

Dalang

AK350





**Dalang Communication
Technology Co., Ltd
Product Specification**

Product Name:	GNSS Receiver
Product Model:	AK350
Version Number:	V 1.0
Revision Date:	2025.1.04

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Shenzhen Dalang Communication Technology Co., Ltd



1 Product Application Scenarios

The AK350 High-Precision GNSS Receiver is a professional-grade positioning device designed for reliable operation in demanding scenarios. It supports dual-band L1/L5 reception and is compatible with multiple satellite systems including BeiDou, GPS, and GLONASS, leveraging multi-constellation collaboration to significantly enhance positioning stability and accuracy even in complex environments.

Featuring 9–36V wide-voltage power supply, the device seamlessly adapts to various power scenarios such as vehicle-mounted and outdoor applications, offering excellent compatibility. Equipped with industrial-grade RS485 wiring (enabling long-distance, anti-interference stable data transmission) and a Bluetooth module (meeting flexible short-range debugging needs), it perfectly balances reliability for professional operations and ease of use.

This receiver is an ideal choice for fields such as surveying and mapping, precision agriculture, UAV operations, and geohazard monitoring, providing critical high-precision positioning data support for various professional tasks. See Figure 1 for details.



Figure 1 Product Application Scenarios

2 Features

In this chapter, we will delve into and comprehensively elaborate on the functionalities and operating principles of the AK350, detailing how it plays a pivotal role in various applications as follows:

- 1. Supports BDS, GPS, GLONASS, Galileo, and QZSS.**
- 2. Can be used as a base station or mobile station.**
- 3. Supports Bluetooth 2.0 transparent transmission function.**
- 4. Adopt on-board standard 9-36V wide voltage input.**
- 5. Supports RS485 output and long-distance anti-interference transmission.**

3 Structural Characteristic

In this section, we will conduct an in-depth analysis of the product's design details, presenting its aesthetic features and precise interface specifications through detailed structural diagrams. This perspective aims to provide a comprehensive framework, thereby enhancing the understanding and perception of the product's architecture. Refer to Figure 2, Table 1.

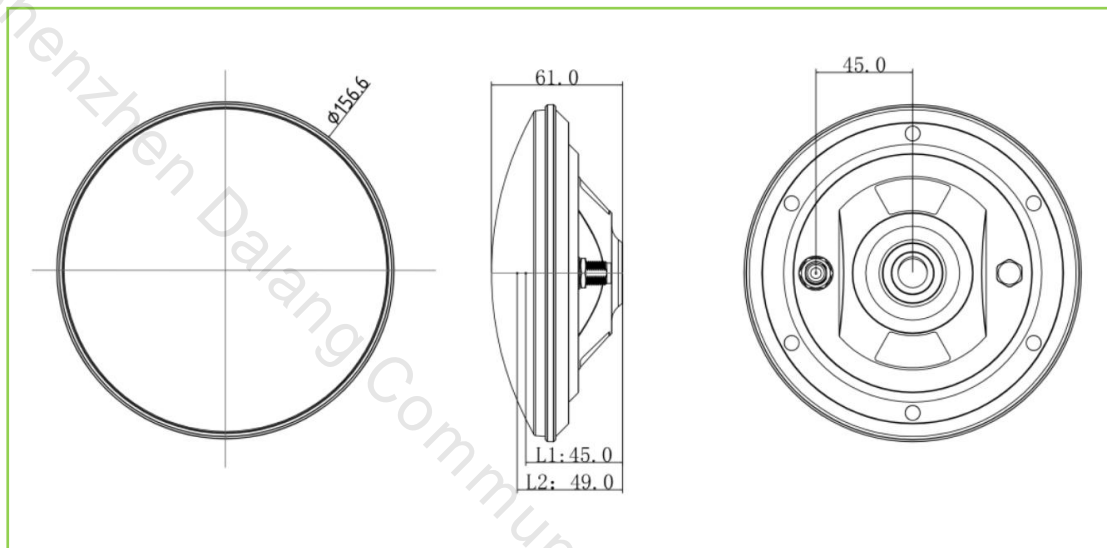


Figure 2 Product Structure Diagram (unit: mm)

