

HUGEROCK GK101M

HIGH-PRECISION MOBILE RTK NAVIGATION TERMINAL

10 Inch High Precision GNSS/RTK/GIS Mobile Platform

HUGEROCK GK101M is a mobile device that can achieve high precision measurement and positioning. The whole series of products adopt 10 inch industrial high definition screen. The display module has 1000 nit ultra-high brightness and 1200*1920 high-definition view Angle, so that you can see in strong sunlight. The structure design of the body and toughened touch screen meets the requirements of IP65/MIL810G/IK05 high standard industrial protection grade. It has built-in a variety of communication methods and 8+128G super capacity storage unit and strong performance of 8 core 2.0GHzA73 processor, convenient for the rapid transmission and storage of various data. When in use, it will be based on satellite signals, ground station signals and built-in inertial sensors and other signal sources of data, through the computer algorithm to achieve measurement and positioning, so that it has high precision and high stability. The device is mainly used in construction engineering, land survey, fine agriculture, mine exploration, infrastructure construction, marine science, intelligent farm, remote control and other fields. In the specific application, it can also install a variety of hardware and software to achieve a variety of functions in different scenarios.



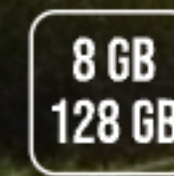
High-precision
RTK Chip



GNSS
Measurement
Antenna



ARM Cortex A73
octa-core(2.0GHz)



8GB RAM+
128GB ROM



1920*1200 FHD
1000nits+



Ultra-thin
Alloy Body



Google
GMS



Mobile Device
Management
By Safeuem



HUGEROCK - GK101M
tools for GIS

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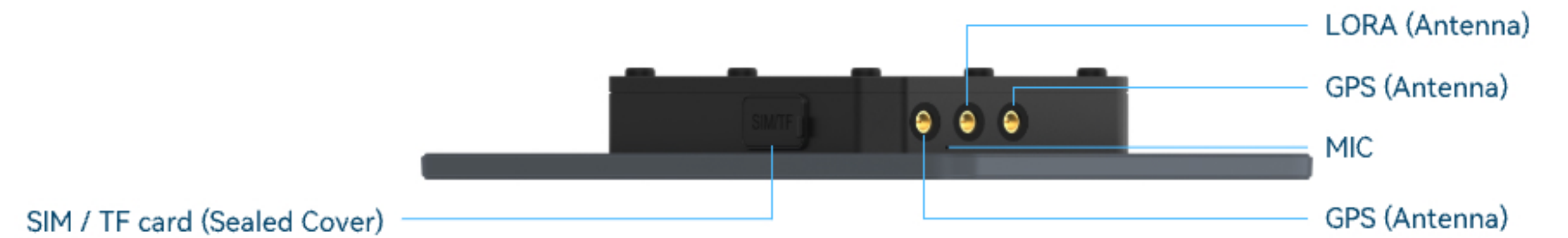
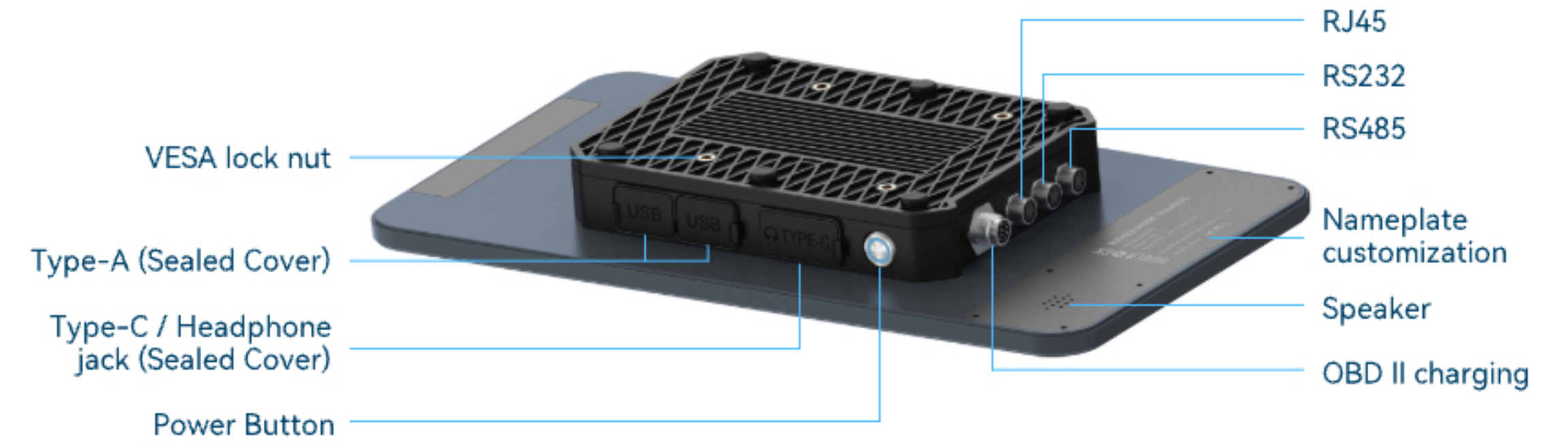
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APPEARANCE



