

EMLID

# REACH RS3

Datasheet



## Key features

- High precision IMU
  - RTK + 2 mm + 0.3 mm/°
  - Immune to magnetic disturbances
- Dual-band radio
  - 868/915 MHz LoRa to receive and transmit corrections
  - 450 MHz UHF to receive corrections
- Tracks GPS/QZSS, GLONASS L1, L2; BeiDou B1, B2; Galileo E1, E5
- Global LTE modem
- NTRIP and RTCM3 to send and receive corrections
- 18 hrs with tilt compensation
- Li-Ion battery, USB Type-C charging
- Comes with the Emlid Flow app

# REACH RS3

## Technical specifications

### POSITIONING

<b>Precision</b>	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
<b>Convergence time</b>	~5 s typically	
<b>Tilt compensation</b>	RTK+ 2 mm+0.3 mm/°	
<b>Signals</b>	GPS/QZSS L1C/A, L2C, GLONASS L1OF, L2OF, BeiDou B1I, B2I, Galileo E1-B/C, E5b	
<b>Number of channels</b>	184	
<b>Update rate</b>	Up to 10Hz	
<b>IMU</b>	6DOF	

### MECHANICAL

<b>Dimensions</b>	126 x 126 x 142 mm
<b>Weight</b>	950 g
<b>Operating temperatures</b>	-20 to +65 °C
<b>Ingress protection</b>	IP67

### ELECTRICAL

<b>Autonomy</b>	18 hrs as an RTK rover with tilt compensation, 22 hrs of logging
<b>Battery</b>	Li-Ion 5200 mAh, 7.2V, 37.44 Wh
<b>Charging</b>	USB Type-C 5V, 3A

### CONNECTIVITY

<b>LoRa radio</b>	Transmit and receive	
	Frequency range	868/915 MHz
	Power	0.1W
	Distance	Up to 8 km
<b>UHF radio</b>	Receive-only*	
	Frequency range	410-470 MHz
	Protocol	TRIMTALK 450S**
	Modulation type	GMSK
<b>LTE modem</b>	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
<b>Wi-Fi</b>	802.11b/g/n	
<b>Bluetooth</b>	4.0/2.1 EDR	
<b>Ports</b>	RS-232, USB Type-C	
<b>Protocols</b>	Corrections	NTRIP, RTCM3
	Position output	NMEA, LLH/XYZ
<b>Data logging</b>	RINEX, NMEA, LLH/XYZ, UBX	
<b>Internal storage</b>	16 GB	

\*Requires a 410-470 MHz antenna, sold separately

\*\*TRIMTALK is a trademark of Trimble Inc.

### EMLID SOFTWARE AND SERVICES



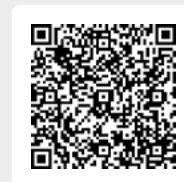
#### Emlid Studio

Easy-to-use free software to simplify your post-processing workflow.



#### Emlid Flow

Mobile app for land surveyors. Available for iOS and Android.



#### Emlid NTRIP Caster

Stream corrections to your RTK GNSS receivers over the internet.