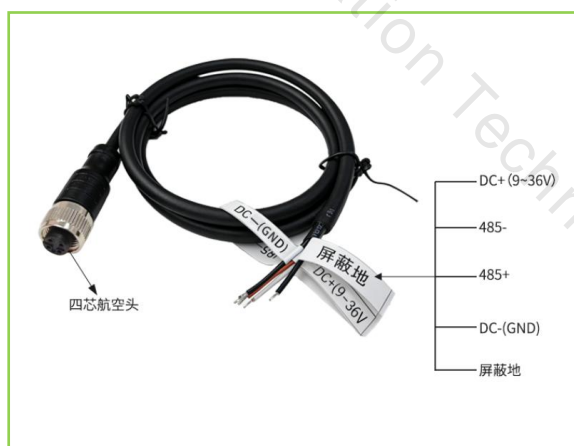


Table 1 Interface Definition

5 line markings	Feature Introduction	4-core aviation connector connection end
DC+(9-36V)	positive power terminal	Aviation connector power supply+terminal
485-	RS485 signal negative terminal	Aviation connector 485- end
485+	RS485 signal positive terminal	Aviation connector 485+end
DC-(GND)	Negative pole of power supply/signal ground	Aviation connector power supply - terminal
Shield ground	Anti interference grounding	-(handled separately)

4 Specifications

In this section, we will provide a detailed list and explanation of the product's chip features, sensitivity, accuracy, operating principles, and other technical details, as detailed in Table2.

Table2 Product Specifications

Specifications			
GNSS module	1	Operating Frequency	GPS: L1, L5 Beidou: B1, B2A B2B B2I Galileo: E1, E5 QZSS: L1, L5 GLONASS: G1, IRNSS
	2	Receiving channel	200 tracking channels and dedicated search engine
	3	sensitivity	Cold start sensitivity: -148 dBm Hot start sensitivity: -159 dBm Re capture sensitivity: -159 dBm Tracking sensitivity: -165 dBm
	4	cold start	28s
	5	warm start	1.0s
	6	Initialization time	1.5s
	7	Single point positioning (RMS)	Horizontal 1.0 m CEP Vertical 2.0 m CEP
	8	RTK(RMS)	Level 1.0 cm+1 ppm CEP Vertical 1.5 cm+1 ppm CEP
	9	PPS accuracy	≤20NS
	10	Speed accuracy (RMS)	0.1 m/s CEP
	11	Guidance accuracy	0.3degrees
	12	Operation restrictions	Dynamic ≤ 4G Height ≤ 50000M Speed ≤ 500M/S
Bluetooth module	1	Bluetooth version	2.0
	2	operating frequency band	2.4G

	3	air speed	2Mbps
	4	reference distance	10m
Data format	1	differential data	RTCM3.X
	2	output format	NMEA-0183, RTCM3.X
	3	Support function	Supports AGPS and SBAS
	4	Data update rate	1Hz-20Hz (default 1Hz)
Electrical performance	1	Power Supply	DC +9V ~ +36V
	2	power waste	<3W
Physical parameters	1	size	Φ 156.6*61mm
	2	weight	551g
	3	output interface	RS485
Environmental Specifications	1	working temperature	-25℃ ~ +75℃
	2	Storage temperature	-55℃ ~ +85℃
	3	humidity	100% fully sealed, anti condensation

5 Product Photos

In this chapter, we will showcase real-life images of the product, as shown in Figure 3. These images provide a detailed view of our product from various angles and perspectives. We believe that through authentic representation, we can better convey the value and concept of the product, thereby enhancing your trust and satisfaction.



Figure 3 Product Images