

CRANE[®]

Energy Flow Solutions

Electric Actuators



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ELECTRIC ACTUATORS

With maintenance-free operation, the Crane 44000 electric actuator is ideal for small to medium diameter valves in high frequency applications. These actuators allow precise positioning of the valve and provide modulating service as well as on/off. Maintenance is simplified because no lubrication service or changing of brakes is required. The Crane 44000 actuator mounts directly to Center Line valves and mounting to Flowseal valves is accomplished by using a separate mount kit.

FEATURES

- Compact and lightweight
- Available for on/off or modulating duty
- All circuitry encapsulated to protect against moisture, heat and vibration
- Instantaneous motion stop circuit (modulating version) eliminates hunting and overrun and guarantees 250 steps over entire 90° range
- Self-locking final reduction worm gear holds last position if power is lost
- Valve position indicator built into actuator
- Maintenance-free design
- Easy manual override by detachable crank handle
- Battery back-up available upon request*

COMMON SPECIFICATIONS

Power: 120 VAC (±10%)
Temperature: -13° F to 131° F (-25°C to +55°C)
Housing: NEMA 4/4X
Speed Range: 13-50 sec./90° (depending on model)
Condensation Protection: Space heater equipped

ON/OFF MODEL SPECIFICATIONS

Torque Range: 434 in-lb to 17,360 in-lb
Output Shaft Resolution: Over 1/250 for 0° - 90° (max 1/400)
Duty Rating: 50-100% (depending on the model)

STANDARDS

Quality Assurance:
 ISO 9001
Electrical Safety: CSA
 C/US and CE
Enclosure:
 UL50 Type-4, 4X

INSTRUMENTATION OPTIONS

Power Supply: 240 VAC for all models, 24VDV for select models
Aux. Limit Switches: for no-voltage contact outputs
Potentiometer: for on/off models
Special Applications: 4-20mA feedback signal

Battery back-up* (available upon request)

SPECIFICATIONS

Output Shaft: Male Square
Power Supply: 120VAC
 SH = Space Heater equipped
 L = Open/Close no-voltage contact output aux.
 Limit Switches - standard

TECHNICAL NOTES

- Ambient Temperature Range: 32° F to 113° F (0°C to +45°C) due to battery charge/discharge characteristics.
- This is not for constant on-off/frequent cycle process operations.
- The actuator is always run by the internal battery power.
- If it needs to be constantly operated, operation should be less than 1 cycle per hour for maintaining battery full level.
- Outdoor installation - Sun shade to protect actuator from direct sun light is highly recommended for preventing condensation problem and for a longer life.
- Higher safety factor (such as 100% additional to normal max. torque) is recommended in case for the emergency operations with lower battery level.

Series 44000 Electric Actuators

Design Features

Series 44000 On-Off Rotary Electric Actuators

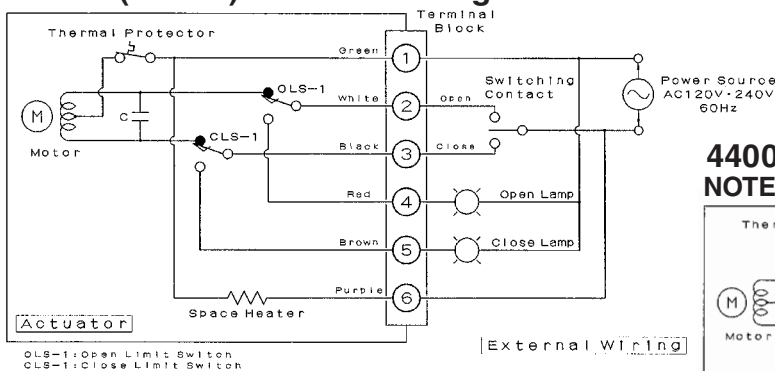
Basic Actuator:

