LA-1000 SERIES LINEAR ACTUATORS

GENERAL DESCRIPTION

The LA-1000 Series are full-featured, linear actuators designed to meet the exacting requirements for closed-loop modulating positioning control. Designed for low thrust linear applications, these actuators are capable of accepting analog current and voltage command signals. The brushless stepper motor design provides smooth, highly accurate positioning, with positive position-lock when not in motion. The LA-1000 Series is ideally suited for small dampers, vanes and slide gates requiring exact position control and continuous modulation.

All LA-1000 Series actuators come with a standard digital internal amplifier. These amplifiers are all full-featured ac switching devices designed to work seamlessly with the actuator for closed loop control.

FEATURES

- Permanently lubricated for any position mounting
- Amplifier supplies current to hold last position and prevent backdriving, up to thrust rating under power
- AC or DC input power versions
- 4 to 20 mA position, loop-powered, feedback signal
- Field selectable adjustments for:
  - speed
  - deadband
  - zero and span
  - command signal type
  - standard or reverse acting
  - manual-auto operation
  - output shaft position on loss of signal
- Wide ambient temperature range
- Full one year warranty

BASE MODEL INCLUDES:

- Motor (stepper)
- Manual override
- Dual stroke arms with bellows
- Drive shaft
- Split range command input
- Amplifier
- Electronic thrust limiting
- Cast aluminum NEMA 4 (IP65) & dust ignition-proof enclosure
- Four adjustable position switches (40 mA at 40 Vdc)
- Internal spur gear train
- 4-20 mA transmitter for customer use

POPULAR OPTIONS *(See Pages 197-206)*

- Signal Conversion Module: Convert 40 mA, 40 Vdc low level to 5 Amp, 120/240 Vac current rated position limit switches
- Low current at null (24 Vdc only)
- Switching input powered ac or dc positioning for positioning actuator using ac or dc remote voltage control
- Process Variable Controller to control one process variable - 115/230 Vac only
- Custom mounting and interface hardware
- Local Auto/Manual and INC/OFF/DEC toggle switches (Close-coupled, NEMA 4)
- Various enclosure coatings
- Battery backup to position actuator on loss of ac power
- ATEX Approval

SPECIFICATIONS

Thrust: Up to 150 lbf. (10 Nm)

Speed: See selection chart on next page.

Input Voltage: See selection chart on next page.

Linear Travel: 0.75 inch (19 mm) to 18 inches (457 mm), 3 inch increments. *For greater strokes, consult factory.*

Temperature Limits: -40°F to 150°F (-40°C to 65°C) *For greater temperature ranges, consult factory.*

Environmental Ratings: Explosion-proof for Class I, Division 1, Groups C and D; dust-ignition-proof for Class II, Division 1, Groups E, F, G. Also rated NEMA 4 (IP65) indoor/outdoor.

Command Input:
Full Range: 4-20 mA into 200 ohms
Split Range: 4-12 and 12-20 mA into 200 ohms
Voltage: 0-5 Vdc or 0-10 Vdc into 100,000 ohms
Switch: Dry contact closures

Field Wiring: To barrier terminal blocks

Thrust Limiting: Current sensing PWM

Positioning Accuracy: 1.5% for full range

Feedback: 4-20 mA, customer supplied (loop power)

Loss of Signal: Lock-in-place or run to preset.

Loss of Power: Lock-in-place at last position.

