

GR-301, SiRFstarIII

Ultra-High Performance

GPS Smart Antenna



Overview

GR-301 is an easy to use, ultra-high performance, low power, **industrial grade** GPS smart antenna. The built-in SiRFstarIII chip and our experienced design provide fast acquisitions and excellent tracking performance. It supports either USB interface or RS232-based mini-DIN interface.

Applications

- Automatic vehicle location
- Vehicle navigation device
- Fleet management

Features

- Based on SiRF's GSC3f low power single chip
- High performance: -159dBm tracking sensitivity
- Low power: 31/44mA at continuous tracking
- SBAS (WAAS and EGNOS) support (optional)
- Backup battery support for faster position fix
- Blue LED for position fix indication
- IPX7 Waterproof
- Industrial operating temperature range: **-40 ~ 85°C**

Technical Specifications

Receiver Performance Data

Receiver Type	20-channel, L1 frequency, C/A code
Horizontal Position Accuracy	< 2.5m (Autonomous) < 2.0m (WAAS)

	(50% 24hr static, -130dBm)
Velocity Accuracy	<0.01 m/s (speed) <0.01° (heading) (50%@30m/s)
Time To First Fix	Autonomous
Hot start	<1sec
Warm start	<35sec
Cold start	<42sec (50% -130dBm)
Sensitivity (Autonomous)	-142dBm (acquisition) -159dBm (tracking) (-142dBm 28dB-Hz with 4dB noise figure)
Max. Update Rate	1Hz
Max. Altitude	<18,000 m
Max. Velocity	<1,852 km/hr
Protocol Support	NMEA v3.00, 4800bps N,8,1; GGA, GSA, GSV, RMC, VTG
SBAS Support	WAAS, EGNOS (optional)
Dynamics	<4g

Electrical Data

Power Supply	3.3 ~5.5 VDC (GR-301R) 5 VDC (GR-301U)
Power Consumption	31mA/average tracking (GR-301R) 44mA/average tracking (GR-301U)

Environmental Data

Operating temperature	-40 ~ 85°C except battery: -20~60°C
Storage temperature	battery: -20~60°C
Operating humidity	5% ~ 95% non-condensing

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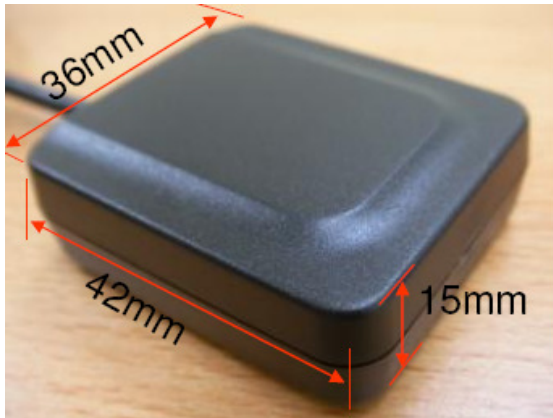
Technical support: support@navisys.com.tw

Waterproof	IPX7	U	USB; type A connector
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Other Data

Cable Length	1.5m for GR-301U 3m for GR-301R
Dimension	36 x 42 x 15 (mm)

*This document is subject to change without notice.



Interfaces

	GR-301R	GR-301U
Pin	Mini-Din 6-pin PS/2 Male Plug	USB A type Male Plug
1	GND	VDD 5V
2	VCC	D-
3	TXD-TTL	D+
4	RX-RS232	GND
5	TX-RS232	
6	RXD-TTL	

Ordering Information

GR-301X

R	RS232; mini-din 6-pin male connector
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