FJD Trion V100F

Surveying Without Limits

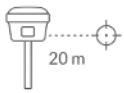
Integrated GNSS and LiDAR Capture System

Designed for complex surveying tasks, the V100F combines GNSS surveying, 3D scanning and on-site image capture in one device. It supports data capture where satellite positioning signals are weak, obstructed or unavailable. It enables continuous data capture during indoor–outdoor transitions, beneath bridges, and in culverts and tunnels, as well as stockpile volume calculation and site verification, helping improve field efficiency and deliver more complete survey results.

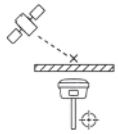
Key Highlights

GNSS, LiDAR, camera and IMU data work together for reliable positioning

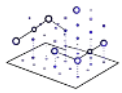
Supports UHF radio, 4G, Wi-Fi, Bluetooth and NFC



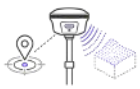
Measure multiple targets from up to 20 m away



Keep working in obstructed and GNSS-denied areas

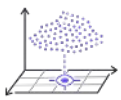


Capture points, lines, surfaces and volumes



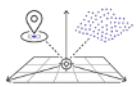
Use one device as both an RTK rover and a scanner

Quickly capture site geometry for modelling and volume calculation



Generate clear point clouds in a consistent coordinate system

Capture data in FJD Trion Survey and process it in FJD Trion Model



Combine outdoor RTK and indoor scan data in one coordinate system

What Sets V100F Apart

Safer Non-Contact Measurement

Capture trench edges, wall corners, areas beneath bridges and slope boundaries within 20 m. Select targets in the image to obtain coordinates without approaching hazardous or restricted areas.

Fast Cross-Section Capture

Scan tunnels, culverts and slopes for cross-section verification and volume calculation in a single pass.

Fast Field Capture for Volume Calculation

Capture stockpiles, slopes and earthwork sites in real time with FJD Trion Survey.

Reliable Measurement in GNSS-Limited Areas

Capture point coordinates under bridges, in culverts, at tunnel entrances, and in urban canyons without switching devices.

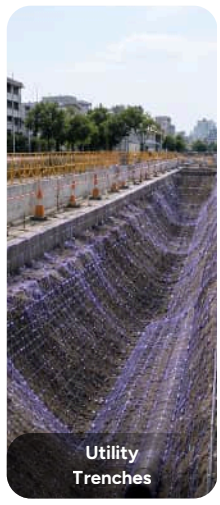
Continuous Indoor–Outdoor Capture

Continue measuring and capturing point clouds from open areas to spaces beneath bridges, through tunnels and into indoor environments.

Connected Data & Clear Deliverables

Move seamlessly from field capture in FJD Trion Survey to reliable models, site checks, and deliverables in FJD Trion Model.

Built for Demanding Engineering Environments



SPECIFICATIONS

GNSS

GPS	L1 C/A, 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	L1 C/A

*Supported through a firmware upgrade

System Accuracy

High-precision static	H: 2.5 mm + 0.1 ppm RMS V: 3.5 mm + 0.4 ppm RMS
Post-processing static	H: 2.5 mm + 0.5 ppm RMS V: 5 mm + 0.5 ppm RMS
PPK accuracy	H: 3 mm + 1 ppm RMS V: 5 mm + 1 ppm RMS
RTK performance	H: 8 mm + 1 ppm RMS V: 15 mm + 1 ppm RMS
RTK accuracy with tilt compensation	RMS: 8 mm + 0.6 mm/° tilt Tilt angle: 0 to 60°
LiDAR survey	Typical accuracy: ±5 cm @ 20 m
SureFix survey	Typical accuracy: ±5 cm @ 20 m radius
HAS-PPP	H: 20 cm RMS; V: 40 cm RMS
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

Camera

Surveying camera × 1	12 MP; 73°(H) × 58°(V) × 87°(D)
Colour camera × 2	12 MP; 240°(H) × 240°(V) × 240°(D)
Bottom camera × 1	2 MP; 77°(H) × 62°(V) × 92°(D)

Communications & Data Storage

Built-in UHF radio	Rx/Tx: 410–470 MHz / 902–928 MHz Transmit power: 2 W Protocol: TRIMTALK, TRIMTALK 450S, TRANSEOT, TRIMMARK 3, SATEL, LoRa Range: typically 6–12 km; up to 16 km under optimal conditions
Bluetooth	2.1 EDR / 3.0 HS / 4.2 BLE / 5.0 BLE
Wi-Fi	2.4 GHz and 5 GHz; 802.11a/b/g/n/ac
Network modem	TDD-LTE, FDD-LTE, WCDMA, GSM, EDGE
SIM card type	Nano-SIM
NFC	Supported
Ports	7-pin LEMO port UHF antenna port USB Type-C port
Data formats	Output: NMEA-0183, RTCM 3.x, RINEX, LAS Input: RTCM 2.x, RTCM 3.x, CMR
Data storage	450 GB internal memory

Hardware

LiDAR	Range: 40 m @ 10% reflectivity FOV: H 360°, V 62° Number of lines: 32 Eye safety class: Class 1
Temperature	Operating: -20 °C to +55 °C (-4 °F to +131 °F) Storage: -40 °C to +75 °C (-40 °F to +167 °F)
Humidity	95% non-condensing
Ingress protection	IP65
IK code	IK08
Li-ion battery capacity	14.6 V / 4,500 mAh / 65.7 Wh 45 W PD fast charging
Power consumption	LiDAR / point cloud scanning: typical 15 W, up to 5 h UHF/4G RTK rover: typical 3 W, up to 22 h
Dimensions (L × D × H)	215 mm × 130 mm × 120 mm (8.46 in × 5.12 in × 4.72 in)
Weight	1.75 kg
True-colour OLED screen	1.41 in (320 × 360, 274 ppi)
Front panel	4 LEDs, 2 physical buttons

Request a free quote: sales@fjdtrion.com

Transforming the World with World Models

FJDTrion