

Dalang

DL28U10FQ





**Dalang Communication
Technology Co., Ltd
Product specification sheet**

Product Name:	GMOUSE
Product model:	DL28U10FQ
Version number:	V 1.0
Revision Date:	2024.09.20

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Shenzhen Dalang Communication Technology Co., Ltd

1. Product application scenarios

The DL28U10FQ module adopts the new u-blox M10 GNSS technology platform, which can simultaneously track satellite signals from up to four GNSS constellations, and easily achieve precise positioning in challenging environments such as deep urban canyons. The Super-S technology used in this receiver helps to distinguish positioning signals from background noise, and can capture positioning data even in weak satellite signals. It has high RF sensitivity and can be used with small antennas, making it an ideal choice for compact product design. The birth of the u-blox M10 technology platform is attributed to u-blox's years of rich experience in building powerful GNSS receivers. This platform adopts proven technologies, including detecting deception signals through raw GNSS data analysis, interference detection strategies, and embedded filters, aimed at reducing the impact of in-band RF interference, as shown in Figure 1.



Figure 1 Product Application Scenarios

2 Function

In this chapter, we will delve into and elaborate on the functions and working principles of DL28U10FQ, and explain in detail how it plays a key role in different applications, as follows:

- **Built in LNA signal amplifier**
- **Built in Flash, free configuration of product parameters**
- **Industry standard 25 x 25 x 4mm high sensitivity ceramic antenna**
- **Built in TCXO crystal and Farad capacitor for faster hot start**
- **0.5-10Hz positioning update rate**

3 Structural characteristics

In this chapter, we will delve into the design details of the product and present its appearance characteristics and precise interface definitions through detailed structural diagrams. This perspective aims to provide a comprehensive framework to deepen the understanding and cognition of product structure. Refer to Figure 2 and Table 1 for details.

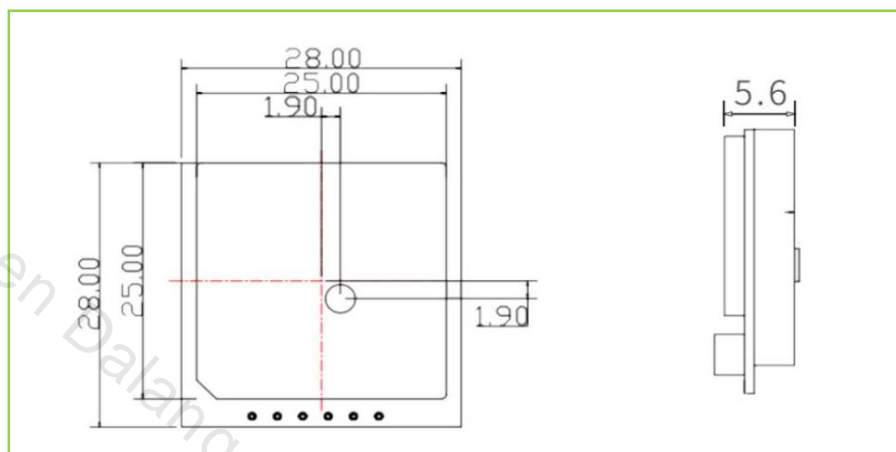


Figure 2 Product Structure Diagram (Unit: mm)

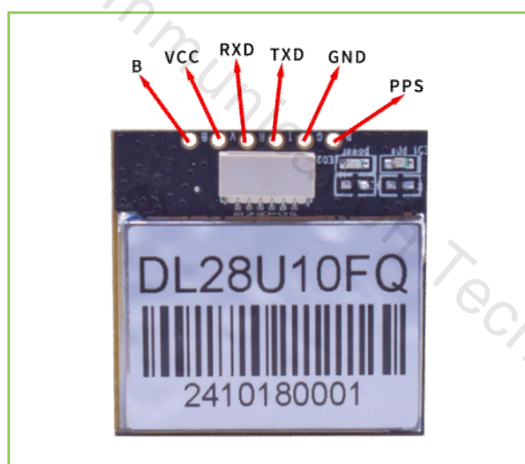


Table 1 Interface Definition

PIN name	Description
B	Power enabled, high-level/suspended module working, low-level module turned off
VCC	The main power supply of the system has a supply voltage of 3.3V-5V
RXD	TTL interface data input
TXD	TTL interface data output
GND	Grounding
PPS	Time standard pulse output

4 Specification parameters

In this chapter, we will provide a detailed list and explanation of the product chip characteristics, sensitivity, accuracy, working principle, and other technical details, as shown in Table 2.

Table 2 Product Specification Parameters

Specification parameters		
Chip characteristics	chip	UBX-M10050-KB
	frequency	GPS L1 C/A, QZSS L1 C/A/S, BDS B1I/B1C, Galileo E1B/C, SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN
	Operation mode	GPS+GLONASS+GALILEO+SBAS+QZSS
	track	-166dBm
	Arrest again	-160dBm
	cold boot	-148dBm
	Hot start	-160dBm
	Horizontal accuracy	1.5m CEP 2D RMS SBAS Assistance (Open Sky)
	Speed accuracy	0.05m/s
	cold boot	27s
	Hot start	1s
	Output data	Baud rate
Output level		TTL
Output Protocol		NMEA,UBX
NMEA sentence		RMC,VTG,GGA,GSA,GSV,GLL
update frequency		0.25Hz-10Hz, default 1Hz
Second pulse		The configurable range is 0.25 Hz to 10 MHz, with a default cycle of 1 second and a high level lasting for 100 milliseconds
Work Restrictions	height	80,000m
	speed	<500m/s

	Gravitational acceleration	<4g
Working characteristics	Voltage	DC 3.0V-5.5V, (Typical: 5.0V)
	electric current	Normal 50mA/5.0V
	size	28*28*6.5mm
	weight	12.6g
	Connector	SH1.0mm 6pin
	working temperature	-35°C ~ +75°C
	Storage temperature	-40°C ~ +85°C
LED	LED	PPS LED: Green flashing
		Power indicator light: red

5 Product physical picture

In this chapter, we will present real-life photos of the product, as shown in Figure 3. Through these pictures, you can see our products from different angles and details. We believe that through authentic display, we can better convey the value and philosophy of the product, thereby enhancing your trust and satisfaction with the product.



Figure 3 Product Physical Picture