

MI-54000 Family of Elevation-over-Azimuth Positioners



- Permits rotation of elevation axis at fixed azimuth positions
- Rugged construction assures superior reliability and longevity

Description

The MI-54000 Family of Elevation-over-Azimuth Positioners permits the rotation of elevation at fixed positions of azimuth. The MI-54000 Family of Elevation-over-Azimuth Positioners is assembled in the (standard) eccentric configuration. All except the MI-54050 can easily be converted to the concentric configuration during installation.

Applications

This particular orthogonal operation is desired in a telemetry application. The positioners listed may be considered for operation in a temperate climate or within the confines of a radome for a low cost, manual telemetry application.

Specifications

Parameter	Units	54050D	54150D	54230D	54260D	54290D	54450D
Bending Moment	ft-lbs	800	2,500	10,000	10,000	30,000	75,000
	Nm	1,085	3,390	13,558	13,558	40,675	101,687
Vertical Load	lbs	800	2,500	10,000	10,000	30,000	40,000
	kg	363	1,134	4,536	4,536	13,608	18,144
Drive Motor							
Elevation	hp	1/3	1/2	3/4	3/4	3/4	5
	kW	0.25	0.37	0.56	0.56	0.56	3.73
Azimuth	hp	1/3	3/4	3/4	3/4	3/4	5
	kW	0.25	0.56	0.56	0.56	0.56	3.73
Delivered Torque							
Elevation	ft-lbs	800	2,500	10,000	10,000	20,000	75,000
	Nm	1,085	1,085	3,390	13,558	27,116	101,687
Azimuth	ft-lbs	500	1,000	2,750	6,000	6,000	18,000
	Nm	678	813	1,356	3,729	8,135	24,405
Withstand Torque							
Elevation	ft-lbs	800	2,500	10,000	10,000	30,000	75,000
	Nm	1,085	3,390	13,558	13,558	40,675	101,687
Azimuth	ft-lbs	600	1,850	4,200	14,000	14,000	25,000
	Nm	813	2,508	5,694	18,981	18,981	33,896

Max. Full Load Speed							
Elevation	deg/min	200	140	32	32	20	20
Azimuth	rpm	1.3	1.2	0.5	0.2	0.2	0.5
Position Accuracy							
Elevation	deg	0.05	0.05	0.05	0.05	0.05	0.05
- with Inductosyn® encoder	deg	N/A	N/A	±0.005	±0.005	±0.005	±0.005
Azimuth	deg	0.03	0.03	0.03	0.02	0.02	0.02
- with Inductosyn® encoder	deg	NA	NA	±0.005	±0.005	±0.005	±0.005
Total Max. Drive Gear Backlash							
Elevation	deg	0.08	0.05	0.05	0.05	0.03	0.03
Azimuth	deg	0.15	0.1	0.08	0.08	0.08	0.05
Total Elevation Limit-to-Limit Travel	deg	+95;-45	+95;-45	+95;-45	+92;-45	+92;-45	+92;-45
Platform Size	in	18.5 x 21	28 x 28	36 x 36	36 x 36	42 x 42	50 x 50
	mm	470 x 543	711 x 711	914 x 914	914 x 914	1067 x 1067	1270 x 1270
Azimuth Center Access Hole Diameter	in	3	3	3	6	6	6
	mm	76	76	76	152	152	152
Base Outside Diameter	in	24	28.75	36	56	56	56
	mm	610	730	914	1422	1422	1422
Height	in	44.2	46	54.75	83.68	91	106.75
	mm	1,123	1,156	1,389	2,125	2,311	2,711
Net Weight	lbs	625	800	1,450	4,100	6,470	9,500
	kg	283	363	658	1,860	2,935	4,309

Configuration Options

Feedback		Limit Switches		Rotary Joint w/ RF path		Slipring Assembly		RF Switch Wiring		Concentricity
-FDS		-LS		-RJ0		-SR0		-SW0		-CE
-FDS	Dual Speed Synchro (36:1) Both axes	-LS0	No Limit Switches	-RJ0	No Rotary Joint	-SR0	No Slipring	-SW0	No RF Switch Wiring	-CE Eccentric
-FI	Inductosyn Both axes	-LS	Adjustable Limit Switches, AZ only	-RJ18	DC-18GHz, AZ only	-SR60	60 Conductor, AZ only	-SW	RF Switch Wiring	-CC Concentric
				-RJ26.5	DC-26.5GHz, AZ only	-SR84	84 Conductor, AZ only			
				-RJ40	DC-40GHz, AZ only					

Option Compatibility Table

Model	Feedback	Limit Switches	Rotary Joint w/ RF path	Slipring Assembly	RF Switch Wiring	Concentricity
MI-54050D	FDS only	Yes	Yes	SR60 only	Yes	No
MI-54150D	FDS only	Yes	Yes	SR60 only	Yes - Note 1	Yes
MI-54230D	FDS only	Yes	Yes	Yes	Yes - Note 1	Yes
MI-54260D	Yes	Yes	Yes	Yes	Yes - Note 1	Yes
MI-54290D	Yes	Yes	Yes	Yes	Yes - Note 1	Yes
MI-54450D	Yes	Yes	Yes	Note 2	Yes - Note 1	Yes

Note 1 - Select either RF Switch Wiring or Slip Ring Assembly but not both

Note 2 - Available on special request. Consult factory.



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