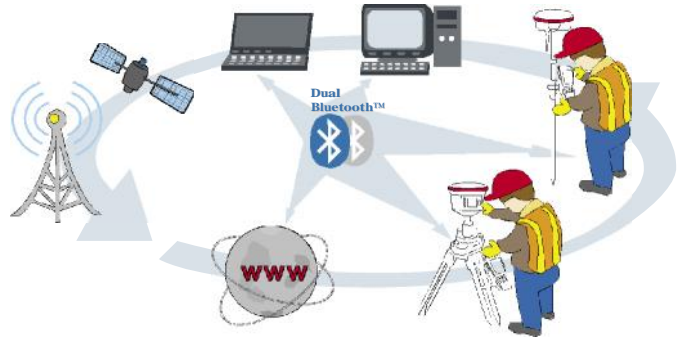


THE KRONOS 200 GPS SYSTEM

THE SUPERIOR GPS SYSTEM



KRONOS 200



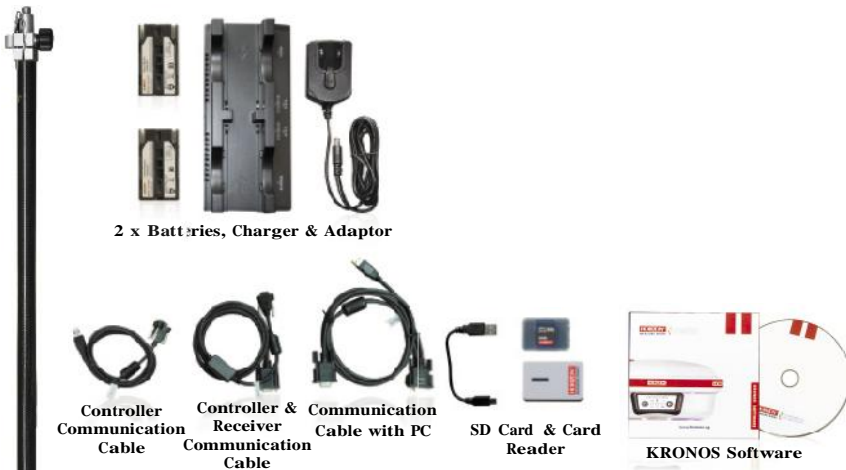
KRONOS 200 THE HORIZON KRONOS 200 GNSS SYSTEM

With the core board based on proven technology, the KRONOS 200 is able to excel in terms of accuracy, precision, and consistency during operation. Its channel capacity caters for multi-constellational GNSS integration, with alignments to the GPS, GLONASS GALILEO, COMPASS networks and other future satellite networks.

The KRONOS 200 product features:

1. Built using Trimble Maxwell 6 technology
2. Dual Bluetooth™ technology
3. RTK capability
4. High speed and stable GPRS connection to CORS network
5. Future expansion to include GSM connection
6. UHF data link technology
7. Low-elevation tracking technology
8. On-board multipath mitigation
9. Post-processing software to allow for application customization

Standard Accessories for KRONOS 200 ROVER



2 x Batteries, Charger & Adaptor

Controller
Communication
Cable

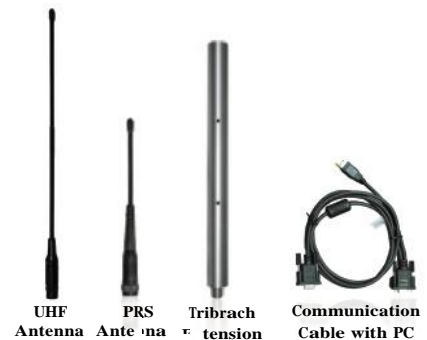
Controller &
Receiver
Communication
Cable

Communication
Cable with PC

SD Card & Card
Reader

KRONOS Software

Standard Accessories for KRONOS 200



UHF
Antenna

PRS
Antenna

Tribrach
Tension

Communication
Cable with PC



2 x Batteries, Charger & Adaptor

Measuring
Tape



Tribrach &
Tribrach Adaptor

KRONOS Software

Optional Accessories for KRONOS 200



PDL Radio

Multi-Function
Communication Cable

Write Frequency
Cable



GPS Carbon
Fiber Pole

UHF
Antenna

PRS
Antenna



KRONOS 200 Carrying Case



Measuring
Tape

Tribrach &
Tribrach Adaptor

KRONOS 200M TECHNICAL SPECIFICATIONS GNSS MODULE SPECIFICATIONS:

