GLOBALSAT GPS Receiver

Hardware Specification

Product No : MR-350N

User Manual Version 1.0

Issue Date	APPR	CHECK	PREPARE
2022/05/31	Ray		Jeff

Product Description

Product Description

The product includes an embedded receiver and an antenna. This receiver up to 48 tracking verification channels while providing fast time-to-first-fix, precise position updates, low power consumption, and adds the capability of Wide Area Augmentation System (WASS). The receiver design uses the latest technology and high-level circuit integration to achieve superior performance while minimizing space and power requirements. All critical components of the system include the RF/IF receiver hardware and the digital baseband are designed and manufactured by GlobalSat to ensure the quality and capability of the GPS.

The product can be utilized in a variety of applications that require a permanent mounting configuration. With bulkhead (through-hole) mounting and a low-profile housing, It is completely self-contained and waterproof. Typical application can include marine environments, aviation, commercial use such as fire truck, police cars and utility vehicles and buses. The extended 4.5 meters cable allows for easy routing to your equipment behind, headliners and side panels and terminates to a custom PS/2 connector.

Product Features

- MediaTek high sensitivity solution
- Very high sensitivity (Tracking Sensitivity: chipset -165dBm)
- Extremely fast TTFF (Time To First Fix) at low signal level
- Support NMEA 0183 data protocol
- Build in Super Cap to reserve system data for rapid satellite acquisition
- Build in patch antenna
- Support RS-232(baud rate 4800) interface
- Support Wide Area Augmentation System(WASS)
- Waterproof IPX7

Product Specification

- **General**

Chipset	MediaTek AG3335MN
Frequency	GPS、SBAS: L1 , 1575.42MHz
CA Code	1.023 MHz chip rate
Channels	48 channel all-in-view tracking
Sensitivity	-165 dBm

- **Accuracy**

Position	3 meters, 2D RMS
	2.5 meters, 2D RMS, SBAS enabled
Velocity	<0.1m/s
Time	1us synchronized to GPS time

- **Datum**

Default	WGS-84

- **Acquisition Time**

Reacquisition	0.1 sec., average
Hot start	<1 sec., average
Cold start	<45 sec., average
	<15 sec with AGPS

- **Dynamic Conditions**

Altitude	18,000 meters (60,000 feet) max
Velocity	515 meters / second (1000 knots) max
Acceleration	Less than 4g

- **Electrical Characteristics**

Main power input	4.5V ~ 6.5V DC input
Power consumption	33mA@5V Typical
Operating temperature	-40℃ to +85℃

- **Protocol**

Baud rate	4800 bps
Output message	NMEA 0183 GGA, GSA, GSV, RMC

- **Physical Characteristics**

Dimension	62mm diameter, 21mm height
Cable length	4.5 meters

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Pin Assignment

(MD-6) Male-type

② ①
④ ③
⑥ ⑤
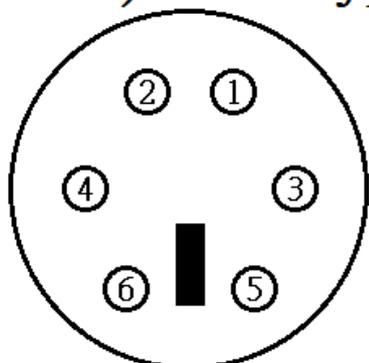
Pin1:Ground(Black)
Pin2:VCC(Red)
Pin3:1PPS(Yellow)
Pin4:RX(White)
Pin5:TX(Green)
Pin6:NC

Pin Description

P/N	Define	Description
1	Ground	Ground
2	VCC	This pin is the main DC supply for a 4.5V ~6.5 DC input power.
3	1PPS	This pin output signal based on firmware setting.*
4	RX	This pin is the main receive channel for receiving software commands to the GPS receiver from GpsInfo software or from user written software.
5	TX	This is the main transmit channel for outputting navigation and measurement data to user's navigation software or user written software.
6	NC	Just NC.

* 1PPS firmware preset output: No Fix =Low / 3D Fix= Hi 1ms , Low=999ms (Hi level=1.8V).

Dimensions

Top Side

Bottom Side

Φ62.00

19.90
0.80
16.00
UNC5/8
4470.0
Φ3.5

Φ30±0.2
Φ17±0.2
1.2±0.1

UNC5/8
22±1
9±0.5

Unit:mm

Reversion history

Reversion	Date	Name	Status / Comments
V1.0	2022/05/31	Jeff	initial version