

# SERIES 1000-X

Industrial Electric Actuators

# On-Off Rotary Electric Actuator

## Standard Design Features

**Torque Output Range:** 443 in-lb to 22,127 in-lb

**Housing:** NEMA 4, watertight, corrosion-resistant, powder coated, robust die cast aluminum

**Mounting:** ISO 5211 Standard mounting configurations

**Electric Motor:** 120VAC, single phase, 60Hz totally enclosed, non-ventilated, high starting torque, reversible induction type, Class F insulation

**Thermal Overload Motor Protection:** Auto reset thermal switch embedded in the motor winding - trips when the maximum winding temperature is exceeded

**Position Limit Switches:** 4 x SPDT for Open and Close travel limit - easily adjustable, cam operated

**Position Indicator:** Mechanical dome type with visible red/yellow closed/open indicator

**Terminal Strip:** Refer to wiring diagrams for details

**Conduit Entries:** 2 x 1/2" NPT for power and control wiring

**Power Gears:** Alloy steel spur gears to final stage aluminum bronze worm sector gear

**Motor 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:** Allen Handle or optional Handwheel

**Ambient Temperature Range:** -31°F to +150°F

**Certification and Approvals:** CE, NEMA 4, NRTL, CSA File 226201

**Internal Heater:** Prevents condensation buildup inside of the actuator

**Manual Override Power Switch:** Disconnects power from the actuator without the need to disconnect power from the terminals or the panel. Not available on 1005-X Models



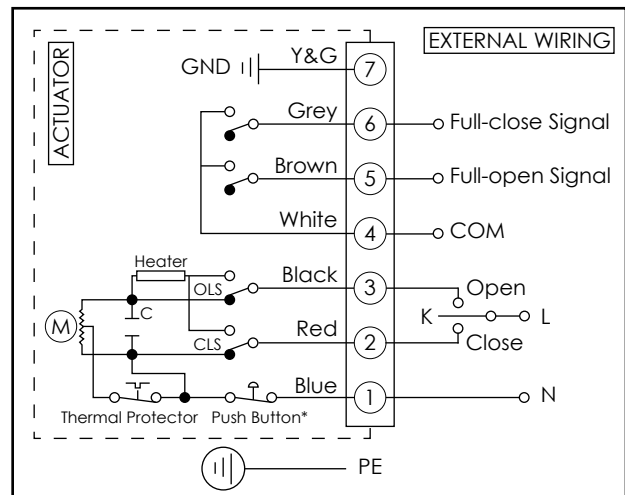
## Optional Features

- 220VAC 50/60Hz power
- 24VAC 50/60Hz power - models 1005-X thru 1040-X
- Torque Limit Switches for Close direction of travel
- Feedback Potentiometer - 1000ohm
- Declutchable Handwheel Override (Not available on 1005-X Models)

# On-Off Rotary Electric Actuator

## Series 1000 On-Off Specifications

MODEL	1005-X	1010-X	1020-X	1040-X	1060-X	1100-X	1160-X	1250-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz (Sec)	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.30	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Max Current (Amp @ 24VAC)	2.08	3.12	5.30	4.38	N/A	N/A	N/A	N/A
Run Current (Amp @ 24VAC)	1.50	2.12	3.15	2.42	N/A	N/A	N/A	N/A
Enclosure Rating	<b>WATERTIGHT NEMA 4</b>							
Weight (lb/kg)	4/2	6/3	16/8	17/8.5	18/9	35/17	40/19.5	40/19.5



\*Not available on 1005-X

# Modulating Rotary Electric Actuator

## Standard Features

**Control Module:** Direct Digital control input 4~20mA or 2-10VDC from controller. The module provides 4~20mA output for feedback. (1005/S-X Model = SF-ZB; All others = SF-LB)

**Torque Output Range:** 443in-lb to 22,127in-lb

**Housing:** NEMA 4, watertight, corrosion-resistant, powder coated, robust aluminum die cast

**Mounting:** ISO 5211 Standard mounting configurations

**Electric Motor:** 120VAC, single phase, 60Hz totally enclosed, non-ventilated, high starting torque, reversible induction type, Class F insulation