- Torque Output Range - 347 lb.in. to 17,359 lb.in.
- Housing - NEMA 4X, watertight, corrosion-resistant, robust aluminum die-casting
- Electric Monitor - 120 VAC, single phase, 60 Hz totally enclosed, non-ventilated - high starting torque, reversible induction type, Class E insulation
- Thermal Overload Motor Protection - auto reset thermal switches embedded in the motor windings - trip when the maximum winding temperature limit is exceeded
- Position Limit Switches - 2 x SPDT for Open and Close travel limit - easily adjustable, cam operated
- Position Indicator - mechanical dial type with highly visible yellow graduated indicator
- Space Heater - In the controls compartment
- Terminal Strip - refer to wiring diagrams for details
- Conduit Entry - 1 x 1/2" NPT
- Power Gears - alloy steel spur gears to final stage aluminum bronze worm sector gear
- Brake - an electro-mechanical brake is NOT required. The worm gear drive prevents back driving and hunting
- Bearings - high quality alloy steel sleeve and ball bearings
- Manual Override - direct acting detachable handle
- Adjustable Mechanical Travel Stops
- Mounting Attitude - suitable for any attitude mounting
- Ambient Temperature Range - minus 13° F to +131° F (-25° C to +55° C)
- Valve Mounting - directly to Center Line Valves, Series 200, 225, and 250 without brackets or drive adapters
- Certification and Approvals - CSA-C/US, NEMA 4, 4X

Optional Features:

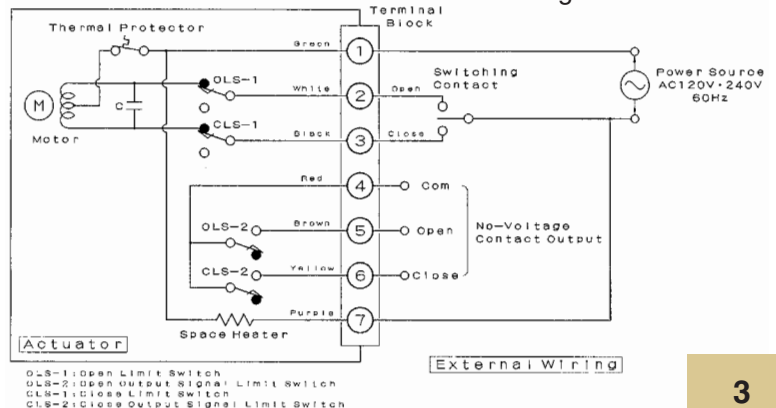
- 240 VAC/1/50-60Hz power
- 24 VDC 44005 through 44300
- 24 VAC/1/50-60Hz 44005 through 44300
- 2 x SPDT Auxiliary Switches
- Torque Limit Switches for Open and Close directions of travel (44005 Close directions only)
- Feedback Potentiometer - 500 ohm, 135 ohm, 1K ohm
- Feedback Transmitter - 4-20 mA DC 44200-44900
- De-clutchable Handwheel Override 44200 and 44300
- Speed controller for slower travel speed 44200-44900

