

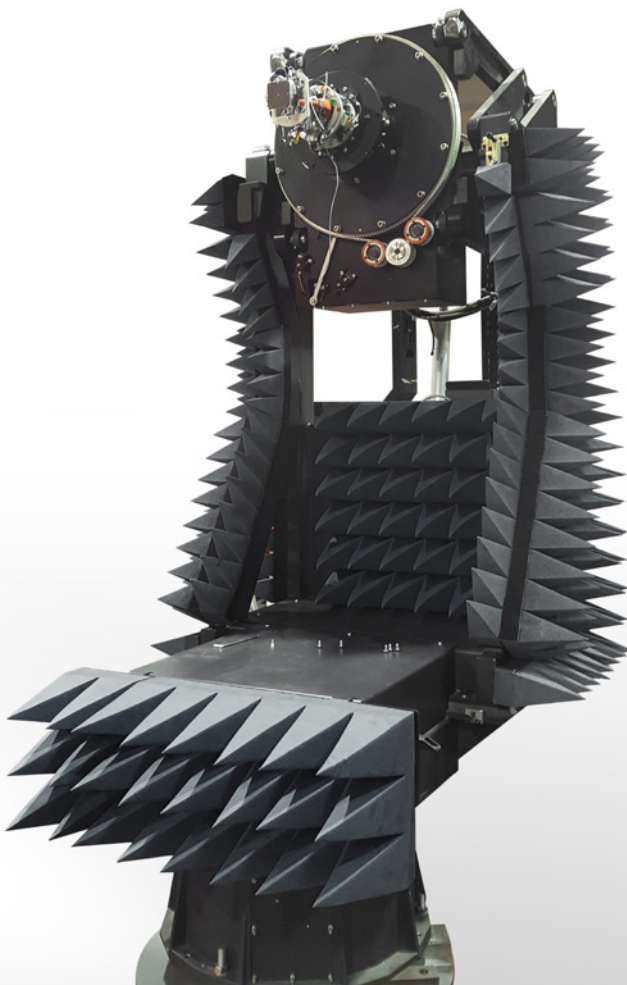
Virtual EL/AZ/Roll Positioner

AL-9013 • AL-9205

The EL/AZ/Roll Positioner represents the latest generation of multi-axis rotary positioning medium-duty subsystems. It offers enhanced capabilities and improved performance relative to size and incorporates new engineering advances.

Particularly suited for testing direction-sensing antennas, the virtual elevation axis enables rotation of a DUT around its phase center, placing the mechanical support system behind the DUT. This feature maintains the center of the DUT in one place, while eliminating scattering and interference from the positioning structure.

AL-9205



Applications

- Automated radar application subsystems
- General purpose positioning subsystems
- Far-field & near-field antenna measurements
- Indoor use

Product Highlights

- Virtual elevation axis
- No interference from structure on DUT measurement results
- Optimum performance relative to size
- Vertical load up to 88 lbs (40 Kg)
- AUT mounting interface diameter - 544 mm
- Angular positioning accuracy
- Low backlash design
- Closed loop servo control
- Precision bearings
- Industry-standard wiring
- Tachometer for optimum speed regulation & control
- Wide operating temperature range: 32° F to 104° F (0° C to 40° C)
- Fully enclosed design of drive gear train & data take-off
- Wide variety of available options

Specifications – Performance Series Virtual EL/AZ/Roll Positioner

PARAMETER	UNITS	POSITIONER MODELS	
		AL-9013	AL-9205
Dimensional Drawing Number	DCD	218-0200	218-0200-2

OPERATIONAL

Bending moment		ft-lbs	115	115
		kg-m	16	16
Vertical load	Azimuth	lbs	88	88
		kg	40	40
	Elevation	ft-lbs	115	115
		kg-m	16	16
	Roll	ft-lbs	20	20
		kg-m	3	3
Drive power	Azimuth	hp	1/3	1/3
	Elevation	hp	3/4	3/4
	Roll	hp	1/8	1/8
Nominal speed	Azimuth	deg/sec	12	12
	Elevation	deg/sec	6	6
	Roll	deg/sec	12	12
Standard accuracy (no load)	Azimuth	deg	± 0.03 ¹	± 0.03 ¹
	Elevation	deg	± 0.08 ²	± 0.08 ²
	Roll	deg	± 0.1	± 0.1
Repeatability	Azimuth	deg	0.005	0.005
	Elevation	deg	0.03 ³	0.03 ³
	Roll	deg	0.05	0.05
Maximum backlash	Azimuth	deg	0.05	0.05
	Roll	deg	0.05	0.05
Travel	Azimuth	deg	± 135	± 200
	Elevation	deg	± 60	± 60
	Roll	deg	± 100	± 200
Elevation limit-to-limit travel		deg	± 60.5	± 60.5