**Thermal Overload Motor Protection:** Auto reset thermal switch embedded in the motor winding - trips when the maximum winding temperature is exceeded

**Resolution:** 80 steps (4-20mA) or 200 steps (2-10VDC) through 90° travel

**Power at Rest:** 2VA

**Position Indicator:** Mechanical dome type with visible red/yellow closed/open indicator

**Control Pack:** Refer to wiring diagrams for details

**Conduit Entries:** 2 x 1/2" NPT for power and control wiring

**Power Gears:** Alloy steel spur gears to final stage aluminum bronze worm sector gear

**Motor 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:** Allen Handle or optional Handwheel

**Ambient Temperature Range:** -31°F to +150°F

**Certification and Approvals:** CE, NEMA4, NRTL, CSA File 226201

**Internal Heater:** Prevents condensation buildup inside of the actuator

**Manual Override Power Switch:** Disconnects power from the actuator without the need to disconnect power from the terminals or the panel. Not available on 1005/S-X



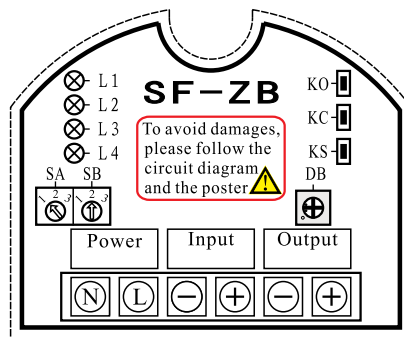
## Optional Features

- 220V AC 50/60Hz power
- 2 x SPDT Auxiliary Switches
- Torque Limit Switches for Close direction of travel
- Declutchable Handwheel Override

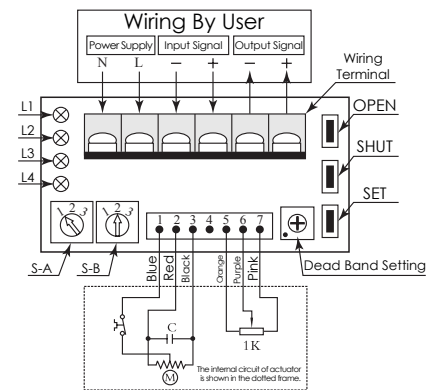
# Modulating Rotary Electric Actuator

## Series 1000-X Modulating Specifications

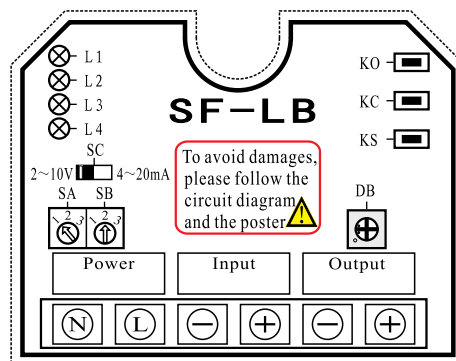
MODEL	1005S-X	1010S-X	1020S-X	1040S-X	1060S-X	1100S-X	1160S-X	1250S-X
Output Torque (in-lb)	443	885	1770	3540	5310	8851	14616	22127
Output Torque (Nm)	50	100	200	400	600	1000	1600	2500
Duty Cycle	80%	80%	80%	80%	80%	70%	70%	70%
Travel Speed @ 60Hz (Sec)	20	30	30	30	45	30	48	75
Max Current (Amp @ 110/220VAC)	0.34/0.17	0.81/0.47	1.68/0.78	3.41/1.78	3.60/1.87	3.80/2.12	3.93/2.16	3.95/2.20
Run Current (AMP @ 110/220VAC)	0.24/0.16	0.57/0.35	0.65/0.37	1.12/0.57	1.18/0.60	1.93/0.94	1.75/0.96	1.75/0.98
Input Signal	Switchable 2-10VDC or 4-20mA							
Output Signal	4-20mA							
Enclosure Rating	<b>WATERTIGHT NEMA 4</b>							
Weight (lb/kg)	4/2	6/3	16/8	17/8.5	18/9	35/17	40/19.5	40/19.5



