



# REACH RS2

Datasheet



## Key features

- Tracks GPS/QZSS L1C/A, L2C GLONASS L1OF, L2OF BeiDou B1I, B2I Galileo E1-B/C, E5b
- Fast RTK convergence
- Multi-feed antenna with multipath rejection
- 868/915 MHz LoRa modem for up to 8 km connectivity
- Global 3.5G modem
- 22 hours on 1 charge
- NTRIP and VRS support, works with RTCM3
- Logs RINEX at update rate up to 10 Hz
- 16 GB of internal storage
- IP67, water- and dustproof

# REACH RS2

## Technical specifications

### POSITIONING

Precision	Static	H: 4 mm+0.5 ppm V: 8mm+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	
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 GPS / 5 Hz GNSS	
IMU	9DOF	

### CONNECTIVITY

UHF LoRa radio	Frequency range	868/915 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 Type-C	
Data Protocols	NTRIP, VRS, RTCM3, position output in NMEA, LLH/XYZ	
Data logging	RINEX at update rate up to 10 Hz	
Internal storage	16 GB	

### MECHANICAL

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

### 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

## COMMUNICATIONS AND DATA STORAGE

- 9PIN port: RS-232, PPS, Event
- USB OTG
- Internal Radio Modem:
  - LoRa technology
  - Reliable link on up to 8 km baseline
  - Transmit power up to 100 mW
  - Configurable 862–1020 MHz carrier
- Internal 3.5G modem
  - Global
  - Quad-band, 850/1900, 900/1800 MHz
- Built-in short-range Wi-Fi 802.11 b/g/n, WEP, WPA, WPA2 encryption
- Built-in short-range Bluetooth 4.0/2.1 EDR
- Data storage 16 GB internal memory
- Raw logs in RINEX, UBX
- External Radio Modem connectivity over RS-232/USB OTG
- RTCM 3.x input and output over Wi-Fi, Bluetooth, LoRa, USB, RS-232, NTRIP
- NMEA 0183, ERB output over Wi-Fi, Bluetooth, USB, RS-232
- ReachView app for iOS and Android for configuration and surveying



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