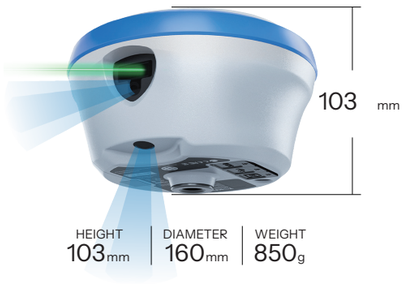
T40 GNSS Receiver

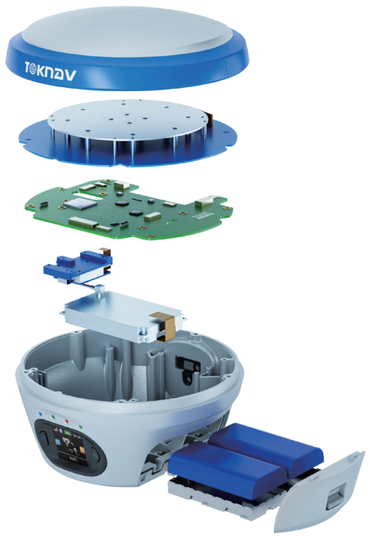
T40 is a versatile GNSS receiver equipped with dual-laser cameras. It integrates a high-precision positioning module, IMU, AR, laser technology, and laser visualization to enable high-precision positioning, tilt measurement, AR real-world staking, and visualized laser point measurement. It boasts a maximum testing radius of up to 30 meters. 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

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.

Visualized Laser Measurement

Featuring a high-precision, millimeter-grade laser ranging module and a high-definition camera, the receiver enables precise point-and-measure functionality. The combination of high-accuracy inertial navigation and the camera's HD visuals ensures seamless operation even in complex environments.

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 Update Frequency	20Hz max	
	Reacquisition 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 Stake Out Accuracy	Horizontal: ±(8mm+1ppm) Vertical: ±(15mm+1ppm)	
	Laser Measurement	≤2.5cm 3D error within 5m range	
SYSTEM	Blue Tooth	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	
	Laser Module	Type: Class 3R Range: 30m Precision: ±5mm±100*10-6*D，(D: Measurement Distance) Wavelength: 520±20nm Power: 3.8mW	
	Laser Assist Camera	Sensor：1/3.06 inch Resolution: 4224x3200 FOV: D44°H35°V26.5° Distortion: ＜1%	
	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%	
BATTERY	Work time	Over 20 hours (when applying controller network mode)	
	External power	9~24VDC	
	Battery	7.2V，3400mAh *2	Removable battery, dedicated charger
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.

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