Dish Antenna x 2



SPECIFICATION

GK101M

Hardware		Communications & Networking	
CPU	ARM Cortex A73 Octa-core(2.0GHz)	Phone Call	GSM /WCDMA/CDMA 1X/VoLTE
GPU	ARM Mali-G72 MP3	2G	GSM/CDMA 1X/EDGE/GPRS/WAP
RAM	8G	2G Band	GSM (B2/3/5/8)
Internal Memory	128G	3G	WCDMA 3.75G (HSDPA + 42.2Mbps, HSUPA + 11.5Mbps), EVDO
External Memory	Micro SD card(T-FLASH card), max 256GB	3G Band	WCDMA(B1/2/5/8), Evdo: BC0/BC1 CDMA: BC0/BC1
Sub Camera	5.0MP	4G	FDD: 150Mbps down, 50Mbps UP TDD: 150Mbps downlink, 50Mbps uplink
Battery	No built-in battery/external power supply	4G Band	TD-LTE(B38/39/40/41); FDD LTE(B1/2/3/4/5/7/8/12/17/20/28)
Display	10.1 inch IPS/AFFS 1200*1920 FHD industrial 1000nit Sunlight Readable	WI-FI	Dual-band WIFI(2.4GHz/5Ghz)single stream 802.11 a/b/g/n/ac
Touch Panel	Capacitive/frosted tempered film supports glove touch/spray/active capacitive pen	Bluetooth	5.0 Low Energy (LE)
IO/Sensor/Navigation		NFC	support
SIM Card	Nano sim card*2	LORA	433MHz
TF Card	Micro SD card(T-FLASH card); max 256GB	Industrial & Reliability Design	
Headphone	3.5mm(CTIA)	Shake-proof	1-19Hz/1.0mm; 19-200Hz/1.0g
Data interface	USB Type-A(Host)*2, Type-C*1	Dropproof /IK	MIL-STD-810G/Method516.6/Procedure IV & Touch Panel IK05
Serial port	RS232*1, RS485*1	Waterproof	Class 7 (IEC 60529
Network port	RJ45	Dustproof	Class 6 (IEC 60529
Gravity sensor	support	Operating temperature	-20°C to 70°C
Motion sensor	support	Storage Temperature	-40°C to 80°C
Direction Sensor	support	Reliability	MTBF>5000h; MTTR<0.5h
Magnetic Field Sensor	support	RH	5% to 95%
Gyro sensor	support	Operating Altitude	Max: 4,500 m (15,000 feet)
Rotation Vector	support	Certification/OS/Software	
Light-sensor	support	Certification	3C /FCC/CE/ROHS/IP67 (IEC 60529)
Acceleration sensor	support	Language	English, Spanish, Portuguese (Brazil), Portuguese (Portugal), Italian, German, Dutch, French, Polish, Romanian, Turkish, Russian, Arabic, Indonesian, Malay, Thai, Vietnamese, Hindi, Hebrew, Simplified, Chinese, Chinese Traditional, etc
Charger	DC 9 ~ 24V input, 3A 27W	OS	Android 9/10/11/13 (Continuous Update)
Navigation	Support the full system and full frequency dot chip RTK positioning and double antenna orientation solution	Package/Warranty terms	
Body sensing	4G microwave radar sensing	Warranty	24 months
Appearance		Package	Type-C Cable/Power adapter DC 12V/Quick start guide/Screen protector/Aircraft box /SIM Card Ejector
Size	300*166*34mm (L×W×H)		
Weight	880g		
Color & Material	Grey (ABS+PC)		



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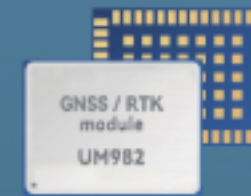
GNSS Measurement Antenna

