

# GNSS Handheld Positioning Terminal **GE3PGS51**



Datasheet

V 1.0.0



## Version Note

Version	Details	Contributor(s)	Date	Notes
1.0.0	First edit	Owen	2025.03.05	

## Part Number

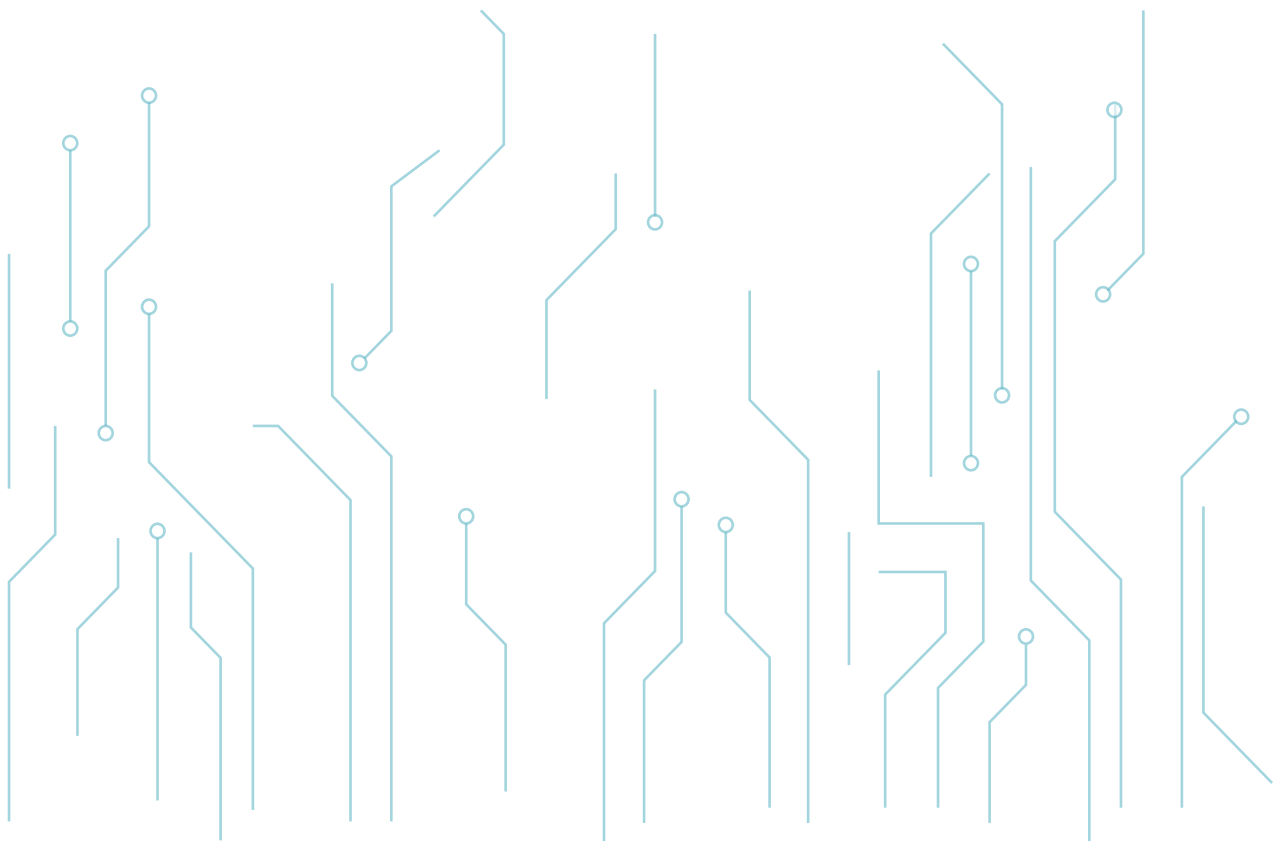
Model	Hardware Code
GE3PGS51	-

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[https://en.minewsemi.com/file/GE3PGS51\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/GE3PGS51_Datasheet_EN.pdf)



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# 1 PRODUCT INTRODUCTION

## 1.1 Product Description

GE3PGS51 is a simultaneous multi-constellation positioning, L1+L5, integrated RTK positioning engine GNSS hand-held positioning terminal, Support GPS, BeiDou, GLONASS, Galileo and QZSS multi-satellite systems, integrated GNSS RTK algorithm engine. The GE3PGS51 can achieve centimeter-level positioning accuracy, while achieving ultra-long standby and low power consumption.

