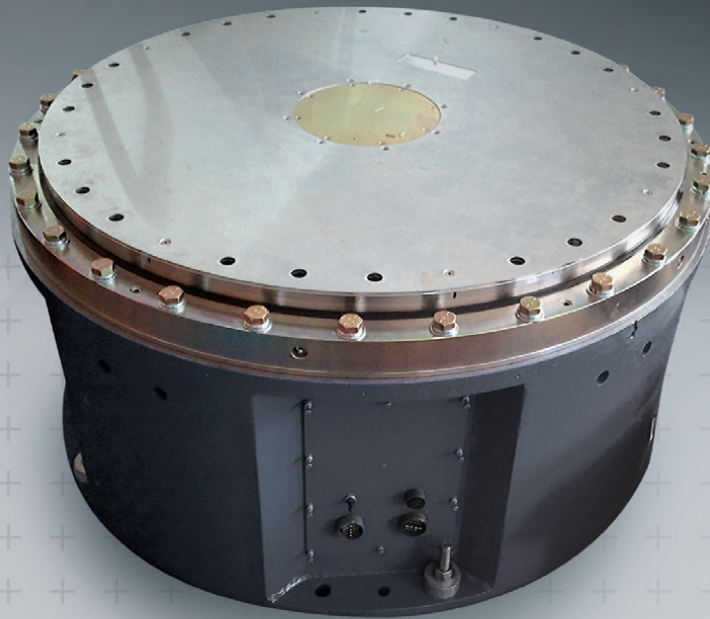




LEGACY SERIES AZ

Azimuth Positioners

HEAVY DUTY



AL- 2760-1 • AL-2760 -1-1.5HP • AL- 2761-1 • AL- 2763-1 • AL- 2860-1 • AL-2860 -1-1.5HP • AL- 2861-1 • AL- 2960-1
AL- 4750-1 • AL- 4760-1 • AL- 4860-1 • AL- 7760-1 • AL- 7760-1-TH • AL- 8860-1 • AL-9960-1

The MVG-Orbit/FR Legacy Series Azimuth Positioners provide accurate, balanced rotation, and controllable velocity. Their rugged yet 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, DC motor, gear reducer, encoder/synchro, and limit switch assembly. 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 – 14 models
- Vertical loads ranging from 50,000 to 550,000 lbs (22,680 to 250,000 kg)
- Turntable diameters ranging from 47.2 to 122.0 in (1,200 to 3,100 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 AZ Heavy Duty Positioners

PARAMETER	UNITS	POSITIONER MODEL						
								
		AL- 2760-1	AL-2760 -1-1.5HP	AL- 2761-1	AL- 2763-1	AL- 2860-1	AL-2860 -1-1.5HP	AL- 2861-1
Dimensional Drawing Number	DCD	04-2335	04-2335	04-2335	04-2335	17-6884-2	17-6884-2	17-6884-2

OPERATIONAL

Bending moment	ft-lbs	75,000	75,000	75,000	75,000	180,000	180,000	180,000
	kg-m	10,370	10,370	10,370	10,370	24,890	24,890	24,890
Vertical load	lbs	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	kg	22,680	22,680	22,680	22,680	22,680	22,680	22,680
Delivered torque ⁶	ft-lbs	10,000	2,963	6,000	600	6,000	2,963	18,000
	kg-m	1,380	410	830	80	830	410	2,490
Withstand torque	ft-lbs	14,000	6,000	14,000	14,000	25,000	6,000	25,000
	kg-m	1,940	830	1,940	1,940	3,460	830	3,460
Drive power	hp	3/4	1.5	3/4	3/4	3/4	1.5	5
Nominal speed ⁶	rpm	0.15	1.0	0.3	3.0	0.2	1.0	0.4
High accuracy encoders	deg	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
Standard accuracy (ABS encoder)	deg	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
Maximum backlash	deg	0.05	0.05	0.05	0.05	0.04	0.04	0.04

