

APH

Survey Instruments

Precision • Performance • Perfection

Reliable Positioning
Superior Accuracy
Maximum Productivity

L1

GNSS RTK Receiver

Precision Without Compromise

Advanced GNSS Survey Solution

Designed for surveyors, engineers, GIS professionals, construction teams, and mapping experts who demand high accuracy, reliability, and efficiency in every project.



Multi Constellation
GNSS Tracking



IMU Tilt Survey
up to 120°



Laser Survey
up to 30 m



Dual HD Cameras
with AR Stakeout



Built-In 4G,
Wi-Fi & Bluetooth



Long-lasting
20-Hour Battery



IP67 Waterproof
& Dustproof



Lightweight &
Rugged Design



Why Choose L1?

- ✓ Multi-Constellation GNSS Tracking
- ✓ Dual HD Cameras with AR Stakeout
- ✓ IMU Tilt Survey up to 120°
- ✓ Laser Survey up to 30 m
- ✓ Built-in 4G, Wi-Fi & Bluetooth
- ✓ Long-lasting 20-Hour Battery
- ✓ IP67 Waterproof & Dustproof
- ✓ Lightweight & Rugged Design



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Applications



Surveying



Engineering



Road & Bridge
Construction



Mapping



GIS Data
Collection



Agriculture



Construction
Measurement

Specifications

	SPECIFICATION	DETAILS
GNSS PERFORMANCE	Channels	1408
	Satellites Tracking	GPS: L1C/A/L2P(Y)/L2C/L5 GLONASS: L1/L2 BDS: B1I/B2I/B3I/B1C/B2a/B2b Galileo: E1/E5a/E5b/E6 QZSS: L1/L2/L5/L6 SBAS: L1
	Positioning rate	Up to 50Hz
	Operation system	Linux
	Initialization time	<5s (Typical)
	Initialization Reliability	99.99%
	Static Horizontal Accuracy	± (2.5mm+0.5x10 ⁻⁶ xD)
	Static vertical Accuracy	± (5mm+0.5x10 ⁻⁶ xD)
	RTK Horizontal Accuracy	± (8mm+1.0x10 ⁻⁶ xD)
	RTK vertical Accuracy	± (15mm+1.0x10 ⁻⁶ xD)
LASER TILT SURVEY	Laser Survey	Supported ,3D error 0.008+0.005°D(tilt angle≤30°)
	Laser Range	≤30m
IMU SENSOR	IMU	Supported
	Accuracy	< 2cm (within 60°)
DATA OUTPUT	Tilt angle	0° ~ 120°
	Correction Data	RTCM2.X、RTCM3.X
FUNCTION CONFIGURATION	GPS data	NMEA 0183s RJK, Binary
	Tilt Survey	supported
	PPK Survey	supported
	Buzzer	supported
STATIC DATA RECORDING	NFC	supported
	Size	133*82mm
	Data Storage	32G
ELECTRICAL	Battery Capacity	7.2V、6600mAh
	Working time	20 hours:(rover CORS work mode) 15 hours:(base with Lora mode)
	External Power	USB Type-C power,power bank supported
	I/O Port	1*USB Type C(power supply and charge) 1*TNC radio antenna port 1*NanoSIM card slot 1*Power key

	SPECIFICATION	DETAILS
COMMUNICATION	Wireless Communication	Supports Bluetooth,controller 4G, WIFI,built-in 4G-LTE,WEB UI LTE-TDD B38/B40/B41 LTE-FDD B1/B3/B5/B7/B8/B20 UMTS/HSPA+ B1/B8 GSM/GPRS/EDGE 900/1800 MHz
	Radio Transmit Power	1.5 W
	Long Range radio(Lora)	Supported
	Internal Radio Frequency	410-470MHZ
	Protocol	TRIMTALK450S、TRIMMARK III、SOUTH9600、SOUTH19200,Lora
CAMERA	Function	5M&5M double high-definition cameras With a large viewing angle that supports real-life AR stakeout
FEATURE	Weight	0.85 kg
	Operating Temperature	-45°C ~ +75°C
	Storage Temperature	-55°C ~ +85°C
	Water/Dust Proof	IP67
	Shock Resistance Grade	IK08
	Shock Survive	1.8m drop
	Static Data Format	TXT
OTHER	Protection	IP67 Waterproof & Dustproof
	Certification	CE / FCC / RoHS
	Accessories (Standard)	Antenna, USB Cable, Charger, Carry Case, Pole Clamp, User Manual