

AL-4048D El/Az Positioner

Ultra-Capacity, Highly Accurate Tracking Positioner

The AL-4048D is a dual drive, highly accurate, self-contained elevation over azimuth tracking positioner designed to support large antennas (7.5-10 m in diameter). Accordingly, it is well-equipped to meet the demanding requirements of applications such as longer range aeronautical telemetry tests, tracking of LEO (Low Earth Orbit) satellites for high resolution earth observation missions and tracking of MEO (Medium Earth Orbit) satellites for navigation applications. The AL-4048D is also suitable for tracking GEO (Geostationary Earth Orbit) satellites (for the higher bands such as Ka and above).

The modular system can be modified to meet customers' specific requirements based on ORBIT's field-proven building blocks. The system is easy to assemble and dismantle and includes comprehensive BIT (Built-in-Test) capabilities for the entire pedestal.

Key Features

- Elevation Over Azimuth axes configuration (stabilization is optional)
- Four high power, digital servo amplifiers to control antenna motion
- Dual drive, zero backlash enabling high torque and stability
- Brushless motor and planetary gear assembly
- Modular & easily maintainable
- Robust, reliable and environmentally durable

Typical Applications

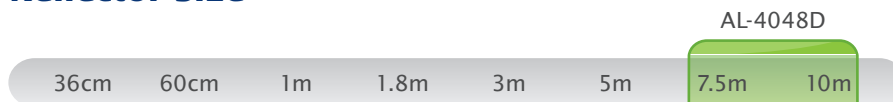


LEO/MEO
Satellite Tracking



Aeronautical
Test Telemetry

Supported Antenna Reflector Size



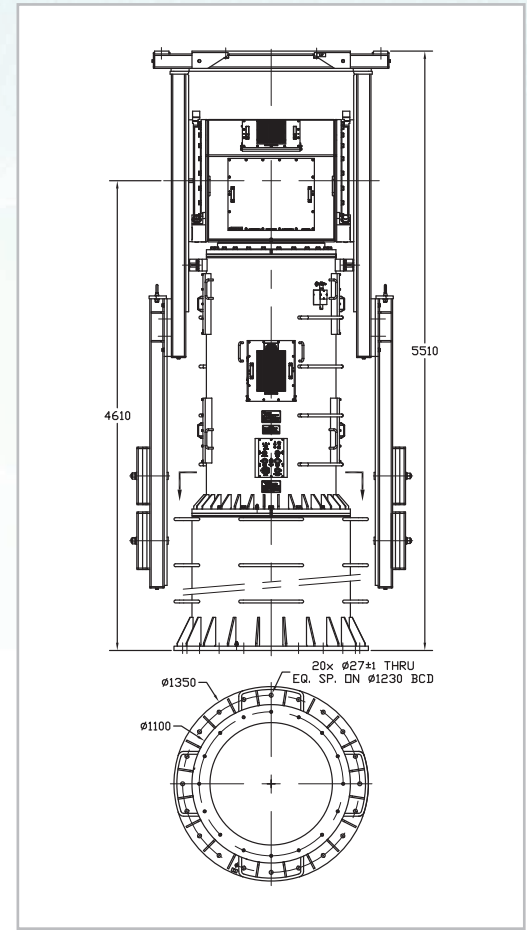
AL-4048D Operating Specifications*

Parameters	Specification
Bearing Moment Capacity (static)	60,000 Nm (44,000 ft·lb)
Maximum Payload	3,500 kg (7,700 lb)
Delivered Torque	21,400 Nm (15,800 ft·lb)
Peak Torque	28,400 Nm (21,000 ft·lb)
Peak Velocity	10 deg/sec
Peak Acceleration	10 deg/sec ²
Backlash	Zero (dual drive)
Data Take-off Accuracy	± 0.03 deg
Orthogonality	0.02 deg max
Limit-to-Limit Travel	± 200 deg Azimuth** -5 up to +185 deg
Mechanical Stops (Shock absorber mechanism)	-7 up to +187 deg Elevation
Motor Type (with integral encoder and FAIL-SAFE brake)	Brushless
Position Indicator	Absolute Encoder
AC Input Voltage	110/220 V
Power Consumption	25 kVA max
Weight (including base riser)	5,500 kg (12,000 lb)
Rotary Joint (AZ) ²	option
Slip-Ring (AZ) ²	option
Antenna Motion System	Integrated Digital Servo Amplifier (DSA)
Position Control Interface	RS-422
Operational Safety	Over-current limit, voltage and temperature protection, electrical limit switch and mechanical stop.

* Specifications apply both for elevation and azimuth axes unless otherwise specified

** When slip-ring or rotary joint options are selected, the azimuth travel is Nx360 degrees

General View of AL-4048D



All measurements are subject to change without prior notification

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AL-4048D Environmental Specifications

Parameters	Specification		
Temperature range	Operating	-20°C to 55°C (-4°F to +131°F)	
	Storage	-40°C to 70°C (-40°F to +159°F)	
Relative humidity (including condensation)	Operating	Up to 95% @ 25°C (80°F)	
	Storage	100% @ 25°C (80°F)	
Rain		< 150 mm/hour (6 in/hour)	
Wind speed	Operating	Continuous	80 km/h (50 mph) for 7m dish size
		Intermittent (gusts) with reduced performance	Up to 100 km/h (62 mph) for 7m dish size
	Non-Operating Transport, Survival	Both axes stowed, with elevation axis at zenith (90°)	180 km/h (112 mph) for 7m dish size
Altitude	Operating	3,500 m (12,000 ft)	
	Non-operating (transport)	12,000 m (40,000 ft)	
Insects and fungi	Designed for tropical regions (using fungus resistant materials)		
Salt sea atmosphere, sand, dust, solar radiation, vibration & shock	Suitable for outdoor ground-mobile applications, operating under environmental conditions encountered in coastal regions		

For additional options please contact our sales department at: www.orbit-cs.com/contact-us

