

GPS-19984 RTK Facet

Product Overview

10-17-2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

SparkFun GPS-19984 RTK Facet is designed for surveying and high-precision geolocation, and it's one of the fastest ways to take centimeter-grade measurements. The ESP32 WROOM is under the hood of the RTK Facet. This ESP32 WROOM is connected to some peripheral hardware (LiPo fuel gauge and microSD) and to a ZED-F9P. The RTK Facet works with GIS software that supports NMEA over Bluetooth® and common GIS software that includes SW Maps, SurvPC, and Field. Under the dome of RTK Facet is a surveyor-grade L1/L2 antenna, and the same elements are found within GNSS Multi-Band L1/L2 surveying antenna. This GPS-19984 RTK Facet features Bluetooth® transceiver ESP32 WROOM and GNSS receiver ZED-F9P. The built-in antenna has an ARP of 61.4mm from the base to the measuring point of the L1 antenna and an ARP of 57.4mm to the measuring point of the L2 antenna.



This device can be used in four modes:

- GNSS positioning (~30cm accuracy) - also known as 'Rover'
- GNSS positioning with RTK (1.4cm accuracy) - also known as 'Rover with RTK Fix'
- GNSS base station
- GNSS base station NTRIP server

Specifications

- 3.3V TTL serial (57600bps RTCM TX/RX) radio port
- 3.3V TTL serial (115200bps NMEA) data port
- 136mm x 146mm x 80mm (5.35in x 5.74in x 3.14in) dimensions
- **GNSS Receiver: ZED-F9P:**
- 68mA to 130mA current (varies with constellations and tracking state)
- 50km (31 miles) max altitude
- 500m/s (1118mph) max velocity
- **Bluetooth® transceiver: ESP32 WROOM:**
- Up to 240MHz clock frequency
- 16MB of flash storage
- 520kB internal SRAM
- 2.5µA deep sleep current

Features

- Enclosed facet design IP53:
 - Protected from limited dust ingress and water spray
- Internal Antenna:
 - L1/L2/L-Band with $\geq 5\text{dBi}$ gain
- Internal battery:
 - LiPo 6Ah with fast 1 amp charging
- Qwiic port:
 - Supports I²C based add-on devices
- microSD:
 - Compatible up to 32GB
- Embedded OLED display for positional accuracy, available satellites, and data logging
- Single push button control
- 583g (1.3lbs) weight
- Works with common GIS software:
 - SW Maps, SurvPC, and field genius
- GNSS Receiver: ZED-F9P
 - Concurrent reception of GPS, GLONASS, Galileo, and BeiDou
 - Receives both L1C/A and L2C bands
 - 184-channel u-Blox F9 engine
 - 25s (cold) and 2s (hot) time to first fix
- Bluetooth[®] transceiver: ESP32 WROOM:
 - Xtensa[®] dual-core 32-bit LX6 microprocessor
 - Integrated 802.11 BGN WiFi transceiver
 - Integrated dual-mode Bluetooth[®] (classic and BLE)

Kit Contents



RTK Facet



RTK Facet Carrying Case



Antenna Thread Adapter
1/4in. to 5/8in.



USB Wall Charger - 5V, 2A



GHR-04V to GHR-06V Cable
1.25mm pitch



USB A to C Cable - 0.8m



Breadboard to GHR-04V Cable
4-Pin x 1.25mm Pitch

Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/sparkfun/sparkfun-rtk-facet-gps-19984/>