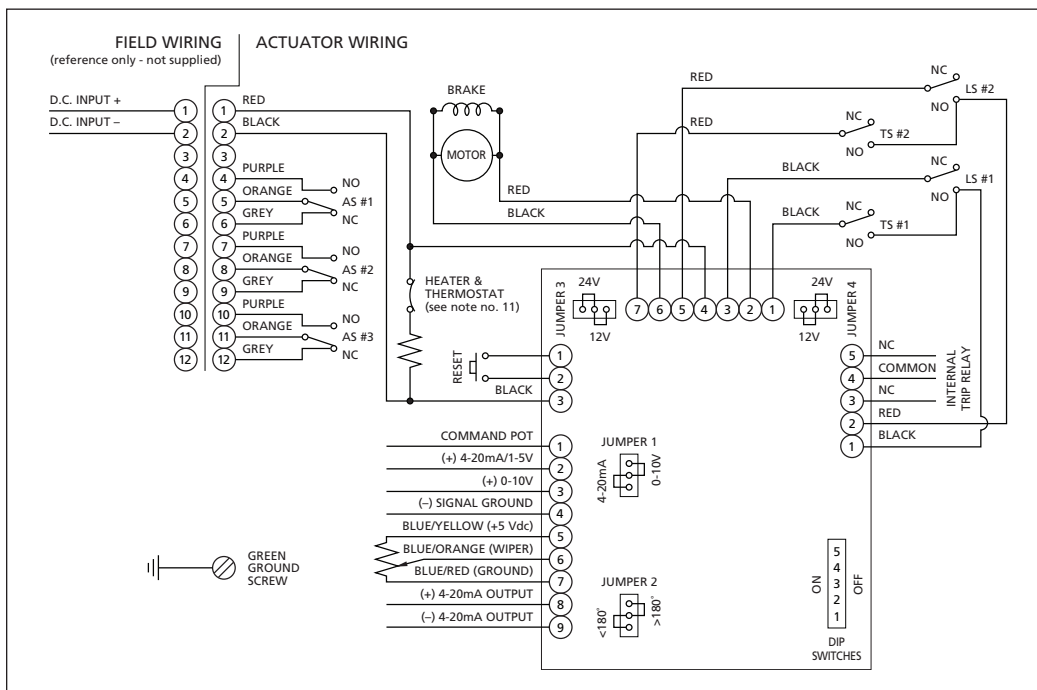
WIRING DIAGRAM (VAC MODULATING)



NOTES

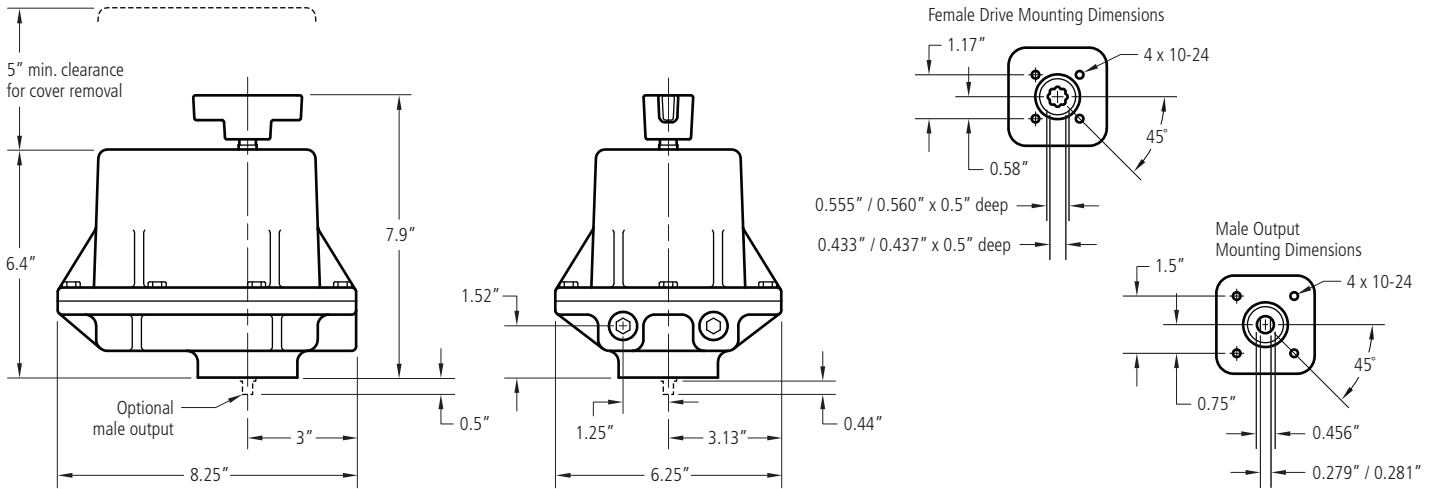
1. Field wiring is shown for reference only and is not supplied with the actuator.
2. Always verify specific actuator wiring to specification before installing.
3. Rotation is viewed from above the actuator.
4. Thermal overload shown resets automatically and is standard on all units.
5. Switches are configured from bottom to top (i.e. Switch 1 is on the bottom, Switch 2 is the next on up, etc.). Limit Switches are always mounted below Auxiliary Switches.
6. AS defines Auxiliary Switch. AS #1 through #4 are optional and are supplied only if ordered with the actuator or as a kit.
7. TS #1 and TS #2 are Torque Switches and are provided only on the 800 series actuators.
8. For 115 VAC signals terminal block TB1 must have two jumpers between 1 and 2, and between 3 and 4. For 230 VAC signals TB1 must have one jumper between 2 and 3.
9. Control voltage of 4-20mA or 0-10V, not both.
10. LS defines Limit Switch or End of Travel Switch.
11. Electrical brake, heater, and thermostat are optional on some equipment.
12. Second potentiometer is optional.

