

# Model **AT-23 Series** Dual Axis Directional Antenna

Product Data Sheet

## Features:

- Hi Gain 23dBi
- Slotted Waveguide Array
- Flexible Control Interfaces
- TCDL Frequencies
- Low SWaP Design
- Low Profile Radome (Optional)
- Direct Drive (Both Axes)
- Brushless DC Motor
- RH Circular Polarization
- Airborne Qualified
- Transmit and Receive



The AT-23 Directional Antenna is designed for use in airborne and ground Tactical Common Data Link (TCDL) applications. The AT-23 features a Dual Axis Positioner and a slotted waveguide array antenna. The slotted waveguide array has antenna gain of +23 dBi at the user output connector.

The system's brushless DC motors and servo controls have been sized to accommodate the various array configurations.

Servo controls are configured with full motion controllers which can be configured to operate in torque, velocity or position mode via serial (RS-422) or analog (+/-VDC) interface. High accuracy (16 bit) position resolution provided.

The AT-23 has the ideal performance qualities for a small ground terminal or a moderate airborne terminal with the flexibility of the slotted array and various antenna gains.

## Related Data Sheets

- **AT-10 Single Axis Directional Antenna**
- **AT-20 Dual Axis Directional Antenna**
- **HD-30T Dual Axis Ground Data Terminal**

# Model AT-23 Dual Axis

## Specifications\*

### KEY PERFORMANCE VALUES WITH STANDARD HARDWARE COMPLEMENT

RF/Electrical Parameters		Ku-band
Frequency Range	14.40 - 15.35 GHz	
VSWR	1.8:1 Maximum	
Antenna Gain	23.0 dBi nominal	
Antenna Type	Slotted Waveguide Array	
Beamwidth Azimuth / Elevation	9° nominal	
Axial Ratio	<2.5 dB 0° to 95°	
Polarization	RHCP (Tx/Rx)	
Sidelobe Performance	≤-12 dBp 0° to 95°	
Tested Certification	MIL-STD-810F MIL-STD-461E	
Mechanical Parameters (Nominal @ 20°C)		
Positioner Type	Direct Drive; Brushless DC Motor	
Velocity	≤ 50°/sec	
Acceleration	≤ 120°/sec <sup>2</sup>	
Travel	Azimuth 360° continuous / Elevation -12° to +95°	
Weight	< 12 lbs.	
Power Consumption	140W @ 28 VDC	
Compliance Gear	0° - Direct Drive Both Axes	
Mounting Flange Diameter / Antenna Depth	8.1 inches / 12.5 inches	
Control Interface Connector	1 MIL control; Type "N" RF	
Environmental Parameters and Control Interface		
Temperature	Operating	-60°C to +70°C
	Storage/Transit	-60°C to +85°C
Control Interface	RS-422; Analog	
Operating Voltage	+28 VDC	
Inrush current	≤ 5 A	
Relative Humidity	up to 100% Non-Condensing (In-Radome)	
Altitude	up to 60,000 ft. (Enhanced Version Available)	
Pointing Accuracy	0.2° rms	

\*Specifications subject to change.