Direction: Extend or retract

Modulation Rate: Unrestricted modulating duty

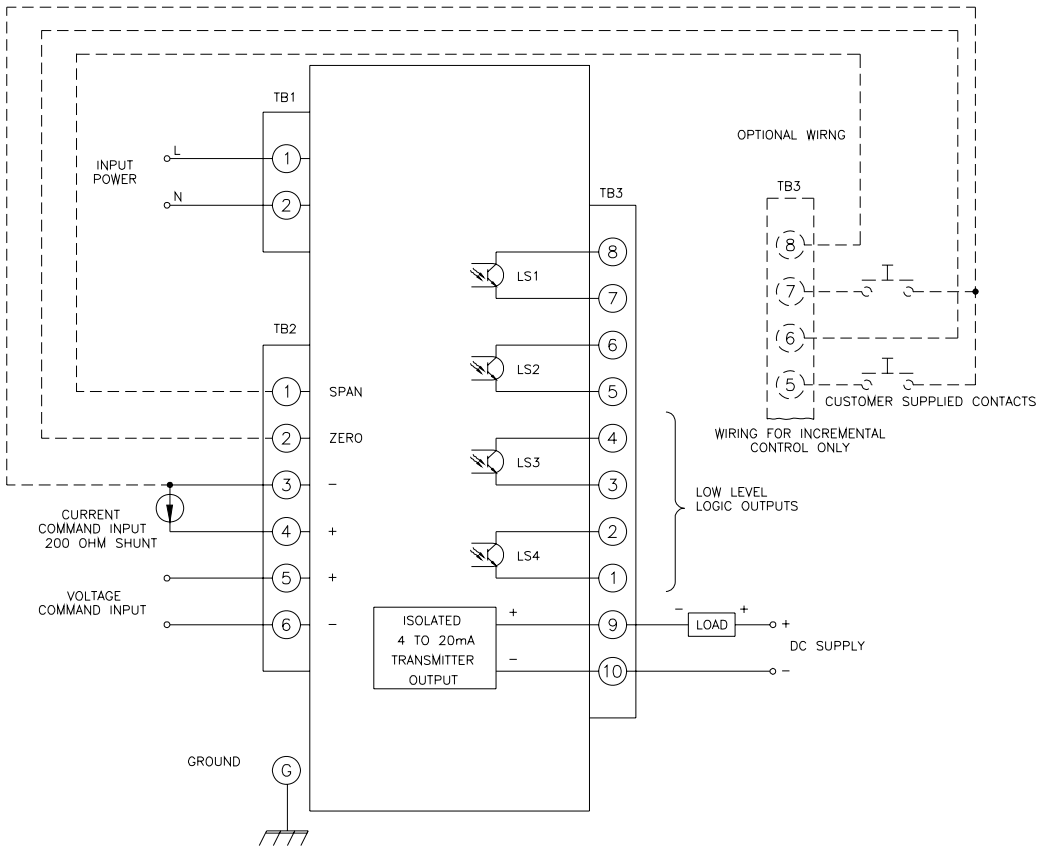
Backdrive: Self-locking up to thrust rating

Approximate Weight: LA-1020: 14 lbs. (6.4 kg)

Approvals: See page 207

Position Switch Rating: 40mA at 40 Vdc

TYPICAL WIRING DIAGRAM



These dimensions and specifications are subject to change without notice. Current drawings and specifications are available upon request.

LA-1000 SERIES SELECTION CHART

				Selection
1	Basic Model	**LA-1020-D**	1 phase, 120/240 Vac, with built-in digital amplifier	
2	Input Voltage	**1**: 115 Vac, 1 Phase, 50/60 Hz		
		2: 230 Vac, 1 Phase, 50/60 Hz		
		6: 24-36 Vdc		
		12: 12-36 Vdc, maximum output thrust is limited - consult factory		
		13: 24 Vac		
3	Speed in./min. (mm/min.) / Thrust, lbf. (N)	**35/25** (111)		
		30/50 (222)		
4		**20/100** (445)		
		10/150 (667)		
5	Linear Travel	**Specify Stroke** - 0.75 inch (19 mm) to 18 inches (457 mm)(Rack bellows is standard) (3 inch increments)		

