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TOKNAV



GNSS Receiver

T40Pro

Hot Swappable Battery Photogrammetric RTK

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T40Pro GNSS Receiver

The T40Pro is a versatilel GNSS receiver equipped with photogrammetry technology. It integrates a high-precision positioning module, IMU, AR, and a high-definition imaging camera, combining precise inertial navigation and positioning data. It enables tilt measurement, AR real-time staking, and image-based survey, allowing for efficient extraction of high-precision coordinates from real-world images. The receiver features a robust magnesium-aluminum alloy design, offering durability and reliability. It supports hot-swappable batteries, allowing quick recharging without power interruption, thereby extending operational time.

CHARACTERISTIC

Linux Intelligent System

The Linux + ARM Cortex-A7 intelligent system platform provides users with efficient computing power and unlimited expansion of product features.

Tilt Measurement

Equipped with an intelligent high-precision inertial navigation (IMU) module, the device offers real-time tilt compensation, eliminating the issue of “floating points” in RTK surveys.

AR Stake Out

A professional ultra-wide-angle camera provides HD real-world stake out capabilities. Its user-friendly AR stake out application ensures precise, one-shot staking performance.

Photogrammetry

The receiver is equipped with a high-definition wide-angle camera with a large 1/2.6-inch sensor, integrating high-precision inertial navigation algorithms. Coupled with a high-performance Android controller, it achieves high-precision image survey.

Extended Battery Life

The receiver supports two detachable batteries that allow hot-swapping without power interruption. This enables quick battery replacement, significantly extending operational endurance.

IP68 Design

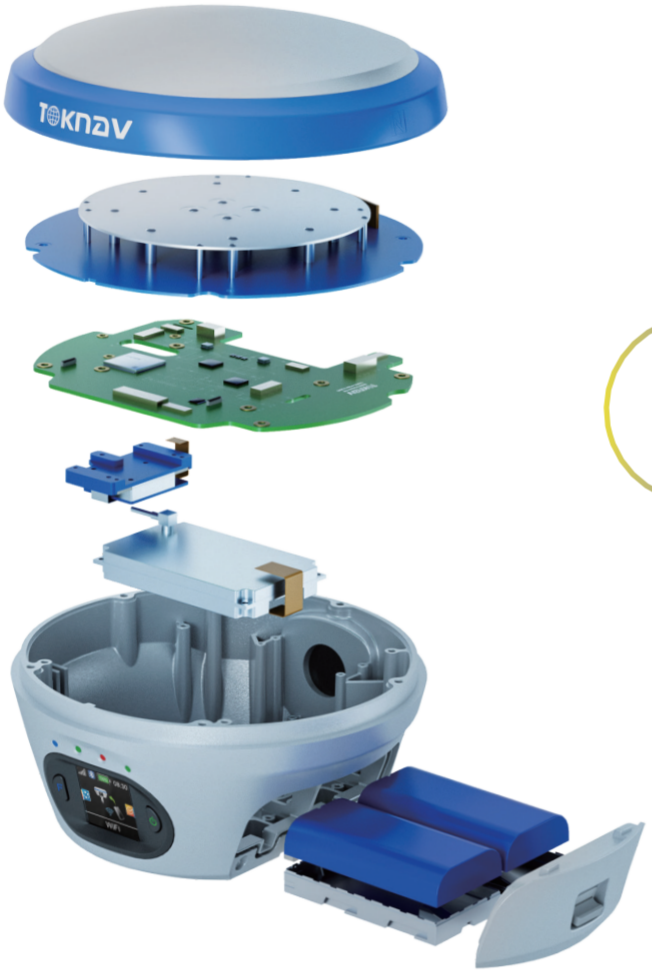
Industrial design, solid magnesium alloy shell, in line with IP68 design requirements, safe and reliable.

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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T40Pro GNSS Receiver

Hot Swappable Battery Photogrammetric RTK



Main body Magnesium alloy
ABS/PC top cover

Photogrammetric
Results in 1 second

Offers HD real-world stake out with **AR** technology.

7.2V, 3400mAh*2
Over 20 Hours

Supports dual **removable** powerful batteries for extended operation

Photogrammetry



HEIGHT	DIAMETER	WEIGHT
103 mm	160 mm	850 g

Error of 2-4 cm within 2-15 meters.
Removable battery, dedicated charger
AR Stakeout Supported

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SPECIFICATION

SYSTEM	
HARDWARE SYSTEM	ARM Cortex-A7
OS	Linux

GNSS	
GPS	L1C/A, L1C, L2P(Y), L2C, L5
GLONASS	L1, L2, L3
BDS	B1I, B2I, B3I, B1C, B2a, B2b(PPP)
GALILEO	E1, E5a, E5b, E6(PPP)
QZSS	L1, L2, L5
SBAS	L1(PPP)
NavIC (IRNSS)	L5*(Requires firmware support)
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: ± (8mm+1ppm) Vertical: ± (15mm+1ppm)
Time Accuracy(RMS)	20ns
Static(RMS)	Horizontal: ± （2.5mm+1ppm） Vertical: ± （5mm+1ppm）
Speed Accuracy(RMS)	0.03m/s
Tilt Correction (Within 60°)	<2cm
AR Stakeout Accuracy	Horizontal： ±(8mm+1ppm) Vertical： ±(15mm+1ppm)
Photogrammetry Accuracy	Error of 2-4 cm within 2-15 meters.

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
Storage	32GB Storage

Data Radio	Integrated receiver/transmitter Frequency Range: 410~470MHz Power: 1W/2W/5W Protocols: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT Air Baud Rate: 9600, 19200
IS Camera	Supports Photogrammetry Sensor size: 1/2.6 inch Focal length: 6mm Aperture: f/2.8 Resolution: 1920*1080 Field of view: D51.8° H42.4° V32.4° Distortion: < 0.5%
AR Camera	AR Stakeout Supported Sensor: 1/2.8 inch Aperture: f/2.5 Resolution: 1920*1080 FOV: 70.3°H62.7°V38.6° Distortion: ＜0.38%

DISPLAY	
LCD Panel	Sensor: 1.3 inch Resolution: 240*RGB*240

BATTERY	
Battery	7.2V，3400mAh *2 (Removable battery, dedicated charger)
Work time	Over 20 hours (when applying controller network mode)
External power	9~24VDC

ENVIRONMENT	
Work Temperature	-20°C~+60°C
Storage Temperature	-20°C~+70°C
Shock Resistance	Can withstand a 1.5m drop at normal temperatures
Protection Rating	IP68

PHYSICAL	
Materials	Magnesium alloy main body, ABS/PC top cover
Dimensions	Φ160mm*103mm
Weight	850g(without battery)

ACCESSORIES	
T40Pro	1 Unit
External Battery	2 PCS
Battery Charging Cradle	1 PCS
Radio Antenna	1 PCS

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

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