

BGS-4CH-EPV-G1-03

4-Element Anti-jamming Terminal

(Enhanced Performance Version -- Dual-band:

B1I/B1C/L1C and G1)

product specification



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catalogue

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■ Product presentation

The product model is BGS-4CH-EPV-G1-03. It is a miniaturized satellite navigation anti-jamming unit supporting BDS-B1, GPS-L1, and GLONASS-G1 signals, capable of simultaneously resisting broadband interference from three systems with a maximum interference resistance of 3. The device integrates an antenna array, anti-jamming components, and satellite navigation receiver, serving reliable navigation applications such as drones and unmanned vehicles, protecting user terminals from various unintentional disturbances and malicious attacks, significantly enhancing PNT information security.

■ Product function

1. RNSS signal reception

- 1) It has the function of receiving RNSS signals of navigation satellites such as Beidou, GPS and GLONASS
- 2) Civil code: BDS-B1, GPS-L1, GLONASS-G1

2. Anti-interference function

It has the anti-interference function of BDS, GPS and GLONASS systems, and can suppress narrowband interference, broadband interference, pulse interference, scan frequency interference, Gaussian interference and other suppression interference

3. Built-in full frequency point navigation and positioning module, output information according to NMEA0183 protocol.

4. Serial port output or RF port output can be used.

5. Software upgrades

It has the function of software upgrade, and can be upgraded through serial port interference resistance module and receiver module

6. System self-test

It has self-inspection and status inspection functions

7. Fire resistance function

The continuous wave power resistance is not less than 10W

8. Safety

Overvoltage protection, reverse connection protection, etc

■ Behaviour of electricity

1. Working frequency

BDS-B1:1561.098MHz

GPS-L1:1575.42MHz

GLONASS-G1:1602MHz

2. Interference resistance performance

Unidirectional interference: $\geq 105\text{dB}$, Three-direction interference: $\geq 95\text{dB}$

3. Positioning accuracy

Horizontal ≤ 1.5 meters

4. Speed measurement accuracy

≤ 0.2 m/s

5. Time accuracy

$\leq 100\text{ns}$

6. Working voltage

Input voltage 5~17V

7. Power consumption

≤1 2W

■ Interface definition

1. Power/data interface

The J30J-9ZK core connector is selected, and the pins are defined as follows:

No.	name	direction	electrical level	remarks
1	Positive pole	import	5~17V	Recommended 12V
2	Positive pole	import	5~17V	Recommended 12V
3	Negative pole	import		
4	Negative pole	import		
5	RXD0	import	TTL	Upgrade to serial port
6	TXD0	output	TTL	
7	RXD1	import	TTL	Anti-interference serial port
8	TXD1	output	TTL	
9	GND	import	TTL	

