

AZ/EL/AZ Positioners – Light Duty

AL-4568-1



1 APPLICATIONS

- General Purpose Positioning Subsystems
- Far-Field & Near-Field Antenna Measurements
- Indoor Use Only

2 PRODUCT HIGHLIGHTS

- Vertical Load Up to 50 lbs (23 kg)
- Turntable Diameter of 7.9 in (201 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

Our Legacy Series AZ/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- 4568-1 Top View

SUPPLIED ACCESSORIES

- CD-ROM Documentation Set:
- User Manual (Installation, Setup, Operation & Maintenance)


TECHNICAL NOTES


- **1** All accuracy data is based on no-load conditions. Contact ORBIT/FR for accuracy under load conditions.
- **2** 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:
 - Upper Azimuth Axis: 400° ($\pm 200^\circ$)
 - Elevation Axis: 190° ($\pm 95^\circ$)
 - Lower Azimuth Axis: 400° ($\pm 200^\circ$)
- **3** Slip Ring & Rotary Joint Option Notes:
 - Certain slip ring options may require an extension cap that protrudes above the turntable surface. Positioner height may increase. Consult ORBIT/FR.
 - Slip ring contacts for customer use are provided with dedicated connectors.
 - When rotary joint and/or slip ring options are specified, no central thru-hole is available to the user. Option TH002 is available in lieu of rotary joint and/or slip ring options.

ORDERING INFORMATION

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

Specifications - Legacy Series AZ/EL/AZ Positioners Light Duty

Parameter	Units	Positioner Model	
		 AL- 4568-1	
Outline Dimension Drawing Number		10-2033	
Technical Notes		1, 2, 3	
Operational			
Bending Moment	ft-lbs	60	
	kg-m	8.3	
Vertical Load	lbs	50	
	kg	23	
Delivered Torque	Upper Azimuth	ft-lbs	40
		kg-m	5.5
	Elevation	ft-lbs	40
		kg-m	5.5
	Lower Azimuth	ft-lbs	40
		kg-m	5.5
Delivered Torque	Upper Azimuth	ft-lbs	60
		kg-m	8.3
	Elevation	ft-lbs	60
		kg-m	8.3
	Lower Azimuth	ft-lbs	60
		kg-m	8.3
Drive Power	Upper Azimuth	hp	1/36
	Elevation	hp	1/36
	Lower Azimuth	hp	1/36
Nominal Speed	Upper Azimuth	rpm	1.3
	Elevation	deg/min	470
	Lower Azimuth	rpm	3
Standard Angle Transducer Format			Dual Speed Synchro
Standard Accuracy	Upper Azimuth	deg	± 0.06
	Elevation	deg	± 0.06
	Lower Azimuth	deg	± 0.06
Maximum Backlash	Upper Azimuth	deg	0.1
	Elevation	deg	0.1
	Lower Azimuth	deg	0.08
Elevation Limit-to-Limit Travel	deg	± 95	
Physical			
Height at 0° Elevation	in	13.9	
	mm	354	
Weight	lbs	93	
	kg	42	
Turntable Diameter	in	7.9	
	mm	201	
Environmental			
Operating Temperature		- 4° F to 140° F (- 20° C to 60° C)	

Parameter	Units	Positioner Model	
		 AL- 4568-1	
Options*			
EN001	Incremental Encoder (Standard Accuracy)		Opt
	Accuracy – Upper Azimuth	deg	± 0.06
	Accuracy – Elevation	deg	± 0.06
EN002	Accuracy – Lower Azimuth	deg	± 0.06
	Direct Incremental Encoder (High Accuracy)		-
	Upper Azimuth	deg	-
EN003	Elevation	deg	-
	Lower Azimuth	deg	-
	Direct Absolute Encoder (High Accuracy)		-
EN004	Accuracy – Upper Azimuth	deg	-
	Accuracy – Elevation	deg	-
	Accuracy – Lower Azimuth	deg	-
SR	Absolute Encoder (Standard Accuracy)		-
	Accuracy – Upper Azimuth	deg	-
	Accuracy - Elevation	deg	-
RJ	Accuracy - Lower Azimuth	deg	-
	Slip Ring ³		-
	Rotary Joint ³		RJ12U RJ18U RJ26U RJ40U RJ50U RJ12L RJ18L RJ26L RJ40L RJ50L
TH	Central Thru-Hole Inner Diameter	in	1.5
		mm	38
EX	Internal Harnessing		EX002
CF	Connector Format		-
LS	Leveling Screw (set)		-
ST	Stow Lock		-
MM	Mounting Thread		MM002 MM003
			-
IC	Interlock Circuit		-

*See Options Glossary on page 132

(-) N/A

Opt Optional