PHYSICAL

Height	in	19.0	19.0	19.0	19.0	26.5	26.5	26.5
	mm	482	482	482	482	673	673	673
Weight	lbs	2420	2420	2420	2420	2,667	2,667	2,780
	kg	1100	1100	1100	1100	1,210	1,210	1,261
Turntable diameter	in	47.2	47.2	47.2	47.2	47.2	47.2	47.2
	mm	1,200	1,200	1,200	1,200	1,200	1,200	1,200

ENVIRONMENTAL

Operating temperature	- 4° F to 140° F (- 20° C to 60° C)
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PARAMETER	UNITS	POSITIONER MODEL							
		AL- 2760-1	AL-2760 -1-1.5HP	AL- 2761-1	AL- 2763-1	AL- 2860-1	AL-2860 -1-1.5HP	AL- 2861-1	

OPTIONS

EN001	Incremental encoder (standard accuracy)		Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
EN002	Direct incremental encoder (high accuracy)		Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 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
	Accuracy	deg	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
SR	Slip ring ³		SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L
			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 ⁴		TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD
		in	8	8	8	8	8	8	8
		mm	203	203	203	203	203	203	203
EX	Internal harnessing		EX002	EX002	EX002	EX002	EX002	EX002	EX002
CF	Connector format		Opt	Opt	Opt	Opt	Opt	Opt	Opt
LS	Leveling screw (set)		LS002-10	LS002-10	LS002-10	LS002-10	LS002-10	LS002-10	LS002-10
ST	Stow lock		Opt	Opt	Opt	Opt	Opt	Opt	Opt
MM	Mounting thread	STD	MM002	MM002	MM002	MM002	MM002	MM002	MM002
		Others	MM003	MM003	MM003	MM003	MM003	MM003	MM003

(-) N/A Opt Optional

Specifications - Legacy Series AZ Heavy Duty Positioners

PARAMETER	UNITS								
		AL- 2960-1	AL- 4750-1	AL- 4760-1	AL- 4860-1	AL- 7760-1	AL- 7760-1-TH	AL- 8860-1	AL-9960-1
Dimensional Drawing Number	DCD	28-6505	19-6280-01	19-6280	08-1829-01	10-1828	27-6371	10-1829	210-0753

OPERATIONAL

Bending moment	ft-lbs	180,000	300,000	300,000	600,000	800,000	695,000	1,500,000	2,530,000
	kg-m	24,890	41,480	41,480	82,950	110,600	96,000	207,380	350,000
Vertical load	lbs	50,000	200,000	200,000	200,000	200,000	190,000	400,000	550,000
	kg	22,680	90,720	90,720	90,720	90,720	86,000	181,440	250,000
Delivered torque ⁶	ft-lbs	30,000	30,000	30,000	50,000	35,000	29,000	60,000	108,500
	kg-m	4,150	4,150	4,150	6,910	4,840	4,000	8,300	15,000
Withstand torque	ft-lbs	45,000	45,000	45,000	60,000	50,000	63,000	100,000	123,000
	kg-m	6,220	6,220	6,220	8,295	6,910	8,700	13,830	17,000
Drive power	hp	2	5	5	5	5	1.6	5	5
Nominal speed ⁶	rpm	0.2	0.2	0.2	0.12	0.15	0.15	0.06	0.03
High accuracy encoders	deg	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
Standard accuracy (ABS encoder)	deg	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
Maximum backlash	deg	0.04	0.04	0.03	0.03	0.02	0.03	0.02	0.02

PHYSICAL

Height	in	26.1	24.8	24.8	27.6	30.0	64.0	32.5	35.0
	mm	663	630	630	700	762	1626	826	890
Weight	lbs	2,780	8,000	8,554	9,480	10,000	18,920	15,000	17,600
	kg	1,261	3,629	3,800	4,300	4,536	8,600	6,804	8,000
Turntable diameter	in	47.2	74.4	74.4	74.4	93.3	88.6	108.0	122.0
	mm	1,219	1,880	1,890	1,890	2,370	2,250	2,743	3,100