WIRING DIAGRAM (VDC MODULATING)



B Series EM300

Heavy Duty Actuator for Industrial Applications
(150 to 600 in/lbs output torque)

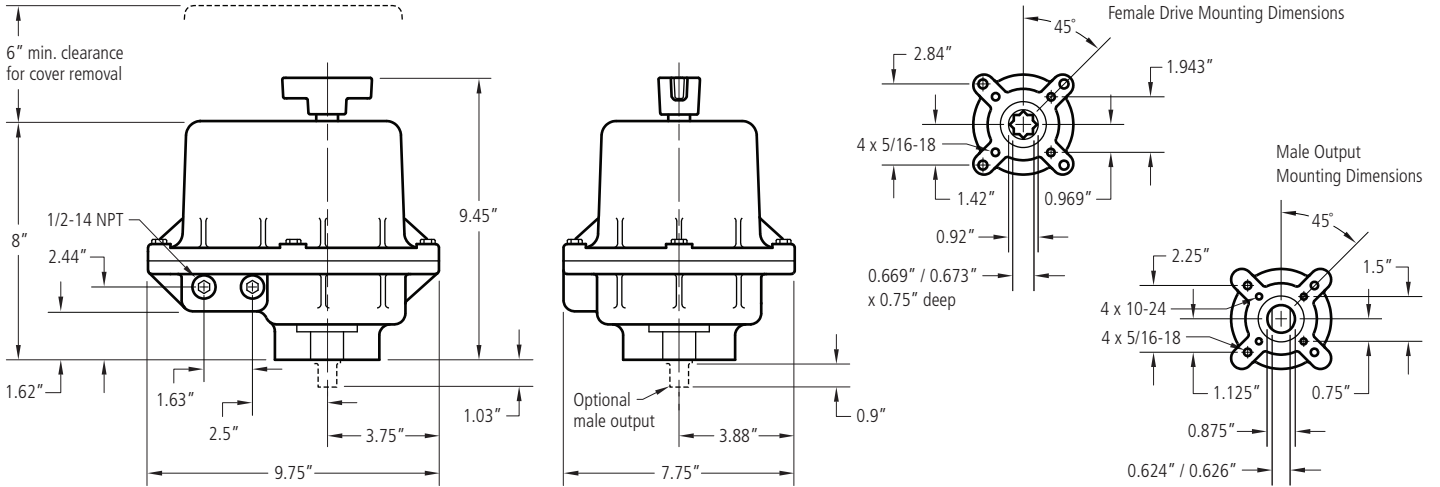


ADDITIONAL SPECIFICATIONS

Output Torque (in/lb)	Version No.	Speed 90° (sec.)	Locked Rotor Amp (full load)				Motor Duty Cycle @ 75%		Wt. (lbs.)	Model No.
			115 VAC	230 VAC	12 VDC	24VDC	AC	DC		
150	300	4	0.57	0.29	1.2	2.5	30%	100%	12	EM300-04
300	300	10	0.57	0.29	1.2	2.5	30%	100%	12	EM300-10
400	300	15	0.56	0.25	1.2	2.5	30%	100%	12	EM300-15
600	300	30	0.56	0.25	1.2	2.5	30%	100%	12	EM300-30

B Series EM500

Heavy Duty Actuator for Industrial Applications
(350 to 1,600 in/lbs output torque)

