

AI 80 Pro

Laser + AR + Vision + 3D — All in One



Visual surveying



Laser technology



AR stakeout



3D modeling



Up to 120°IMU



OLED color screen



The AP80 Pro is a flagship integrated solution, integrating laser measurement, visual photogrammetry, AR navigation, and 3D modeling into one device. Powered by advanced GNSS, IMU, and multi-camera systems, it delivers high-precision positioning across diverse environments. Its laser handles complex or hard-to-reach measurements, while the visual system enables real-time measurement and AR stakeout for higher efficiency. Seamless 3D modeling compatibility connects fieldwork to digital results. One device replaces many — delivering faster, smarter surveying.

VISUAL SURVEYING

The AP80 Pro uses advanced photogrammetry for fast, non-contact measurement, capturing 3D coordinates of hundreds of points in minutes. With simple video recording, images are generated automatically, allowing users to extract coordinates directly from photos. It enables safe and efficient measurement of hard-to-reach or hazardous areas.

LASER SURVEYING

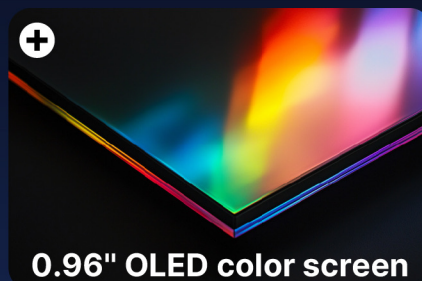
The AP80 Pro features advanced laser measurement with millimeter-level accuracy for safe non-contact surveying in hard-to-reach or hazardous areas. Its green laser supports fast point-and-shoot operation, while camera-assisted aiming improves targeting accuracy.

AR STAKEOUT

The dual cameras deliver an immersive visual stakeout experience. With GNSS and ApekSurv, real-time arrows, distances, and lines are overlaid for guidance. Clear red arrows on the screen lead step by step—just follow them to quickly locate the stakeout point.

3D MODELING

AP80 Pro enables surveyors to easily capture 3D coordinates. The output data is compatible with standard 3D modeling software like ContextCapture or Agisoft, offering both flexibility and convenience. It supports 3D joint modeling of buildings and facades by integrating drone (UAV) and GNSS data.



DATA CONTROLLER

CS5i



SUPPORT

Google System, Google Maps



5.55" inch
large screen
sunlight
readable



9000mAh

9000mAh battery for
all day operating



IP68



Android 14 OS



SIM CARD

4G WiFi Bluetooth

Communication

4GB RAM + 64GB ROM + Extend TF



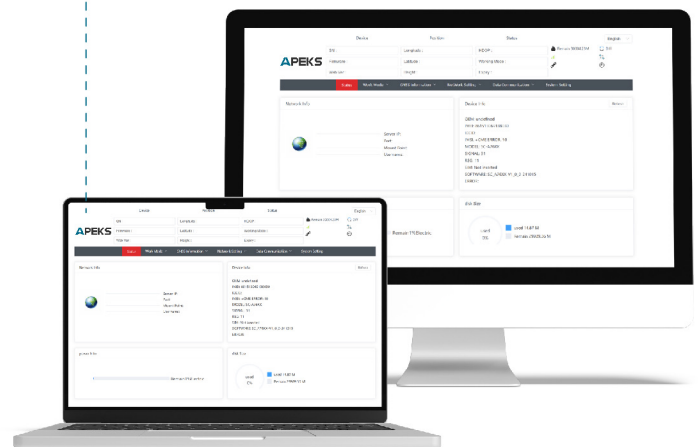
ApekSurv Field Software

- 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, configure, register, upgrade firmware, download data, etc.



SATELLITES TRACKING

Channels	1408
GPS	L1C/A, L1C, L2C, L2P(Y), L5
GLONASS	L1,L2,L3*
Galileo	E1, E5a, E5b, E6
BDS	B1I, B2I, B3I, B1C, B2a, B2b
QZSS	L1C/A, L1C, L2C, L5, L6
NavIC/IRNSS	L5
SBAS	L1C/A
L-Band	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: 3 mm ± 0.5 ppm RMS V: 5 mm ± 0.5 ppm RMS
Static	H:2.5 mm ± 0.5 ppm RMS V:5mm ± 0.5 ppm RMS
PPP	H: 5cm RMS V: 10cm RMS
DGPS	H: 0.4 m RMS V: 0.8 m RMS
Single Point	H: 1.5 m RMS V: 2.5 m RMS
Visual survey	Typical 2~4 cm, range 2~15 m (normal lighting conditions)
Laser survey	±8mm + 5mm/m (Tilt angle within 30°)
AR stakeout	H: 8 mm + 1 ppm RMS V: 15 mm+ 1 ppm RMS
Position Frequency	1Hz 2Hz 5Hz 10Hz 20Hz
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

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

COMMUNICATION

UHF radio	2W Tx/Rx, 450-470 MHz Working range is 8-15km in ideal environments
Protocol	TT450,TRIMMARK3,SOUTH,LORA 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) • 1x5-pin Lemo port (RS-232)
Data formats	RTCM 2.X, RTCM 3.X, RINEX, NMEA 0183 output,VRS,NTRIP
Data storage	32GB high speed memory

CAMERA

Number of cameras	2
Pixel	Global shutter 2MP & 5MP
Frame rate	30fps
Field of view	84°
Features	• 2MP front camera achieve visual measurments & laser aiming • 5MP bottom camera achieve AR stakeout

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

HARDWARE

Size	125mm(W) 88mm (H) 4.92inch(W) 3.46inch(H)
Weight	750g(1.65lb)
Front panel	0.96" OLED color screen display 2LED physical buttons (switchable mode, data link)



Shanghai Apekstool Optoelectronic Technology Co., Ltd

Xinao Creative Park, No.350 Yindu West Road, Songjiang District, Shanghai, China



Website

www.apেকstool.com

Mail

sales@apেকstool.com