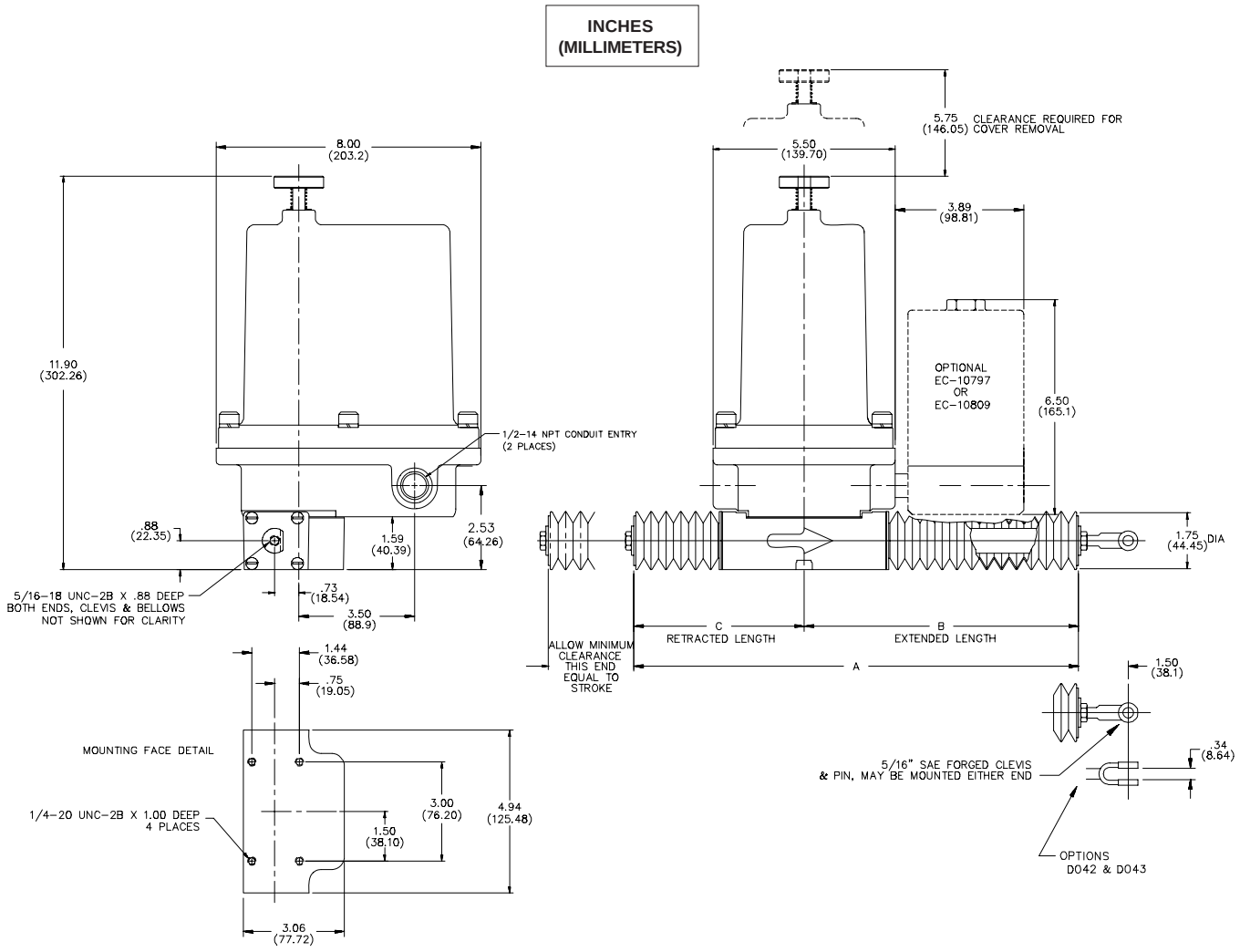
LA-1000 STANDARD OPTIONS

Code	Description	Selection
Toggles, Lights		
A008	Local Auto/Manual INC/OFF/DEC (Close Coupled Enclosure) NEMA 4	
A015	ON/OFF Toggle Power Switch (Close Coupled Enclosure) NEMA 4	
Drive Arm/Adapter Clevis/Driven Arm		
D042	Clevis, one end	
D043	Clevis, both ends	
Identification/Certifications		
J001	CE Marking	
J002	Stainless Steel Tags	
J004	One year extended warranty	
J005	Two year extended warranty	
J006	ATEX Approval (Input voltages 1, 2 & 6) Consult factory for option compatibility.	

For a full description of options, go to the Complete Listing of Options starting on page 197.

Code	Description	Selection
Painting/Coating		
W001	JCI Standard Polyurethane Blue	
W002	Two Part Epoxy	
W003	Food Grade Epoxy	
W004	Baked On Epoxy	
W005	Teflon	
Special Electrical Options		
X012	Signal conversion module, installed in a close-coupled, NEMA 4 enclosure (not availabe with X015)	
X013	2 wire incremental dc input	
X014	3 wire incremental 120/240 Vac input	
X015	Battery Backup, only for 120/240 Vac, installed in a close-coupled, NEMA 4 enclosure (not availabe with X012)	
X017	Process variable	
X018	Low Current (24 Vdc only)	
Special Mechanical Options		
Y014	Metric mounting holes, 6mm	

LA-1000 MAJOR DIMENSIONS



STROKE	A	B	C
0.75-3 (19-76)	12.38 (314)	7.69 (195)	4.69 (119)
3-6 (76-152)	17.38 (441)	11.69 (297)	5.69 (145)
6-9 (153-229)	22.38 (568)	15.69 (399)	6.69 (170)
9-12 (229-305)	27.38 (695)	19.69 (500)	7.69 (195)
12-15 (305-381)	32.38 (882)	23.69 (602)	8.69 (221)
15-18 (381-457)	42.38 (1076)	31.69 (805)	10.69 (272)

These dimensions are subject to change without notice and should not be used for preparation of drawings or fabrication of installation mounting. For current installation manuals and other product information, see www.jordancontrols.com.