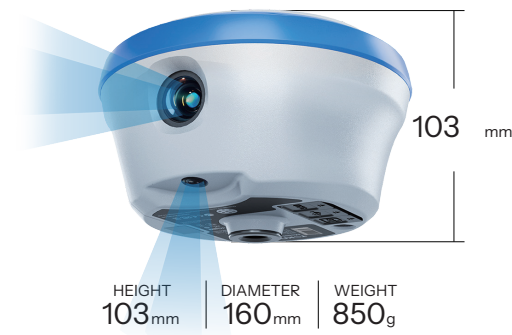# T40Pro GNSS Receiver

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.
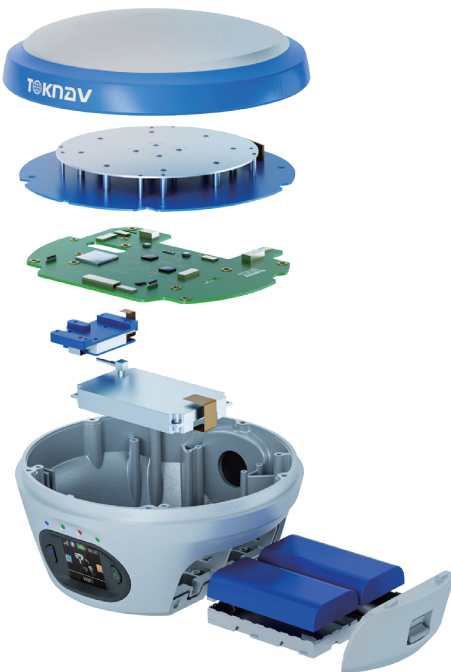
103 mm

HEIGHT **103**mm | DIAMETER **160**mm | WEIGHT **850**g

CHARACTERISTIC

Full-System, Multi-Frequency GNSS Receiver

The receiver integrates a high-precision positioning module with 1,408 high-speed channels. It supports full-system and multi-frequency signal reception and processing, including: BDS: B1I, B2I, B3I, B1C, B2a, B2b, GPS: L1 C/A, L1C, L2C, L5, GLONASS: L1, L2, L3, Galileo: E1, E5a, E5b, E6, QZSS: L1, L2, L5, SBAS and NavIC systems.

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.

TECHNICAL PARAMETERS

ITEM		SPECIFICATION	REMARKS
Hardware Platform		ARM Cortex-A7	
Software Platform		Linux	
GNSS	GPS	L1 C/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
	Channels	1408	
	Data Format	NMEA-0183	
	I/O Protocol	RTCM3.X	
	Data Updat Frequency	20Hz max	
	Reacquistion Time	<1s	
	Cold Start Time	<40s	
POSITIONING 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 Compensation(60°)	<2cm	
	AR Stakeout Accuracy	Horizontal: ±(8mm+1ppm) Vertical: ±(15mm+1ppm)	
	Photogrammetry Accuracy	Error of 2-4 cm within 2-15 meters.	
SYSTEM	Bluetooth	BR+EDR+BLE	
	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 receiver/transmitter Frequency Range: 410~470MHz Power: 1W/2W/5W Air Baud Rate: 9600, 19200 Protocols: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT	
	Storage	32GB	
	IS Camera	Supports Photogrammetry Sensor size: 1/2.6 inch Focal length: 6mm Aperture: f/2.8 Resolution: 1920*1080 Distortion: < 0.5% Field of view: D51.8° H42.4° V32.4°	
	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)	

▶ 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.