

PENTAX

Positioning Systems

Precision Satellite Surveying
with extended measurement
support functions

Series

GX2

GPS | GLONASS | BEIDOU | SBAS | GALILEO



GX2 Models

- + GX2-A: with AR stakeout function
- + GX2-L: with AR stakeout & Laser measurement functions
- + GX2-C: with AR stakeout & Photogrammetry functions

* Optional data collection software PTS3.0 is necessary to utilize these extended functions.

TI Asahi Co.,Ltd
Focusing on true performance

GNSS SPECIFICATIONS

Model		GX2-A		GX2-L		GX2-C	
Channel Configuration		1408 channels					
		Multi-Frequency for GPS, GLONASS, Galileo, Beidou and QZSS					
Receiver Board		UM980					
Signal Tracking	GPS	L1 (L1C/A, L1C), L2 (L2P, L2C), L5					
	GLONASS	L1, L1C/A, L2 (L2 C/A, L2P), L3					
	BEIDOU	B1 (B1I, B1C), B2 (B2I, B2a, B2b), B3 (B3I)					
	Galileo	E1 (E1BC), E5a, E5b, E6, AltBOC *1					
	QZSS	L1 C/A, L1C, L2C, L5, L6 *1					
	SBAS	L1 C/A(WAAS, EGNOS, GAGAN, MSAS)					
	NavIC (IRNSS)	L5, L1 *1					
	PPP	B2b,E6					
Position Accuracy		Horizontal / Vertical					
	SBAS (WAAS, GAGAN etc.)	0.5 m / 0.7 m (RMS)					
RTK Performance	DGPS	0.25 m + 1 ppm / 0.5 m + 1 ppm (RMS)					
	Horizontal Accuracy	8 mm + 1 ppm (RMS)					
	Vertical Accuracy	15 mm + 1 ppm (RMS)					
	Horizontal Accuracy (Network RTK)	8 mm + 0.5 ppm *2 (RMS)					
	Vertical Accuracy (Network RTK)	15 mm + 0.5 ppm *2 (RMS)					
	Average Time to Work	Typ. < 10 sec.					
	Availability/Initialization Reliability	> 99.9%					
	Static Performance	Horizontal Accuracy (Long time observation) *3	3 mm + 0.1 ppm *3				
Vertical Accuracy (Long time observation) *3		3.5 mm + 0.4 ppm *3					
Horizontal Accuracy		2.5 mm + 0.5 ppm					
Vertical Accuracy		5 mm + 0.5 ppm					
PPP (Precision Point Positioning)		Horizontal: 5 cm / Vertical: 10 cm					
Ports		Lemo 7-pin, external radio and power supply					
		USB - Type C, SMA cpnnector					
Internal Radio Modem	Frequency	410 Mhz - 470 Mhz					
	Output Power	0.5 W / 1.5 W (2 W for special area)					
Cell Modem	Modem	Fully supports 2 / 3 / 4 G networks					
	Frequency Bands	LTE FDD:B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28					
		LTE TDD: B38/39/40/41					
		WCDMA: B1/2/4/5/6/8/19					
		GSM: B2/3/5/8					
	Network Protocol	NTRIP, HTTP, FTP, TCP, UDP					
Power	Internal Battery	3,350 mAh / 7.4 V x 2					
	Current Drain	0.24 A / 12 V					
	Battery Running Time	Approx. 20 hr: Rover with 2 Batteries					
Weight		1.03 kg with 2 batteries					
Dimensions		Ø 149.8 mm x H 80 mm					
Environmental Specifications	Operating Temperature	-20 °C to +60 °C					
	Storage Temperature	-20 °C to +70 °C					
	Shock/Drop	Withstand 2 m pole drop					
	Humidity	100 % non-condensing					
Velocity Accuracy	Standalone	0.03 m/sec RMS					
Data Output	Raw Data output frequency	up to 20 Hz					
	NMEA Data output frequency	up to 20 Hz					
	Correction Data Protocol	RTCM 2.X, RTCM3.X, CMR, CMR+ *4					
Time to First Fix	Cold Start	< 40 sec					
	Warm Start	< 20 sec					
	Reacquisition	< 1 sec					
WiFi		IEEE 802.11b/g/n					
IMU	Electric Bubble	Yes					
	Tilt compensated	Tilt range up to 60°					
	Tilt accuracy	≤ 2 cm (up to 30°)					
Imaging	Downward	AR Camera:					
		Sensor size: 1 / 2.8 inch - Aperture: f/2.5 • Resolution: 1920x1080 • Field of view: D70.3° H62.7° V38.6°					
	Side	N/A	N/A		Image Survey Camera:		
					Sensor size: 1 / 2.6 inch		
					Focal length: 6 mm		
					Aperture: f / 2.8		
					Resolution: 1920x1080		
					Field of view: D51.8° H42.4° V32.4°		
Ranging		N/A	Laser Ranging:		N/A		
			Laser wavelength: 520 nm ± 2 0nm				
			Laser output power: 2 - 3 mW				
			≤ 2 cm with PTS 3.0				
AR Stakeout							
Image Surveying		N/A	N/A		Typical 2 ~ 4 cm,		
					measuring distance 2 ~ 15 m		
Laser Surveying		N/A	≤ 2.5 cm (3D distance up to 5 m)		N/A		
			with PTS 3.0				
Bluetooth		BR + EDR + BLE					
Memory		Internal 32 GB (24GB for User Data Storage)					
RoHs		Complied					
Waterproofing		IP 68					
Certification		CE					
Standard Accessories		2 x Li-Ion rechargeable battery pack					
		Battery charger + AC Adapter					
		UHF radio antenna (longer one)					
		5/8 inch screw adapter					
		QR Code Card for Online User Manual					

*1 Hardware ready.
*2 Network RTK ppm values are referenced to the closest physical base station and depends on the network performances.
*3 Performance, Accuracy and Reliability are dependent upon various factors including satellite geometry, number of satellites, ionospheric conditions, atmospheric conditions and multipath.
*4 For future upgrade

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.

Your Official Pentax Dealer

www.pentaxsurveying.com/en/

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CE

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.

ISO 9001: 2015 Certified