

# GR-85 GPS Receiver Module



## ■ Main Features

- SiRF Star II/LP (low power) chipset with embedded ARM7TDMI CPU available for customized applications in firmware ◦
- 12 parallel satellite-tracking channels for fast acquisition and reacquisition ◦
- Compact size( only 25.4\*25.4\*7mm, include RF shield) ◦
- High speed signal acquisition using 1920 time/frequency search channels ◦
- Built-in WAAS/EGNOS Demodulator ◦
- Low power consumption with Advanced Trickle-Power and Push-To-Fix mode ◦
- Optional Rechargeable battery for memory and RTC backup and for fast Time to First Fix(TTFF) ◦
- Support NMEA-0183 v2.2 data protocol and SiRF binary code ◦
- Enhanced algorithms -SnapLock and SnapStart 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 ◦

## ■ Products List

Model No.	Output Level (TTL or RS-232)	Back-up battery (Rechargeable Lithium)	Power Saving	RF Connector Type
GR-85-T0A	TTL	Y	Y	MMCX(180° )
GR-85-T0B	TTL	Y	Y	MMCX(90° )

HOLUX Technology, Inc.

8F-11, No.26, Tai-Yuen ST., Chu-Pei City 302, Hsin-Chu, Taiwan(Tai-Yuen Industrial Park)

TEL: 886-3-5526268 FAX:886-3-5526108 E-mail:info@holux.com.tw Website:www.holux.com.tw

## ■ Specifications

<b>Snap Start</b>	< 3 sec (at < 25 minutes off period) °
<b>Hot Start</b>	≦8 sec(typ) °
<b>Warm Start</b>	≦38 sec(typ) °
<b>Cold Start</b>	≦45 sec(typ) °
<b>Satellite Reacquisition</b>	100 ms °
<b>Time Accuracy</b>	
<b>Channels</b>	12 satellites °
<b>Position Accuracy</b>	25m CEP without SA °
<b>Receiver</b>	L1, C/A code °
<b>Protocol</b>	NMEA-0183 V2.2, 4800, 8, N, 1, GGA, GSA, GSV, RMC.(VTG , GLL, RMS option) or SiRF Binary °
<b>Maximum Altitude</b>	< 18,000 M (60,000 feet) °
<b>Maximum Velocity</b>	< 515 M (700knote) °
<b>Max. Update Rate</b>	1 Hz °
<b>RF Connector</b>	MMCX °
<b>Interface</b>	TTL level(RS232 protocol) °
<b>Dimension</b>	25.4mm(L)x25.4mm(w)x7 mm(H) °
<b>Weight</b>	< 7g °
<b>Firmware Upgrade</b>	Flash memory for programming software available °
<b>Time Mark</b>	Output 1 pulse/sec, aligned with GPS time +/- 0.1 usec °
<b>Operating Temperature</b>	-40 ℃to +85 ℃ °
<b>Storage Temperature</b>	-45 ℃to +100 ℃ °
<b>Operating Humidity</b>	5% to 95%, No Condensing °



1. **VCC\_5V:** +3.3 ~ 5.5V DC voltage input.
2. Dual communication channel TTL levels with user selectable baud rates (4800-Default, 9600, 19200, 38400).
  - TXA:** Main Serial Output. This output provides navigation data to user written software.
  - RXA:** Main Receive Channel. This input is used to receive software commands to the GR-85 from user written software.
  - RXB:** Auxiliary Receive Channel. This input is used to receive serial differential GPS data.
3. **TIMEMARK:** This pin provides TTL level 1 PPS(One-Pulse-Per-Second) output from the GR-85 board, which is synchronized to GPS time. The Pulse duration is 100ms. Time reference at the pulse positive edge and measurement aligned to GPS seconds is +/- 1us. This is not available in Trickle-Power mode.