

# GNSS Receiver (Geodesic Receiver)

## M65

The M65 is a high-end GNSS receiver, a new generation of measurement engine, built-in 4G module, all-network link, and multi-protocol radio, using a new appearance design, magnesium alloy structure, Linux operating system, is an extreme, intelligent, lightweight survey GNSS receiver.

### Linux smart system

Linux+ i.mx6ul cortex-a7 intelligent system platform, bring efficient computing and unlimited expansion of product functions to users

### Full system full frequency GNSS receiver

The host is integrated with high precision positioning module, with completely independent core intellectual property rights, it support BDS B1/B2/B3, GPS L1/L2/L5, GLONASS L1/L2, Galileo E1/E5a/E5b, SBAS L1, QZSS L1/L2/L5, Full system full frequency signal reception and processing

### 4G, all-network link

Based on the Linux platform, 4G all-network link solution, fully support China mobile/Unicom/Telecom 2/3/4G network, better compatibility, stronger signal, more stable connection.

### Long endurance

Built-in large-capacity intelligent lithium battery to ensure continuous working time over 15 hours (under typical power consumption)

### Combination of antenna

New four in one antenna, GNSS, WiFi, bluetooth, 4G all in one, better wireless signal

Structure dimension drawing (dimension tolerance without marked is:  $\pm 1\text{mm}$ )



## Features

- Linux+I.MX6UL Cortex-A7 intelligent system platform
- 432 Super channels and special fast catching engine
- Support BDS, GPS, GLONASS, Galileo, QZSS and SBAS
- Centimeter level accuracy
- Built-in large capacity intelligent lithium battery, Long endurance
- Industrial type design, strong magnesium alloy housing, IP67 design, safe and reliable

# GNSS Receiver (Geodesic Receiver)

## M65



### Features

#### LINUX & WEBUI

Linux+MX6UL Cortex-A7 intelligent system platform brings users efficient computing and unlimited expansion of product functions. And with embedded WEBUI, users can configure and operate the receiver more conveniently.

#### FULL GNSS CONSTELLATION

The receiver integrates a high-precision positioning module with completely independent core intellectual property rights, also supports BDS, GPS, GLONASS, Galileo and QZSS and other satellite navigation systems.

#### GSM MODULE

Full 4G Netcom solution based on Linux platform, fully supporting 2/3/4G network, with better compatibility, stronger signal and more stable connection.

#### 4 IN 1 ANTENNA

The new four-in-one GNSS, WiFi, Bluetooth, 4G integrated antenna makes wireless signal better.

<http://www.alphageo-info.com>

#### IMU

Immediately start with calibration-free tilt compensation technology, which assist you quickly and accurately survey or stake out points without leveling the pole and the is less than 2cm within 60° inclination, boost working efficiency by 20%.

#### HIGH-CAPACITY BATTERY

Built-in high-capacity smart lithium battery to ensure continuous working time exceeds 15 hours in typical power consumption.

#### IP67

Industrial-grade design, sturdy aluminum alloy housing, high shockproof performance, waterproof and dustproof reach IP67 level.



