

# GS50 GNSS Receiver

High-g vibration receiver



The GS50 OEM boards is Gran Stal's latest generation receiver powered by the most advanced algorithms for robust and accurate positioning.

## Key Features

**+ 48 channels for tracking signals from GPS, GLONASS and BeiDou2-B1**

**+ Small form factor (2.0 in)**

**+ Designed for high-g vibration and shock, Artillery/gun hardened up to 20,000 G shock**

**+ Calculated mean time between failures (MTBF) greater than 5,000 hours**

## Excellent performance

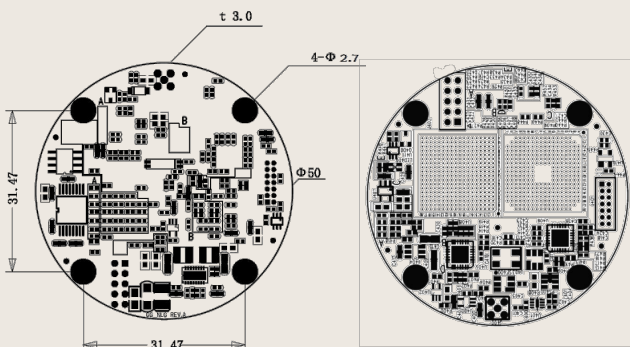
High positioning accuracy, fast satellite acquisition and recapture time enables rapid hot start location, small size and low power consumption of the receiver, strong shock resistance (no power can withstand the 20000g shock), intended to be used on multiple platforms.

## Accuracy scalable to a centimeter

Gran Stal's knowledge and experience in the GNSS industry ensure that the GS50 offer you the highest possible accuracy, scalable to a centimeter. Includes two configured GNSS Receiver, GPS+GLONASS, GPS+BD2-B1 dual-mode receiver, either by replacing the front end of the receiver filter and built-in embedded program to perform a state change.

## Widely assembled

GS50 can be widely assembled in various types of weapons such as missiles, rockets, artillery, UAV guidance control applications. At present, the product has been achieved thousands of exports after several guided test and stereotypes.



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## FEATURES

### GNSS Technology

48 hardware channels for simultaneous tracking of all visible satellite signals

Signal Tracking:

- GPS: L1
- GLONASS: L1
- BeiDou2: B1

- Dual-mode

GPS+GLONASS with GPS, GLONASS, GPS + GLONASS three positioning modes

GPS+BD2-B1 with GPS, BD2-B1, GPS + BD2-B1 three positioning modes

- Stable and reliable operation
- Excellent dynamic performance
- Satellite signal capture fast

Artillery/gun hardened (20,000 G shock) suitable for gun-launched artillery weapon systems.

### Formats

NMEA 0183, v2.3, v3.01, v4.0 (output only)

### Connectivity

2 RS232 (up to 115,200 bps)

1 PPS output (3.3VTTL)

## PERFORMANCE

### Position accuracy

	Horizontal	Vertical
GPS	6.0 m	8.0 m
GLONASS	10.0 m	15.0 m
BD2	10.0 m	15.0 m

### Velocity accuracy

GPS	0.08 m/s	0.1 m/s
GLONASS	0.08 m/s	0.1 m/s
BD2	0.08 m/s	0.1 m/s

### Dynamics

Velocity	8000 m/s
Acceleration	> 40 g
Jerk	< 4 g/s

### Data update rate

Position outputs	1/2/4/5/10Hz
Second pulse rate	1/2/4/5/10Hz

### Time to first fix

Cold Start	< 40 s
Hot Start	6s ~ 8s

### Signal re-acquisition

< 1 s

## PHYSICAL AND ENVIRONMENTAL

Size	50.80 x 17.40 mm 2.0" D x 0.5" H
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Weight	30 g / 1.06 oz
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Input voltage	5 ± 0.3V DC
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Operating temperature	-45 °C to +75 °C
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Storage temperature	-55 °C to +85 °C
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Shock	Up to 20,000G
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### Antenna LNA power output

Output voltage	5V ± 0.2V DC
Maximum current	80 mA

MTBF	5000 hours
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### Connectors

Antenna Connector	MMCX -KHD2
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Power consumption	0.8 W
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