PHYSICAL

Height at 0° elevation	in	90.9	90.9
	mm	2310	2310
Weight	lbs	1157	1157
	kg	525	525
DUT interface plate diameter	in	21.42	21.42
	mm	544	544

ENVIRONMENTAL

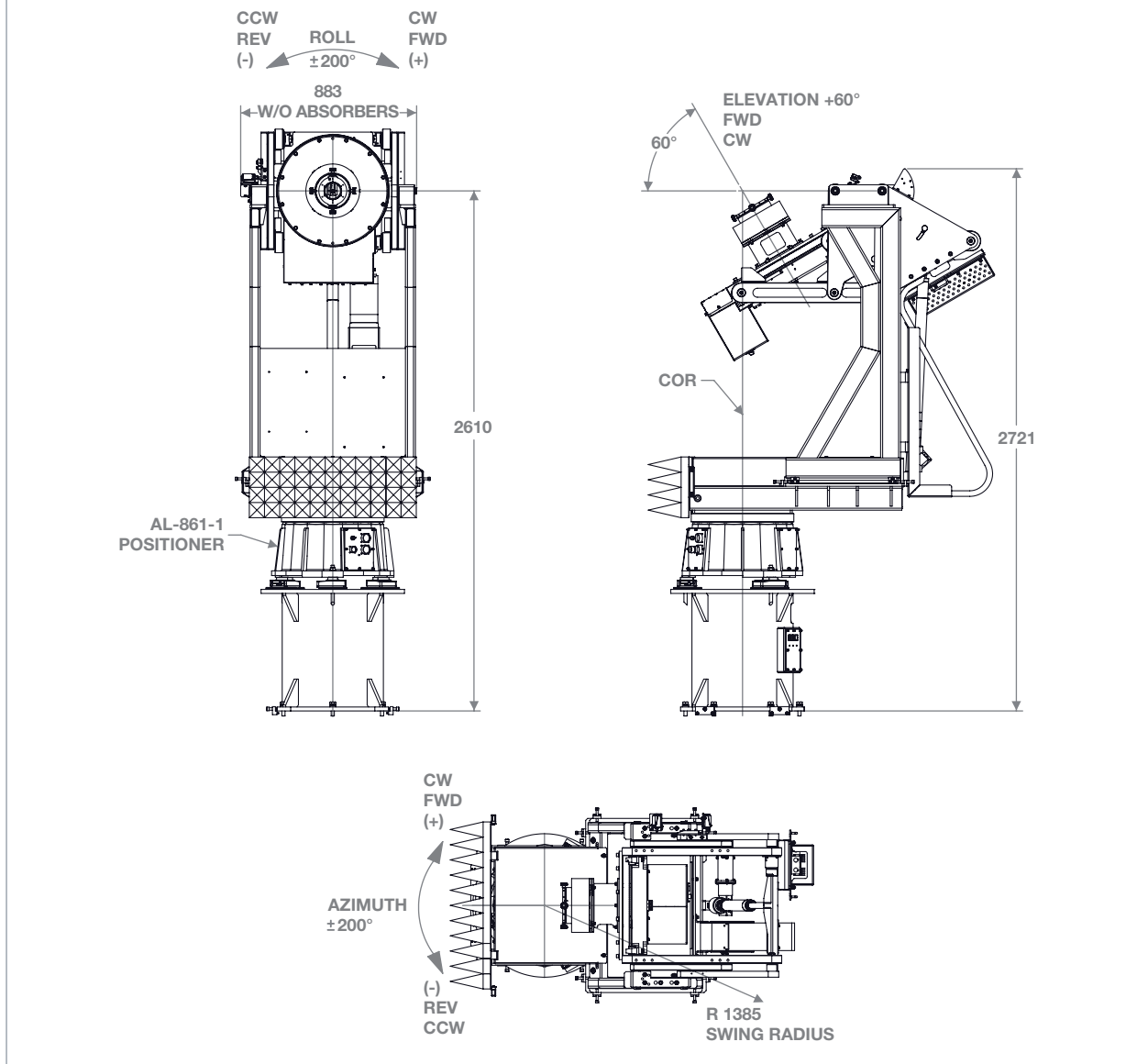
Operating temperature	32° to 104° F (0° to 40° C)
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¹ Optionally, higher azimuth accuracy is available ± 0.01

² Optionally, higher elevation accuracy is available ± 0.013

³ Values corresponding standard accuracy

Dimensional drawing - AL-9205 - Example configuration with gimbal



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

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** Limit switches are enabled regardless of a specified rotary joint or slip ring. Limit switches are capable of approx. $\pm 135^\circ$ AZ (for the AL-9013) & $\pm 200^\circ$ AZ (for AL-9205), $\pm 60^\circ$ Elevation, $\pm 200^\circ$ Roll, total travel.
- 3** Gimbal is optional.
- 3** Slip ring & rotary joint options:
 - 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.



Contact us for more information

www.mvg-world.com/en/contact

www.mvg.link/positioners