Internal Memory	4G (15 static days with frequency of 1 Hz)	
Number of Channels	220	
Satellite signals tracked	GPS:	Simultaneous L1 C/A, L2E, L2C, L5
	GLONASS:	Simultaneous L1 C/A, L1 P, L2 C/A (GLONASS M Only), L2 P
	SBAS:	Simultaneous L1 C/A, L5
	GALILEO	Simultaneous L1 BOC, E5A, E5B, E5AltBOC1
	COMPASS	B1,B22-QZSS:L1 C/A, L1 SAIF,L2C, L5
PERFORMANCE SPECIFICATION		
Initialization time:	45 sec	
Signal recapture:	1 sec	
RTK signal initialization	20 sec	
Velocity Accuracy	Horizontal-0.007 m/s Vertical 0.020m/s	
Acceleration	11 g	
Maximum Operating Limits		
Velocity	515m/s	
Altitude	18,000 m	
Up to 50 Hz raw measurement & position outputs.		
Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth		
Proven low elevation tracking technology.		
Mother board		
GSM module The GSM board mount a SIMENS MC75i unit for GSM/GPRS communication.		
This module supports	Single band operation at 800 MHz, Dual band operation at 900 MHz and 1800 MHz, Tri-band operation at 800 MHz, 900 MHz, 1800 MHz.	
Packet data service of GPRS	CLASS 10	
Maximum rate of transmission 85.6 kbit/s.		
Embedded TCP/IP protocol suite that supports multiple links and provides ACK answer and large-capacity cache.		
Connection devices		
Connectors I/O: 9-pins serial port (baud rate up to 115.200kbps) and 5-pins LEMO interfaces.		
Multicable with USB interface for connecting with PC.		
2.4GHz Bluetooth device class II	Maximum range is 50m.	
Internal Radio:		
3 frequency range option (Emit or Receive)	410-430MHZ, 430-450MHZ, 450-470MHZ	
GSM/GPRS Modem		
GSM/GPRS data modem maximum range	70km.	
External radio:		
PDL radio, emitting power and maximum range depending on model	Maximum range 22km.	
Serial protocols		
Reference outputs	CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1.	
Navigation outputs:	ASCII (NMEA-0183 GSV), AVR, RMC, HDT, VGK, VHD, ROT, GGK, GSA, ZDA, VTG, GST, PJT, PJK, BPQ, GLL, GRS, GBS, GSOF.	
External cell phone support	RTK and VRS operation (optional).	
Receiver accuracy		
Static horizontal accuracy	3mm ± 1ppm (RMS).	
Static vertical accuracy	5mm ± 1ppm (RMS).	
Fixed RTK horizontal accuracy	8mm ± 1ppm (RMS).	
Fixed RTK vertical accuracy	15mm ± 1ppm (RMS).	
DGPS horizontal accuracy	0.25m ± 1ppm (RMS).	
DGPS vertical accuracy	0.50m ± 1ppm (RMS).	
Stand Alone RTK positioning accuracy	1.5m (CEP).	
SBAS horizontal accuracy	0.50m	
SBAS vertical accuracy	0.85m	
Power Supply (9 to a 15V DC external power input with over-voltage)		
Voltage:	7.2 V.	
Working time in static mode:	Typically 6 hours.	
Working time in RTK rover mode:	Typically 4 hours.	
Charge Time	Typically 7 hours.	
Power consumption	< 3.8 W.	
Remaining time with battery light blinking:	1 hour.	
Physical specification:		
Size	Height 96mm x Diameter 186mm. 59mm from the center of the rubber loop to the bottom.	
Weight	1.2 Kg with internal battery, radio standard UHF antenna.	
Operational temperature	- 25°C to 60°C (-13°F to 140°F)	
Storage temperature	- 55°C to 85°C (-67°F to 185°F)	
Waterproofing	Protected from temporary immersion to depth of 1 meter and from 100% humidity and dustproof.	
Shock resistance	Designed to survive a 2m pole drop on the concrete and has vibration resistance.	