ENVIRONMENTAL

Operating temperature	- 4° F to 140° F (- 20° C to 60° C)
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PARAMETER	UNITS									
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AL- 2960-1

AL- 4750-1

AL- 4760-1

AL- 4860-1

AL- 7760-1

AL- 7760-1-TH

AL- 8860-1

AL-9960-1

OPTIONS

PARAMETER	UNITS	AL- 2960-1	AL- 4750-1	AL- 4760-1	AL- 4860-1	AL- 7760-1	AL- 7760-1-TH	AL- 8860-1	AL-9960-1
EN001	Incremental encoder (standard accuracy)		Opt	Opt	Opt	Opt	Opt	Opt	Opt
	Accuracy	deg	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
EN002	Direct incremental encoder (high accuracy)		Opt	Opt	Opt	Opt	Opt	-	Opt
	Accuracy	deg	± 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
	Accuracy	deg			± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
SR	Slip ring ³		SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L	SR051L SR101L SR201L SR301L SR402L SR502L
			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 ⁴		TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD	TH002-HD TH003-HD
		in	8	8	8	8	10	48.8	10
		mm	203	203	203	203	254	1240	254
EX	Internal harnessing		EX002	EX002	EX002	EX002	EX002	EX002	EX002
CF	Connector format		Opt	Opt	Opt	Opt	Opt	Opt	Opt
LS	Leveling screw (set)		LS002-6 LS002-10	LS002-16	LS002-16	LS002-16	LS002-16	LS002-16	LS002-24
ST	Stow lock		Opt	Opt	Opt	Opt	Opt	Opt	Opt
MM	Mounting thread		MM002 MM003	MM002 MM003	MM002 MM003	MM002 MM003	MM002 MM003	MM002 MM003	MM002 MM003

(-) N/A Opt Optional

Supplied Accessories

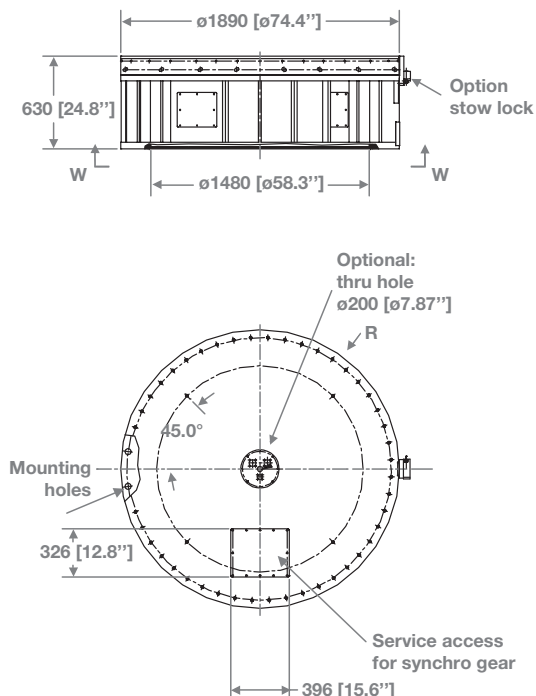
Digital Documentation Set

User manual (Installation, setup, operation & maintenance)

Technical Notes

- I 1** All accuracy data is based on no-load conditions.
Contact MVG-Orbit/FR for accuracy under load conditions
- I 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:
 - Azimuth axis: 400° (± 200°)
- I 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-HD and TH003-HD are available in lieu of rotary joint and/or slip ring options
- I 4** Other center through-hole sizes are optional. Consult MVG-Orbit/FR.
- I 5** All models are delivered standard with ABS encoders.
Other encoders or synchro are optional
- I 6** Drive power optional for 3/4, 1.5, or 5 HP for all HD models.
Torque and speed will be changed accordingly. Consult MVG-Orbit/FR.

Dimensional drawing - AL-4760-1*



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

AL-2860-1



AL-2860-1 in use

