

EL/AZ Positioners - Light Duty

AL-4267-1 • AL- 4268-1 • AL- 4269-1 • AL- 4270-1

Our Legacy Series EL/AZ positioners provide accurate rotation, velocity, and direction for customers involved in antenna design and development. Their rugged yet simple construction ensures maximum reliability and trouble-free operation, yielding the best size and weight versus performance ratio.

Typically, the primary components include the body, precise slew bearings, DC motors, gear reducers, synchro assemblies, and limit switch assemblies. The turntable surface is designed with a threaded mounting hole pattern for customer use. A Safe/Operate switch is included to ensure the safety of working personnel.

AL-4269-1



Applications

- General Purpose Positioning Subsystems
- Far-Field & Near-Field Antenna Measurements
- Indoor & Outdoor Use (AL-4267 & AL-4268 Indoor Only)

Product Highlights

- Vertical Loads Ranging from 44 to 200 lbs (20 to 91 kg)
- Platform Sizes Ranging from 9.8 x 7.9 in to 12.6 x 12.6 in (250 x 200 mm to 320 x 320 mm)
- Excellent Angular Position Accuracy
- Low Backlash Design
- Precision Bearings
- Closed Loop Servo Control
- Industry-Standard Wiring
- Tachometers for Optimum Speed Regulation & Control
- Wide Operating Temperature Range: - 4° F to 140° F (- 20° C to 60° C)
- Fully Enclosed Design of Drive Gear Train & Data Take-Off
- Wide Variety of Available Options

Specifications - Legacy Series EL/AZ Light Duty Positioners

PARAMETER	UNITS	POSITIONER MODEL			
					
		AL-4267-1	AL- 4268-1	AL- 4269-1	AL- 4270-1
Outline Dimension Drawing Number	DCD	18-6698	10-1830	07-0478	15-0879

OPERATIONAL





Bending Moment	ft-lbs	100	60	120	210	
	kg-m	14	8.3	16	29	
Vertical Load	lbs	44	50	100	200	
	kg	20	22.7	45	91	
Delivered Torque	Azimuth	ft-lbs	50	40	90	150
		kg-m	7	5.5	12.4	20.7
	Elevation	ft-lbs	50	40	90	150
		kg-m	7	5.5	12.4	20.7
Withstand Torque	Azimuth	ft-lbs	75	60	120	210
		kg-m	10	8.3	16.6	29
	Elevation	ft-lbs	75	60	120	210
		kg-m	10	8.3	16.6	29
Drive Power	Azimuth	hp	1/20	1/36	1/8	1/8
	Elevation	hp	1/20	1/36	1/8	1/8
Nominal Speed	Azimuth	rpm	1.5	1.3	2.6	2
	Elevation	deg/min	9	470	1,080	720
Standard Angle Transducer Format			Incremental Encoder	Dual Speed Synchro	Dual Speed Synchro	Dual Speed Synchro
Standard Accuracy	Azimuth	deg	± 0.05	± 0.06	± 0.04	± 0.03
	Elevation	deg	± 0.05	± 0.06	± 0.04	± 0.03
Maximum Backlash	Azimuth	deg	0.1	0.08	0.08	0.06
	Elevation	deg	0.1	0.08	0.08	0.06
Elevation Limit-to-Limit Travel	deg	± 80	± 95	± 95	± 95	
Lower Azimuth Moment Bearing Capacity (Static)	ft-lbs	100	200	300	800	
	kg-m	14	28	41.5	111	

PHYSICAL

Height at 0° Elevation	in	19.0	20.4	22.7	22.7
	mm	482	517	577	577
Weight	lbs	55	53	115	115
	kg	25	24	52	52
Platform Size	in	9.8 x 7.9	9.5 x 7.9	10.3 x 10.3	12.6 x 12.6
	mm	250 x 200	241 x 200	262 x 262	320 x 320

