

SPECIFICATIONS

Satellite Signals Tracked Simultaneously	
Signal tracking	220 channels BDS B1,B2,B3 GPS L1C/A,L1C,L2C,L2E,L5 GLONASS L1C/A,L1P,L2C/A,L2P,L3 SBAS L1C/A,L5 (just for the satellites supporting L5) Galileo GIOVE-A,GIOVE-B,E1,E5A,E5B
GNSS features	Positioning output rate: 1Hz~50Hz Initialization time: <10s Initialization reliability: >99.99%
Positioning precision	
Code differential GNSS positioning	Horizontal: $\pm 0.25\text{m}+1\text{ppm}$ Vertical: $\pm 0.50\text{m}+1\text{ppm}$ SBAS positioning accuracy: typically <5m 3DRMS
Static GNSS surveying	Horizontal: $\pm 2.5\text{mm}+0.5\text{ppm}$ Vertical: $\pm 5\text{mm}+0.5\text{ppm}$
Real-time kinematic surveying	Horizontal: $\pm 8\text{mm}+1\text{ppm}$ Vertical: $\pm 15\text{mm}+1\text{ppm}$
Network RTK	Horizontal: $\pm 8\text{mm}+0.5\text{ppm}$ Vertical: $\pm 15\text{mm}+0.5\text{ppm}$
RTK initialization time	2~8s
User interaction	
Operating Time	Linux
Buttons	1x Power Button, 2x Function Button, 1x Reset Button
Indicators	Four indicator lights
Web UI	Freely to configure and monitor the receiver by accessing to the web server via Wi-Fi or USB
Voice guide	iVoice intelligent voice technology provides status and voice guide Supporting Chinese, English, Korean, Russian, Portuguese, Spanish, Turkish and user define
Secondary development	Providing secondary development kit
Hardware performance	
Dimension	165mmx168mmx122mm(LxWxH)
Weight	1.85kg(battery included)
Material	Magnesium aluminum alloy shell
Operating	-45°C~+60°C
Storage	-55°C~+85°C
Humidity	100% Non-condensing
Waterproof/Dustproof	IP67 standard, protected from short time immersion to depth of 1m IP67 standard, fully protected against blowing dust
Shock and vibration	Withstand 3 meters pole drop onto the cement ground naturally
Power Supply	9-25V DC, overvoltage protection
Battery	Rechargeable, inbuilt Lithium-ion battery, 7.2V; 10000mAh
Battery life	Single battery: >30h (static mode), >10h (internal UHF base mode), >12h (rover mode)
Communications	
I/O port	5PIN LEMO external power port+RS232, 7PIN external USB(OTG)+Ethernet 1 radio antenna interface, SIM card slot
Wireless modem	Built-in radio, 1W/2W/3W switchable, typically work range can be 8-10km Barrier-Free™ Measurement Technology: Repeater/ Router/ Eagle/ Lark/ CSD mode
Frequency Range	410-470MHz
Communication Protocol	TrimTalk450s, TrimMark3, SOUTH (KOLIDA)
Cellular Mobile Network	WCDMA/CDMA2000/TDD-LTE/FDD-LTE 4G network modem, downward compatible with 3G GPRS/EDGE
Double Module Bluetooth	BLEBluetooth 4.0 standard, support for android, ios cellphone connection Bluetooth 2.1+EDR standard
NFC Communication	Realizing close range (shorter than 10cm) automatic pair between receiver and controller (controller equipped NFC wireless communication module needed)
External Devices	Optional external GPRS/EDGE dual-mode communication module, switchable; allow to connect external WLAN card
WIFI	
Standard	802.11 b/g standard
WIFI Hotspot	The WIFI hotspot allows smart mobile terminal to connect and access to the internal webserver to control and monitor receiver
WIFI data link	To work as the datalink that receiver is able to broadcast and receive differential data via WIFI
Data storage/ Transmission	
Data Storage	8GB SSD internal storage Support external USB storage and automatical cycle storage Changeable record interval, up to 50Hz raw data collection
Data Transmission	USB data transmission, supporting FTP/HTTP data download
Data Format	Differential data format: CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 GPS output data format: NMEA 0183, PJK plane coordinates, Binary code, Trimble GSOF Network model support: VRS, FKP, MAC, fully support NTRIP protocol
Inertial sensing system	
Tilt survey	Built-in tilt compensator, correcting coordinates automatically according to the tilt direction and angle of the centering rod
Electronic bubble	Controller software display electronic bubble, checking leveling status of the centering rod real time
Thermometer	Built-in thermometer sensors, adopting intelligent temperature control technology which can monitor and adjust the temperature of receiver in real time

KOLIDA
Professional's Choice

IRON MAN
K86+



Take on heavy duty!

