



# REACH RS2+

Multi-band RTK GNSS receiver with centimeter precision

For surveying, mapping, and navigation  
Equipped with an LTE modem  
Comes with a survey app for iOS and Android

# Key features

## Gets fix in seconds

The Reach RS2+ gets a fixed solution in seconds and maintains a robust performance even in challenging conditions. Centimeter accuracy can be achieved on distances over 60km in RTK and 100km in PPK mode. The receiver tracks GPS/QZSS (L1C/A, L2C), GLONASS (L1OF, L2OF), BeiDou (B1I, B2I), and Galileo (E1B/C, E5b).

## Built-in LTE modem

The Reach RS2+ features a power-efficient LTE modem ensuring 4G connectivity while staying backward compatible with 3G and 2G. Corrections can be accessed or broadcasted over NTRIP independently, without relying on an Internet connection on your phone.

## 22 hours on one charge

Up to 22 hours of autonomous work when logging data and up to 16 hours of work as an LTE rover, even in cold weather. The Reach RS2+ can charge from a USB wall charger or a power bank over Type-C.

## OPUS and PPP support

Antenna calibration details for the Reach RS2+ are added to NOAA's National Geodetic Survey registry. The post-processing will be flawless with OPUS, AUSPOS, and PPP services.

## Water and dustproof

You can work in dusty areas or in the rain.

## Engineered to be tough

The Reach RS2+ is designed to work even in the most challenging environments.

## -20°C to +65°C

Works during the coldest winters and hottest summers.

## Polycarbonate body

Covered with elastomer.

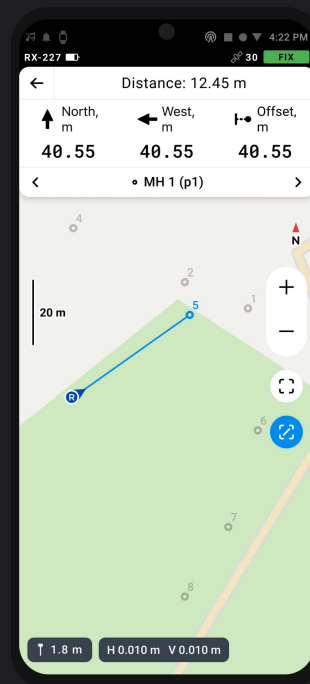
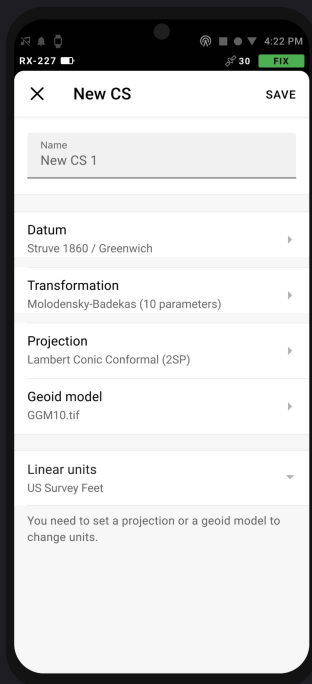
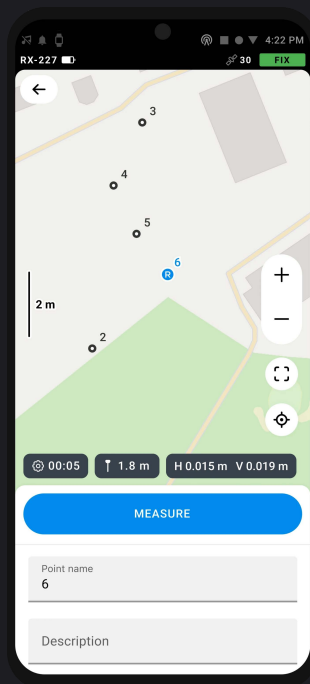


# Surveying with Emlid Flow

Emlid Flow is an intuitive software for data collection available for Android and iOS.

With Emlid Flow, you can collect and stake out points using your local coordinate system and control your Reach RS2+ receiver. Set up a base station, log RINEX data, configure NMEA output – everything in one app.

The Emlid Flow app supports thousands of different coordinate systems worldwide. The selection is based on the EPSG and IGN registries. The Emlid Flow app has a custom tool for manual coordinate system creation for areas without a predefined coordinate system.



## Base and rover for RTK and PPK

### Real-time navigation

The Reach RS2+ can send precise coordinates over Bluetooth or Wi-Fi to your tablet with a lightbar navigation app. The RS-232 interface allows the direct connection of the Reach RS2+ to an autosteer system.

Solution formats: NMEA, LLH/XYZ

### Base station mode

Use the Reach RS2+ to set up your own base station. Stream corrections over the network via NTRIP/TCP or LoRa radio, record base logs for post-processing. The Reach RS2+ works with any number of rovers, and it's compatible with the Reach RS2 and Reach M2/M+.

The Reach RS2+ is compatible with any receiver that supports RTCM3 and NTRIP. External radios are supported over RS-232.



## Reach RS2+ survey kit

Two Reach RS2+ receivers for surveying in RTK and PPK modes.

Two full packages, each includes:

- Reach RS2+ receiver
- Carrying case with a strap
- Radio antenna
- USB Type-C cable

## Reach RS2+ specifications

### POSITIONING

Precision	Static	H: 4 mm + 0.5 ppm V: 8 mm + 1 ppm
	PPK	H: 5 mm + 0.5 ppm V: 10 mm + 1 ppm
	RTK	H: 7 mm + 1 ppm V: 14 mm + 1 ppm

Convergence time ~5 s typically

IMU 9DOF

### CONNECTIVITY

UHF LoRa radio	Frequency range	868/915 MHz
	Power	0.1 W
	Distance	Up to 8 km
LTE modem	Regions	Global
	Bands	FDD-LTE: 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66 TD-LTE: 38, 40, 41 UMTS (WCDMA/FDD): 1, 3, 2, 4, 5, 6, 8, 19 Quad-band, 850/1900, 900/1800 MHz
	SIM card	Nano-SIM
	Wi-Fi	802.11b/g/n
Bluetooth		4.0/2.1 + EDR
Ports		RS-232, USB Type-C

### ELECTRICAL

Autonomy	16 hrs as an LTE rover, 22 hrs logging
Battery	LiFePO4, 6400 mAh, 6.4 V
External power input	6-40 V
Charging	USB Type-C, 5 V 2 A

### DATA PROTOCOLS

Position output	NMEA, LLH/XYZ
Corrections	NTRIP, RTCM3
Data logging	RINEX
Internal storage	16 GB

### MECHANICAL

Dimensions	126x126x142 mm
Weight	950 g
Temperature	-20 to +65 °C
Ingress protection	IP67 (water and dustproof)

### GNSS

Signal tracked	GPS/QZSS L1C/A, L2C, GLONASS L1OF, L2OF, BeiDou B1I, B2I, Galileo E1B/C, E5b
Number of channels	184
Update rates	Up to 10 Hz