



Service and support.



iGage SG7

SMART GNSS IMU-RTK RECEIVER



iGage SG7

The iGage SG7 is the latest premium GNSS geodetic receiver made in Singapore. Designed to meet the highest standards, the SG7 is a high-performance 1608-channel IMU-RTK GNSS receiver that delivers the performance and reliability you need to survey your work sites with confidence. The SG7 has built-in connection modules including Wi-Fi, Bluetooth, NFC, UHF modem and 4G to support a variety of application scenarios, such as urban surveying and mapping, road infrastructure construction, urban utility development, housing construction and more.

TECHNICAL SPECIFICATIONS

GNSS Performance ⁽¹⁾		Communication	
Channels	1608 channels	SIM card type	Nano-SIM card
GPS	L1 C/A, L2E, L2C, L5	Network modem	Integrated 4G modem: TDD-LTE, FDD-LTE(B3,B5,B8,B20,B28), WCDMA(B1,B8), GSM(900,1800)
GLONASS	L1C/A, L1P, L2 C/A, L2P, L3 CDMA	Wi-Fi	802.11 b/g/n, access point mode
Galileo	E1, E5a, E5b, E5AltBOC, E6	Bluetooth®	V4.2
BeiDou	B1, B2, B3	Ports	1 x 7-pin LEMO port (RS-232) 1 x USB Type-C port (external power, data download, firmware update) 1 x UHF antenna port (TNC female)
SBAS	L1C/A, L5 (QZSS, WAAS, MSAS, GAGAN)	UHF radio	Standard Internal Rx/Tx: 410 - 470 MHz Transmit Power: 0.5 W to 1W, 2W (Optional) Protocol: CHC, Transparent, TT450 Channel Spacing: 12.5 KHz Link rate: 9600 bps to 19200 bps Range: Typical 3 km to 5 km
QZSS	L1 C/A, L1 SAIF, L2 C, L5, LEX	Data formats	RTCM 2.x, RTCM 3.x, CMR, CMR+, RTCM MSM input and output RINEX 2.11, 3.02 NMEA 0183 output NTRIP Client, NTRIP Caster
IRNSS	L5	Data storage	8 GB internal memory, support external storage USB OTG
L Band	Support, RTX optional	Electrical	
GNSS Accuracies ⁽²⁾		Power consumption	Typical 4.5 W (depending on user settings)
Real time kinematics (RTK)	H: 8 mm + 1 ppm RMS	Li-ion battery capacity	Built-in battery 9,600 mAh, 7.4 V
	V: 15 mm + 1 ppm RMS	Operating time on internal battery ⁽⁴⁾	UHF/ 4G RTK Rover: up to 18h UHF RTK Base: up to 9.5 h Static: up to 18 h
	H: 8 mm + 0.5 ppm RMS (Network RTK)	External power input	9 V DC to 28 V DC
	V: 15 mm + 0.5 ppm RMS (Network RTK)	Certifications	
	Initialization time: < 8 s	CE Mark; FCC Part 15 Subpart B Class B; NGS Antenna Calibration; NCC; WPC ETA; MIL-STD 810G/F/H	
Initialization reliability: > 99.9%			
L-Band Accuracy	H: Less than 3 cm V: Less than 5 cm		
Long Observation Static Accuracy	H: 3 mm + 0.1 ppm V: 3.5 mm + 0.4 ppm		
Post-processing static	H: 2.5 mm + 0.5 ppm RMS V: 5 mm + 0.5 ppm RMS		
Code differential	H: 0.25 m RMS, V: 0.50 m RMS		
Autonomous	Horizontal: 1 m RMS Vertical: 1.5 m RMS		
Positioning rate	Up to 50 Hz		
Time to first fix ⁽³⁾	Cold start: < 45 s		
	Hot start: < 8 s		
	Signal re-acquisition: < 1 s		
Tilt angle	0~60°		
RTK tilt-compensated	8 mm + 0.3 mm/° tilt Standard IMU		
	5 mm + 0.5 mm/° tilt Advanced IMU ⁽⁵⁾		
Hardware			
Size (L x W x H)	Φ152 mm x 78 mm (Φ5.98 in x 3.07 in)		
Weight	1.15 kg (2.54 lb)		
Environment	Operating: -40°C to +65°C (-40°F to +149°F) Storage: -40°C to +85°C (-40°F to +185°F)		
Humidity	100% condensation		
Ingress protection	IP67		
Shock	Survive a 2-meter pole drop		
Tilt sensor	Calibration-free IMU, E-Bubble leveling		



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MADE IN
SINGAPORE

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All specifications are subject to change without notice.

(1) Compliant, but subject to availability of BDS ICD, Galileo and QZSS commercial service definition. BDS B2b, Galileo E6 and QZSS L6 will be provided through future firmware upgrade.

(2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.

(3) Typical observed values.

(4) Battery life is subject to operating temperature.

(5) customised advanced IMU