

12M fixed remote sensing satellite receiving antenna

12M fixed remote sensing satellite receiving antenna is one of remote sensing receiving antenna series developed by our company, which is applied for receiving high-speed information data rate on sea and meteorology. This type of antenna adopts Cassegrain dual-reflector antenna, AZ-EL and tilted 3-axis antenna pedestal. The antenna can operate at L, S or X-band; and dual-band of L/S, L/X or S/X; or can also operate at tri-band of L/S/Ku, L/X/K or S/X/Ku. And Ku-band is applied for satellite communication. When tri-band operates simultaneously, the antenna adopts tri-band feed. Its tracking mode has three categories which are manual tracking, program tracking and mono-pulse auto tracking.

Main Performance Specification

Item	Electrical Specification	Parameter
1	Antenna type	Cassegrain dual-reflector antenna
2	Antenna pedestal type	AZ-EL and titled 3-axis
3	Operational band	L, S, X-band or L/S, L/X, S/X dual-band or tri-band of L/S/Ku, L/X/Ku, S/X/Ku
4	Antenna efficiency	50%~55%
5	Polarization	Circular
6	Sidelobe	First sidelobe $\leq -14\text{dB}$
7	VSWR	$\leq 1.5:1$
8	Circular polarization axial ratio	1.22:1(single band) or 1.41:1(dual-band or tri-band)
9	Antenna travel range	Az: $\pm 360^\circ$ El: $-1^\circ \sim 181^\circ$ Tilt: $\pm 7^\circ$
10	Travel speed	Az: $0.01^\circ/\text{S} \sim 20^\circ/\text{S}$,
		El: $0.01^\circ/\text{S} \sim 12^\circ/\text{S}$
		Tilt: $0.1^\circ/\text{S} \sim 0.2^\circ/\text{S}$
11	Travel acceleration	Az: $0.001^\circ/\text{S}^2 \sim 5^\circ/\text{S}^2$,

		EI: $0.001^{\circ}/S^2 \sim 2^{\circ}/S^2$
12	Operational mode	Manual control, assigned position (digital guiding), program tracking, mono-pulse auto tracking, self-checking
13	Tracking mode	Manual tracking, program tracking and mono-pulse auto tracking
14	Pointing accuracy	1/8 half power beam width (X-band)
15	Tracking accuracy	1/10 half power beam width
16	Monitor and interface requirement	It can communicate with monitoring computer. The interface is RS232/422/RS485 or network interface
17	Power supply	220V AC $\pm 10\%$, 380V AV $\pm 10\%$, 50Hz $\pm 5\%$
18	Total antenna weight	38000Kg
19	Power	40000W

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