

6.2. GPS Receivers

6

GPS Products



GT-321R-USB
GT-321R-RS232
GPS Receiver

Features

- GPS Receiver with 12 parallel channel
- 4100 simultaneous time-frequency search bins
- SBAS (WAAS, EGNOS) support
- -140 dBm acquisition sensitivity
- -150 dBm tracking sensitivity
- <10 second hot start
- <50 second cold start
- 5 m CEP accuracy
- USB/RS232 Interface
- Easy plug in Notebook and PC



Introduction

With a miniature form factor, the GT-321R-RS232/USB GPS Receiver module utilizes 12-channel GPS technology and is designed for rapid startup time and high performance in foliage and urban canyon environments. The GT-321R-RS232/USB applies the latest semiconductor technology so as to provide robust performance, enhanced position and velocity filtering for smooth navigation, onboard patch antenna and RS-232/USB driver for simple interfacing.

The GT-321R is optimized for applications requiring good performance, low cost and maximum flexibility. It is suitable for a wide range of applications including asset tracking and monitoring. Satellite-based augmentation systems (SBAS) such as EGNOS and WAAS are supported to yield improved accuracy.

2

GPS Receivers

Specifications

Models	GT-321R-RS232	GT-321R-USB
General		
General	L1 frequency, C/A code, 12 Parallel Channels	
Sensitivity	-165 dBW minimum	-140 dBm acquisition -150 dBm tracking
Update Rate	1 Hz	
Reacquisition	100 millisecond	
Accuracy		
Position	25 m CEP S/A off	5 m CEP
Velocity	0.1 m/sec S/A off	0.1 m/sec
Startup time		
Cold Start	120 sec	<50 sec (typical)
Warm Start	40 sec	<25 sec (typical)
Hot Start	10 sec	<10 sec
Dynamics		
Altitude	-1000 m ~ +18,000 m	<18,000 m
Velocity	500 m/sec	515 m/sec
Acceleration	+/-4 g	
Communication Interface		
Serial Port	Standard RS-232	USB
Protocols		
Baud Rate	4800/9600 baud, 8-None-1	4800 baud, 8-None-1
Datum	219 standard datum; WGS-84 (default)	
NMEA Messages	GGA, GSA, GSV, RMC, GLL, VTG	GGA, GLL, GSA, GSV, RMC, VTG, ZDA
Power		
Required Supply Voltage	3.8 ~ 8 V _{oc}	
Power Consumption	<100 mW	
Mechanical		
Dimensions (L x W x D)	60 mm x 50 mm x 22 mm	
Weight	25 g	
Environment		
Operating Temperature	-40 °C ~ +85 °C	
Storage Temperature	-55 °C ~ +100 °C	-55 °C ~ +90 °C
Relative Humidity	5% ~ 95% RH, Non-condensing	

GT-321R-USB/GT-321R-RS232