

GPS Mouse

Ct-GM305 (USB)



Specifications Sheet V0.1

Features:

- SiRFStar III single chipset
- (L) 60 x (W) 60 x (H) 19 mm
- *Waterproof IPX6 & Magnetic Mounting*
- *USB Interface*
- *RoHS compliance*

1. Introduction

The Ct-GM305 is a highly sensitive and compact GPS mouse with low power consumption. Built with SiRFStarIII™ architecture and USB interface it can be used in a variety of applications, in laptops or PDAs. Non-slip underneath with a magnetic mounting, it is easy to place on top of a vehicle to fix positioning. Even on rainy days the Ct-GM305's certified waterproof configuration (IPX6) ensures perfect functionality.

1.1. Features

Hardware and Software

- Based on the high performance features of the SiRF Star III single chip
- Built-in high gain amplifier and bandpass filter
- RoHS compliant (lead-free)
- Dimension: 60x60x19 mm
- Hardware compatible with SiRF GSC3x software
- SBAS (WAAS and EGNOS) support
- Cable length: 1.5M

Performance

- Cold / Warm / Hot Start Time: 42 / 35 / 1 seconds
- Reacquisition Time: 0.1 second
- RF Metal Shield for best performance in noisy environments
- Multi-path Mitigation Hardware

Interface

- USB port for GPS communications interface
- Protocol: NMEA-0183 / SiRF Binary (default NMEA)
- Baud Rate: default 4800 bps

2. Specifications

Technical Specifications

Feature	Content	Description
Chipset	GSC3f Series	SiRFStarIII GSC3-7979
General	Frequency	L1, 1575.42 MHz
	C/A code	1.023 MHz chip rate
	Channels	20
Accuracy	Position	Autonomous : < 2.5 meters
		SBAS : < 2.0 meters
	Velocity	Speed: < 0.01 meters/second
		Heading: < 0.01°
Time	1 microsecond synchronized to GPS time	
Datum	Default	WGS-84
	Other	selectable for other Datum
Time to First Fix (TTFF)¹	Reacquisition	0.1 sec., average
	Hot start	1 sec., average typical TTFF
	Warm start	35 sec., average typical TTFF
	Cold start	42 sec., average typical TTFF
Dynamic Conditions	Altitude	18,000 meters (60,000 feet) max.
	Velocity	515 meters/second (1000 knots) max.
	Acceleration	4g, max.
Power	Main power	5 VDC
	Power consumption	340 mW (continuous operation)
	Supply Current	68 mA
I/O Interface	Data Interface	USB Interface
	Protocol messages	NMEA-0183@4800 bps (Default)

Note 1: Open Sky and Stationary Environments.

Environmental Characteristics

Content	Description
Operating temperature range	-20 deg. C to +60 deg. C
Storage temperature range	-40 deg. C to +60 deg. C

Physical Characteristics

Parameter	Description
Length	60 mm (2.36 in)
Width	60 mm (2.36 in)
Height	19 mm (0.75 in)
Weight	80 g
Cable length	1.5 Meters

Receiver Sensitivity

Parameter	Description
Tracking Sensitivity	-159 dBm
Acquisition Sensitivity	-142 dBm