Model: **GK101M**

Multi-satellite multi-frequency
omnidirectional mm-level RTK



External full-band measurement
antenna HG-BA800



Full system and full frequency
point high precision positioning
orientation module UM982

Passive antenna characteristics passive

Support satellite signal	BDS: B1、B2、B3; GPS: L1、L2、L5
GLONASS	G1、G2; GALILEO: E1、E2、E5a、E5b、E6、L-Band
Operating frequency band	1164MHz~1300MHz; 1520MHz-1615MHz
Impedance matching	50 Ω
Polarization mode	Right-handed circular polarization (RHCP)
Spindle ratio	≤3dB
Horizontal coverage	360°
Maximum gain	≥5.5dBi

Low noise amplifier characteristics

Low noise amplifier gain	40±2dB
Noise factor	≤2.0dB
Output standing Wave Ratio	≤2.0
Intra-band flatness	±2dB
Operating voltage	3.0~16V DC
Operating current	≤35mA

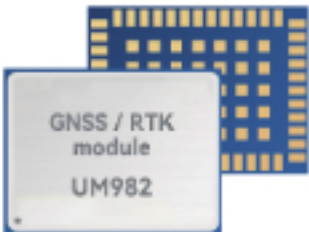
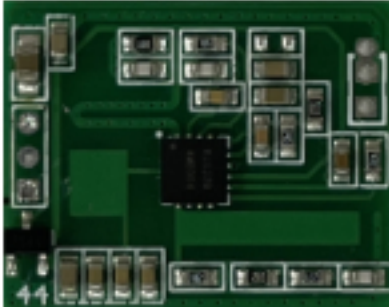
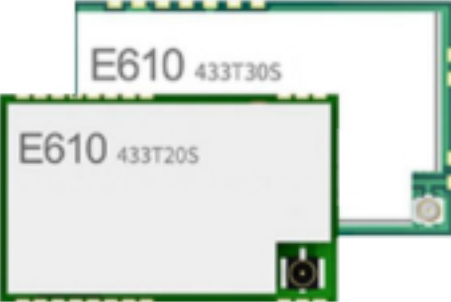
Adaptability of machine & structure & environment

Joint type	TNS negative head
Antenna size	φ132mm*55.14mm
Operating temperature	-40°C~+80°C
Storage temperature	-45°C~+85°C
Storage humidity	95% no condensation
Color	white
Installation method	TNS screw screw installation
Weight	≤350g
Phase center error	±2mm
Dual frequency delay difference	≤5ns

Performance index

Channel	1408 channel, based on NebulasIV chip			
Signal	BDS B1I/B2I/B3I GPS L1 C/A/L2P(Y)/L2C/L5 Galileo E1/E5a/E5b GLONASS L1/L2 QZSS L1/L2/L5			
Single point positioning (RMS)	Plane 1.5m Elevation 2.5m			
RTK (RMS)	Plane 0.8cm+1ppm Elevation 1.5cm+1ppm			
Observation accuracy (RMS)	BDS	GPS	GLONASS	Galileo
B1I/L1 C/A/E1/G1 Pseudo-range	10cm	10cm	10cm	10cm
B1I/L1 C/A/E1/G1 carrier phase	1cm	1cm	1cm	1cm
B3I/G2/L2P(Y)/L2C Pseudo-range	10cm	10cm	10cm	10cm
B3I/G2/L2P(Y)/L2C carrier phase	1cm	1cm	1cm	1cm
B2I/L5/E5a/E5b Pseudo-range	10cm	10cm	10cm	10cm
B2I/L5/E5a/E5b carrier phase	1cm	1cm	1cm	1cm
First positioning time (TTFF)	Cold start <30s			
RTK initialization time	<5s (typical value)			
Initialization reliability	>99.9%			
Differential data	RTCM v3.3/3.2/3.1/3.0			
Data format	NMEA 0183 Unicore			
Update rate of observed data	20Hz			
Update rate of positioning data	20Hz			
Orientation accuracy (RMS)	0.1° /1m baseline			
Time accuracy (RMS)	20ns			
Velocity accuracy (RMS)	0.03m/s			

PRODUCT CONFIGURATION

Order number	Module				Recommend
	Expansion module 2	Expansion module 3	Expansion module 4	Expansion module 5	
					
	UM982	BA800 GNSS Measurement Antenna	Human Body Sensor	Lora 433M	
03100222	●	●	●	●	*



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