ZD-KXAT170_8B1L1E1

CPRA Protected Antenna

Technical Specification V2.0

Catalogue

1. Product Overview

The ZD-KXAT170_8B1L1E1 is a CRPA-protected antenna designed to handle 8 channel reception, down-conversion, filtering, and processing of BDS_B1, GPS_L1, and GAL_E1 signals. Comprising an antenna array, RF module, and processing module, it provides protection against anomalous electromagnetic signals in seven directions. Ideal for scenarios requiring high-precision positioning in electromagnetic environments, this antenna significantly enhances the stability of positioning devices in complex electromagnetic conditions.

Figure 1. ZD-KXAT170_8B1L1E1 Protective Antenna

2. The Key Technical Indexes

2.1 Antenna Array	Antenna array elements	8-channel B1/L1/E1 array
	Input frequency	BSD_B1: 1561.098MHz±2.046MHz; GPS_L1: 1575.42MHz±1.023MHz; GAL_E1: 1575.42MHz±12.276MHz
2.2 Signal Processing	Radio frequency output power	-50dBm to-70dBm
	Signal types	broadband, narrowband, sweep, and pulse, etc.
	Processing direction count	7
	Signal processing performance of B1, L1, and E1	
	Single-direction performance	≥110dB (reference signal strength-130dBm)
	Three-directions performance	≥100dB (reference signal strength-130dBm)
	Seven directions performance	≥85dB (reference signal strength: -130dBm)
2.3 Optional Positioning Performance	Cold start time	≤60 seconds (including self-test time)
	Hot start time	≤10s
	Lost lock reacquisition time	≤2s (within 5s of loss)
	Positioning accuracy	≤10m
	Speed measurement accuracy	≤0.2 m/s
	Anti-Deception Capability (Optional)	

2.4 Reliability	Mean Time Between Failures (MTBF)	≥5000 hours
	Mean Time To Repair (MTTR)	≤30 minutes
	Continuous working time	≥24 hours
2.5 Environmental Suitability	Operating temperature	-45℃ to +70℃, 10% to 90% relative humidity (no condensation)
	Storage conditions	-50℃ to +75℃, 10% to 95% relative humidity (no Condensation)
	Water resistance rating	IP65

3. Interface and External Dimensions

3.1 Interface

- The airborne RF interface is SMA-KF.
- Power interface: J30J-9ZKP, with pin definitions as shown in Table 1 below:

Table 1 Signal Definition Table

Order number	Signal definition	Signal description	Explain
1	+12V~+32V	Power input	Antenna power supply
2	+12V~+32V	Power input	
3	GND	Power ground	
4	GND	Power ground	
5	GND	Signal ground	Data port
6	RX	232_RXD0	
7	Pulse per second	1PPS signal +	
8	TX	232_TXD0	
9	NC	NC	

3.2 Structural Dimensions and Appearance

Device dimensions: Diameter (165±0.5) mm, Height (63±0.5) mm, as shown in Figure 2 below:

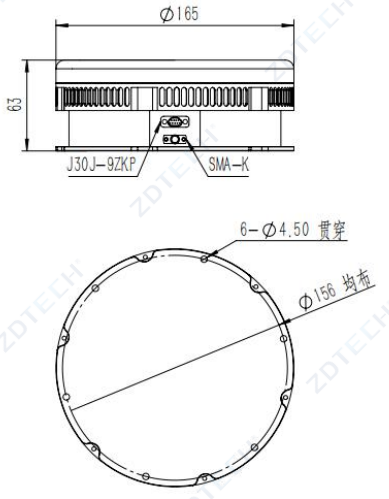

Figure 2.ZD-KXAT170_8B1L1E1 Protective Antenna Structural Diagram

4. Power Supply and Power Consumption

- Input voltage: +12V to +32V
- Power consumption: ≤20W

5. Weight

Magnesium alloy version: ≤900g

6. Delivery List

The equipment and accessories included in this product delivery are listed in Table 2 below:

Table 7-1 KXAT170_8B1L1E1 Protective Antenna Product Matching Table

NO.	Product Name	Qty	Unit	Remark
1	Protective antenna	1	Table	-
2	Product Certificate of Conformity/Warranty Card	1/1	Portion	Paper
3	Test Report	1/1	Portion	Paper
4	Power supply cable	1	Root	J30J-9TL