

Gmouse External GNSS Receiver

Technical Specification Sheet

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1. Product Overview

The Gmouse External GNSS Receiver delivers excellent navigation performance for the positioning needs of FPV drones and unmanned aerial vehicle (UAV) models. It adopts the UBLOX 9th - generation 92 - channel chip, with a native 25Hz output frequency and a positioning accuracy of 1.5m. It supports four - satellite concurrent positioning: GPS + Galileo + Beidou + Glonass + QZSS and can track 32 satellites simultaneously. The integrated QMC5883L compass and triple - frequency ceramic antenna ensure precise heading, strong signal stability, and consistent quality. With its compact and lightweight design, it is an ideal solution for demanding high - end navigation applications.

2.Product Appearance



Front View



Back View

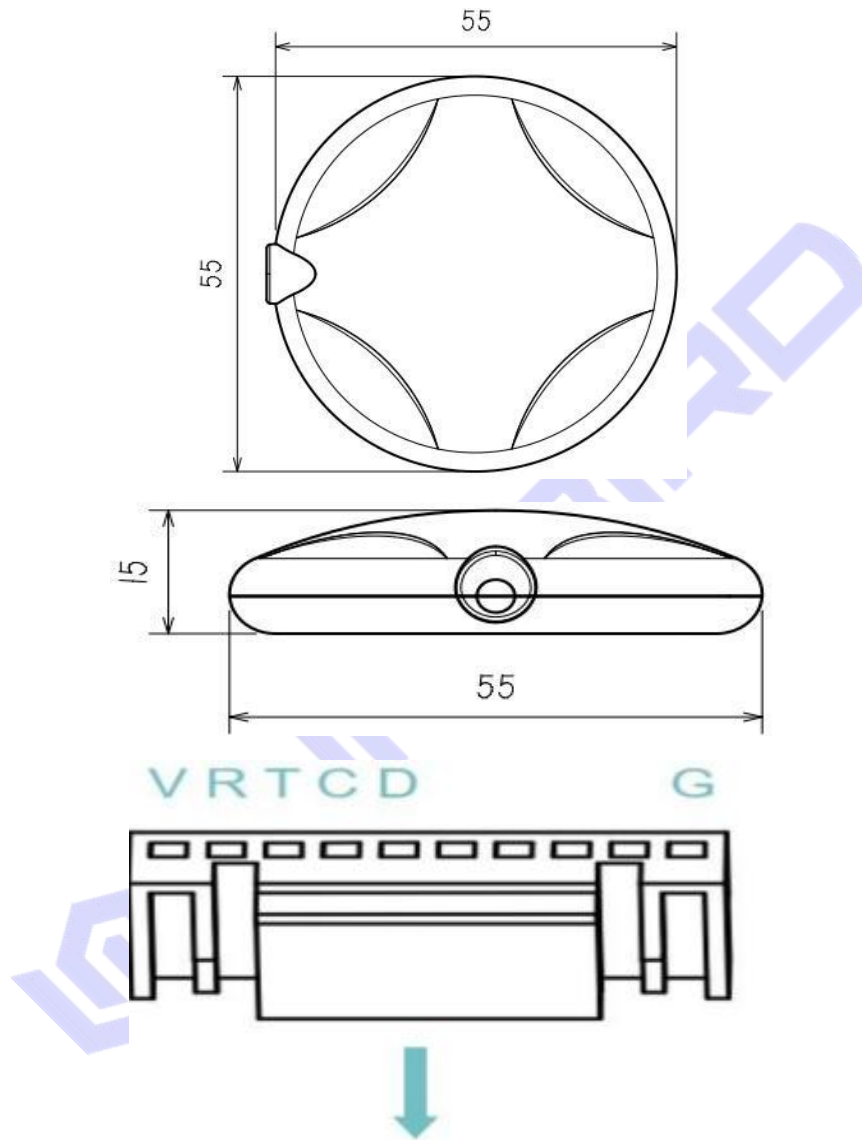
3.Product Dimensions and Interfaces

Product Dimensions: Maximum external dimensions (Length × Width × Height): 55×55×15mm

