FJDynamics

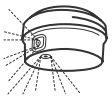


FJD Trion™ V10i

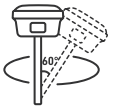
GNSS SYSTEM WITH VISUAL POSITIONING

PRECISION REDEFINED: VISION BEYOND COORDINATES

Say goodbye to the challenges of surveying and elevate your next project with the new V10i. Powered by the industry-leading Septentrio Mosaic-X5 module, the V10i effortlessly navigates interference and ensures robust, stable signals with its advanced AIM+ technology. Retaining its trusted AR Stakeout feature, the V10i now revolutionizes efficiency with Visual Measurement, powered by high-resolution dual cameras. Elevate conquer hard-to-reach areas, and unlock unmatched productivity—all with the V10i!



Visual Measure & AR Stakeout
Dual cameras: 2 MP Forward, 5 MP Downward



IMU-based Tilt Compensation
Support Visual Measure Tilt 60° Calibration-free



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



Rugged Reliability
2 m Drop-proof



Communication Diversity
SIM Card and UHF radio, Supports NFC,WiFi & Bluetooth



Global Constellations Supported
1408 channels: GPS, GLONASS, GALLIEO, BeiDou, QZSS, SBAS

CAPTURE MORE, WORRY LESS



Clear Vision, Precise Measurements

The V10i revolutionizes your surveying workflow with two cutting-edge features: AR Stakeout and Visual Measurement. With Visual Measurement, the V10i leverages IMU Survey technology plus latitude and longitude data of your photo and video, to generate models with an impressive 3-5 cm accuracy—using only the receiver. With AR Stakeout function, it delivers a fast, smooth, and intuitive surveying experience, powered by a 4-core processor and multi-engine algorithms.

Tilt Surveying for High Efficiency

Supporting the tilt survey of 60 degrees, the V10i automatically compensates the tilted position to deliver accurate results, eliminating the need to hold the survey pole upright while measuring. This allows you to focus on more mission-critical tasks.





Link communication diversification

V10i supports Wi-Fi, Bluetooth, and NFC connection. It is a convenient connection at one touch by NFC. V10i also supports UHF radio and SIM card communication to meet different needs.

Intelligent interaction with ultimate experience

The OLED screen displays the real-time working status of V10i. The highlight screen ensures we can read under the strong sunlight. We can set V10i as a base station and static mode by physical buttons when we don't have controllers. At the same time, the V10i has a noise-canceling microphone, which can accurately and quickly identify sound. The hi-fi speakers can broadcast the working status of the V10i.



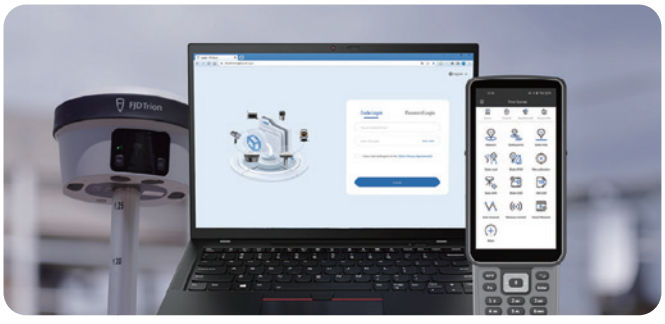


Mutiple controllers for selection

The V10i offers ultimate flexibility with your choice of a compact 5.5-inch keyboard controller, an 8-inch tablet, or a 10-inch tablet—all designed to match your workflow and preferences. Powered by high-performance processors, these controllers feature fast speed, seamless operation, and ultra-responsive touchscreens for maximum efficiency. Plus, their 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)

Seamlessly connect field and office teams. Transmit field data and project updates in real-time, expediting work on both ends. No more waiting, just productivity. Share system parameters and set up data, including coordinate systems, geoid models, and datum grid files.

