

LoRaWAN GPS Tracker with 9-axis accelerometer

LORA-GPS



OVERVIEW:

The LoRaWAN GPS Tracker LGT-92 is an [open source](#) GPS tracker base on Ultra LowPower STM32L072 MCU and SX1276/1278 LoRa Module.

LGT-92 includes a [low power GPS](#) module L76-L and [9-axis accelerometer](#) for motion and attitude detection. The power for both of the GPS module and accelerometer can be controlled by MCU to achieve the best energy profile for different applications.

The LoRa wireless technology used in this pendant allows the user to send data and reach extremely long ranges at low data-rates. It provides ultra-long range spread spectrum communication and high interference immunity whilst minimising current consumption. It targets professional tracking service.

LORA-GPS is powered by [1000mA Li-on battery](#), user can program the device to work from weeks to months depends on the target use case.

LORA-GPS is an open source product, it is based on the STM32Cube HAL drivers and lots of libraries can be found in ST site for rapid development.

Features:

- LoRaWAN 1.0.3 compliant
- Regular/ Real-time GPS tracking
- Built-in 9 axis accelerometer
- Motion sensing capability
- Power Monitoring
- Charging clip with USB port
- 1000mA Li-on Battery power
- Tri-color LED, Alarm button

Power Consumption:

- Sleeping Mode: 77uA
- Tracking: max: 38mA
- LoRa Transmit: 24 ~ 150mA

Dimension:

- Size: 85 x 48 x 15 mm
- Net Weight: <55g

Specification:

MCU Side:

- MCU: STM32L072CZT6
- Flash: 192KB
- RAM: 20KB
- EEPROM: 6KB

GPS, L76-L:

- Acquisition: 16mA
- Tracking: 13mA
- Cold Start: <35s
- 8uA@Backup Mode
- Warm Start: <30s
- Accuracy: < 2.5m CEP
- ReHot Start: <1s

Accelerometer:

- MPU9250 9-axis
- triple-axis MEMS gyroscope
- triple-axis MEMS accelerometer
- triple-axis MEMS magnetometer
- 3.5mA operating current