

# The HORIZON Kronos D6+

## High precision GNSS RTK receiver

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ISO 9001:2008  
CERTIFICATE NUMBER: P578416

# The Kronos D6+ GNSS Receiver

## Overview

The Kronos D6+ GNSS Receiver is a new generation GNSS RTK system. It supports calibration-free tilt compensation function which is impervious to magnetic interference and dispenses with manual levelling. This unit incorporates a Horizon Generation 2 tilt sensor which has been upgraded to provide instant tilt correction activation, and also a wide title correction angle of more than 30 degrees. Features intuitive and simple configuration on a 1.54 inch interactive screen. With an internal high-performance multi-constellation and multi-frequency GNSS board, the Kronos D6+ GNSS Receiver provides high precision and stable signal detection. The high-performance antenna helps accelerate the first fix (TTFF) and improves anti-jamming performance. The built-in large capacity battery is detachable, with the two batteries supporting up to 16 hours of field work in 4G/3G/2G network and Rover radio mode. The built-in UHF radio module supports long distance communication up to 5km, all encased in a rugged shell which protects the equipment from harsh environments and physical impacts.

## Key Features

Supports multiple constellations & frequencies:

- GPS L1 C/A, L2C, L2P, L5
- GLONASS L1 C/A, L2 C/A
- BeiDou B1, B2, B3
- Galileo E1, E5a, E5b
- QZSS L1 C/A, L1C, L2C, L5
- SBAS (EGNOS, WAAS, MSAS, GAGAN) L1 C/A

Supports 576 channels

410-470MHz UHF radio, 4G network, Wi-Fi, Bluetooth, NFC

Horizon Gen 2 instant tilt compensation without calibration, impervious to magnetic disturbances <sup>(1)</sup>

Various working modes

16GB/8GB internal storage <sup>(1)</sup>

Up to 16 hours working in 4G/3G/2G network and Rover radio mode

IP67-rated dust- & waterproof enclosure, for reliability in harsh environmental conditions

Free subscription of HORIZON Caster Service : transmits the correction data from Kronos D6+ Base to Rover



# Technical Specifications

## Performance

### Signal tracking:

GPS L1 C/A, L2C, L2P, L5; GLONASS L1 C/A, L2 C/A;  
BeiDou B1, B2, B3; Galileo E1, E5a, E5b; QZSS L1  
C/A, L1C, L2C, L5; SBAS (EGNOS, WAAS, MSAS,  
GAGAN) L1 C/A

Channels: 576

### Single Point Positioning Accuracy (RMS):

– Horizontal: 1.5m  
– Vertical: 3.0m

### DGPS Positioning Accuracy (RMS):

– Horizontal: 0.4m  
– Vertical: 0.8m

### SBAS Differential Positioning Accuracy (RMS):

– Horizontal: 0.6m  
– Vertical: 1.2m

### High-Precision Static (RMS):

– Horizontal: 3mm+0.1ppm  
– Vertical: 3.5mm+0.4ppm

### Static & Fast Static (RMS):

– Horizontal: 3mm+0.5ppm  
– Vertical: 5mm+0.5ppm

### Post Processed Kinematic (RMS):

– Horizontal: 8mm+1ppm  
– Vertical: 15mm+1ppm

### Real Time Kinematic (RMS):

– Horizontal: 7mm+1ppm  
– Vertical: 15mm+1ppm

### Network Real Time Kinematic (RMS):

– Horizontal: 8mm+0.5ppm  
– Vertical: 15mm+0.5ppm

### Observation Accuracy (zenith direction):

– C/A Code: 15cm  
– P Code: 20cm  
– Carrier Phase: 1mm

### Time To First Fix (TTFF):

– Cold Start: <35s  
– Warm Start: <10s

Reacquisition: <1s

## Performance – continued

Tilt Compensation Accuracy (within 30° )	≤2cm <sup>(1)</sup>
Timing Accuracy (RMS):	20ns
Velocity Accuracy (RMS):	0.03m/s
Initialization (typical):	<10s
Initialization Reliability:	>99.9%

## System & Data

Operating system:	Linux
Storage:	built-in 16GB/8GB (1)
Data format:	CMR, RTCM 2.X/3.X
Data output:	RINEX, NMEA-0183, Tersus Binary
Data update rate:	20Hz

## Software Support

Tersus Nuwa (Developed in conjunction with our  
OEM partner Tersus)

MicroSurvey FieldGenius

# Technical Specifications - Continued

## Communication

### Cellular

Cellular: 4G LTE/TD-SCDMA/WCDMA/GPRS/GSM

Cellular bands (EU version):

LTE FDD  
B1/B2/B3/B4/B5/B8/B20  
WCDMA B1/B2/B5/B8 GSM/GPRS  
1900/1800/900/850MHz

Network protocols:

Ntrip Client, Ntrip Server, HORIZON Caster Service

Wi-Fi: 802.11b/g<sup>(3)</sup>

Bluetooth: 4.1

### Internal Radio

RF transmit power: 0.5W/1W/2W

Frequency range: 410MHz ~ 470MHz

Operating mode: Half-duplex

Channel spacing: 12.5KHz / 25KHz

Modulation type: GMSK, 4FSK

Air baud rate: 4800 / 9600 / 19200bps

Distance (Typical): >5km

Radio protocols: TrimTalk450, TrimMark 3, South, Transparent, Satel

### Wired communication

USB OTG: USB 2.0 x1

Serial ports: RS232 x1

COM baud rate: up to 921600bps

## Electrical

Input voltage: 9~28V DC

Power consumption (typical):

Network or Radio receive mode: ≈ 5W

Radio transmit mode (0.5W): ≈ 8W

Radio transmit mode (1W): ≈ 9W

Radio transmit mode (2W): ≈ 11W

7.4V 6400mAh

Lithium battery: x2<sup>(2)</sup>

## Physical

Display: 1.54" OLED<sup>(1)</sup>

Dimension: 157x157x103mm

Weight: ≈ 1.2kg (without battery)

≈ 1.4kg (with a battery)

Operating temperature: -40°C ~ +75°C

Storage temperature: -55°C ~ +85°C

Relative humidity: 100% not condensed

Dust- & Waterproof: IP67

Pole drop onto concrete: 2m

