

ZD-KXAT401_4B1L1E1
CPRA Protected Antenna
Technical Specification V2.0

Catalogue

- 1. Product Overview**
- 2. The key technical indexes**
 - 2.1 Aerial array**
 - 2.2 Signal processing**
 - 2.3 Location performance(optional)**
 - 2.4 Reliability**
 - 2.5 Environmental suitability**
- 3. Interface and dimensions**
 - 3.1 Interface**
 - 3.2 Structural dimensions and appearance**
- 4. Power supply and power consumption**
- 5. Weight**
- 6. Delivery list**

1. Product Overview

The ZD-KXAT401_4B1L1E1 is a CRPA (Correlated Reflective Protection Array) protective antenna designed to handle four-channel signals: BDS_B1, GPS_L1, and GALILEO_E1. It performs signal reception, amplification, down-conversion, filtering, and processing, powered by 12V-32V. Comprising an antenna array, RF module, and processing module, this system provides three-directional electromagnetic signal protection. Ideal for environments requiring high-precision positioning, it significantly enhances the stability of positioning devices in complex electromagnetic conditions.



Figure 1. ZD-KXAT401_4B1L1E1 Protective Antenna

2. The Key Technical Indexes

2.1 Aerial Array	Antenna array	4-channel B1/L1/E1 antenna array
	Input frequency	BSD_B1: 1561.098MHz±2.046MHz; GPS_L1: 1575.42MHz±1.023MHz; GALILEO_E1:1575.42MHz±12.276MHz
	Input impedance	50Ω
	Voltage standing wave ratio	≤2
2.2 Signal Processing	Number of channels	4 channels (BDS_B1,GPS_L1,GALILEO_E1)
	Signal types	broadband, narrowband, sweep, and pulse, etc.
	Signal processing bandwidth	20MHz
	Processing direction count	3
	Single-direction performance	≥100dB@-130dBm
2.3 Location Performance(optional)	Three-channel performance	≥90dB@-130dBm
	Cold start time	≤60 seconds (including self-test time)
	Hot start time	≤10s
	Positioning accuracy	≤10m
	Anti-Deception Capability (Optional)	≤10m
2.4 Reliability	Mean Time Between Failures (MTBF)	≥2000 hours
	Continuous working time	≥24 hours

2.5 Environmental
Suitability

Operating temperature

-45℃ to +70℃, 10% to 90% relative
humidity (no condensation)
-45℃ to +75℃, 10% to 90% relative
humidity (no Condensation)

Storage conditions

3. Interface and External Dimensions

3.1 Interface

- RF interface is SMA-KF and the impedance is 50 Ω .
- 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	Power port
2	+12V~+32V	Power input	
3	GND	Power supply ground	
4	GND	Power supply ground	
5	232_TX	Presentation of information	Process component debugging interface
6	232_RX	Data-in	
7	GND	Signal ground	Obligate
8	NC	NC	
9	NC	NC	

3.2 Structural Dimensions and Appearance

Device appearance:gray

Device dimensions: : 100mm×100mm×32mm (tolerance ±0.5mm), as shown in Figure 2 below:

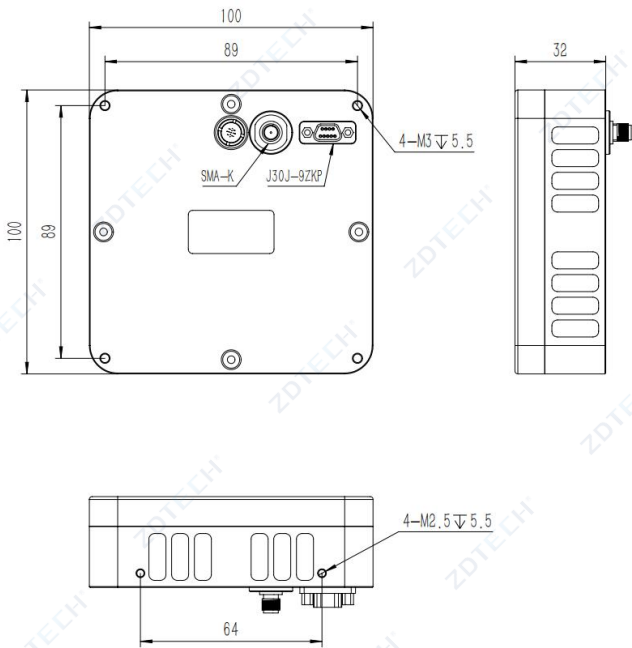


Figure 2.ZD-KXAT401_4B1L1E1 Protective Antenna Structural Diagram

4. Power Supply and Power Consumption

- Input voltage: +12V to +32V
- Power consumption: ≤9W

5. Weight

≤400g

6. Delivery List

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

Table ZD- KXAT401_4B1L1E1 Protective Antenna Product Matching Table

NO.	Product Name	Qty	Unit	Remark
1	Protective antenna	1	Tower	-
2	Work certificate	1	Portion	Papercapa-citor
3	Test report	1	Portion	Paper/Electronic
4	Power supply data cable	1	Root	J30J-9TL