Standard M10/M9N/M8N GPS

Overview

Overview

> *[Image — to be added]*

Overview

These GPS uses multi-constellation GNSS powered by u-blox M10, M9N, and M8N series, a concurrent GNSS receiver that can receive and track multiple GNSS systems. Owing to the multi-band RF front-end architecture, all four major GNSS constellations, GPS, Galileo, GLONASS, and BeiDou, can be received concurrently.

It also comes with the IST8310 compass, tricolored LED indicator, buzzer, and a safety switch. The high-gain 25 x 25 mm2 patch antenna provides excellent performance, and the omnidirectional antenna radiation pattern increases flexibility for device installation.

There are 3 different connector options for different purposes. Please Pinout page for more details.

> **i Info**
>
> V2 design now comes with an IP67 rating.

> ⚠ **Warning**
>
> **Firmware Support for M10 GPS:** PX4 1.14, ArduPilot 4.3, INAV 5.0.0, Betaflight 4.3.0 or newer is required.

V2 Changes

- New casing with IP67 rating
- Removed buzzer and safety switch to reduce EM/RF interference
- Removed safety switch LED and GPS Fix LED
  - Only the RGB UI LED controlled by the flight controller is present for better status recognition
- Added SAW filter and receiver shielding for better signal integrity
- Legacy Pixhawk Molex 6+4+3 connector option no longer available (can be purchased separately here)

Specification

	Holybro M10 GPS	Holybro M9N GPS
GNSS Receiver	Ublox M10	Ublox M9N
Number of Concurrent GNSS	Up to 4 GNSS - BeiDou - Galileo - GLONASS - GPS - QZSS	Up to 4 GNSS - BeiDou - Galileo - GLONASS - GPS - QZSS
Frequency Band	- GPS L1 - Galileo E1 - GLONASS L1 - BeiDou B1 - SBAS L1 - QZSS L1	- GPS L1 - Galileo E1 - GLONASS L1 - BeiDou B1 - SBAS L1 - QZSS L1
Compass	IST8310	IST8310
Output Protocol	- UBX (U-blox) - NMEA	- UBX (U-blox) - NMEA
Accuracy	2.0m CEP	1.5m CEP
Nav. Update Rate	Up to 25 Hz (single GNSS), Up to 10 Hz (4 concurrent GNSS)	Up to 25 Hz (4 concerrent GNSS)
GNSS Augmentation System	EGNOS, GAGAN, MSAS and WAAS QZSS: L1S	EGNOS, GAGAN, MSAS and WAAS QZSS: L1S
Default Baud Rate	115200	115200
Input Voltage	4.7-5.2V	4.7-5.2V
Port Type	JST-GH-10P	JST-GH-10P
Antenna	25 x 25 x 4 mm ceramic patch antenna	25 x 25 x 4 mm ceramic patch antenna
Power consumption	Less than 200mA @ 5V	Less than 200mA @ 5V
Water Resistance Rating	IP67 (V2 only)	IP67 (V2 only)

	Holybro M10 GPS	Holybro M9N GPS
Operating Temperature	-40~80C	-40~80C
Dimension (V1)	φ50 x14.4 mm	φ50 x14.4 mm
Dimension (V2)	**φ51 x18.5 mm**	**φ51 x18.5 mm**
Weight (V1)	32g	32g
Weight (V2)	36.8g	36.8g
Cable Length	26cm (42cm cable purchase separately)	26cm (42cm cable purchase separately)
Other	- Tri-color LED - Onboard Buzzer - Safety Switch - LNA MAX2659ELT+ RF Amplifier - Rechargeable Farah capacitance - Low noise 3.3V regulator	- Tri-color LED - Onboard Buzzer - Safety Switch - LNA MAX2659ELT+ RF Amplifier - Rechargeable Farah capacitance - Low noise 3.3V regulator

- **M8N:** Concurrent reception of up to 3 GNSS (GPS, Galileo, GLONASS, BeiDou)

Pinout

Pinout

V1

> *[Image — to be added]*

V2

> *[Image — to be added]*

Note: Pinout is the same for M9N GPS Module

Dimension

Dimension

> **i Info**
>
> M8N, M9N, and M10 V1 GPS units share the same dimensions.
>
> M9N V2 and M10 V2 GPS units share the same dimensions.

Dimensions

V1:

> *[Image — to be added]*

V2:

> *[Image: DIMENSIONS IN MILLIMETERS — to be added]*

Change Logs

Change Logs

> *[Image: Legacy M8N, M9N and M10 design — to be added]*

> *[Image: Current M8N, M9N, M10 and V2 design — to be added]*

M9N & M10 V1->V2 Changes

- New casing with IP67 rating
- Removed buzzer and safety switch to reduce EM/RF interference
- Removed safety switch LED and GPS Fix LED
  - Only the RGB UI LED controlled by the flight controller is present for better status recognition
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Download

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M8N M9N M10 GPS CAD File

> □□ *[Downloadable file — to be added]*

> □□ *[Downloadable file — to be added]*

> □□ *[Downloadable file — to be added]*

M9N & M10 V2

> □□ *[Downloadable file — to be added]*