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GNSS Receiver **RSAT-X+**

Laser & Camera Measurement RTK

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RSAT-X+ GNSS Receiver

Laser Measurement RTK

Main body magnesium alloy
ABS/PC top cover

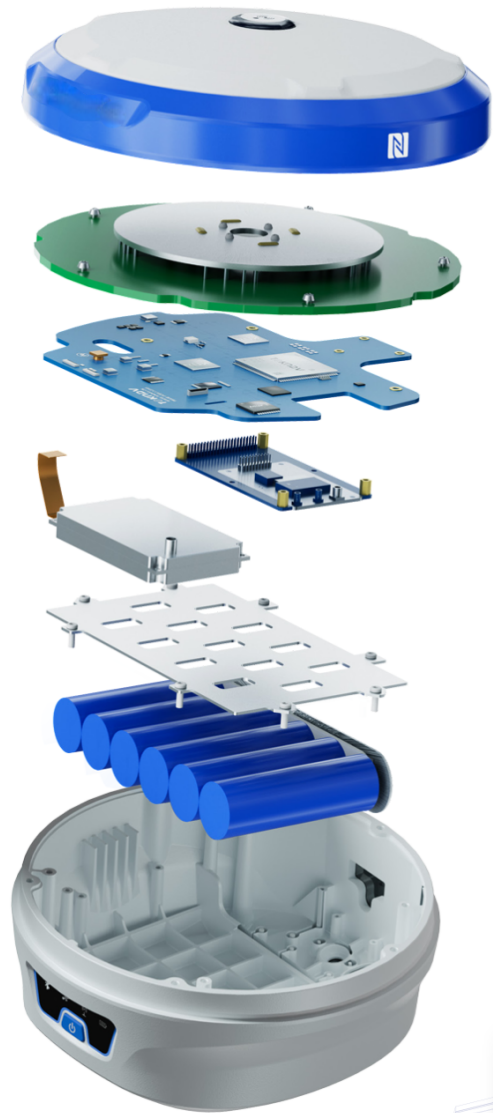
1408 Channel
GPS GLONASS BDS GALILEO
QZSS SBAS

Integrated 4G and 5W radio enable
simultaneous network and radio
differential transmission

7.2V, 13800mAh
Over 48 Hours

Visualized Laser
AR Stakeout

AR Real-Time Stakeout
Intelligent route planning
50% efficiency improvement



LASER MEASUREMENT



HEIGHT	DIAMETER	WEIGHT
104.9mm	174.9mm	1500g

Precise navigation with **2cm** accuracy up to **15** meters.
Enhanced with Green Laser.
Expands the range of measurable objects.

RSAT-X+ GNSS Receiver

RSAT-X+ is a full-featured GNSS receiver designed for long battery life and high precision. It includes an advanced positioning module supporting full-system and multi-frequency satellite signal tracking. Equipped with 4G universal connectivity, Bluetooth, WiFi, a 5W data radio, and a large-capacity battery, it can operate continuously for up to two days on a single charge. The device integrates a high-precision inertial navigation system combined with AR and laser camera technology for AR stakeout and laser measurement, and augmented reality plotting, making surveying tasks more efficient and convenient.



Characteristic

Linux Smart System

ARM Cortex-A7+Linux, the intelligent system platform, brings efficient computing and unlimited expansion of product functions to users.

Full System GNSS Reception

The receiver integrates a high-precision positioning module, utilizing 1408 channels to support a comprehensive range of signals including BDS (B1I/B2I/B3I/B1C/B2a/B2b(PPP)), GPS(L1/L2/L5), GLONASS(L1/L2/L3), Galileo (E1/E5a/E5b/E6(PPP)), and QZSS (L1/L2/L5).

Full Netcom 4G Communication

Based on the Linux platform, this full netcom 4G solution supports mobile, Unicom, and Telecom 2/3/4G networks for better compatibility and stronger, more stable connections.

Visualized Laser Measurement

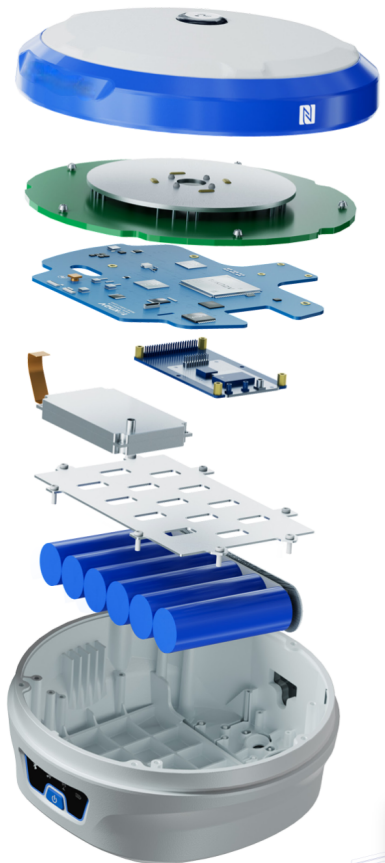
Featuring a high-precision, millimeter-grade laser ranging module and a high-definition camera, the receiver enables precise point-and-measure functionality. The combination of high-accuracy inertial navigation and the camera's HD visuals ensures seamless operation even in complex environments.

