EMLID

REACH RS2

L1/L2/L5 RTK GNSS RECEIVER

REACH RS2

Multi-band RTK GNSS receiver with centimeter precision

For surveying, mapping, and navigation
Comes with a mobile app

$1899

emlid.com

Key features

Gets fix in seconds

Reach RS2 gets fixed solution in just seconds and maintains robust performance even in challenging conditions. Centimeter accuracy can be achieved on distances over 60 km in RTK, and 100 km in PPK mode.

Built-in 3.5G modem

Reach RS2 features a power-efficient 3.5G HSPA modem with 2G fallback and global coverage. Now corrections can be accessed or broadcasted over NTRIP independently, without relying on Internet connection on your phone.

22 hours on 1 charge

Up to 22 hours of autonomous work when logging data and up to 16 hours as a 3G rover, even in cold weather. Reach RS2 can charge from a USB wall charger or a power bank over USB-C.

PPP support

RINEX raw data logs are compatible with OPUS, CSRS-PPP, AUSPOS, and other PPP services so now you can get centimeter-precise results in any place on Earth. Process RINEX files in an online service and get position with absolute accuracy.

IP67

RS2 is waterproof up to 1 m depth. All connectors are completely sealed and protected from water and dust with silicone plugs.

Engineered to be tough

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

-20 °C...+65 °C

Tested in conditions that simulate coldest winters and hottest summers.

Polycarbonate body

Rugged 5/8" mount

Covered with elastomer

REACH RS2
L1/L2/L5 RTK GNSS RECEIVER

SIM

RS-232

5/8" mount

LoRa radio

USB-C

Surveying with ReachView

Intuitive software for data collection is available for Android and iOS. With ReachView, you can collect and stakeout points and control your Reach RS2 unit. Set up a base station, log RINEX data, configure NMEA output — everything in one app.

Point collection

Create projects and save points with custom name and description. Set rules for data quality. Data collection is fast and intuitive, because ReachView is designed to feel like most popular map apps.

Export:
DXF, CSV, GeoJSON, ESRI Shapefile

Stakeout

ReachView guides you like a navigator. On 50 cm distance from a point app's interface turns into bullseye view. Move the receiver to align bubbles on the screen, and when it turns green — you are on the point.
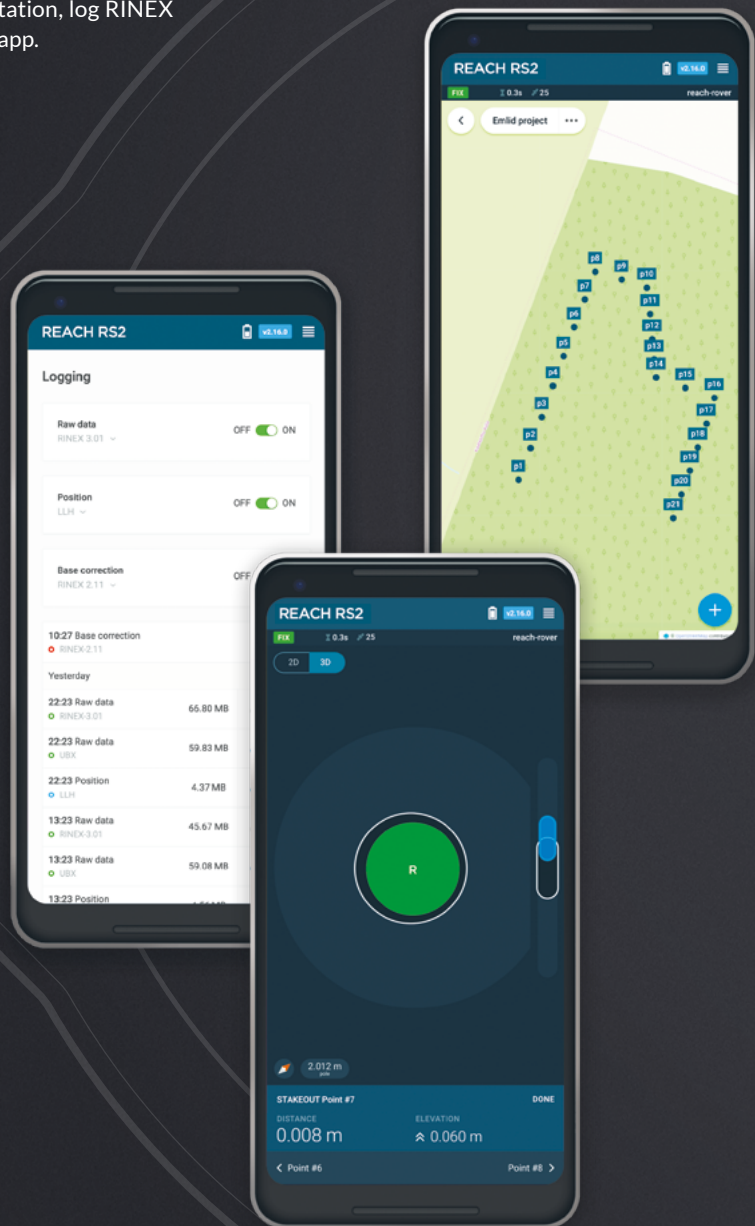
Import:
CSV, DXF, GeoJSON

Logging

Record raw data, position and base correction logs. 16 GB of internal storage, 160 days of logging at 1 Hz.

Log formats:
RINEX 2.X, RINEX 3.X

Base and rover for RTK and PPK

Real-time navigation

Reach RS2 can send precise coordinates over Bluetooth or Wi-Fi to your tablet with a lightbar navigation app. RS-232 interface allows to connect Reach RS2 directly to an autosteer system.

Compatible apps:
MachineryGuide, Efarmer, Agripilot, AgriBus-Navi

Solution formats:
NMEA, ERB, LLH/XYZ

Base station mode

Use 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. RS2 works with any amount of rovers and is compatible with Reach RS+ and M2/M+.

RS2 is compatible with any reciever that supports RTCM3 and NTRIP. External radios are supported over RS-232

Reach RS2 survey kit

$3798

Two Reach RS2 receivers for surveying in RTK and PPK modes

Two full packages, each includes:

Reach RS2 unit
Carrying case with a strap
Radio antenna
USB-C cable

Reach RS2 specifications

MECHANICAL

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

GNSS

Signal tracked	GPS/QZSS L1C/A, L2C, GLONASS L1OF, L2OF, BeiDou B1I, B2I, Galileo E1-B/C, E5b
Number of channels	184
Update rates	10 Hz GNSS

CONNECTIVITY

UHF LoRa radio	Frequency range	863–928 MHz
	Power	0.1 W
	Distance	Up to 8 km
3.5G modem	Regions	Global
	Bands	Quad-band, 850/1900, 900/1800 MHz
	SIM card	Nano-SIM
Wi-Fi		802.11 b/g/n
Bluetooth		4.0/2.1 EDR
Ports		RS-232, USB-C

ELECTRICAL

Autonomy	16 hrs as 3.5G RTK rover, 22 hrs logging
Battery	LiFePO4 6400 mAh, 6.4 V
External power input	6–40 V
Charging	USB-C 5 V 2 A

DATA

Position output	NMEA, LLH/XYZ
Corrections	NTRIP, VRS, RTCM3
Data logging	RINEX at update rate up to 10 Hz
Internal storage	16 GB

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