44000 (On-Off) Standard Wiring



44000 (On-Off) With Open/Close Contact Output

NOTE: Model 44005 is standard with this configuration



Design Features

Series 44000M MODULATING Rotary Electric Actuators

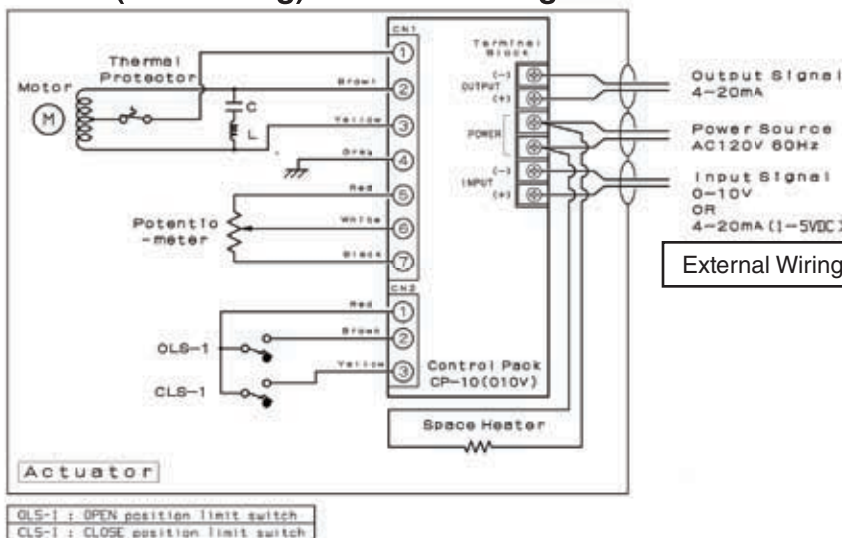
Basic Actuator:

- Modulating Control Actuators - direct valve control by computer output, 4-20 mA DC or 0-10V DC process and control signal, provides 4-20 mA DC output
- Torque Output Range - 434 lb.in. to 17,359 lb.in.
- Housing - NEMA 4X, watertight, corrosion-resistant, robust aluminum die-casting
- Electric Monitor - 120 VAC, single phase, 60 Hz totally enclosed, non-ventilated - high starting torque, reversible induction type, Class E insulation
- Thermal Overload Motor Protection - auto re-set thermal switches embedded in the motor windings - trip when the maximum winding temperature limit is exceeded
- Output Shaft Resolution - over 1/250, adjustable 100 to 300+ steps for 0 through 90° (400 steps factory option) 100 to 400 increments through 90° travel
- Power at Rest - 2VA
- Position Limit Switches - 2 x SPDT for Open and Close travel limit - easily adjustable, cam operated
- Position Indicator - mechanical dial type with highly visible yellow graduated indicator
- Space Heater - In the controls compartment
- Terminal Strip - refer to wiring diagrams for details
- Conduit Entries - 2 x 1/2" NPT, for motor and control
- Power Gears - alloy steel spur gears to final stage aluminum bronze worm sector gear
- Brake - an electro-mechanical brake is NOT required. The worm gear drive prevents back driving and hunting
- Bearings - high quality alloy steel sleeve and ball bearings
- Manual Override - direct acting detachable handle
- Adjustable Mechanical Travel Stops
- Mounting Attitude - suitable for any attitude mounting
- Ambient Temperature Range - minus 13° F to +131° F (-25° C to +55° C)
- Valve Mounting - directly to Center Line Valves, Series 220, 225, and 250 without brackets or drive adapters
- Certification and Approvals - CSA-C/US, NEMA 4, 4X

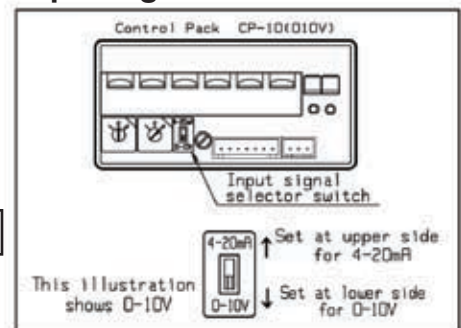
Optional Features:

- 240 VAC/1/50-60Hz power
- 2 x SPDT Auxiliary Switches
- Input signal 4-12mA DC, 12-20mA DC **Note:** 4-20mA DC, 0-10VDC switchable on standard units
- Torque Limit Switches for Open and Close directions of travel
- De-clutchable Handwheel Override 44010M, 44200M and 44300M

