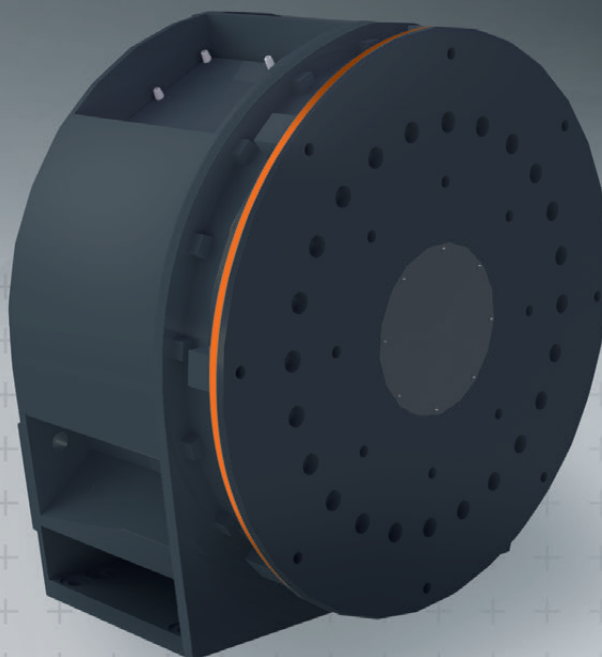




LEGACY SERIES POL

# Polarization Positioners

MEDIUM DUTY



AL-860-1P • AL-860-1P15 • AL-860-1P30 • AL-1260-1P • AL-1260-1P15 • AL-1260-1P20 • AL-1760-1P • AL-1770-1P • AL-1790-1P

**The MVG-Orbit/FR Legacy Series Polarization Positioners** provide accurate, balanced rotation, and controllable velocity for the positioning of devices in test configurations. Their sturdy and straight-forward construction ensures maximum reliability and trouble-free operation, yielding the best size and weight/performance ratio.

Typically, the unit includes the body, precise slew bearings, a DC motor, gear reducer, encoder/synchro, and limit switch assemblies. The turntable surface is designed with a threaded mounting hole pattern for ease of use. A Safe/Operate switch is included to ensure safety.

## APPLICATIONS

- General purpose positioning subsystems
- Far-field & near-field antenna measurements
- Indoor & outdoor use

## PRODUCT HIGHLIGHTS

- Broad selection – 9 models
- Operating loads ranging from 4,000 to 20,000 lbs (1,810 to 9,070 kg)
- Turntable diameters ranging from 20.3 to 30.0 in (516 to 762 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 Polarization Medium Duty Positioners

PARAMETER	UNITS	POSITIONER MODEL								
										
		AL-860-1P	AL-860-1P15	AL-860-1P30	AL-1260-1P	AL-1260-1P15	AL-1260-1P20	AL-1760-1P	AL-1770-1P	AL-1790-1P
Dimensional Drawing Number	DCD	09-2422	09-2422	09-2422	08-2407	08-2407	08-2407	06-0085	10-2116	10-2116

### OPERATIONAL

Bending moment	ft-lbs	6,000	6,000	6,000	12,000	12,000	12,000	20,000	20,000	20,000
	kg-m	830	830	830	1,660	1,660	1,660	2,765	2,765	2,765
Operating load	lbs	4,000	2,000	1,000	12,000	6,000	3,000	20,000	20,000	20,000
	kg	1,810	910	450	5,440	2,720	1,360	9,090	9,070	9,070
Delivered torque	ft-lbs	500	50	25	1,200	100	50	2,800	5,000	10,000
	kg-m	70	7	4	170	14	7	390	690	1,380
Withstand torque	ft-lbs	600	600	-	2,000	2,000	-	4,200	7,500	12,000
	kg-m	80	80	-	280	280	-	580	1,040	1,660
Drive power	hp	1/3	1/3	1/3	3/4	3/4	3/4	3/4	3/4	3/4
Nominal speed	rpm	1.5	15	30	1.3	15	20	0.5	0.3	0.15
Standard angle Transducer format		Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder	Incremental encoder
Standard accuracy	deg	± 0.03	± 0.04	± 0.25	± 0.03	± 0.04	± 0.25	± 0.02	± 0.02	± 0.02
Maximum backlash	deg	0.05	0.2	0.2	0.05	0.2	0.2	0.05	0.05	0.05

