

## AN ADVANCED SOLUTION FOR LAND & MARINE SURVEY CONSTRUCTION

The development of K83 positioning system GNSS receiver and antenna was based on the advanced surveying and GNSS technology. KOLIDA offers this flexible and high-performance system to meet your diverse work needs on both simple and complex projects.



Multi-constellation Trimble GNSS mainboard ensures faster initialization and re-acquisition of satellite

Flexible antenna separation enables users to maximize precision and convenience.

With its built-in OLED screen, internet module (3G/ 4G/ WiFi), transceiver UHF radio (3W), Linux operation system, K83 can work as radio/ network base, radio/ network rover, as well as Continuously Operation Reference Station, to meet the demands of a wide range of land and marine constructions and survey applications. (Construction survey, hydrographic survey. machine control, deformation monitoring.)



## REFERENCE STATION

EVERYONE CAN SETUP IT WITHIN 2 HOURS WITH 0 EXPERIENCE

### RAPID DEPLOYMENT, SMART OPERATION

Even a novice user with zero experience can setup this reference station within 2 hours. The system is suitable for both permanent and temporary installation. According to different mission type and project schedule, user can move the location of reference station as he needs.

### WORKING WITHOUT FIXED NETWORK COVERAGE

With the integration of GNSS positioning and wireless mobile internet technology, setting up reference station is no more limited by the condition of telecommunications infrastructure. With fixed network, K83 can access internet via Ethernet cable or WiFi, without fixed network K83 still can access internet via mobile SIM card. Without internet access, K83 still can broadcast correction data by its robust UHF radio.

### WISE INVESTMENT, LOW RUNNING EXPENSE

Setup reference station by K83, user doesn't need to apply and purchase fixed IP address from telecom providers, also doesn't need to purchase PC server and other hardware devices, as well as reference station software.

When compared with traditional CORS, the system maintenance cost and management cost of K83 system is incredibly low.

## ROVER ON VESSELS AND VEHICLES

EASILY DEPLOYED AND SAFELY MANAGED



### SAFE AND EASY TO HANDLE

When it works as rover station, the separate-type satellite antenna can be installed on the top of vessel or vehicle, K83 receiver can be installed inside the cab. It is more safe and easier to operator to control the system.

### HIGH-PRECISION POSITIONING AND NAVIGATING

K83 system includes one set of positioning satellite antenna, and also reserves a port of directional antenna. It enables the system to determine the real-time position, heading, elevation which will be used for vessel/ vehicle navigation in piling, dredging, ripping, cable and pipeline laying and other applications.

### UNINTERRUPTED WORK

K83 can work tens of hours continuously, it accepts different ways of power supply: AC, UPS, battery case, you don't need to stop work for changing battery.

The water/dust protection grade of K83 is higher than traditional GNSS receiver.

Intelligent temperature control program helps K83 works in extreme temperatures (-45 to +60°C), intended for the most demanding applications.

# Specifications

## Measurement

Advanced Trimble BD970 GNSS Chips  
220 channels  
GPS L1C/A, L1C, L2C, L2E, L5  
GLONASS L1/C, L1P, L2C/A, L2P, L3  
BEIDOU B1, B2, B3  
SBAS L1C/A, L5  
GALILEO GLOVE-A, GLOVE-B, E1, E5A, E5B  
QZSS, WAAS, MSAS, EGNOS, GAGAN, SBAS

## SBAS (WAAS/ EGNOS/ MSAS) Positioning

Accuracy

Better than 5m 3DRMS (16ft)

## Code Differential GNSS Positioning

Horizontal Accuracy

0.25m+1ppm RMS (0.8ft + 1ppm RMS)

Vertical Accuracy

0.50m+1ppm RMS (1.6ft + 1ppm RMS)

## Real-Time Kinematic Positioning

Horizontal Accuracy

8mm +1ppm RMS (0.026ft + 1ppm RMS)

Vertical Accuracy

15mm +1ppm RMS (0.05ft + 1ppm RMS)

## Real-Time Kinematic Positioning

Horizontal Accuracy

8mm + 0.5 ppm RMS (0.026ft + 0.5 ppm RMS)

Vertical Accuracy

15mm + 0.5 ppm RMS (0.05ft + 0.5 ppm RMS)

## Static

Horizontal Accuracy

2.5 mm + 0.5 ppm RMS (0.008ft + 0.5 ppm RMS)

Vertical Accuracy

5.0 mm + 0.5 ppm RMS (0.016ft + 0.5 ppm RMS)

## Initialization Time & Reliability

Typically less than 8 seconds, reliability > 99.9%

## General

Operation System, Keyboard and Display

Linux system, two-buttons keyboard, 0.96 inch OLED screen

Indication light

4 indicator lights

Dimension (L x W x D) & Weight

18.4 cm x 14.8 cm x 6.8 cm, 1.24 kg

## Temperature & Proof

Operation & Storage

-45 °C to +60 °C, -55 °C to +85 °C

Humidity & Waterproof

100% Non-condensing, IP65, dustproof

Shock

Designed to survive a 1.5m pole drop onto a hard surface

## Communication

Interface

Network antenna socket, UHF radio antenna socket, 5-pin LEMO, 7-pin LEMO (USB OTG), SIM card Slot, RJ45 Ethernet port

UHF Radio

Fully-integrated, internal 410-470 MHz Tx/Rx, 1/2/3W, TrimTalk450s, TrimMark3, PCC EOT, SOUTH protocol

GSM/ GPRS Modem

WCDMA 3.5G modem, GPRS/EDGE compatible, TDD-LTE/ FDD-LTE/ TD-SCDMA 4G

WiFi

802.11b/g standard; Other smart device can access K83's WiFi hot spot; K83 can access other WiFi to broadcast data

Bluetooth

Bluetooth 4.0 standard supports connection with Android and IOS device; Bluetooth 2.1 + EDR Standard

## Data Storage & Transmission

Storage

8GB SSD internal memory; External USB OTG; Cyclic storage program automatically release memory space

Data format

Static: STH, Rinex 2.x, Rinex 3.x

Differential Data input and output: CMR+, CMRX, RTCM2.1, RTCM2.3, RTCM3.0, RTCM3.1, RTCM3.2

GPS output: NMEA 0183, PJK plane coordinates, binary code, Trimble GSOF

Network Mode: Fully support NTRIP protocol



Semi-permanent Reference Station

## Related Products for Land Survey



K9mini VRS  
(Network Rover)



S680P



K6  
(Hi-precision GIS data  
collection terminal)

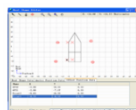


S660P

## Related Products for Marine Survey



Echo Sounder SDE-28S+ and navigation software PowerNAV



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**KOLIDA**  
Professional's Choice