44000M (Modulating) Standard Wiring



Input Signal Selector Switch



Engineering Data & Actuator Overview

Series 44000 On-Off Actuator Specifications

Model	44005	44200	44300	44400	44600	44700	44800	44900
Output Torque (lb.in)	347	868	1,736	3,472	5,208	8,680	13,019	17,359
N.m.	39.23	98.07	196.13	392.27	588.40	980.67	1471.00	1961.33
Duty Cycle	50%	100%	100%	80%	75%	50%	50%	50%
Travel Speed at 60 Hz (sec.)	12.5	25	25	25	25	25	37.5	50
Maximum Current (Amp @ 120/240 VAC)	0.35/0.18	0.41/0.22	1.25/0.70	1.66/0.90	1.62/0.88	2.28/1.21	2.33/1.17	2.40/1.21
Enclosure Rating	Water tight: NEMA 4, NEMA 4X certified by UL Labs							
Weight (lb.)	6.0	10.5	18.0	20.0	44.0	48.5	50.0	51.0

Series 44000M Modulating Actuator Specifications

Model	44010M	44200M	44300M	44400M	44500M	44700M	44800M	44900M
Output Torque (lb.in)	434	868	1,736	3,472	4,340	8,680	13,019	17,359
N.m.	49.03	98.07	196.13	392.27	490.33	980.67	1471.00	1961.33
Resolution	Over 1/250 at output shaft, 1/100 - 1/400 steps through 90°							
Duty Cycle	100%	100%	80%	80%	75%	50%	50%	50%
Enclosure Rating	Water tight: NEMA 4, NEMA 4X certified by UL Labs							
Travel Speed at 60 Hz (sec.)	12.5	25	12.5	25	12.5	25	37.5	50
Insulation Resistance	100 M. ohm (500 VDC)							
Maximum Current (Amp @ 120/240VAC)	0.51/0.27	0.51/0.27	1.42/0.76	1.42/0.76	2.28/1.20	2.36/1.24	2.44/1.28	2.50/1.31
Weight (lb.)	12.0	12.0	21.0	21.0	51.5	52.0	53.5	56.0

Actuator Overview



Adjustable mechanical stops, conduit entries and CSA label.



Power gearing.



Terminal strip, gearing, limit switch compartment.



Direct acting manual override.

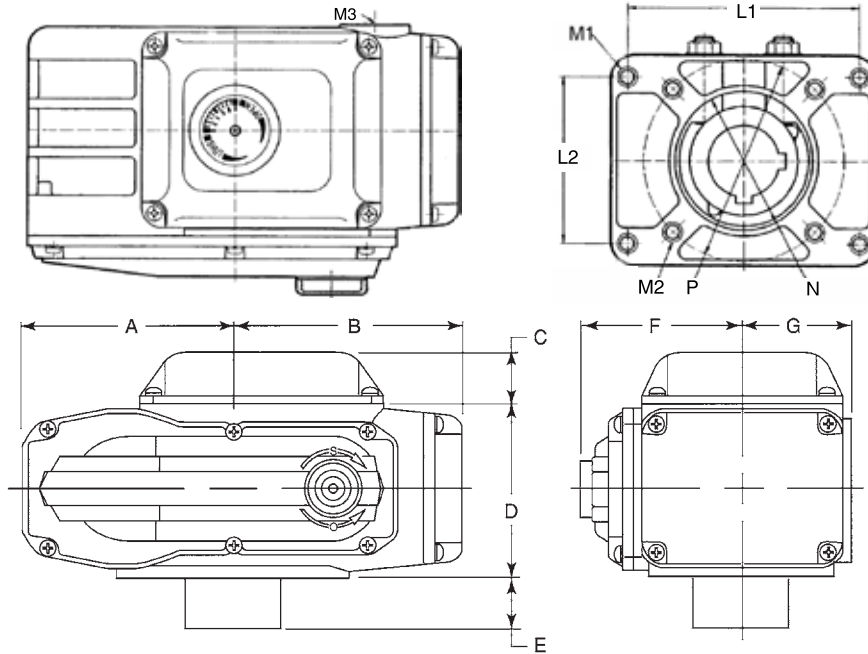


Final output sector gear and heavy duty bearings.



Direct mounting detail.