Tolerance: $\pm 0.5\text{mm}$

Output Port Specification: 1.25mm pitch 10 - pin with buckle, cable length 20cm

Product Weight: Approximately 27.8g



- RX: Connect to flight controller serial port TX
- TX: Connect to flight controller serial port RX
- UART operates at 3.3V TTL level

4.Features and Functions

- Ultra - high Sensitivity - 167dBm
- Imported ceramic antenna, strong signal gain, stable and reliable quality
- Up to 25Hz effective refresh rate
- Support for NMEA - 0183 and UBX protocols
- On - board QMC5883L magnetometer
- Compact design, suitable for connection with various portable automated information products
- Applicable to scenarios such as UAVs/FPV drones/unmanned vehicles/unmanned ships

5.Technical Specifications

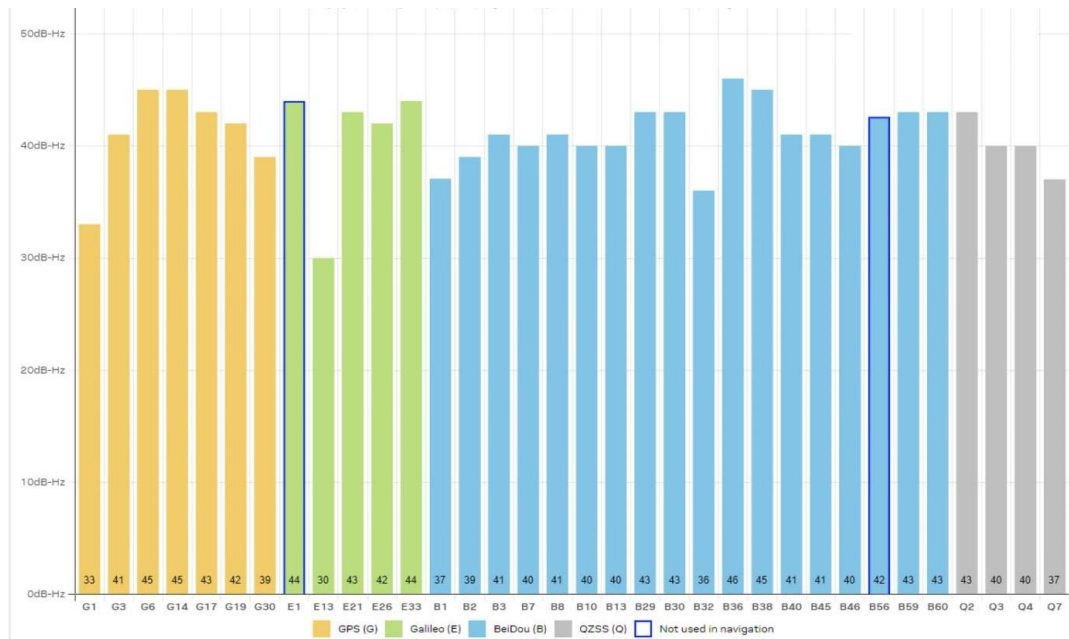
Parameter Category	Parameter	Specification
Chip	Satellite Reception Main Control	UBLOX - M9
	Electronic Compass	QMC5883L
	Satellite System	GPS L1 (C/A), GLONASS L10FB, BEIDOU B1, Galileo E1B/C, QZSS L1 C/A/SS, BAS L1 C/A
	Concurrent Satellite Number	4
Positioning Time	Startup Speed	Cold Start: 26s; Hot Start: 1s
Sensitivity	Tracking and Navigation	- 167dBm
	Reacquisition	- 160dBm
	Cold Start	- 148dBm
Accuracy	Positioning Accuracy	1.5m CEP
	Speed Accuracy	0.1m/s
	Heading Accuracy	0.3 degrees
Output Data	Output Level	3.3V TTL Level

	Baud Rate	4800 bps ~ 921600 bps, (Default: 9600bps)
	Maximum Update Frequency	25Hz (Default: 1Hz)
	Output Protocol	NMEA, UBX (Default: NMEA Protocol)
Operation Limits	Maximum Acceleration	≤4G
	Maximum Altitude	50000m
	Maximum Speed	500m/s
Operating Environment	Power Supply Voltage	DC 3.6V ~ 5.5V, Regular 5V
	Operating Current	80mA@5A
	Operating Temperature	- 40℃ ~ + 85℃
Others	FLASH	None
	Product Dimensions	55×55×15mm