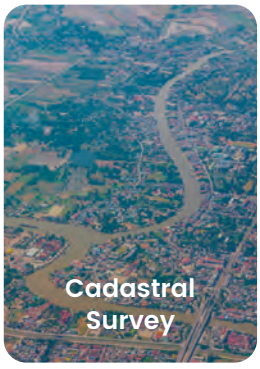


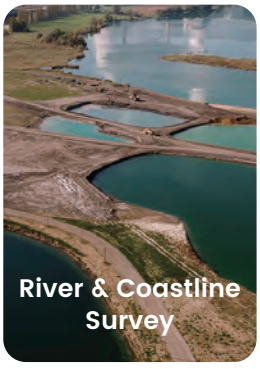
Built tough, engineered to perform

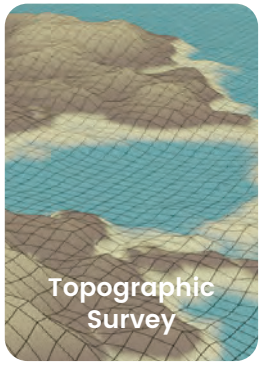
The alloy body of the V10i is lightweight and resistant to magnetic interference. The upgraded build enables consistently strong satellite availbility even with obstructed sky or less than ideal weather conditions. You can trust the V10i to keep on working even if it's rained on or dropped.

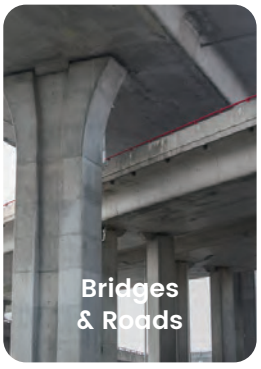


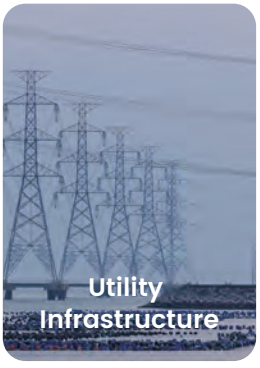
APPLICATION SCENARIOS











SPECIFICATIONS

GNSS

Channels	1408 channels
GPS	L1A, L1C, L2C, L2P, L5
GLONASS	L1, L2
Beidou	B1I, B2I, B3I, B1C, B2a, B2b*
Galileo	E1, E5a, E5b, E6*
QZSS	L1, L2C, L5, L6*
IRNSS	L5*
SBAS	L1*
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
	UHF antenna port
	USB Type-C port
Built-in UHF radio	Rx/tX:(410-470)MHz / (902-928)MHz
	Transmit Power: 1W (1.8W Optional)
	Protocol: TRIMTALK, TRIMMARK III, TT450S,
	TRANSEOT, Satel 3AS 4FSK
	Link rate: 9,600 bps to 19,200 bps
	MAX Range: 5-10 km typically[6]
Data formats	Input&Output: NMEA-1083, RTCM3.X
	Input: RTCM2.X, CMR
Data storage	32 GB internal memory

Camera

Sensor resolution	Foward: 2 MP, downward: 5 MP
Field of view	83°

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

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%
PPP accuracy	RMS Horizontal: ±20 cm, RMS Vertical: ±40 cm, RMS
Post-processing static	H: 2.5 mm + 0.5 ppm RMS
	V: 5 mm + 0.5 ppm RMS
Code differential	H: 0.4 m RMS | V: 0.8 m RMS
Autonomous	H: 1.5 m RMS | V: 2.5 m RMS
Visual survey accuracy	Typically 3 cm, range 2-15 m
Positioning rate	1 Hz, 5 Hz and 10 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
PPK accuracy	H: 3 mm + 1 ppm RMS
	V: 5 mm + 1 ppm RMS
High-precision static	H: 2.5 mm + 0.1 ppm RMS
	V: 3.5 mm + 0.4 ppm RMS
SBAS	60 cm

Hardware

Temperature	Operating: -35℃-65℃
	Storage: -40℃-70℃
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
	7000 mAh, 7.4 V
	30W 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 (D×H)	Φ130×83 mm
Weight	Approximately 970 g
True color OLED Screen	1.41 inches

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

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