Dimensional Data



Model	44005	44200 44010M 44200M	44300 44400 44300M 44400M	44600 44700 44500M 44700M	44800 44900 44800M 44900M
A	3.248 (82.5)	3.839 (97.5)	4.843 (123.0)	7.146 (181.5)	7.146 (181.5)
B	2.992 (76.0)	4.331 (110.0)	5.256 (133.5)	7.854 (199.5)	7.854 (199.5)
C	1.122 (28.5)	1.358 (34.5)	1.299 (33.0)	1.024 (26.0)	1.024 (26.0)
D	2.953 (75.0)	3.740 (95.0)	4.252 (108.0)	5.709 (145.0)	5.709 (145.0)
E	0.591 (15.0)	0.886 (22.5)	1.260 (32.0)	2.165 (55.0)	2.165 (55.0)
F	2.500 (63.5)	2.677 (68.0)	3.701 (94.0)	5.394 (137.0)	5.846 (148.5)
G	2.008 (51.0)	2.146 (54.5)	2.461 (62.5)	4.134 (105.0)	4.134 (105.0)
L1	2.677 (68.0)	3.228 (82.0)	4.646 (118.0)	5.354 (136.0)	5.354 (136.0)
L2	2.362 (60.0)	2.756 (70.0)	3.307 (84.0)	4.567 (116.0)	4.567 (116.0)
P	2.756 (70.0)	2.756 (70.0)	4.016 (102.0)	-	-
N	2.165 (55.0)	2.165 (55.0)	2.756 (70.0)	-	-
M1	M6 x 1	M6 x 1	M10 x 1.5	M12 x 1.75	M12 x 1.75
M2	M8 x 1.25	M8 x 1.25	M10 x 1.5	-	-
M3	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT

Dimensions are for basic actuator configuration. Consult factory for Center Line mounting details.

Series 44000 Electric Actuators



Quarter Turn Product Line



Flowseal High Performance Butterfly Valves

- Class 150-600
- Sizes 2" - 48"
- Wafer and Lug Body Styles
- Lug Style are Double Dead End
- Soft Seated: Zero Leakage
- Metal Seated: ASME Class IV Leakage
- Fire Safe: Meets API 607, Rev 4
- DIN Valves per ISO-5752
- Mil-Spec per Mil-V-24624(SH)
- Manual, Pneumatic and Electric Actuators



Center Line Resilient Seated Butterfly Valves

- Rated to 150, 200 and 285 PSI Shut off
- Sizes 2" - 48"
- Wafer and Lug Body Styles
- Lug Style Double Dead End Service
- Series 200 Cast or Ductile Iron Body
- Series 225-285 PSI Shut off
- Series 250 Carbon or Stainless Steel Body
- Series 800 Fully Elastomer Lined Check Valve
- 2-way and 3-way Assemblies
- Manual, Pneumatic and Electric Actuators



CRANE[®]

Energy Flow Solutions

Crane Energy Global Headquarters

19241 David Memorial Drive, Suite 150
Shenandoah, Texas 77385
Tel: +1-936-271-6500
Fax: +1-936-271-6510

Flowseal/Center Line

9860 Johnson Road
Montgomery, TX 77316
Tel: +1-936-588-8380
Fax: +1-936-588-8381

Crane Ltd.

146-154 Dunheved Circuit
St. Mary's N.S.W. 2760, Sydney, Australia
Tel: +61-29-623-0234
Fax: +61-29-673-3870

Ningjin Operations

No. 8 Youyi Street Ningjin County
Hebei Province, China 055550
Tel: +86-319-580-6651
Fax: +86-319-580-8661

St. Louis Operations

3671 New Town Boulevard
St. Charles, MO 63301
Tel: +1-636-688-8750
Fax: +1-636-688-8755

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brands you know...technology you want...solutions you need



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Lined Check and Resilient Seated Butterfly Valves

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Cast Steel Valves

VALVE SERVICES

Certified Valve Repair Services

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EG-CR-CT-EN-L11-20-0904 (CV-1001)