### PHYSICAL

Height	in	20.3	20.3	20.3	12.7	12.7	24.5	14.4	18.0	18.0
	mm	515	515	515	322.5	322.5	623	366	457	457
Weight	lbs	200	200	200	250	250	250	500	620	620
	kg	91	91	91	113	113	113	227	281	281
Turntable diameter	in	20.3	20.3	20.3	24.1	24.1	24.1	30.0	30.0	30.0
	mm	516	516	516	612	612	612	762	762	762

### ENVIRONMENTAL

Operating temperature	- 4° F to 140° F (- 20° C to 60° C)
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PARAMETER	UNITS	POSITIONER MODEL									
		AL-860-1P	AL-860-1P15	AL-860-1P30	AL-1260-1P	AL-1260-1P15	AL-1260-1P20	AL-1760-1P	AL-1770-1P	AL-1790-1P	

### OPTIONS

EN002	Direct incremental encoder (high accuracy)		Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
EN003	Direct absolute encoder (high accuracy)		Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
EN004	Absolute encoder		Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 0.03	± 0.04	± 0.25	± 0.03	± 0.04	± 0.25	± 0.02	± 0.02	± 0.02
SR	Slip ring <sup>3</sup>		SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	
			SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	SR051L SR101L SR201L SR301L SR402L	
RJ	Rotary joint <sup>3</sup>		RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	
			RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L	RJ12L RJ18L RJ26L RJ40L RJ50L
TH	Central thru-hole inner diameter		TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003	TH002 TH003
		in	4	4	4	4	4	4	4	4	4
		mm	102	102	102	102	102	102	102	102	102
EX	Internal harnessing		EX002	EX002	EX002	EX002	EX002	EX002	EX002	EX002	EX002
CF	Connector format <sup>4</sup>	STD	–	–	–	CF001	CF001	CF001	CF001	CF001	CF001
		Backside	CF002	CF002	CF002	CF002	CF002	CF002	CF002	CF002	CF002
LS	Leveling screw (set)		–	–	–	–	–	–	–	–	–
MM	Mounting thread	STD mm	MM002	MM002	MM002	MM002	MM002	MM002	MM002	MM002	MM002
		Other mm	MM003	MM003	MM003	MM003	MM003	MM003	MM003	MM003	MM003
TI	Interface for CR feed		–	–	–	–	–	–	–	–	–

(-) N/A 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
- 2** All 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.  
Single-axis positioners are factory-set at:
  - Polarization Axis: 400° (± 200°)
- 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 MVG-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 and TH003 are available in lieu of rotary joint and/or slip ring options
- 4** Standard connectors on side, optional placement on rear panel (for low profile)

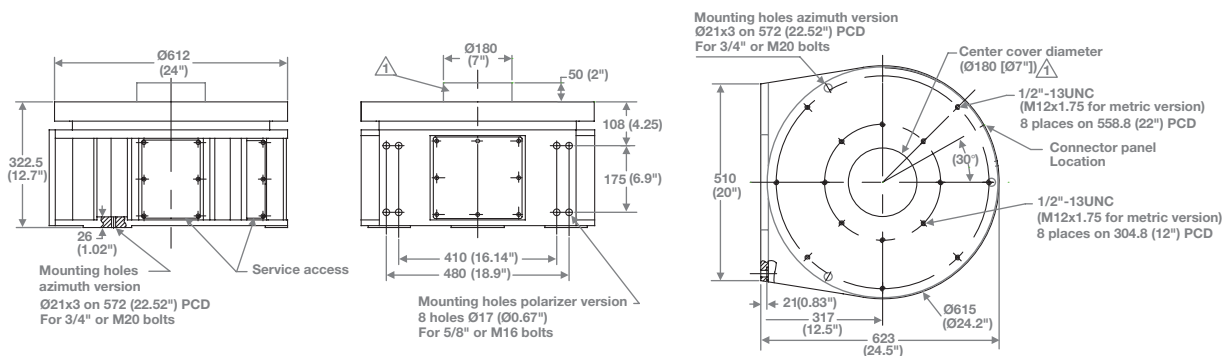
AL-1760-1P



AL-860-1P (Shown with support structure, purchased separately)



Dimensional drawing - AL-1260-1\*



\* Example drawing for general reference, please consult MVG-Orbit/FR for ICD.