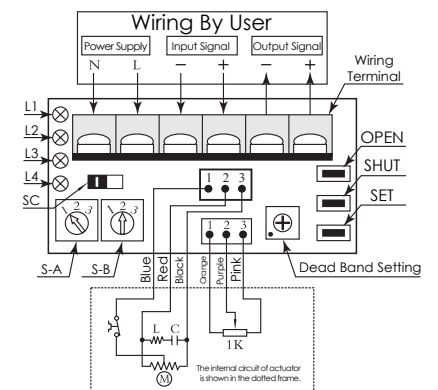
1005/S-X Model



SF-ZB Servo-Controller



All other Models

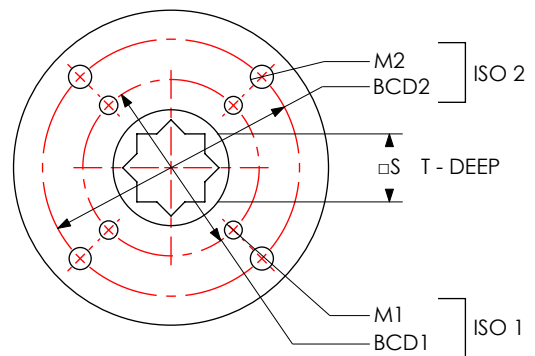
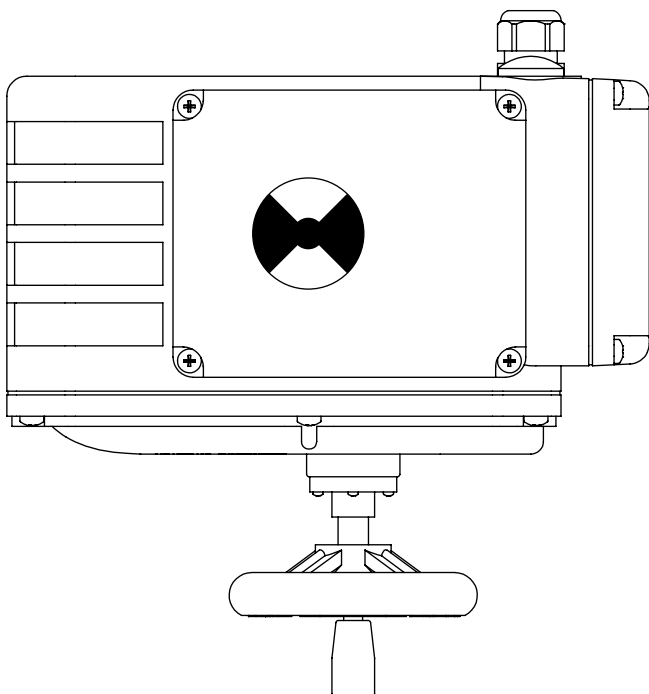
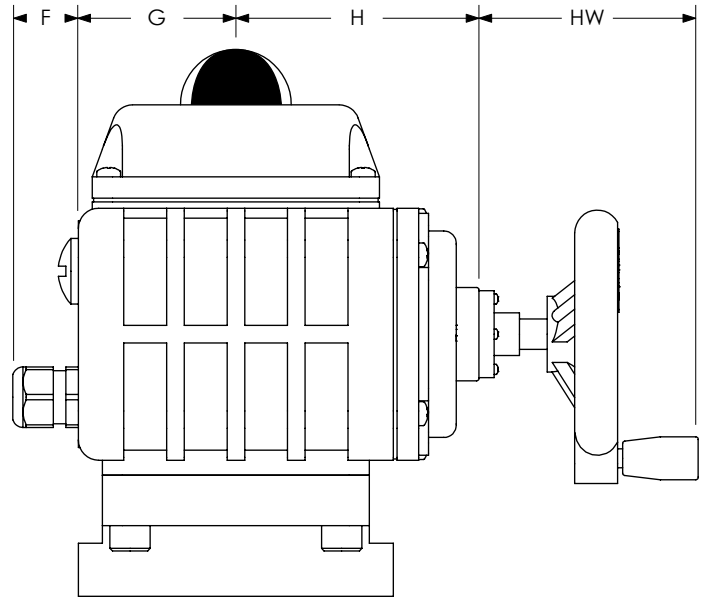
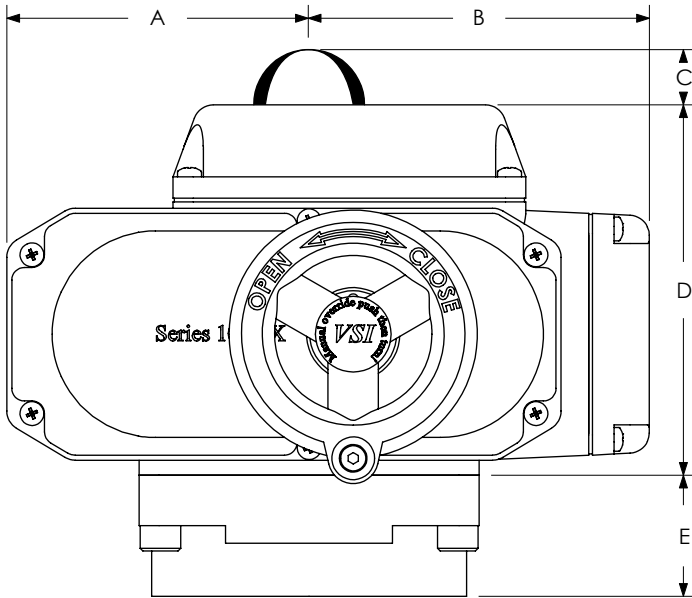


