

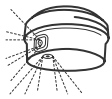


FJD Trion[™] V10a

RTK SYSTEM WITH VISUAL GUIDANCE

VISUAL BEYOND COORDINATES WITHIN POCKET

Grab the V10a and start measuring. With pocket-sized design and AR stakeout technology, it offers portable convenience to your work. With millimeter-level RTK accuracy, up to 60° IMU tilt survey, dual 5 MP camera lens, and 4 LED indicators showing the real-time working status, the V10a improves your AR staking and live CAD surveying data collection accuracy, making it an ideal choice for outdoor projects.



**Augmented Reality
Visual Guidance**
Dual 5MP cameras
83° Field of View



**Lighter
And smaller**
Smaller Size (18% ↓)
Lighter Weight (15% ↓)



**RTK
Accuracy**
H: 8 mm + 1 ppm RMS
V: 15 mm + 1 ppm RMS



**Rugged
Reliability**
2m
Drop-proof



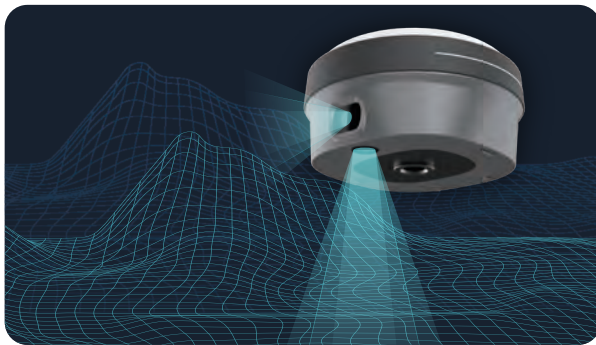
**Communication
Diversity**
NFC, Wi-Fi, Bluetooth
Internal Radio & External Radio



**Integrated
4G Modem**
TDD-LTE, FDD-LTE, WCDMA,
GSM/EDGE

SEE MORE, WORRY LESS

Clear Vision, Precise Measurements



Running on a powerful 4-core processor and multi-engine algorithm, it offers a smooth view in the AR stakeout, allowing you to follow the visual guidance to complete the staking.

With mixed reality technology for superimposing CAD drawings, the V10a enables construction personnel to preview and evaluate the design scheme more comprehensively, ensuring quality and safety on the construction site.

Communication Diversity

The V10a supports Wi-Fi, Bluetooth, and one-tap NFC pairing for versatile wireless options. Equipped with both internal and external radios, the V10a maintains strong signal strength even in harsh weather conditions. Moreover, it features an integrated 4G modem, ensuring compatibility with TDD-LTE, FDD-LTE, WCDMA, GPRS, and GSM/EDGE.



Tilt Survey with high efficiency

The V10a allows tilt surveys up to 60° by automatically compensating the tilted angle, ensuring precise measurements even when the survey pole isn't held perfectly straight.

Built tough, engineered for extremes

The V10a has a lightweight alloy body that resists magnetic interference. Its upgraded design provides stable satellite signals in blocked areas or bad weather conditions. It keeps working reliably even if it gets wet or is accidentally dropped. You can trust it to deliver reliable results for your outdoor projects.



Multiple controllers for flexible selection

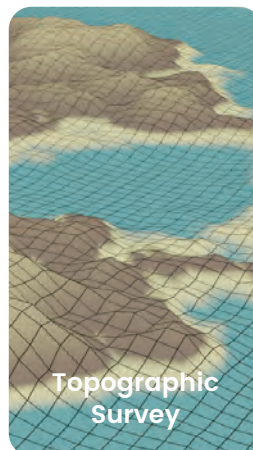
The V10a can be used with either a compact keyboard controller or a tablet controller—you can choose the one that best fits your working preferences and needs. Both controllers have powerful processors for smooth performance, responsive touchscreens, and fast speeds to help you work efficiently. The ambient-aware screens automatically adjust brightness, making them easy to see even in direct sunlight.

Enhance field-to-office productivity with FJDynamics Business Center (FBC)

The V10a simplifies the workflow from field to office through data transfer and project updates to FBC in real time, streamlining project collaboration on both ends. It allows you to share system parameters and set up data, including coordinate systems, geoid models, and datum grid files.