ENVIRONMENTAL

Operating Temperature	- 4° F to 140° F (- 20° C to 60° C)
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PARAMETER	UNITS	POSITIONER MODEL			
					
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OPTIONS

EN001	Incremental Encoder (Standard Accuracy)		S	Opt	Opt	Opt
	Accuracy – Azimuth	deg	± 0.05 (Uni-D) ± 0.1 (Bi-D)	± 0.06	± 0.04	± 0.03
	Accuracy – Elevation	deg	± 0.05 (Uni-D) ± 0.1 (Bi-D)	± 0.06	± 0.04	± 0.03
EN002	Direct Incremental Encoder (High Accuracy)		–	–	Opt	Opt
	Accuracy – Azimuth	deg	–	–	± 0.005	± 0.005
	Accuracy – Elevation	deg	–	–	± 0.005	± 0.005
EN003	Direct Absolute Encoder (High Accuracy)		–	–	Opt	Opt
	Accuracy – Azimuth	deg	–	–	± 0.005	± 0.005
	Accuracy – Elevation	deg	–	–	± 0.005	± 0.005
EN004	Absolute Encoder (Standard Accuracy)		–	–	Opt	Opt
	Accuracy – Azimuth	deg	–	–	± 0.04	± 0.03
	Accuracy – Elevation	deg	–	–	± 0.04	± 0.03
SR	Slip Ring ³		–	SR051L SR101L SR201L SR301L	SR051L SR101L SR201L SR301L	SR051L SR101L SR201L SR301L
RJ	Rotary Joint		RJ12U RJ18U RJ26U RJ40U RJ50U	RJ12U RJ18U RJ26U RJ40U RJ50U	RJ12U RJ18U RJ26U RJ40U RJ50U	RJ12U RJ18U RJ26U RJ40U RJ50U
TH	Central Thru-Hole Inner Diameter		–	–	–	–
		in	–	–	–	–
		mm	–	–	–	–
EX	Internal Harnessing		–	EX002	EX002	EX002
CF	Connector Format		–	–	–	–
LS	Leveling Screw (set)		–	–	–	–
ST	Stow Lock		–	–	–	–
MM	Mounting Thread		MM002 MM003	MM002 MM003	MM002 MM003	MM002 MM003
			–	–	–	–
IC	Interlock Circuit		–	–	–	–

(-) N/A S Standard Opt Optional

Supplied Accessories

Digital Documentation Set

User Manual (Installation, Setup, Operation & Maintenance)

Technical Notes

- 1** All accuracy data is based on no-load conditions.
Contact MVG-ORBIT/FR for accuracy under load conditions
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- 2** AL-4268-1 and larger models are equipped with adjustable limit switches capable of approx 20° to 900° total travel. When rotary joint and slip ring options are specified, limit switches remain but are electrically disabled. Multi-axis positioners are factory-set at:
- Azimuth Axis: 400° ($\pm 200^\circ$)
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- 3** Slip Ring Option Notes:
- Certain slip ring options may require an extension cap that protrudes above the turntable surface. Positioner height may increase. Consult MVG-ORBIT/FR
 - Slip ring contacts for customer use are provided with dedicated connectors
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- 4** AL-4268-1 and larger models are delivered standard with synchro
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- 5** AL-4267-1 Model:
- Contains restricted limit travel settings. Consult ORBIT/FR
 - Azimuth Axis: 300° ($\pm 150^\circ$)
 - Rated for indoor use only
 - Encoder accuracy is $\pm 0.05^\circ$ in uni-directional rotation and $\pm 0.1^\circ$ in bi-directional rotation (due to backlash)
 - Interface readout - incremental encoder, (synchro not available), interfaces with PC/DSP motion control systems only
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- 6** AL-4268-1 is rated for indoor use only



ORDERING INFORMATION

- Refer to Legacy Series EL/AZ Positioners – Light Duty Specification Table



Contact your local sales representative for more information
salesteam@mvg-world.com
www.mvg-world.com/positioners