

# AL-4016S EI/Az Positioner

## Unmatched Accuracy for Your Mission-Critical Applications

The AL-4016S is a highly accurate self-contained elevation over azimuth tracking solution that delivers high performance under the most demanding operational conditions. The AL-4016S may be ground-based, mobile, transportable or shipboard (with additional stabilization), which makes it suitable for a variety of applications.

The 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



Air - Ground  
Communication



Aeronautical  
Test Telemetry



Land/Sea P2P  
Communication

### Supported Antenna Reflector Size

AL-4016S

36cm | 60cm | 1m | 1.2m | 1.8m | 3m | 5m | 10m

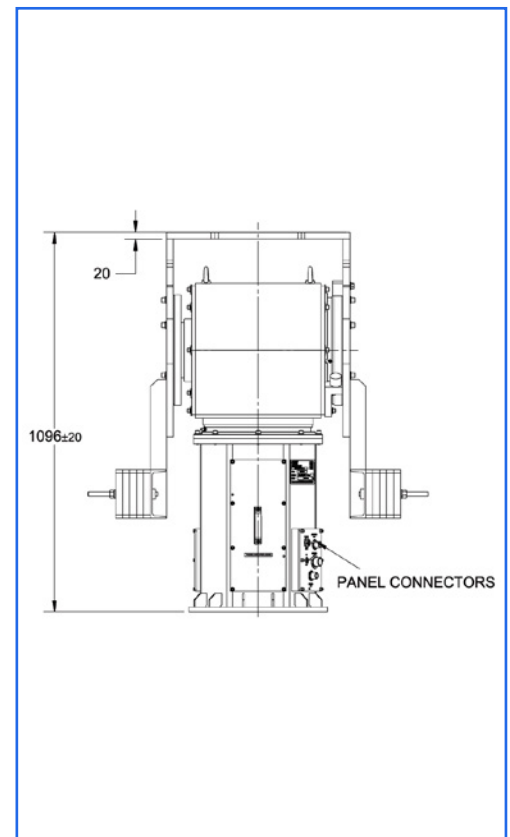
### Key Features

- Elevation Over Azimuth axes configuration (stabilization is optional)
- Digital servo amplifier to control antenna motion
- Highly dynamic with low backlash for highest accuracy
- Brushless motor and planetary gear assembly
- Modular & easily maintainable
- Robust, reliable and environmentally durable

## AL-4016S Operating Specifications\*

Parameters	Specification
Bearing Moment Capacity (static)	1100 Nm (800 ft-lb)
Maximum Payload	120 kg (260 lb)
Delivered Torque	200 Nm (150 ft-lb)
Peak Torque	270 Nm (200 ft-lb)
Peak Velocity	Up to 30°/Sec
Peak Acceleration	Up to 30°/Sec <sup>2</sup>
Backlash	0.07 deg
Data Take-off Accuracy	± 0.04 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	0.47 kVA
Weight (including base riser)	150 kg (330 lb)
Rotary Joint (AZ) <sup>2</sup>	option
Slip-Ring (AZ) <sup>2</sup>	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.

## General View of AL-4016S



All measurements are subject to change without prior notification

\* 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

## AL-4016S 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: 90 km/h (55 mph) for 1.2m dish size 60 km/h (40 mph) for 1.8m dish size
	Operating - Intermittent (gusts) with reduced performance: Up to 120 km/h (75 mph) for 1.2m dish size Up to 85 km/h (55 mph) for 1.8m dish size
	Non-Operating Transport, Survival: Both axes stowed, with elevation axis at zenith (90°): 180 km/h (110 mph) for 1.2m dish size 130 km/h (80 mph) for 1.8m 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