

GLOBALSAT GPS Receiver

Hardware Specification

Product No : MR-350 S4(5Hz)

User Manual Version 1.0



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Issue Date	APPR	CHECK	PREPARE
2015/06/18	Ray		Mason

Product Description

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The MR-350 S4 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 MR-350 S4 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 MR-350 S4 can be utilized in a variety of applications that require a permanent mounting configuration. With bulkhead (through-hole) mounting and a low-profile housing, the MR-350 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

- SiRF Star IV high performance GPS Chipset
- Very high sensitivity (Tracking Sensitivity: chipset -163dBm)
- Extremely fast TTFF (Time To First Fix) at low signal level
- Support NMEA 0183 V3.0 (GGA, GSA, GSV, RMC)
- 5Hz NMEA Output after GPS Positioning.
- Build in Super Cap to reserve system data for rapid satellite acquisition
- Build in patch antenna
- Support RS-232(baud rate 115200) interface
- Support Wide Area Augmentation System(WASS)
- Waterproof IPX7

Product Specification

● General

Chipset	Sirf StarIV
Frequency	L1, 1575.42MHz
CA Code	1.023 MHz
Channels	48 track verification channels
Sensitivity	-163 dBm

● Accuracy

H-Position Autonomous	<2.5m
Speed	<0.01m/s
Heading	<0.01°

● Datum

Default	WGS-84
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● Acquisition Time

Reacquisition	0.1 sec., average
Hot start	1 sec., average
Warm start	35 sec., average
Cold start	35 sec., average

● 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	80mA
Operating temperature	-40°C to +85°C

● Protocol

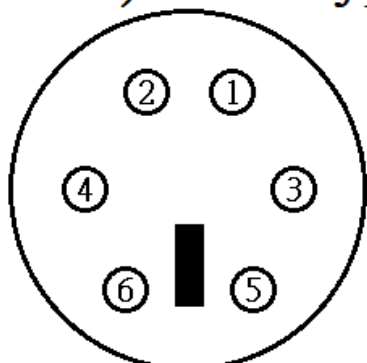
Baud rate	115200 bps
Output message	GGA, GSA, GSV, RMC

● Physical Characteristics

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

Pin Assignment

(MD-6) Male-type



Pin1:Ground(Black)

Pin2:VCC(Red)

Pin3:1PPS(Yellow)

Pin4:RX(White)

Pin5:TX(Green)

Pin6:NC



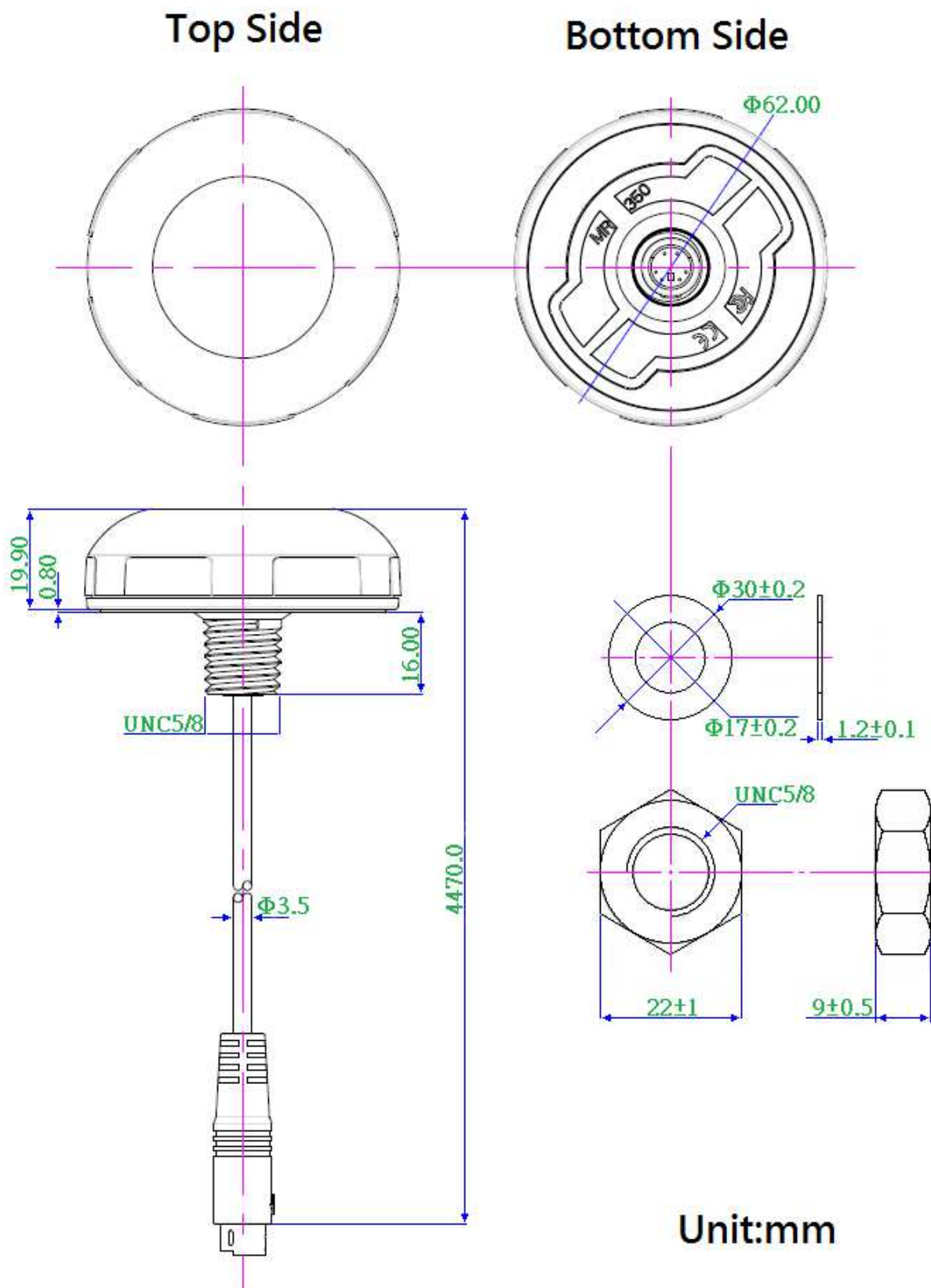
Pin Description

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 SiRFdemo 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.

* Baud rate 115200

* 5Hz NMEA Output after GPS Positioning 5 Sec.

Dimensions



Reversion history

Reversion	Date	Name	Status / Comments
V1.0	2015/6/18	Mason	initial version