SF-LB Servo-Controller

\*Refer to the IOM for additional information

# Dimensions

## Series 1000-X Dimensional Diagram



## Series 1000-X Dimensions

<b>Dimension (mm) Inches</b>	<b>1005-X</b>	<b>1010-X</b>	<b>1020-X 1040-X 1060-X</b>	<b>1100-X 1160-X 1250-X</b>
<b>A</b>	(83) 3.268	(98) 3.858	(121) 4.764	(148) 5.827
<b>B</b>	(77) 3.031	(98) 3.858	(134) 5.276	(162) 6.378
<b>C</b>	(22) 0.866	(22) 0.866	(22) 0.866	(22) 0.866
<b>D</b>	(102.5) 4.035	(126) 4.961	(148) 5.827	(168) 6.614
<b>E</b>	(36) 1.417	(33) 1.299	(48) 1.890	(54) 2.126
<b>F</b>	(24) 0.945	(24) 0.945	(24) 0.945	(24) 0.945
<b>G</b>	(49) 1.929	(50) 1.969	(63) 2.480	(87) 3.425
<b>H</b>	(63) 2.480	(71) 2.795	(95) 3.740	(130) 5.118
<b>HW</b>	(87) 3.425	(87) 3.425	(87) 3.425	(87) 3.425
<b>M1</b>	M6	M6	M8	M10
<b>BCD1</b>	(50) 1.969	(50) 1.969	(70) 2.756	(102) 4.016
<b>ISO 1</b>	F05	F05	F07	F10
<b>M2</b>	M8	M8	M10	M16
<b>BCD2</b>	(70) 2.756	(70) 2.756	(102) 4.016	(140) 5.51
<b>ISO 2</b>	F07	F07	F10	F14
<b>S<sub>□</sub></b>	(14) 0.551	(17) 0.669	(27) 1.063	(36) 1.417
<b>T</b>	(32) 1.25	(32) 1.25	(45) 1.77	(54) 2.13

Dimensions in (mm) Inches



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