2. RF interface

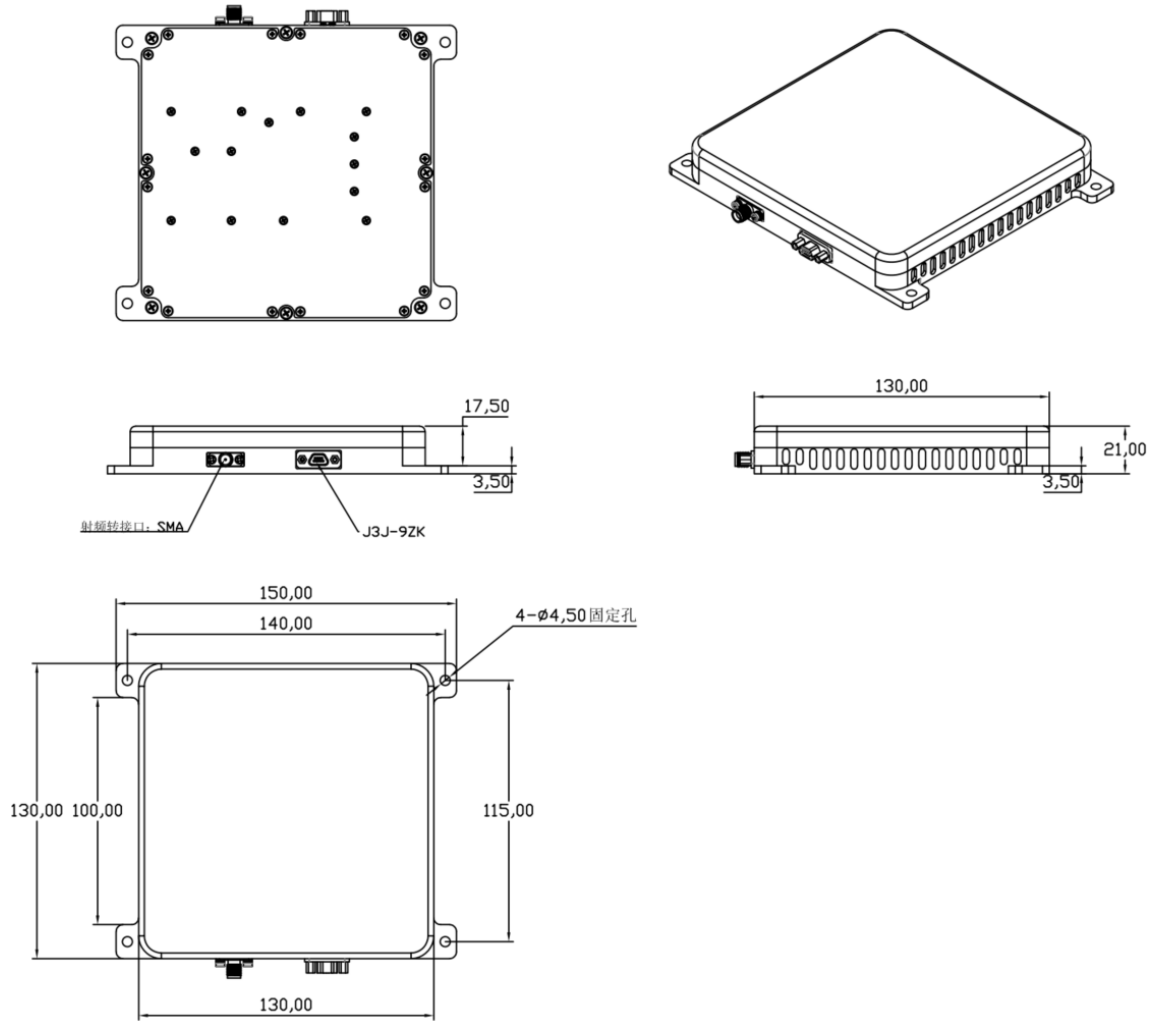
1) Interference signal output interface, using SMA connector, and in the form of one line through

2) The output signal level of L1\B1\G1 is -70~-60dBm

■ Shape structure

1. External size

150mm×130mm×21mm



2. Weight

≤ 4.00g

3. Color

French grey

■ Product identification

product name: product model: serial number: date of manufacture: manufacturer:
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■ Environmental suitability