GE3PGS51 integrated dual-band RTK, LTE\*, Bluetooth communication system. The excellent positioning performance of GE3PGS51 makes it ideal for applications such as high-precision data acquisition, inspection, surveying and mapping.



## 1.2 Features

- Supports multiple satellite systems: GPS, BDS, GLO, GAL, QZSS and NAVIC
- Supports simultaneous multi-constellation positioning L1+L5
- RTK rapid initialization in as fast as 5 seconds
- Ultra-low power consumption in RTK mode
- Supports differential data access and position information feedback\*
- Compatible with centering rods



Multi-star  
multi-frequency



Integrated  
battery



Network  
difference



Centimeter-precision  
positioning



Center bar  
interface



High quality  
RTK engine

## 2 KEY TECHNICAL INDICATORS

Argument	Index
Constellations	GPS: L1C/A, L5 BDS: B1I, B2I, B2a GLONASS: L1 Galileo: E1, E5a QZSS: L1C/A, L5 SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM NAVIC: L5
Number of channels	Acq: 217, Track: 135
First LoCation Time <sup>1</sup>	Cold Start: ≤24 s
Position Accuracy <sup>2</sup>	Single point positioning: 1.2 m CEP (Open sky) SBAS: 1.0m CEP (Open sky) RTK: level: 1cm+1ppm Vertical: 2cm+1ppm
Velocity Accuracy <sup>2</sup>	<0.05 m/s
Fixed Solution Convergence Time	≤10 s
Operating Temperature	Operating Temperature: -30°C ~ +75°C Storage temperature:-40°C ~ +85°C
Refresh Rate	GNSS/RTK : 1Hz, Max 5Hz;
Power Dissipation	<1W Bluetooth +RTK mode can work continuously for 24 hours;
Battery	Polymer lithium battery 2000mAh
Charging Power	DC 5V/2A, 2 hours full
Wireless Communication	Bluetooth 4.0+SPP 4G Full Netcom (optional)
User Interface	USB-C x 1 , LED x 3, sim-card(optional)
Weight and Size	155g, 150mm x 58mm x 34mm
Fall	1.2m
Vibration	Able to withstand strong vibrations.ISO 9022-36-05 (10-55 Hz / ±0.15 mm / 5 cycles)
Class of Protection	IP67

## 3 STORAGE CONDITIONS

- Please use this product within 6 months after signing up for it.
  - This product should be stored without opening the package at an ambient temperature of 5~35°C and a humidity of 20~70%RH.
  - This product will be stored for more than 6 months after receipt. They must be confirmed before use.
  - Products must be stored in non-corrosive gases (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub>, etc.).
  - To avoid damage to the packaging materials, no excessive mechanical impact shall be applied, including but not limited to sharp objects adhering to the packaging materials and products falling.
- When exposed to ( $\geq 168\text{h}@30^\circ\text{C}/60\%\text{RH}$ ) conditions, the recommended baking conditions:
  1. 120  $\pm 5/-5^\circ\text{C}$ , 8 hours, 1 time  
Products must be baked individually on heat-resistant trays because the materials (base tape, roll tape and cover tape) are not heat-resistant and the packaging materials may deform when the temperature is 120°C;
  2. 90  $\pm 8/-0^\circ\text{C}$ , 24 hours, once  
The base tape can be baked together with the product at this temperature, Please pay attention to even heating.

## 4 HANDLING CONDITIONS

- Be careful in handling or transporting products because excessive stress or mechanical shock may break products.
- Handle with care if products may have cracks or damages on their terminals. If there is any such damage, the characteristics of products may change. Do not touch products with bare hands that may result in poor solder ability and destroy by static electrical charge.

## 5 QUALITY

Cognizant of our commitment to quality, we operate our own factory equipped with state-of-the-art production facilities and a meticulous quality management system. We hold certifications for ISO9001, ISO14001, ISO27001, OHSAS18001, BSCI.

Every product undergoes stringent testing, including transmit power, sensitivity, power consumption, stability, and aging tests. Our fully automated module production line is now in full operation, boasting a production capacity in the millions, capable of meeting high-volume production demands.

## 6 COPYRIGHT STATEMENT

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## 7 RELATED DOCUMENTS

- MinewSemi\_Product\_Naming\_Reference\_Manual\_V1.0  
[https://en.minewsemi.com/file/MinewSemi\\_Product\\_Naming\\_Reference\\_Manual\\_EN.pdf](https://en.minewsemi.com/file/MinewSemi_Product_Naming_Reference_Manual_EN.pdf)
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