

# GR-213 GPS Receiver



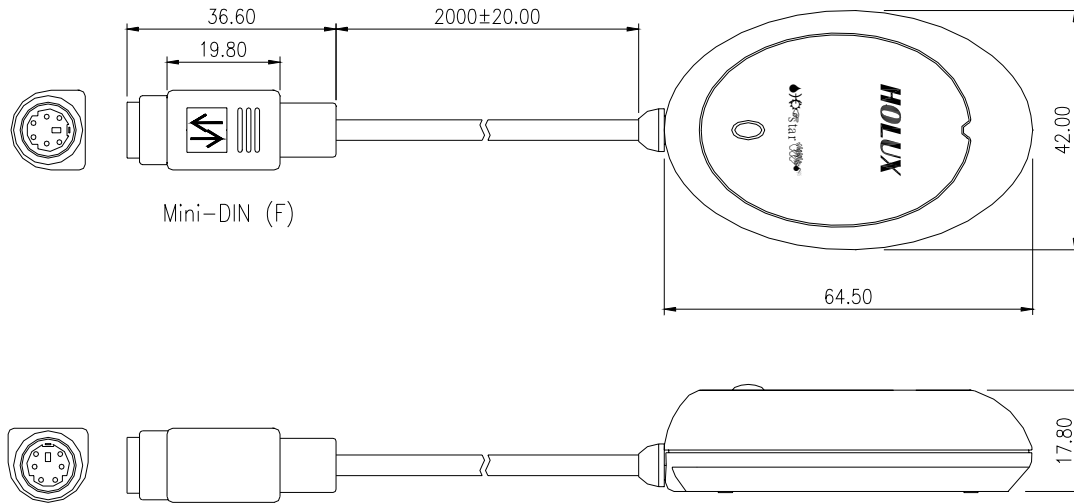
## ■ Features:

- Builds on SiRFstarIII chipset with embedded ARM7TDMI CPU available for customized applications in firmware.
- 20 parallel satellite-tracking channels for fast acquisition and reacquisition.
- 200,000 effective correlators for fast TTFF (Time-To-Fast-Fix), and Extremely fast TTFF's at low signal level.
- Built-in hardware Tracking Loop Processor WAAS/EGNOS Demodulator support.
- Built-in repeatable and rechargeable Lithium-ion battery for Time- to- First-Fix (TTFF).
- Support NMEA 0183 v2.2 data protocol.
- Enhanced algorithms provide superior navigation performance in urban, canyon and foliage environments.
- For Car Navigation, Marine Navigation ,Fleet Management ,AVL and Location-Based Services , Auto Pilot ,Personal Navigation or touring devices ,Tracking devices/systems and Mapping devices application.

## ■ Specifications

- Tracks up to 20 satellites.
  - Receiver: L1, C/A code
  - Max update rate: 1 HZ.
  - Acquisition time
    - Reacquisition 0.1sec.averaged
    - Hot start 1 sec., averaged
    - Warm start 38 sec., averaged
    - Cold start 42 sec., averaged
  - Position accuracy :
    - ◆ Non DGPS (Differential GPS)
      - Position 5-25 m CEP without SA
      - Velocity 0.1 m/sec, without SA
      - Time 1 usec sync GPS Time
    - ◆ EGNOS/WAAS :
      - Position
        - < 2.2 m, horizontal 95% of time
        - < 5 m, vertical 95% of time
  - Dynamic Conditions:
    - Altitude 18,000 meters  
(60,000 feet ) max
    - Velocity 515 meters / second  
(700 knots) max
    - Acceleration 4 G, max
    - Jerk 20 meters/second, max
  - Antenna Type: Built in Patch Antenna
  - Minimum signal tracked: -159dBm
- Dimension: 2.54 × 1.65 × 0.7 Inch
  - Weight : < 84g
  - Waterproof: IPX7
  - LED function:
    - Power On/Off and Navigation
    - Update Indication
  - Operating temperature:
    - 40 ℃to +80 ℃
  - Storage temperature:
    - 45 ℃to +100 ℃
  - Operating humidity:
    - 5% to 95% No condensing.
  - Power consumption
    - < 80mA at 4.5- 5.5V input
  - Protocol and interface:
    - ◆ NMEA output protocol: V.2.2
    - Standard:
      - Baud rate: 4800 bps
      - Data bit: 8
      - Parity: N
      - Stop bit: 1
      - Format: GGA,GSA,GSV, RMC.
    - Optional:
      - Baud rate: 9600,19200,38400
      - Format: GLL,VTG, ZDA, SiRF
      - binary
    - ◆ Interface:
      - RS232 + CMOS TTL Level, or
      - RS-232 + DGPS

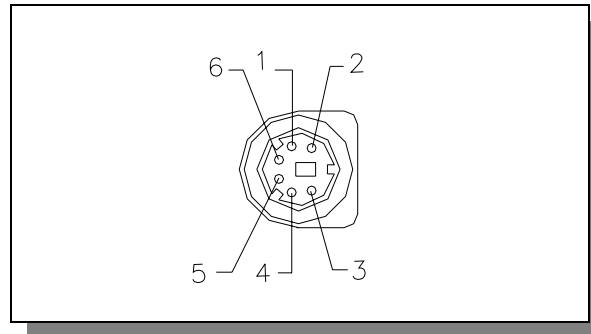
## ■ Physical Dimension :



## ■ Output terminal and definition

Output terminal: Mini-Din 6 pin female ◦

Pin definition:



(Mini-Din 6 pin female)

Pin	Signal and description
1	TX_RS232 (RS232 level)
2	+5 VDC
3	TX_TTL (CMOS TTL level)
4	Ground
5	RX_TTL (CMOS TTL level) or DGPS input (RS232 level)
6	RX_RS232 (RS232 level)

## ■ Order information

GR-213-XX-Y

|                      |      |  
(1)                      (2)    (3)

- (1) Model name:
- (2) XX : Appearance Type
- (3) Y: Output Type option
  - 1: RS232 + TTL
  - 2: RS232 + DGPS

### Accessories type

Type	Name	Function description
1	CA-RS232-S	Convertible cable, Comport, 5VDC input.
2	CA-USB-S	USB connector
3	CA-6V30V-S	High power connector, 6-30VDC input
4	A-20005	12V-26V Cigarette Adapter /Charger

Specifications are preliminary and subjected to change without notice