# GNSS Receiver (Geodesic Receiver)

## M65

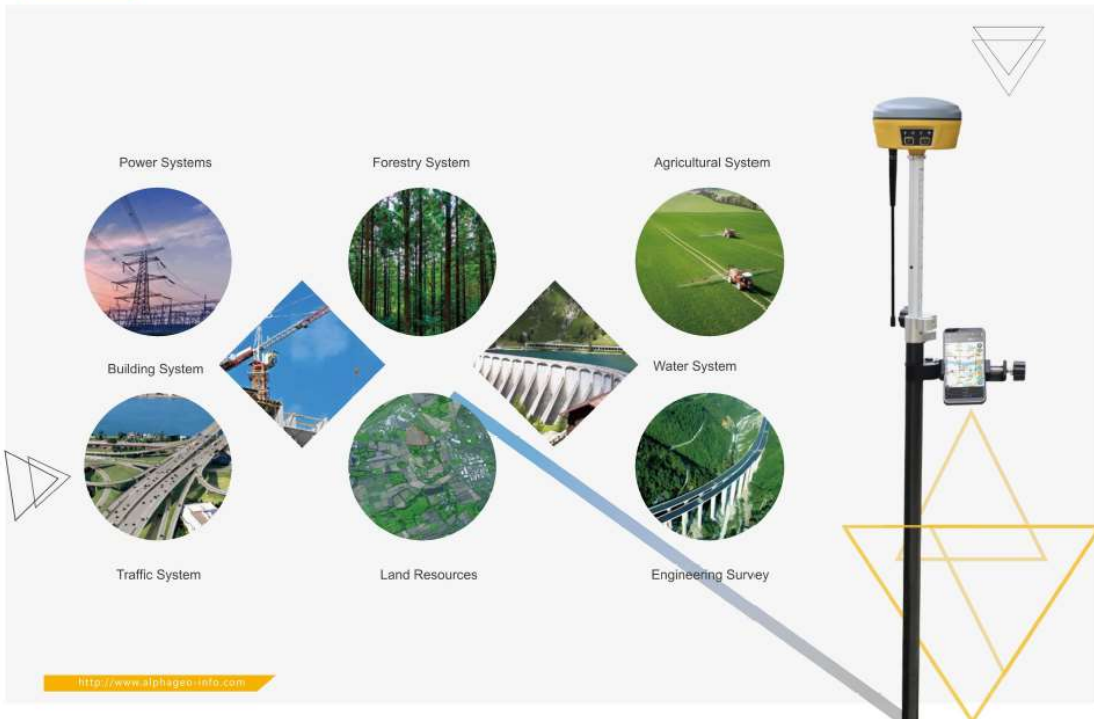


### Surpro field software

Surpro is a field survey software that integrates general survey, point, line stakeout and road stakeout based on Android platform created by α-GEO. It has various parameter configurations, simple and friendly interface, comprehensive functions, multiple data format compatibility and report output, bring you a more concise, professional and efficient newer measurement experience!



### Applications



# GNSS Receiver (Geodesic Receiver)

## M65

Configuration		Content	Remarks
<b>Hardware platform</b>		I.MX6UL Cortex-A7	
<b>Software platform</b>		Linux	
GNSS	GPS	L1、L2、L5	
	GLONASS	L1、L2	
	BDS	B1、B2、B3	
	GALILEO	E1、E5a、E5b	
	QZSS	L1、L2、L5	
	SBAS	L1	
	Data format	NMEA-0183	
	Correction/OProtocol	RTCM 2.X、RTCM3.X	
	Data update rate	MAX 5Hz	
	Reacquisition time	<1s	
	Cold start	<40s	
Positioning accuracy	Single point positioning (RMS)	Horizontal: 1.5m Vertical: 3.0m	
	DGPS (RMS)	Horizontal: 0.4m Vertical: 0.8m	
	RTK (RMS)	Horizontal: ± (10mm+1ppm) Vertical: ± (15mm+1ppm)	
	Time precision (RMS)	20ns	
	Static accuracy(RMS)	Horizontal: ± (2.5mm+1ppm) Vertical: ± (5mm+1ppm)	
	Speedaccuracy (RMS)	0.03m/s	
	Tilt Compensation Accuracy (within30°)	<2cm	Only supported by M65XXI
The system platform	Bluetooth	V2.1+EDR / V4.0 Dual mode	
	WIFI	802.11 b/g/n	
	Radio communication	External transmit: 5W/35W (adjustable external radio) Built-in transmit: 0.5W/1W adjustable frequency: 410-470MHz Communication protocol: TrimTalk,TrimMark3, SOUTH, PCC-EOT	
	Cellular network communication	all-network link LTE FDD: B1/B3/B5/B8 LTE TDD: B38/B39/B40/B41 TD-SCDMA: B34/B39 CDMA: BC0 WCDMA: B1/B8 GSM: 900/1800MHz	
	Built-in memory	On board 8G;	
Indicator light	Power light	Power indicator	
	Satellite light	Positioning status indicator	
	Bluetoothlight	Bluetooth connection status indicator	