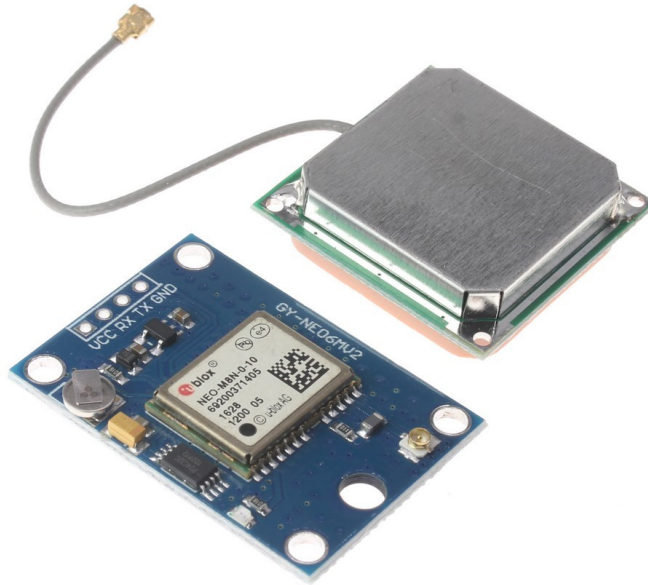# GY-NEO-M8N GPS MODULE

Description
This GPS / GNSS module is a more advanced version of our [NEO-6M module](). Compatible with UART capable devices including Arduino, Raspberry Pi, PIC, MSP430, and MSP432.

Power the module and it will automatically acquire satellite signals and a position fix. Once it has a position fix the module will blink the on board LED. This LED will continue to blink while the module has a position fix.

Product Contents:

- 1 - u-blox NEO-M8N GY-GPSV3-NEO-M8N GPS / GNSS module with on board EEPROM

- 1 - GPS antenna

- 1 - 1x4 male header

Specifications:

- Input Supply Voltage Range: 3.3V-6V, on board voltage regulator maintains 3.3V

- I/O Maximum Logic Level: 3.6V

o To use with a 5V logic device, such as an Arduino, we suggest level shifting the 5V TX signal using one of the following: Two [1N4148 diodes]() in series between the TX pin on your 5V device and the RX pin on this GPS module (will drop voltage to ~3.6V,Only recommended for baud rates of 9600 and less) or Use a logic level converter module such as the [Addicore Bi-Directional Logic Level Converter]()

- 1 second to first fix (TTFF) for hot starts

- 26 seconds to first fix (TTFF) for cold starts

- On board LED will blink after module acquires a position fix and will continue blinking as long as the module has a fix

- 72-channel u-blox M8 engine GPS/QZSS L1 C/A, GLONASS L10F, BeiDou B1I, Galileo E1B/C, SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN

- UART: 9600 baud by default, but is configurable from 4800 to 460800 baud

- 18Hz max update rate

- -157dBm Hotstart sensitivity

- Position Accuracy: 2 m and better with multiple good satellite signals

- Velocity Accuracy: 0.05 m/s

- Maximum Velocity: 500 m/s

- Heading Accuracy: 0.3 degrees while moving

- Power-optimized architecture with built-in autonomous power saving functions to minimize power consumption at any given time. Furthermore, the receiver can be used in two operating modes: Continuous mode for best performance or Power Save Mode for optimized power consumption respectively.

- Onboard EEPROM for configuration storage

- Onboard battery for battery backed RAM (BBR)

- Battery is recharged through a simple diode and resistor charger circuit from the on board voltage regulator's 3.3V output

- Four plated mounting holes, 3mm in diameter

- Dimensions of GPS Module: 36mm (1.42in) x 25.8mm (1.02in) x 4mm (0.16in)

- Dimensions of Antenna: 25.5mm (1in) x 25.5mm (1in) x 8.8mm (0.35in)

Resources:

- u-blox Provided Resources:
- NEO-M8N Datasheet
- Receiver Description Including Protocol Specification
- u-center, a u-blox test program for Windows (requires a USB to UART conversion module or dongle such as our CP2102 module)
- Arduino uBlox Library by Bolderflight (Can also be found via the Arduino library manager)