







# VERSATILE RUGGED ACCURATE

F4 is a versatile GNSS RTK receiver, perfect for various surveying and construction jobs, even in challenging environments.

# GNSS CONSTELLATION TRACKING ALL-AROUND AND FAST

- GPS, GLONASS, Galileo, BeiDou and QZSS, 824 signal channels to track them all.
- Fast GNSS signal tracking for instant and accurate positioning even in challenging environments.

# HIGH AND RELIABLE ACCURACY

- Advanced multipath mitigation technology and low elevation tracking technology.
- Adaptive anti-interference capability to effectively suppress narrowband and singletone radio interference.
- Users achieve accurate positioning even in complex electromagnetic environments.

#### LARGE-CAPACITY BATTERY

Built-in 9,600 mAh battery, up to 12 hours RTK operation (as a network Rover).

#### **FULL OF FUNCTIONS**

- As Base or as rover, RTK, PPK and Static.
- Via internal or external UHF, 4G network with SIM card either in receiver or in controller.
- Through various radio protocols, NTRIP or APIS.
- Built-in Wi-Fi modem, can even serve as a hotspot.

## **RUGGED AND RESISTANT**

- Magnesium alloy housing makes the F4 lighter and stronger.
- IP67 dust and waterproof.
- Resistant to 2 m drop.



# FL3

#### LONG-DISTANCE AND RUGGED DATALINK

- Long-distance transmission of RTK corrections.
- Easily adjustable transmission power rate to suit different environments and conditions.
- Optimized user interface for easy configuration and control of the data link.
- Rugged industrial design suitable for various challenging working environments.

#### FC5

# DESIGNED FOR RELIABILITY AND PRODUCTIVITY IN FIELD WORKS

- High visibility screen.
- Fast and powerful processor.
- Robust industrial design.
- Integrated versatile features.
- Extended productivity.





### eField

# PRODUCTIVITY IS THE PRIORITY

- Comprehensive and intuitive for surveying and engineering.
- Professional with various applications: point/line stake-out, volume calculation, road module
- Strong graphic engine enables rich GIS and mapping features.

Intuitive user interface makes the professional software easy to learn and easy to use.

# **TECHNICAL SPECIFICATIONS**

GNSS Characteristics (1)		
Channels	824 channels <sup>(2)</sup>	
GPS	L1, L2C, L2P(Y), L5	
GLONASS	L1, L2	
Galileo	E1, E5a, E5b	
BeiDou	B1I, B2I, B3I, B1C, B2a, B2b (3)	
QZSS	L1, L2, L5	
SBAS	L1)	
GNSS Accuracies (4)		
Real time kinematics (<30km) Network RTK	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialization time: < 10 s Initialization reliability: > 99.9%	
Static and Fast Static	Horizontal: 3 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS	
Static GNSS Surveying	Horizontal: 2.5 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.4 ppm RMS	
Code differential	Horizontal: 0.4 m RMS Vertical: 0.8 m RMS	
Autonomous	Horizontal: 1.5 m RMS Vertical: 3.0 m RMS	
Positioning rate	Up to 10 Hz	
Time to first fix <sup>(4)</sup>	≤ 10 s	
RTK Signal Initialization	≤ 10 s	
Hardware		
Size (L x W x H)	160 mm x 158 mm x 96 mm (6.3 in x 6.2 in x 3.8 in)	
Weight	1.48 kg (3.26 lb)	
Environment	Operating: -40 °C to +65 °C (-40 °F to +149 °F) Storage: -40 °C to +75 °C (-40 °F to +167 °C)	
Humidity	95%	
Ingress protection	IP67 dust and waterproof, protected from temporary immersion to depth 1 m	
Shock	Survive a 2-meter pole drop	
Tilt sensor	E-bubble leveling, 30 degree tilt	
Front panel	4 status LED 2 Buttons	

Communication and Data Recording		
Cellular Network	Integrated 4G modem	
Wi-Fi	802.11 b/g/n, access point mode	
Bluetooth®	v 4.1	
Others	NFC Multifunction cable with USB interface for PC connection	
Ports	1 x 7-pin LEMO port (external power, RS -232) 1 x UHF antenna port (TNC female)	
UHF radio	Standard Internal Tx&Rx: 410 - 470 MHz Transmit Power: 0.5 W to 2 W Protocol: EFIX, Transparent, South, TT 450, Satel Range: Typical 3 km to 5 km	
Data formats	CMR input and output RTCM 2.x, RTCM 3.x input and output NMEA 0183 output HCN, HRC and RINEX static formats NTRIP Client, NTRIP Caster	
Data storage	8 GB high-speed memory	
	Electrical	
Power consumption	3.8 W (depending on user settings)	
Li-ion battery capacity	Built-in non-removable battery 9,600 mAh	
Operating time on internal battery (5)	UHF receive/transmit (0.5 W): Up to 7 h Cellular receive only: Up to 12 h Static: Up to 12 h	
External power	9 V DC to 28 V DC	

<sup>\*</sup>All specifications are subject to change without notice.

- (1) Compliant, but subject to availability of Galileo commercial service definition. Galileo E6 will be provided through future firmware upgrade.
- (2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.
- (3) B2b can be supported by upgrading the firmware.
- (4) Typical observed values.
- (5) Battery life may vary depending on operating temperature and receiver working configurations.

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