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TOKNAV

GNSS Receiver

T41

Laser Dual-camera RTK

T41 GNSS Receiver

T41 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 50 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.

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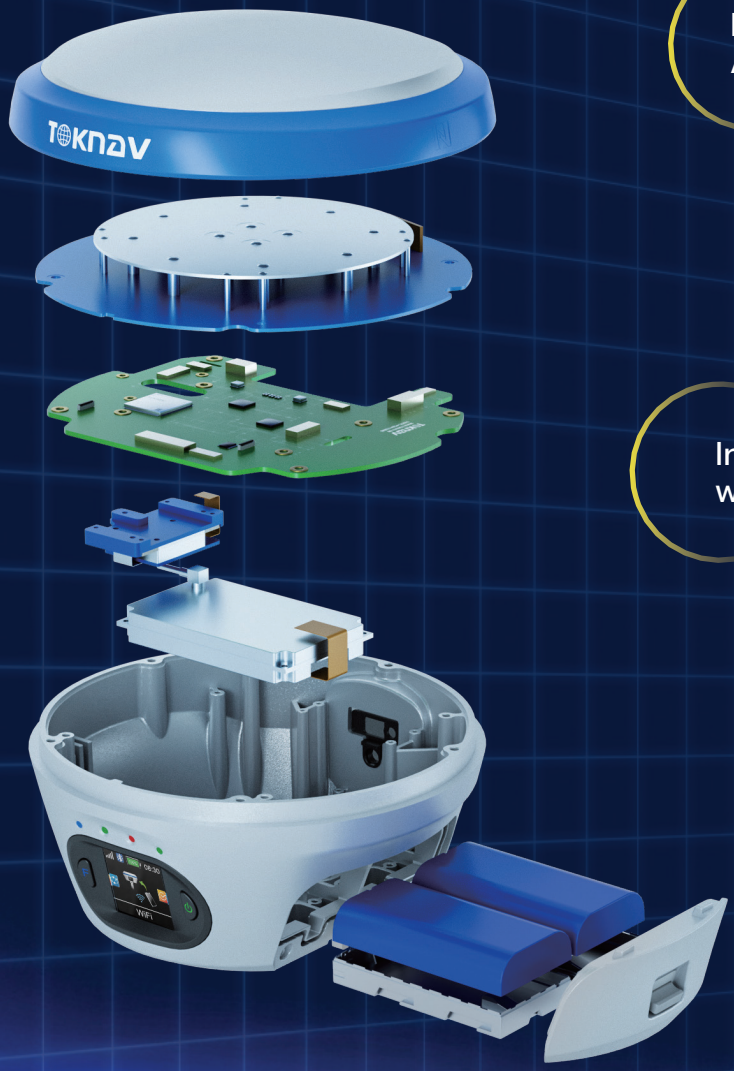

Main body magnesium alloy
ABS/PC top cover

1408 Channel
GPS GLONASS BDS GALILEO
QZSS SBAS IRNSS

Integrates precise laser ranging
with **HD visualization**

7.2V, 3400mAh*2
Over 20 Hours

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

LASER MEASUREMENT

HEIGHT	DIAMETER	WEIGHT
103 mm	160 mm	850 g

≤2.5cm 3D error within 5m range
Enhanced with Green Laser.
Expands the range of measurable objects.

SPECIFICATION

SYSTEM

HARDWARE SYSTEM	ARM Cortex-A7 1.8GHz
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
RTK Initialization Time	8 Sec
Reacquisition Time	<1s

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
High Accuracy Static	Horizontal: ± (2mm+1ppm) Vertical: ± (4mm+1ppm)
Static and Fast Static	Horizontal: ± (2.5mm+1ppm) Vertical: ± (5mm+1ppm)
Tilt Compensation (⩽60°)	<2cm
AR Stake Out Accuracy	Horizontal: ± (8mm+1ppm) Vertical: ± (15mm+1ppm)
Laser Measurement	⩽2.5cm 3D error within 5m range

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
Radio	Integrated high-power transceiver Frequency Range: 410~470MHz Power: 1W/2W/5W
Radio	Protocols: TRIMTALK, TRIMMK3, SOUTH, TRANSEOT Air Baud Rate: 9600, 19200bps
Laser Module	Type: Class 3R Range: 50m 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%

DISPLAY

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

BATTERY / CHARGE

Capacity	7.2V, 3400mAh*2 (Removable, dedicated charger)
Endurance	Over 20 hours(when applying controller network mode)
Charging	9~24VDC

ENVIRONMENT

Operating 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 casing with ABS/PC plastic top cover
Dimensions	Φ160 * 103mm
Weight	850g(without battery)

ACCESSORIES

T41	1 Unit
External Battery	2 PCS
Battery Charging Cradle	2 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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