KOLIDA
Professional's Choice

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IRON MAN K85+

The strongest of KOLIDA GNSS family

IronMan is the most rugged and durable GNSS receiver in the market. The extraordinary survival ability will help surveyors to succeed at the challenge in the wild.

Whether you are stepping into the steamy rainforest of Amazon, or the red dirt of Sahara, or the bone-chilling wind of Siberia. Don't worry, IronMan will stand by you.

Key Features



- Top Level Protection

The body of IronMan is a one-piece casting of special alloy, This unique construction protects the inner components from water, dirt and salt, and other nasty things in the field that eventually eat up an instrument.



- Work All Day Long

IronMan has a 10,000 mAh battery. It offers 15 hours of RTK measurement and 30 hours of static measurement. You don't need to stop working for battery change.



- High and Mighty

Unlike ordinary GNSS receivers, the data link antenna of IronMan is upward. The higher the antenna is, the better signal level you have. This design helps IronMan to function well in difficult terrain.



- Good Night

Sometimes you have to work both day and night, that is no problem for IronMan. Its OLED color screen displays satellite map and coordinate, clearly visible in darkness.

Other Features

Multi-Constellation	8-10KM Radio Range	410-470 Radio Frequency
Linux OS	WIFI	WEB UI
8G SSD Storage	OTG	Bluetooth 4.0

Barrier-Free Measurement

Data Collectors Selectable



lite

X11 Lite

- Windows Mobile 6.5
- 1Ghz CPU, RAM 512Mb
- ROM 8GB, SD expansion to 32GB
- Numeric keyboard
- Weight 600g only
- 7.2V removable Li-ion, 3400mAh
- 3.7inch 480x680VGA, LED backlighted
- MIL-STD-810G and Ip67
- OTG function supported

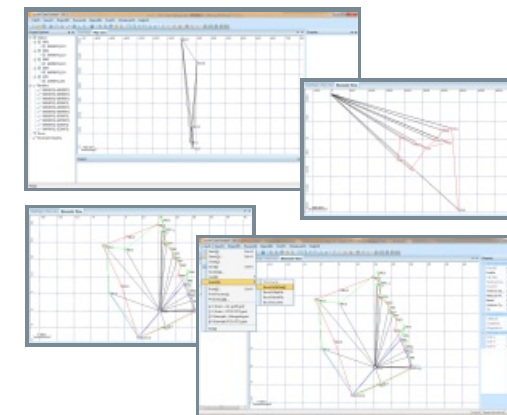


Pro

Additional Function of X11 Pro

- 72 channels GNSS chip
- AutoFocus 5MP
- Navigation update rate 4Hz
- WCDMA communication module

Post-Processing Software (Free of Charge)



KOLIDA Total Control
integrates static data processing and kinematic adjustment (New program)

- Antenna manager with popular receiver types.
- Compatible with numerous data format.
- Update online.
- Abundant report exporting.



KOLIDA GNSS Processor (Classical program)

- Fast processing and clear display
- Transformable to RINEX format
- Full options for result Export
- Powerful baseline settings
- Manually edit and filter satellite data for best result

Field Software



KOLIDA Engineering Star (Free of Charge)

- Engineering Star is the most welcomed field software in China. Even a novice can do all complex GNSS survey with EG Star with only six buttons on one screen.
- At any time, you can check your hardware and software status, RTK working mode and switch screen freely.
 - Easy to handle multiple RTK surveying task with powerful, but friendly user interface.
 - Support numerous file formats in export/import.



MicroSurvey FIELDGenius (Need to purchase individually)

Field Genius is a powerful survey data collection software from Canada. Advanced Roading, Surfacing, Slope Staking, Code Free Linework, Smart Points and GPS support and Live Graphics make FieldGenius the choice of organizations that value productivity. Multi-language is available.