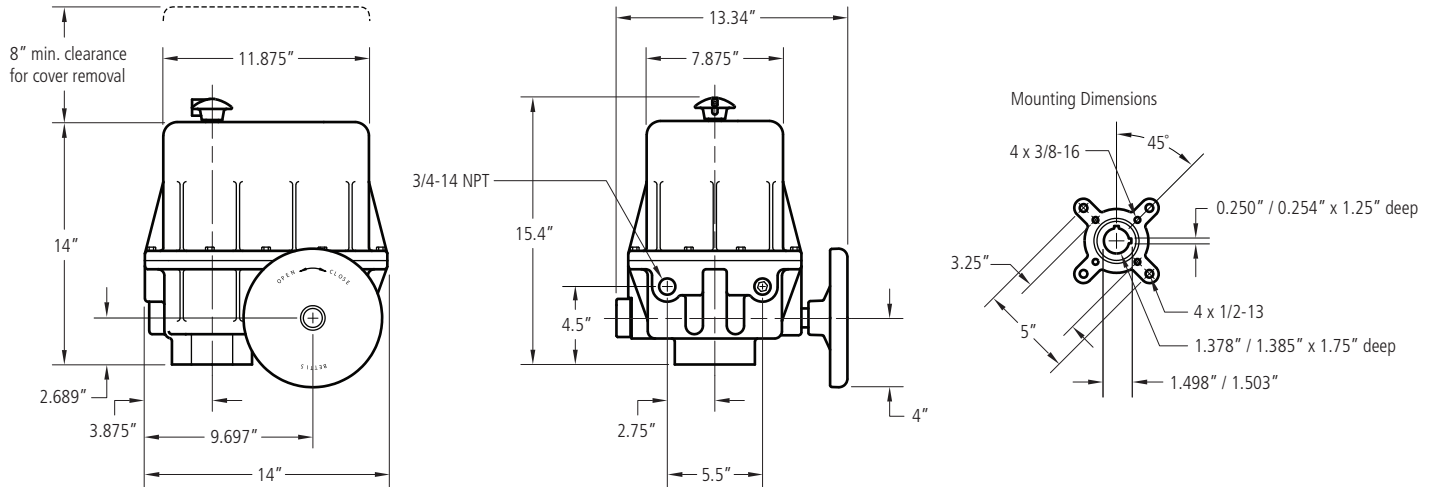


ADDITIONAL SPECIFICATIONS

Output Torque (in/lb)	Version No.	Speed 90° (sec.)	Locked Rotor Amp (full load)				Motor Duty Cycle @ 75%		Wt. (lbs.)	Model No.
			115 VAC	230 VAC	12 VDC	24VDC	AC	DC		
350	500	5	0.69	0.36	4.3	5.0	100%	100%	18	EM500-05
700	500	10	0.69	0.36	4.3	5.0	100%	100%	18	EM500-10
1,000	500	15	0.69	0.36	4.3	5.0	100%	100%	18	EM500-15
1,600	500	30	0.35	0.45	4.3	5.0	100%	100%	18	EM500-30
325	510	2	1.57	0.80	4.3	8.5	100%	100%	18	EM510-02
600	510	5	1.57	0.80	4.3	8.5	100%	100%	18	EM510-05
1,000	510	7	1.57	0.80	4.3	8.5	100%	100%	18	EM510-07
180	520	5	0.57	0.29	1.2	2.5	100%	100%	18	EM520-05
450	520	10	0.57	0.29	1.2	2.5	100%	100%	18	EM520-10
600	520	15	0.57	0.29	1.2	2.5	100%	100%	18	EM520-15
1,000	520	30	0.57	0.29	1.2	2.5	30%	100%	18	EM520-30

B Series EM800

Heavy Duty Actuator for Industrial Applications
(2,000 to 20,000 in/lbs output torque)



ADDITIONAL SPECIFICATIONS

Output Torque (in/lb)	Version No.	Speed 90° (sec.)	Locked Rotor Amp (full load)			Motor Duty Cycle @ 75%	Wt. (lbs.)		Model No.
			115 VAC	230 VAC	24 VDC		NEMA 4	NEMA 7	
2,000	810	12	3.15	1.3	5.8	100%	70	160	EM810-12
2,500	810	18	3.15	1.3	5.8	100%	70	160	EM810-18
3,500	810	30	3.15	1.3	5.8	100%	70	160	EM810-30
4,000	810	60	3.15	1.3	5.8	100%	70	160	EM810-60
3,000	820	12	3.15	1.3	5.8	100%	70	160	EM820-12
4,000	820	18	3.15	1.3	5.8	100%	70	160	EM820-18
6,000	820	30	3.15	1.3	5.8	100%	70	160	EM820-30
7,000	820	60	3.15	1.3	5.8	100%	70	160	EM820-60
5,000	830	12	5.97	2.81	5.8	100%	70	160	EM830-12
7,000	830	18	5.97	2.81	5.8	100%	70	160	EM830-18
10,000	830	30	5.97	2.81	5.8	100%	70	160	EM830-30
10,000	830	60	5.97	2.81	5.8	100%	70	160	EM830-60
15,000	840	48	5.97	2.81	5.8	100%	70	160	EM840-48
20,000	840	72	5.97	2.81	5.8	100%	70	160	EM840-72