

# The HORIZON Kronos D6

## High precision GNSS RTK receiver

The Future, **today.**



**HORIZON<sup>®</sup>**  
**MEASURE RIGHT**



ASME IANHE ZAOBAO AWARD  
2007 Singapore Prestige Brand  
Winner, SPBA - Regional Brands



ISO 9001:2008  
CERTIFICATE NUMBER: FS78416

# The Kronos D6 GNSS Receiver

## Overview

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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. 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

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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
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Supports 576 channels

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

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Tilt compensation without calibration,<sup>(1)</sup>  
impervious to magnetic disturbances

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Various working modes

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

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

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

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

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# Technical Specifications

## Performance

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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:	8mm+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

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## Performance – continued

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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%

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## System & Data

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

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## Software Support

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Tersus Nuwa
MicroSurvey FieldGenius

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# 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
Lithium battery:	7.4V 6400mAh 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

Note: (1) Details refer to performance comparison table.

(2) Kronos D6 uses one battery at a time, the other is a substitute. Each battery lasts up to 8 hours when Kronos D6 works in 4G/3G/2G network and Rover radio mode. Two batteries add up to 16 hours of continuous use.

(3) Hardware of Wi-Fi module is ready, the function will be supported by firmware update.