APPLICATION SCENARIOS



SPECIFICATIONS

GNSS

Channels	1408 channels
GPS	L1A, L1C, L2C, L2P, L5
GLONASS	L1, L2, L3
Beidou	B1I, B2I, B3I, B1C, B2a, B2b
Galileo	E1, E5a, E5b, E6
QZSS	L1, L2C, L5, L6*
IRNSS	L5*
SBAS	L1C/A
HAS-PPP	E6

*Support by a firmware upgrade.

Communications and Data Storage

SIM card type	Nano-SIM card
Network modem	Integrated 4G modem: TDD-LTE, FDD-LTE, WCDMA, EDGE, GPRS, GSM
Wi-Fi	2.4&5 GHz, 802.11a/b/g/n/actouch pairing
Wireless connection	NFC for device
Bluetooth®	BT4.2&BLE
Ports	7-pin LEMO port (Extrenal radio) UHF antenna port USB Type-C port
Built-in UHF radio	Rx/tX: (410-470)MHz/(902-928MHz) Transmit Power: 2W Protocol: TRIMTALK, TRIMMARK III, TT450S, TRANSEOT, Satel 3AS 4FSK, Lora Link rate: 9,600 bps to 19,200 bps Range: typical 6-12 km, up to 16km with optimal conditions ⁶
Data formats	Input&Output: NMEA-1083, RTCM3.X Input: RTCM2.X, CMR
Data storage	32 GB internal memory

Camera

Sensor resolution	Foward: 5 MP, downward: 5 MP
Field of view	83°

¹ Open sky conditions ⁴ No information available (no almanac, no approx position)
² RMS levels ⁵ Ephemeris and approx. position known
³ Baseline <40 km ⁶ Ideal environment

Free Quote: sales.global@fjdynamics.com

Address: 15 SCOTTS ROAD #03-12, Singapore

FJDynamics.com



Positioning

RTK performance ^{1,2,3}	H: 8 mm + 1 ppm RMS
	V: 15 mm + 1 ppm RMS
	Initialization time: <5s
	Initialization reliability: >99.9%
Post-processing static	H: 2.5 mm + 0.5 ppm RMS
	V: 5 mm + 0.5 ppm RMS
High-precision static	H: 2.5 mm + 0.1 ppm RMS
	V: 3.5 mm + 0.4 ppm RMS
PPK Accuracy	H: 3 mm + 1 ppm RMS
	V: 5 mm + 1 ppm RMS
PPP Accuracy	RMS Horizontal: ±20 cm, RMS Vertical: ±40 cm
Code differential	H: 0.4 m RMS V: 0.8 m RMS
Autonomous	H: 1.5 m RMS V: 2.5 m RMS
Positioning rate	1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz
Time to first fix	Cold start ⁴ : <20s
	Warm start ⁵ : <5s
	Signal re-acquisition: <1s
Tilt angle	0-60°
RTK accuracy with tilt-compensation	RMS: 8 mm + 0.6 mm/° tilt
SBAS	60 cm

Hardware

Temperature	Operating: -35 C -65 C
	Storage: -40 C -70 C
Humidity	95% non-condensation
Ingress protection	IP68, dustproof, protected from continuous
	immersion to depth of 1 m
Drop	Designed to survive a 2-meter pole-drop
Li-ion battery capacity	Built-in battery
	4900 mAh, 7.4 V
	30 W PD Fast Charge
Operating time on internal battery	Rover 15 h, Base 10 h
	Static: > 25 h
External power input	9-28 V DC
Dimensions (DxH)	Φ 130×68 mm
Weight	Approximately 800g
Power consumption	UHF/4G RTK Rover w/o camera: Typical 3W
	Visual stakeout: Typical 4.5W
Waterproof and breathable membrane	Prevent water vapor from entering under harsh environments
Tilt Sensor	Immune to magnetic disturbances
	E-bubble leveling

Note: The battery life is subject to the operation environment, working temperature, and working mode. It has a standard lifespan in normal operating conditions.

CREATE FOR A BETTER WORLD

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