

# PROFEN

## PSA-180XY Earth Station Antenna System



PROFEN's PSA series XY positioner-type antenna systems in the range of 1.8M to 7.3M are specially developed for LEO and MEO in traffic and TT&C operation. It can also be preferable for GEO operation if fast satellite tracking is a requirement. The positioner's unique design can eliminate the overhead keyhole issue encountered in traditional three-axis AZ/EL mount antennas

PSA-180XY has the 1.8M carbon fiber reflector in X-Band with dual optic sub-reflector configuration. The ACU system, a very important part of the PSA-180XY, can operate in various satellite tracking modes, including step tracking, TLE-based program tracking, time-coordinate-based program tracking, and mono pulse tracking (option) specially developed for LEO and MEO-type satellite operations.

The ACU is monitored and controlled remotely over an IP network with an internet browser. It is next to the antenna positioner as a climate-controlled Outdoor Drive Unit (ODU), which houses all the necessary electronics, including CPU, power supplies, and motor drivers.

### Key Features

- X/Y type positioner
- No keyhole at the zenith
- Ideal for tracking LEO, MEO, and GEO satellite
- Precision carbon fiber composite antenna
- Dynamic satellite tracking and accurate pointing
- Backlash free drive and brake system.
- Based on demand antenna system is available in other frequency bands in L, S, C, X, Ku, K, and Ka.

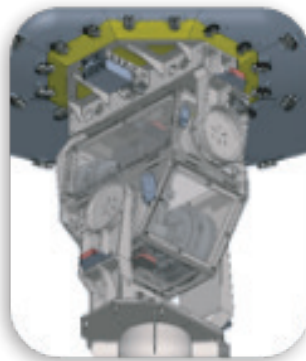
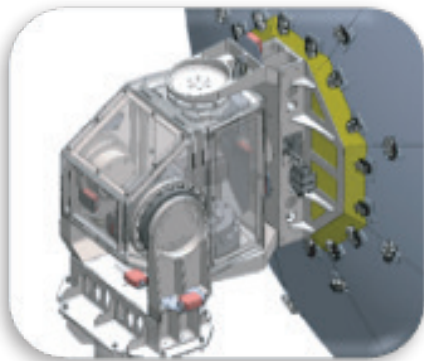
### Typical Applications

- Earth Observation and Imaging
- Remote Sensing
- Satellite Communication
- TT&C type applications
- Telemetry ground station for UAV and missile applications

# PSA-180XY Earth Station Antenna Specification\*

Positioner Mechanics		Environmental	
Dish Size and Type	1.8m parabolic	Wind Speed	70 km/h wind (Operational) 200 km/h wind (Survival)
Pointing Accuracy	<0.1°	Temperature	-30°C - +55°C (Operational) -40°C - +65°C (Survival)
Acceleration	5°/s <sup>2</sup> typical	Humidity	98% Relative Humidity
Velocity	5°/s typical	Driving Rain	Up to 110 mm/hr
Movement	Diagonal in X and Y simultaneously	Solar Radiation	1100 Watt/m <sup>2</sup>
Axis Travel	Full hemispheric coverage	De-ice system	Reflector and Feed System
Motors	220VAC Single phase servo motors in X and Y axis	Weight	~350kg

Antenna RF Specifications			
Antenna Size	1.8m	Mid Band Gain	Tx: 40.7 dBi Rx: 40.1 dBi
Antenna Type	Parabolic with splash plate sub-reflector	Beam width	1,43° @8.15 GHz 1,55° @7.5 GHz
Axial Ratio	1.13 dB	VSWR	1.50:1
Polarization	Circular	G/T	18.5 dB/K w/60K LNA
Tx to Rx Isolation	85 dB	RF Interface	Rx/Tx WR-112 (Flat)
Frequencies	Tx 7.90 - 8.40 GHz Rx 7.25 - 7.75 GHz	Color	White (other colors optionally available)
Side Lobe Performance	ITU-R S.580-6	Antenna Weight	~22kg



**How to Buy?**



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