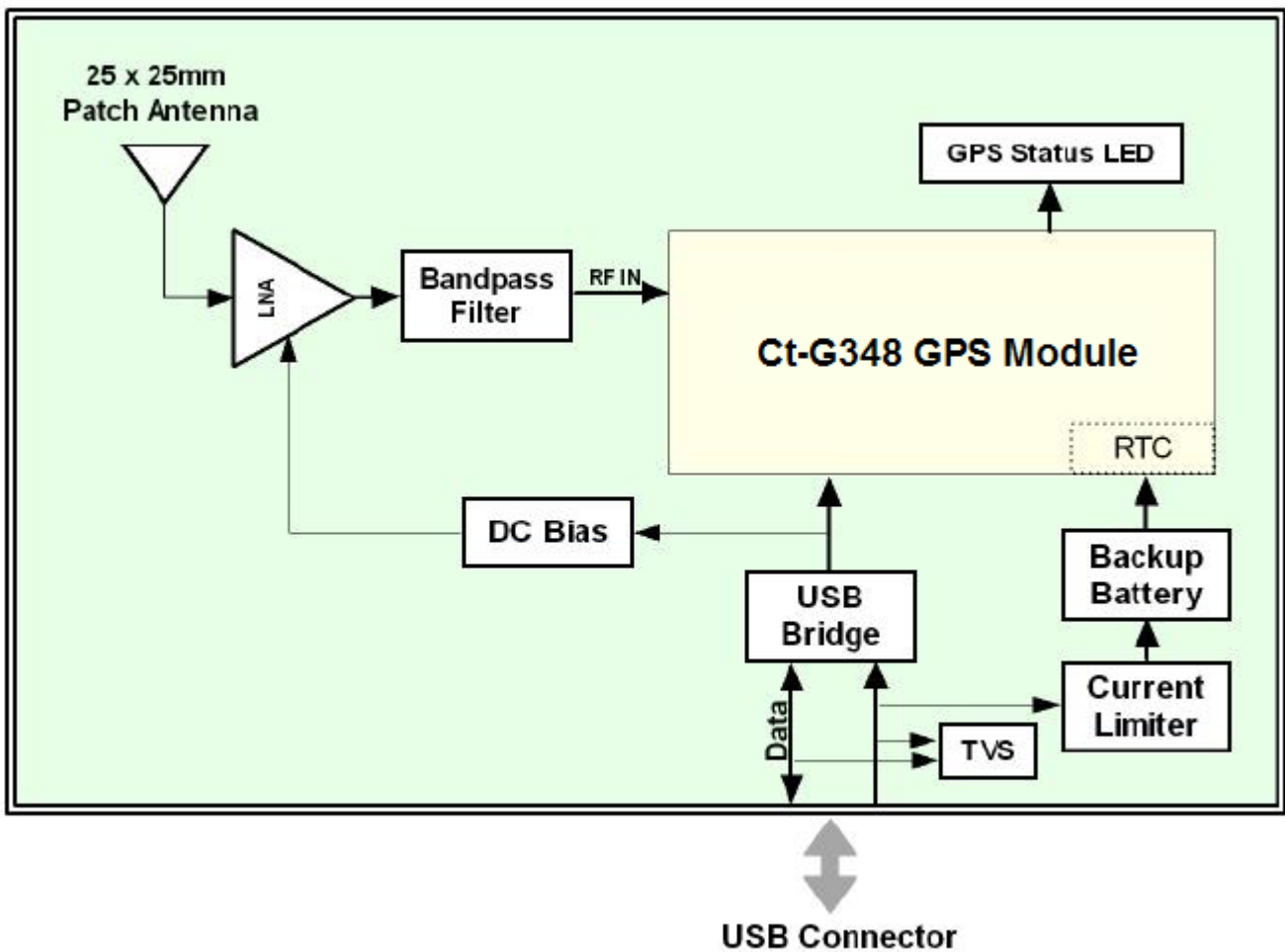
3. Software Interface

The Ct-GM305 receiver's serial data interface supports full duplex communication between the receiver and the user. The default serial supports different serial protocols modes are shown in below.