6.On - Scene Testing

Open - air Test: 32 Satellites Tracked, hAcc 0.17m

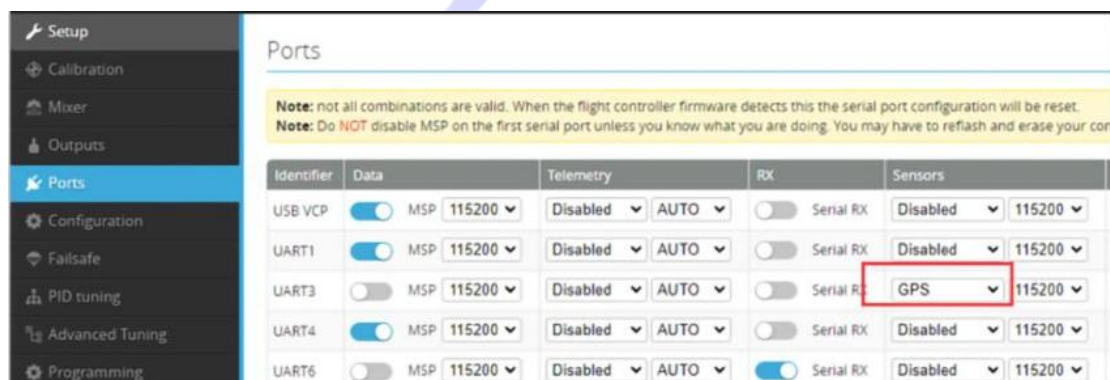




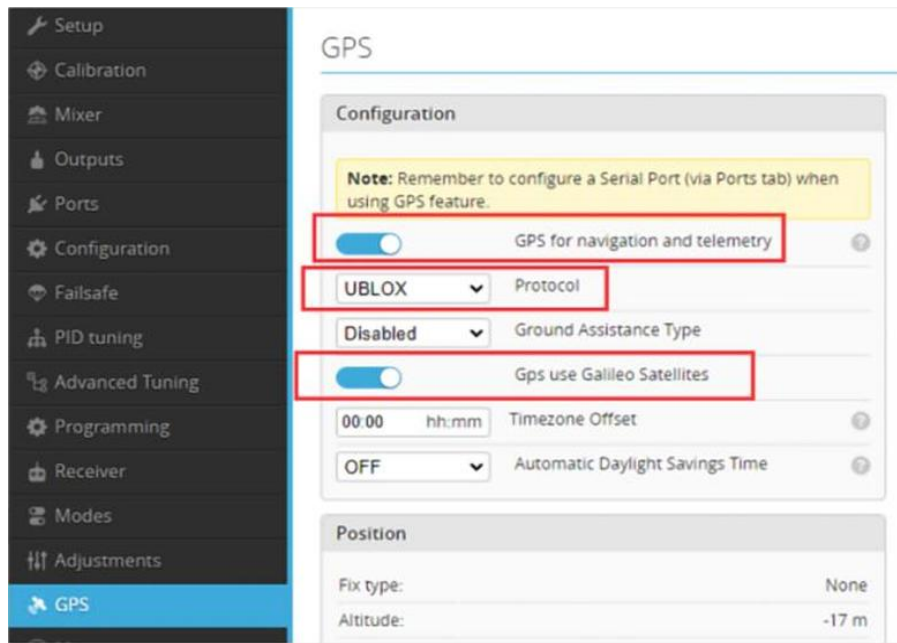
7. User Instructions

GPS Usage Guide - BETAFLIGHT

1. Connect the GPS to the idle serial port of the flight controller, and enable the GPS function of the corresponding port in the upper computer.



2. Enable GPS on the configuration page, and turn on the corresponding functions in sequence as shown in the figure below: Use UBLOX protocol, enable "Auto Baud Rate", enable "Auto Setup", and enable "Use Galileo System".



3. Restart the flight controller, and you can see that the GPS icon is lit. Then you can take the aircraft to an open outdoor area to test the satellite search effect.

