AP30 *Laser*

APEKS
GNSS

Where the Laser Points
The Point is There

AP30 Laser

![LASER] ![120°] ![AR]

AP30 Laser dual-cameras RTK is a high-end GNSS receiver that integrates the latest GNSS, super IMU, millimeter-level green laser technologies.

- The new 3.0 laser module and front camera can display the position of the laser point and the real scene in real time.
- Up to 120°tilt IMU with the built tilt sensor.
- Immersive AR stakeout with bottom camera, UP to 15km working range with internal UHF radio.

These excellent features to deliver unparalleled performance and make your work easier and smarter.

PRODUCT FEATURES

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In hard-to-reach, signal-obstructed, and dangerous fields, the milimeter-level laser makes surveying and stakeout easier and more stable. It can achieve centimeter-level accuracy at any point within a range of 10 meters. The green laser is visible in the day light and a viable substitute for a Total Station to complete any survey project.
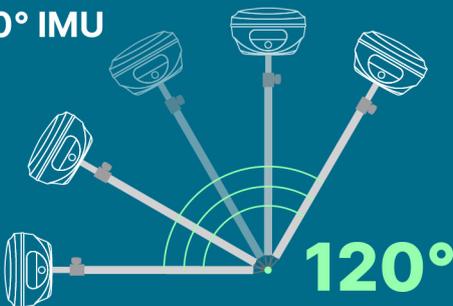
Visual stakeout , one shot is in the place , no need to move the pole back and forth anymore.Immersive real-life three-dimensional stakeout. The stakeout point is marked directly on the ground. Follow the arrows and you can put it in place with one rod.

LASER TECHNOLOGY

AR STAKEOUT

Up to 120° IMU

120°

Satellite navigation + IMU + visual fusion algorithm make AP30 Laser is free from magnetic interference and accurate direction, no need for calibration, no need for initialization and improves by 30% in its measurement accuracy. AP30 Laser uses the 4.0 IMU can get fixed up to 120°to meet more complex environments.

2W UHF Rx/Tx radio

15KM

The built-in integrated radio transceiver can cover a range of 8-15km, It performs as well as the external large radio station. AP30 Laser operates as both a base and rover and when connect to a GNSS RTK network, It is an efficient NTRIP rover.

DATA CONTROLLER

CS3i

SUPPORT
Google System, Google Maps

SIM CARD
SIM card can be inserted

Android 11 OS
Powered by Android 11 OS

5.5 inch
5.5 inch large screen sunlight readable

IP68
IP68 waterproof and dustproof

4G/WiFi/*
Communiaction

9000mAh
9000mAh battery for all day operating
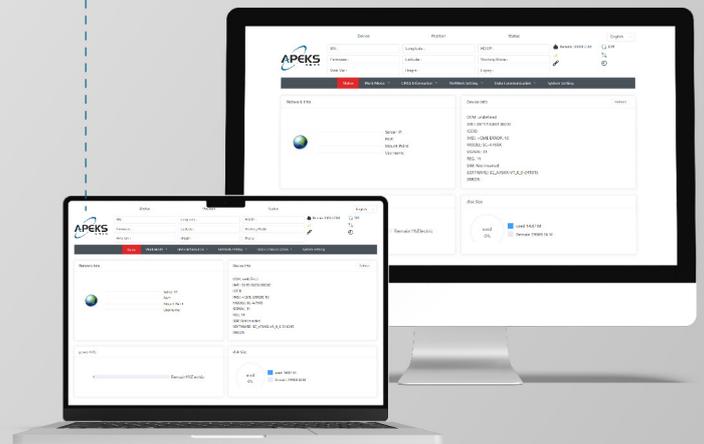
4GB +64GB
4GB RAM+64GB ROM +Extend TF

ApekSurv Field Software

- Compatible Android controller,phone and tablet.
- Support all kinds of language from the world.
- Support multiple base map, Googlemap,WMS map.
- Support all survey modes, including Static, PPK and RTK.
- Support CAD import and directly use for stake out.
- Support TXT, CSV, AutoCAD DXF DWG SHP data formats.
- Support GNSS, GIS and Total Station

Web UI Management

By connection through WiFi, APEKS gnss can be managed on your PC browser or smartphone easily. You can monitor check the status, configurate,register, upgrade firmware, download data, etc.

SATELLITES TRACKING

Channels	1408
GPS	L1C/A, L2C, L2P(Y),L5
GLONASS	L1,L2,L3*
Galileo	E1, E5a, E5b, E6*
BDS	B11, B21, B3I, B1C, B2a, B2b*
QZSS	L1C/A, L1C, L2C, L5
NavIC/IRNSS	L5
SABAS	L1,L5*
PPP	B2B-PPP/E6-HAS

ACCURACY

Real time kinematics (RTK)	H: 8mm + 1 ppm RMS V: 15mm+ 1 ppm RMS Initialization time:<5s(typical) Initialization reliability:>99.9%
Post-processing kinematics (PPK)	H: 2.5mm + 0.5ppm RMS V: 5mm + 0.5ppm RMS
PPP	H: 10cm RMS|V: 20cm RMS
DGPS	H: 0.4m RMS|V: 0.8m RMS
Single Point	H: 1.5m RMS|V: 2.5m RMS
AR stakeout	H: 8 mm + 1 ppm RMS V: 15 mm+ 1 ppm RMS
Position Frequency	1HZ 2HZ 5HZ 10HZ 20HZ 50HZ
Time to first fix	Cold start<45s Hot start<10s Signal re-acquisition<1s
IMU tilt angle	0-120°
IMU tilt survey accuracy	≤2cm within 60° tilt angle

LASER

Type	Class3.0 Green
Range	10m
Laser survey	±8mm + 5mm/m (Tilt angle within 30°)

CAMERA

Number of cameras	2
Pixel	Global shutter with 5MP
Frame rate	30fps
Field of view	84°
Features	• 5MP bottom camera achieve AR stakeout • 5MP front camera auxiliary laser measurement and aiming

COMMUNICATION

UHF radio	2W Tx/Rx, 410-470 MHz Working range is 8-15km in ideal environments
Protocal	TT450,TRIMMARK3,SOUTH,SATEL Link rate :9600bps to 19200bps
Wifi	802.11b/g/n/ac Hotspot/Data Link
Bluetooth	Bluetooth 5.2 classical/ BLE proprietary dual-mode
NFC	NFC touch pairing
WebUI	Accessible via Wi-Fi
4G Cellular	• Integrated full frequency multi band 4G modem • Supports LTE-TDD/LTEFDD/WCDMA/ CDMA2000/UMTS/HSPA+/GSM/GPRS/EDGE
I/O port	• 1xUSB Type-C port (Data download / Charging) • 1xAntenna port(UHF antenna interface) • 1xSim card slot (Supports Nano-sim)
Data formats	RTCM 2.X, RTCM 3.X, RINEX, NMEA 0183 output, NTRIP
Data storage	32GB high speed memory

ELECTRICAL

Battery	Internal Li-ion Battery 7.4V 7000mAh
Charging specs	USB Type-C fast charging
Operation time	Rover mode:18 hours Base mode:7 hours Static mode:20 hours

HARDWARE

Size	129mm(W) 77mm (H) 5inch(W) 3inch(H)
Weight	<800g(1.76lb)
Front panel	1x Data Link, 1x Satellite, 1x Bluetooth, 1xPower

ENVIRONMENTS

Working temperature	-45°C to +75°C
Storage temperature	-55°C to +85°C
Humidity	100% Non-condensing
Waterproof & Dustproof	IP67
Drop	Survive a 2-meter pole-drop
Vibration	IK08