# GPS-102E
## Embedded GPS with DR Board

# GPS-106E
## Embedded GPS/GALILEO Module

RoHS COMPLIANT 2002/95/EC  C€ FCC

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## Features

- SiRF star III 20-channel chipset
- Dead reckoning embedded
- Gyroscope enabled
- Low power consumption
- 71 x 40.8 x 18.6 mm (L x W x H)
- Operating temperature -40 ~ + 85° C

## Features

- 50-channel positioning engine
- Best-in-class acquisition and tracking sensitivity
- Receives GPS and GALILEO signals
- A-GPS: Supports u-blox AssistNow online and offline, OMA SUPL compliant
- UART serial port, USB, DDC (I²C compatible)
- Precision timing option
- Operating temperature -40 ~ 85 °C

## Introduction

GPS-102E is a GPS receiver module with integrated dead reckoning function. The GPS-102E includes dead reckoning sensors to track its course even when the GPS signal is blocked, for example in urban areas or tunnels. If GPS coverage is lost, the GPS-102E keeps on navigating.

## Introduction

GPS-106E is designed by u-blox, and sets a new standard for GPS and GALILEO receiver modules. Featuring the high performance 50-channel u-blox 5 technology, these modules provide excellent performance and flexibility at an economical price.

## Specifications

| | |
|---|---|
| Receiver Type | GPS L1 frequency, C/A code<br>GALILEO Open Service L1 frequency |
| Time-To-First-Fix | Cold start 35 s<br>Warm start 35 s<br>Hot Start 1 s |
| Position Accuracy | Within 10m for 90% |
| Velocity Accuracy | 0.1 m/s |
| Heading Accuracy | 0.5 degrees |
| Voltage Type | DC +5V ± 1% |
| Operational Limits | 514 meter/second maximum |
| Interface | 20 pin header, 2.0 mm pitch (J2), male seat |
| Weight | ≦17 g |

## Specifications

| | |
|---|---|
| Receiver Type | GPS L1 frequency, C/A code<br>GALILEO Open Service L1 frequency |
| Time-To-First-Fix | Cold start 29 s<br>Warm start 29 s<br>Hot Start < 1 s |
| Sensitivity | Tracking & Navigation -160 dBm<br>Reacquisition -160dBm<br>Cold Start -144 dBm |
| Horizontal Position Accuracy | Autonomous < 2.5m<br>SBAS < 2.0m |
| Velocity Accuracy | 0.1 m/s |
| Heading Accuracy | 0.5 degrees |
| Dynamics | < 4 g |
| Operational Limits | Velocity 515 m/s (1000 knots) |
| Weight | 2.1 g |
| Software Specifications | Detect GPS signal strength<br>Detect satellites<br>Parse NMEA protocols |

## Software Specifications

- Detect GPS Signal Strength
- Detect Satellites
- Parse NMEA Protocols

## Packing List

| Description | Quantity |
|---|---|
| GPS-102E Embedded GPS module | x 1 |

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| GPS-106E Embedded GPS Module | x 1 |

## Ordering Information

| Part Number | Specifications |
|---|---|
| GPS-102E | GPS module + DR + SMA connector |

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| Part Number | Specifications |
|---|---|
| GPS-106E | Embedded GPS Module |