1. Working temperature:

-40°C~+55°C

2. Storage temperature:

-55°C~+70°C

3. Relative humidity:

Temperature: 40°C; humidity: 96%

4. Rain:

Meet the GJB150A requirements for rain test

■ Typical application scenarios

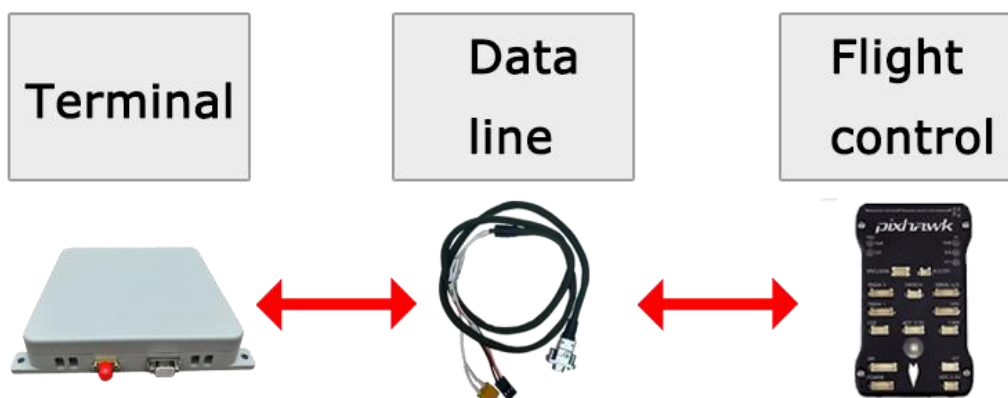
1. Time synchronization security in power, communication, finance and other fields
2. Navigation safety for drones, unmanned cars and unmanned ships
3. Safety of convoy defense navigation
4. High-end logistics navigation safety

■ Connection relationship description

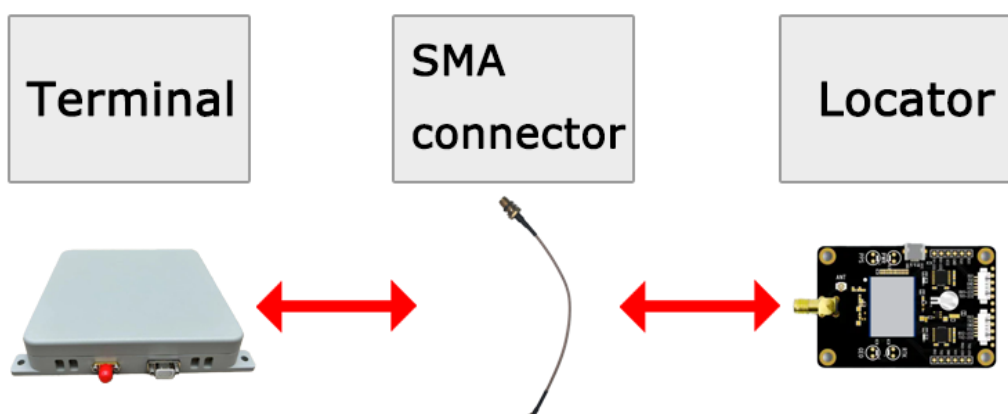
1. The telecommunication signal connection between the product and the platform carrier

is connected by low frequency data method.

2. The product has a built-in locator that can replace the conventional positioning terminal and antenna. As shown in the following figure:



3. In the RF signal access mode, this product replaces the conventional active antenna. When connecting with the RF interface of this product, please ensure that the interface of the access party does not supply more than 5V power to this product to avoid possible power conflicts or damage. As shown in the following diagram.



4. When connecting the USB to the computer with a USB-TTL tool, do not plug the USB in or out with power on to avoid damaging the serial port.

■ Installation and use

1. fixed

Use M3 screws for installation and fixation.

2. supply electricity

Use XT30 power supply, power supply voltage 5-17V, maximum not more than 17V, it

is recommended to use 12V.

3. Positioning data connection

1) Connect the DuPont line TTL serial port of this product to the GNSS serial port of the flight controller.

Connect the accompanying data cable provided with this product to the GNSS serial port of the flight controller. Connect the end labeled as TX to the RX interface of the flight controller, the end labeled as RX to the TX interface of the flight controller, and the end labeled as GND to the GND interface of the flight controller.

2) Use SMA connection wire to connect the products RF port to the antenna port of the drone locator.

Note: You can choose one of serial port and RF port.

■ Connect with the flight control protocol

This product outputs nmea0183 protocol.

■ Disclaimer

This product is designed to enhance the security of satellite navigation. Please comply with relevant laws and regulations when using this product. Any illegal activities carried out by using this product are unrelated to this product.