

PENTAX

Positioning Systems Model **G2**

Precision Satellite Surveying
with Wireless Communications

GPS | GLONASS | BEIDOU | SBAS | GALILEO



- + Powerful GNSS engine
- + Compact, light-weighted and robust housing
- + High dust and water resistance (IP68)
- + Fast satellite acquisition for RTK

TI Asahi Co.,Ltd
Focusing on true performance

GNSS SPECIFICATIONS

Model		G2U	G2N
Channel Configuration		1408 channels	555 channels
		Multi-Frequency GPS, GLONASS, Galileo,	Multi-Frequency GPS, GLONASS, Galileo,
		Beidou and QZSS	Beidou, IRNSS*1 and QZSS
Receiver Board		UM980	NovAtel 719
Signal Tracking	GPS	L1C/A, L2P(Y), L2C, L5	L1 (L1C/A, L1C), L2 (L2P, L2C), L5
	GLONASS	L1, L2	L1 (L1C/A), L2 (L2C/A, L2P), L3
	BEIDOU	B1i, B2i, B3i, B1C, B2a, B2b*1	B1 (B1i, B1C), B2 (B2i, B2a, B2b), B3 (B3i)
	Galileo	E1, E5a, E5b, E6*1	E1 (E1BC), E5a, E5b, E5ab, (AltBOC), E6 (E6BC)
	QZSS	L1, L2, L5, L6*1	L1C/A, L1C, L2C, L5, L6
	SBAS	NA	L1, L5
	NavIC (IRNSS) *1	NA	L5
	L-Band	NA	up to 5 channels
Position Accuracy		Horizontal	Horizontal
	SBAS (WAAS, GAGAN etc.)	NA	0.5 m
	DGPS	0.4 m	0.4 m
RTK Performance	Horizontal Accuracy	8 mm + 1 ppm	8 mm + 1 ppm
	Vertical Accuracy	15 mm + 1 ppm	15 mm + 1 ppm
	Horizontal Accuracy (Network RTK)	8 mm + 1 ppm	8 mm + 0.5 ppm
	Vertical Accuracy (Network RTK)	15 mm + 1 ppm	15 mm + 0.5 ppm
	Average Time to Work	Typ. < 10 sec.	Typ. < 10 sec.
	Availability/Initialization Reliability	> 99.9%	> 99.9%
Static Performance	Horizontal Accuracy(Long time observation) *2	NA	3 mm + 0.1 ppm
	Vertical Accuracy(Long time observation) *2	NA	3.5 mm + 0.4 ppm
	Horizontal Accuracy	2.5 mm + 0.5 ppm	
	Vertical Accuracy	5 mm + 0.5 ppm	
PPP (Precision Point Positioning)		NA	Horizontal 40mm with TerraStar C (optional)
Ports		Lemo 7-pin, external radio and power supply	Lemo 7-pin, external radio and power supply
		USB, power supply	USB, power supply
Internal Radio Modem	Frequency	410 Mhz - 470 Mhz	410 Mhz - 470 Mhz
	Output Power	0.5 W / 1 W / 1.5 W	0.5 W / 1 W / 1.5 W
Cell Modem	Modem		
	Frequency Bands	LTE FDD: B1/B3/B5/B8 LTE TDD: B38/B39/B40/B41 TD-SCDMA: B34/B39 CDMA: BC0 WCDMA: B1/B8 GSM: 900/1800MHz	LTE FDD: B1/B3/B5/B8 LTE TDD: B38/B39/B40/B41 TD-SCDMA: B34/B39 CDMA: BC0 WCDMA: B1/B8 GSM: 900/1800MHz
	Network Protocol	NTRIP, HTTP, FTP, TCP, UDP	NTRIP, HTTP, FTP, TCP, UDP
Power	Internal Battery	9600 mAh / 3.7 V	9600 mAh / 3.7 V
	Battery Running Time	16 hours with 1.5 Watt internal radio	16 hours with 1.5 Watt internal radio
Weight		≤ 0.75 kg	≤ 0.75 kg
Dimensions		Ø 147.9 mm x H 68 mm	Ø 147.9 mm x H 68 mm
Environmental Specifications	Operating Temperature	-20 °C to +60 °C	-20 °C to +60 °C
	Storage Temperature	-40 °C to +85 °C	-40 °C to +85 °C
	Shock/Drop	Withstand 1.5 m pole drop	Withstand 1.5 m pole drop
Velocity Accuracy	Standalone	0.03 m/sec RMS	0.03 m/sec RMS
Data Output	Raw Data output frequency	up to 5 Hz (20 Hz optional)	up to 5 Hz (20 Hz optional)
	NMEA Data output frequency	up to 5 Hz (20 Hz optional)	up to 5 Hz (20 Hz optional)
	Correction data Protocol	RTCM 2.X, RTCM 3.X	RTCM 2.X, RTCM 3.X
		CMR, RTD	CMR, RTD
Time to First Fix	Cold Start	< 30 sec	< 30 sec
	Warm Start	< 20 sec	< 20 sec
	Reacquisition	< 5 sec	< 5 sec
		802.11 a/b/g/n/ac	802.11 a/b/g/n/ac
WiFi		NA	NA
	Tilt compensated	60°	60°
	Tilt accuracy	< 2 cm (within 60°)	< 2 cm (within 60°)
Bluetooth		V2.1 + EDR / V4.0 dual mode	V2.1 + EDR / V4.0 dual mode
Memory		32GB	32GB
Waterproofing		IP 68	IP 68
Certification		CE	CE
Standard Accessories		USB Type A/Type C Cable with USB 5V/2A Adapter	USB Type A/Type C Cable with USB 5V/2A Adapter
		UFH Antenna	UFH Antenna
		5/8 inch screw adapter	5/8 inch screw adapter
		25 cm pole	25 cm pole
		Measuring plate	Measuring plate

*1 Hardware ready

*2 Performance, Accuracy and Reliability are dependent upon various factors including satellite geometry, number of satellites, ionospheric conditions, atmospheric conditions and multipath.

PENTAX Positioning System is dedicated to providing customers with first class positioning system products and freedom of choice. We have carefully designed high-quality products to meet the needs of today's surveyors based on the experience of many years involved in instrument design and construction. Our engineers have been involved in Survey products since the beginning of the Satellite Surveying Era. We are committed to ease of use, a low cost of ownership and flexibility to accommodate different working environments. Our close partners are carefully chosen and are committed to these values as we are.

www.pentaxsurveying.com/en/

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ISO 9001:2015 Certified



The CE marking assures that this product complies with the requirements of the EC directive for safety.

JSIMA
 Japan Surveying Instruments Manufacturers' Association

Member symbol of the Japan Surveying Instruments Manufacturers' Association representing the high quality surveying products.