TO68A GNSS Receiver

TO68A is a portable multi-functional GNSS. It has a built-in high-precision positioning module that supports tracking satellite signals from all systems and frequency bands. It is equipped with 4G full network access, Bluetooth, WIFI and built-in data transmission radio. The high-precision IMU integrates AR to achieve tilt measurement, tilt measurement and AR real-Time Stakeout, making the measurement work more convenient and efficient.

Characteristic

Linux Smart System

Linux+ARM Cortex-A7 intelligent system platform offers efficient computationand unlimited product functionality expansion.

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), GPS (L1/L2/L5), GLONASS (L1/L2/L3), Galileo (E1/E5a/E5b/E6), QZSS (L1/L2/L5),SBAS and NavIC.

Tilt Measurement

Built-in intelligent high-precision inertial navigation module for real-time tilt compensation, eliminating "fly points" in RTK measurement.

AR Real-Time Stakeout

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

4C Full NetCom

The 4G NetCom solution based on the Linux platform fully supports 2/3/4G networks, offering better compatibility, stronger signals, and more stable connections.

Long Endurance

Equipped with a high-capacity lithium battery, ensuring work time for more than 16 hours.

IP68 Design

Industrial design, solid magnesium alloy shell, in line with IP68 design requirements, safe and reliable.

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ITEM		SPECIFICATION	REMARKS
HARDWARE SYSTEM		**ARM Cortex-A7**	
OS		**Linux**	
GNSS	GPS	L1C/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*	Requires firmware support
	Channel	1408	
	Standard Output	NMEA-0183	
	Correction I/O Protocol	RTCM3.X	
	Frequency	≤20Hz	
	Reacquisition Time	<1s	
	Cold Start Time	<40s	
	RTK Initialization Time	<10s	
	Internal noise level	≤1mm	
	Phase Center Offset	≤2.5mm	
ACCURACY	SINGLE(RMS)	Horizontal: 1.5m ; Vertical: 2.5m	
	DGPS(RMS)	Horizontal: 0.4m ; Vertical: 0.8m	
	RTK(RMS)	Horizontal: ±(8mm+1ppm) ; Vertical: ±(15mm+1ppm)	
	Timing Precision(RMS)	20ns	
	Static Mode Precision (RMS)	Horizontal: ±(2.5mm+1ppm) ; Vertical: ±(5mm+1ppm)	
	Velocity Estimation(RMS)	0.03m/s	
	Tilt Correction (Within 60°)	<2cm	
	AR Stakeout	Horizontal: ±(8mm+1ppm) ; Vertical: ±(15mm+1ppm)	
SYSTEM	Bluetooth	BR+EDR+BLE	
	NFC	Support	
	WIFI	802.11 b/g/n/ac	
	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 transceiver radio Frequency Range: 410~470MHz Power: 0.5W/1.5W Protocols: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT, SATEL, LORA Air Baud Rate: 4800, 9600, 19200	
	Storage	8GB	
	Voice	Support	
	AR Camera	Supports AR real scene stakeout Sensor size: 1/2.8 inch Aperture: f/2.5	

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		Resolution: 1920*1080 Field of view: 69.3°±3° Distortion: ＜0.38%	
BATTERY	Battery	7.4V, 6500mAh	2P2S
	Work time	More than 16 hours (Typical, Rover, GSM)	TBD
	Charge	USB PD 15V/2A 5V/3A	
ENVIRONMENTAL	Operating Temperature	-30°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	Φ134mm*86mm	
	Weight	≤0.75Kg	
ACCESSORIES	TO68A	1 Unit	
	Type-C power adapter	1 PCS	
	Type-C To Type-C	1 PCS	
	Radio Antenna	1 PCS	
	Controller（Optional）	1 Set	

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

▶▶ Equipped with electronic fence system, Toknav's product have area code restrictions. Any issue please contact Toknav or local dealers to verify the specific details.

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