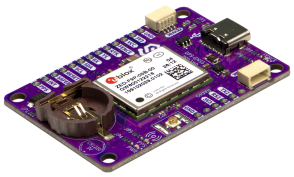
PRODUCT DATASHEET



# GNSS GPS Breakout ZED-F9P-05B

333381

The GNSS GPS Breakout ZED-F9P offers centimeter-level positioning accuracy using multi-band RTK and supports four satellite systems.

Full product documentation, files and tutorials: **solde.red/333381**

## CORE ATTRIBUTES

SKU **333381**

WEIGHT **30 g**

BARCODE **732388641109**

## DESCRIPTION

**GNSS GPS Breakout ZED-F9P** is a high-precision GPS module built around **u-blox's F9** receiver. Regular GPS gets you within a few meters of your real position. This module uses **RTK**, a correction technique that compares its signal against a nearby reference station, to narrow that down to about a centimeter. It also tracks four satellite systems at once (**GPS**, GLONASS, Galileo, and BeiDou), which helps it get a fix faster and hold it in places where buildings or trees block part of the sky.

You can connect it over **UART**, I2C, or SPI, picked with the JP1 jumper. Over I2C it uses a fixed address of **0x42**, so you'll need an I2C multiplexer if you want to run more than one on the same bus. It also supports "moving base" mode, where two of these modules track their position relative to each other even while both are moving, useful for things like measuring the heading of a moving vehicle or robot. A Soldered Arduino library is available to read positioning data directly.

A dedicated pin outputs a precise once-per-second timing pulse, and separate pins show geofence and RTK status at a glance. The board runs on **2.7 to 3.6V** and measures **55 × 39 mm**, with two mounting holes sized for M3 screws. If you want to save power, individual jumpers let you turn off the power, timing, RTK, and geofence status LEDs.

## TECHNICAL DETAILS

- **IC:** u-blox ZED-F9P
- **GNSS support:** GPS, GLONASS, Galileo, BeiDou
- **Positioning:** Multi-band RTK and PPP-RTK, centimeter-level accuracy
- **Communication:** UART, I2C, or SPI (selectable via JP1 jumper)
- **I2C address:** 0x42 (fixed, not configurable)
- **Additional outputs:** PPS timepulse, geofence status, RTK status
- **Operating voltage:** 2.7V to 3.6V (3.3V)
- **Software:** Arduino library available

- **Connector:** Qwiic
- **Mounting holes:** 2x M3 (3.2 mm diameter)
- **Dimensions:** 55 × 39 mm / 2.2 × 1.55 inch

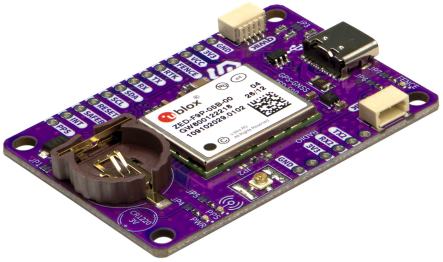
## SPECIFICATIONS

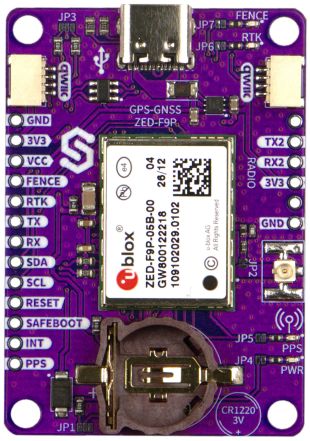
| | |
|---|---|
| INTERFACE | I2C, Uart, Usb |
| QWIIC COMPATIBLE | Yes |
| I2C ADDRESS DEFAULT | 0x42 |
| BREADBOARD COMPATIBLE | Yes |
| MEASUREMENT TYPES | Position |
| IC PART NUMBER | ZED-F9P-05B |

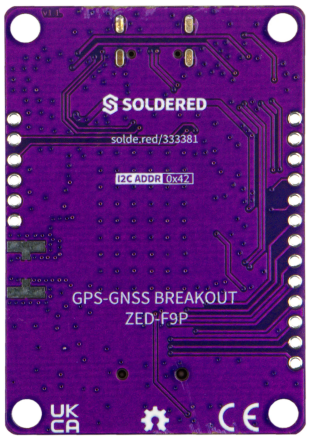
## LINKS

| | |
|---|---|
| MicroPython Module | https://github.com/SolderedElectronics/Soldered-uBloxGNSS-MicroPython-Library |
| mim_package | https://checkmim.com/packages/solderedelectronics+Soldered-uBloxGNSS-MicroPython-Library |
| Arduino Library | https://github.com/SolderedElectronics/Soldered-u-blox-GPS-GNSS-Arduino-Library |

## GALLERY




JP3
FENCE
JP7
RTK
JP6
GPS-GNSS
ZED-F9P
GND
3V3
VCC
FENCE
RTK
TX
RX
SDA
SCL
RESET
SAFEBOOT
INT
PPS
TX2
RX2
3V3
GND
RADIO
JP2
JP5
PPS
JP4
PWR
JP1
CR1220
3V


SOLDERED
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I2C ADDR 0x42
GPS-GNSS BREAKOUT
ZED-F9P