AR Real-Time Stakeout

Utilizes a professional ultra-wide-angle camera to provide high-definition real-time plotting functionality, making layout tasks more accurate and convenient.

Long endurance

Built in 13800mAh battery ensures continuous working time of more than 2 days under normal operation.



RSAT-X+ GNSS Receiver

ITEM		SPECIFICATION	REMARKS
HARDWARE SYSTEM		ARM Cortex-A7 1.8GHz	
OS		Linux	
GNSS	GPS	L1 C/A, L1C, L2P(Y), L2C, L5	PPP-B2b, PPP-E6, SBAS supported
	GLONASS	L1, L2, L3	
	BDS	B1I, B2I, B3I, B1C, B2a, B2b	
	GALILEO	E1, E5a, E5b, E6	
	QZSS	L1, L2, L5	
	SBAS	L1	
	NavIC (IRNSS)	L5	ACTIVATED
	Channel	1408	
	Standard Output	NMEA-0183	
	Correction I/O Protocol	RTCM 3.X	
	Frequency	20Hz(max)	
	Reacquisition Time	<1s	
	Cold Start Time	<40s	
ACCURACY	SINGLE (RMS)	Horizontal: 1.5m; Vertical: 2.5m	
	DGPS (RMS)	Horizontal: 0.4m; Vertical: 0.8m	
	RTK (RMS)	Horizontal: $\pm$ (8mm+1ppm) Vertical: $\pm$ (15mm+1ppm)	
	Timing Precision (RMS)	20ns	
	Static Mode Precision (RMS)	Horizontal: $\pm$ (2.5mm+1ppm) Vertical: $\pm$ (5mm+1ppm)	
	Velocity Estimation (RMS)	0.03m/s	
	Tilt Correction (Within 60°)	<2cm	
	Laser Measurement	The three-dimensional accuracy of laser tilt measurement within 15m: no more than 2cm	
SYSTEM PLATFORM	Bluetooth	BR+EDR+BLE	
	WIFI	802.11 b/g/n	
	Network	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	
	Radio	Integrated high-power transceiver Frequency Range: 410~470MHz Power: 1W/2W/5W Protocols: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT Air Baud Rate: 9600, 19200	
	Storage	32GB storage	
	Laser Camera	Sensor size: 1/3.06 inch Aperture:f/2.9 Resolution: 4224*3200 Field of view:D44°H=35°V=26.5° Distortion: < 1%	
	AR Camera	AR Real-Time Stakeout Supported Sensor size: 1/2.8 inch Aperture: f/2.5	

RSAT-X+ GNSS Receiver

		Resolution: 1920*1080 Field of view: D70.3°H62.7°V38.6° Distortion: <0.38%	
INDICATOR	Power Indicator	Indicates power and charging status	
	Differential Signal Indicator	Indicates differential signal transmission status	
	Satellite Indicator	Indicates satellite reception status	
	Bluetooth Indicator	Indicates Bluetooth connection status	
BATTERY/CHARGE	Capacity	7.2V, 13800mAh	
	Endurance	Over 48 hours (when applying controller network mode)	TBD
	Charging	Supports USB PD 15V/2A and 5V/3A	With adaptive dynamic current adjustment
ENVIRONMENT	Operating Temperature	-20°C~+65°C	
	Storage Temperature	-40°C~+85°C	
	Shock Resistance	Can withstand a 1.5m drop at normal temperatures	
	Protection Rating	IP68	
PHYSICAL	Materials	Magnesium alloy casing with ABS/PC plastic top cover	
	Dimensions	Φ174.9 * 104.9mm	
	Weight	1500g	
ACCESSORIES	RSAT-X+	1 Unit	
	Power adapter	1 PCS	
	Type-C To Type-C	1 PCS	
	Radio Antenna	1 PCS	

Manufacturers may update parameters at any time, please refer to the latest product information.

- Equipped with electronic fence system, ASI-ROBUST product have area code restrictions. Any issue please contact ASI-ROBUST or local dealers to verify the specific details.

