

AL-4034D EI/Az Positioner

Heavy Duty, Highly Accurate Tracking Positioner

The AL-4034D is a dual drive, highly accurate, self-contained elevation over azimuth tracking positioner designed to support large-sized antennas. 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-4034D 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.



Typical Applications



Aeronautical
Test Telemetry



LEO/MEO
Satellite Tracking



Weather
Radar

Supported Antenna Reflector Size

AL-4034D

36cm | 60cm | 1m | 1.2m | 1.8m | **3m | 5.5m** | 10m

Key Features

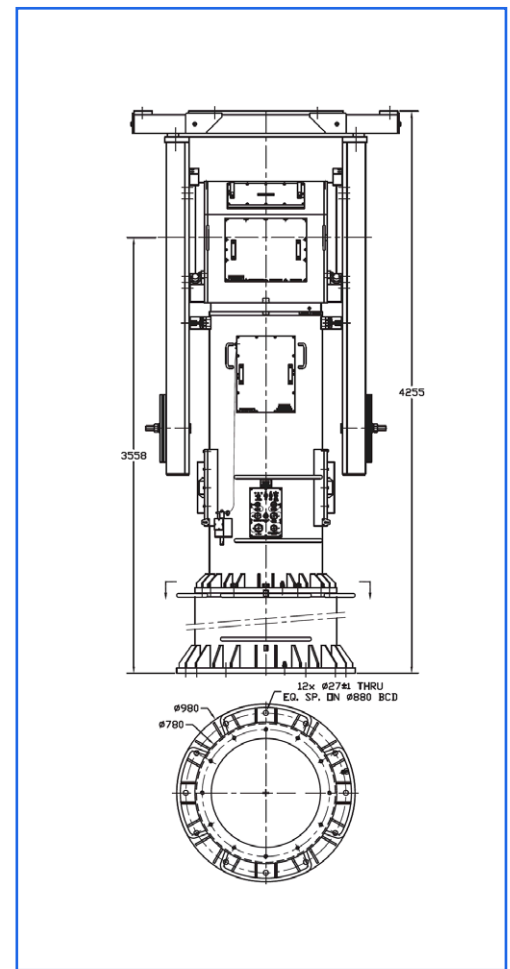
- Elevation Over Azimuth axes configuration (stabilization is optional)
- Four high power, digital servo amplifier to control antenna motion
- Dual drive, zero backlash enabling high torque and stability
- Brushless motor and planetary gear assembly
- Modular & easily maintainable
- Robust, reliable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

AL-4034D Operating Specifications*

Parameters	Specification
Bearing Moment Capacity (static)	30,000 Nm (22,000 ft-lb)
Maximum Payload	1400 kg (3100 lb)
Delivered Torque	5750 Nm (4255 ft-lb)
Peak Torque	8425 Nm (6220 ft-lb)
Peak Velocity	15 deg/sec
Peak Acceleration	15 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	10 kVA max
Weight (including base riser)	2100 kg (4630 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-4034D



All measurements are subject to change without prior notification

AL-4034D Environmental Specifications

Parameters	Specification
Temperature range	Operating: -25°C to 55°C (-13°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: 100 km/h (62 mph) for 3m dish size, 90 km/h (56 mph) for 5m dish size
	Operating - Intermittent (gusts) with reduced performance: Up to 120 km/h (75 mph) for 3m dish size, Up to 100 km/h (62 mph) for 5m dish size
	Non-Operating Transport, Survival: Both axes stowed, with elevation axis at zenith (90°): 192 km/h (120 mph) for 3m dish size, 192 km/h (120 mph) for 5m 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