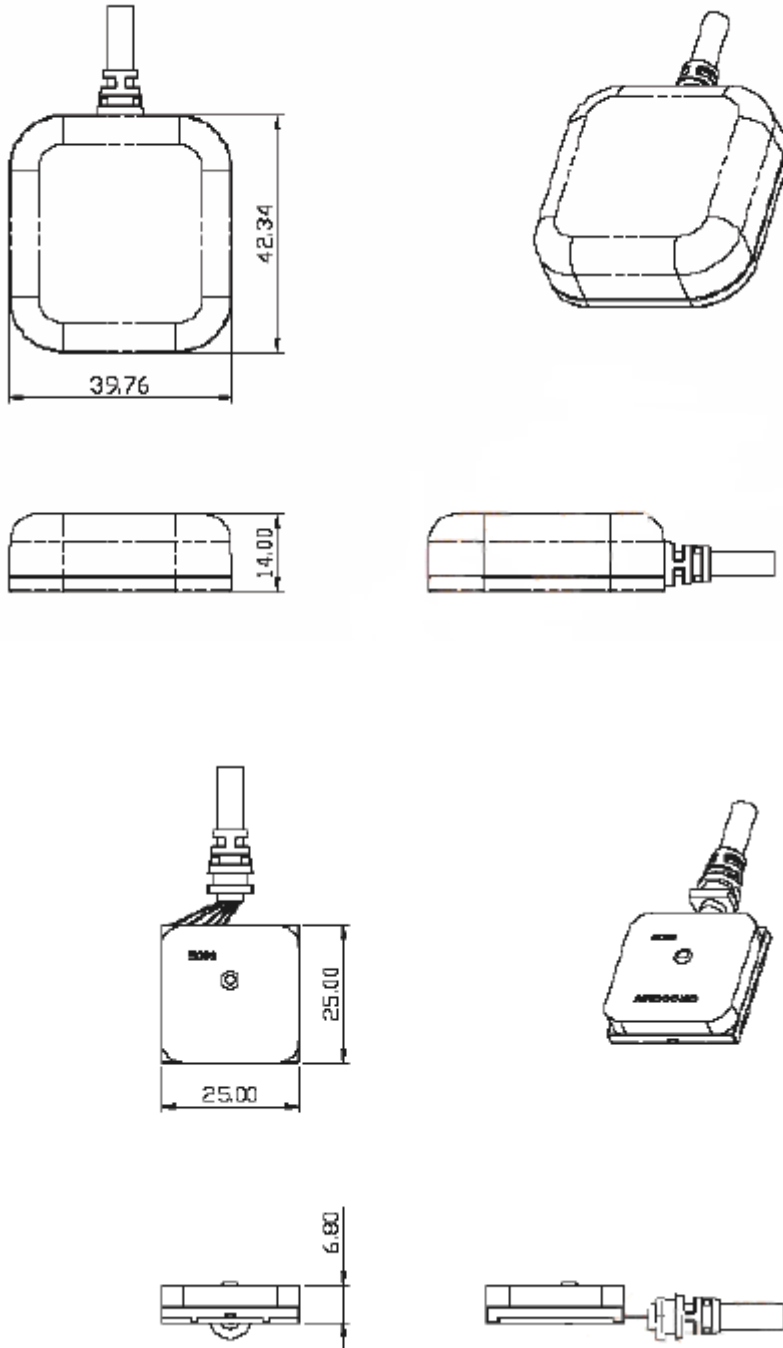
Protocol	Description
NMEA 0183, 4800 bps	GGA, GSA, GSV, GLL, RMC, VTG

4. Block Diagram

Ct-GM305 Block Diagram



6.Outline Dimension



7. Appendix

LI-Ion battery MS412F specification

No	Characteristics	MS412F
4-1	Range of temperature in which it can be operated	From -20°C to 60°C
4-2	Range of temperature which can be preserved	From -40°C to 60°C
4-3	Recommended range of preservation temperature and humidity	From 10°C to 30°C 60%RH or less
4-4	Nominal voltage	3V
4-5	Charging voltage	From 2.7V to 3.3V
4-6	Recommended Charging voltage	3.1V
4-7	Maximum Charging Current (mA) At 3V in the battery voltage At 0V in the battery voltage	0.15 2
4-8	Nominal capacity(mAh): after charging From 3.1V to 2.0V	1.0
4-9	Remaining Capacity(mAh): At delivery	0.8
4-10	Standard Discharge Current (mAh)	0.01
4-11	Maximum Discharge Current(mA) Continuous Discharge Plus Discharge	0.15 0.90
4-12	Nominal dimensions Diameter (mm) Height (mm)	4.8 1.2
4-13	Standard mass (g)	0.07
4-14	Applicable Safety Standard	UL 1642 (UL File No MH 15628)