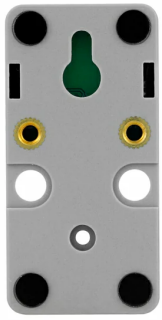
Atomic GPS Base

SKU:A134



Description

Atomic GPS Base is a GPS positioning module based on the Atom series host. The positioning and navigation chip is M8030-KT, with built-in FLASH and a coin cell battery, supporting power-off saving of user configurations. It uses the NMEA-0183 protocol for output and supports multiple satellite systems including GPS, GLONASS, GALILEO, BDS, SBAS, and QZSS. With 72 search channels, it can be used in applications such as geographic coordinate viewing, bus stop announcements, vehicle and ship navigation, and trajectory tracking. Additionally, there is a built-in TF (microSD) card slot below the GPS module, allowing you to read GPS or other file data, such as exporting GPS data in a specific format to view motion trajectories in mapping software, or using it as a regular card reader for file reading and writing.

Features

- Compatible with Atom-Lite/Atom-Matrix/AtomS3/AtomS3-Lite
- High capture sensitivity
- Supports single-system positioning or multi-system combined positioning with BDS / GPS / GLONASS / GALILEO / SBAS / QZSS
- Built-in spring-loaded TF (microSD) card slot
- Low power consumption design
- UART parameter settings:

- Baud rate (9600bps)
- Start bit (1 bit)
- Stop bit (1 bit)
- Parity bit (none)

Includes

- 1 x Atomic GPS Base

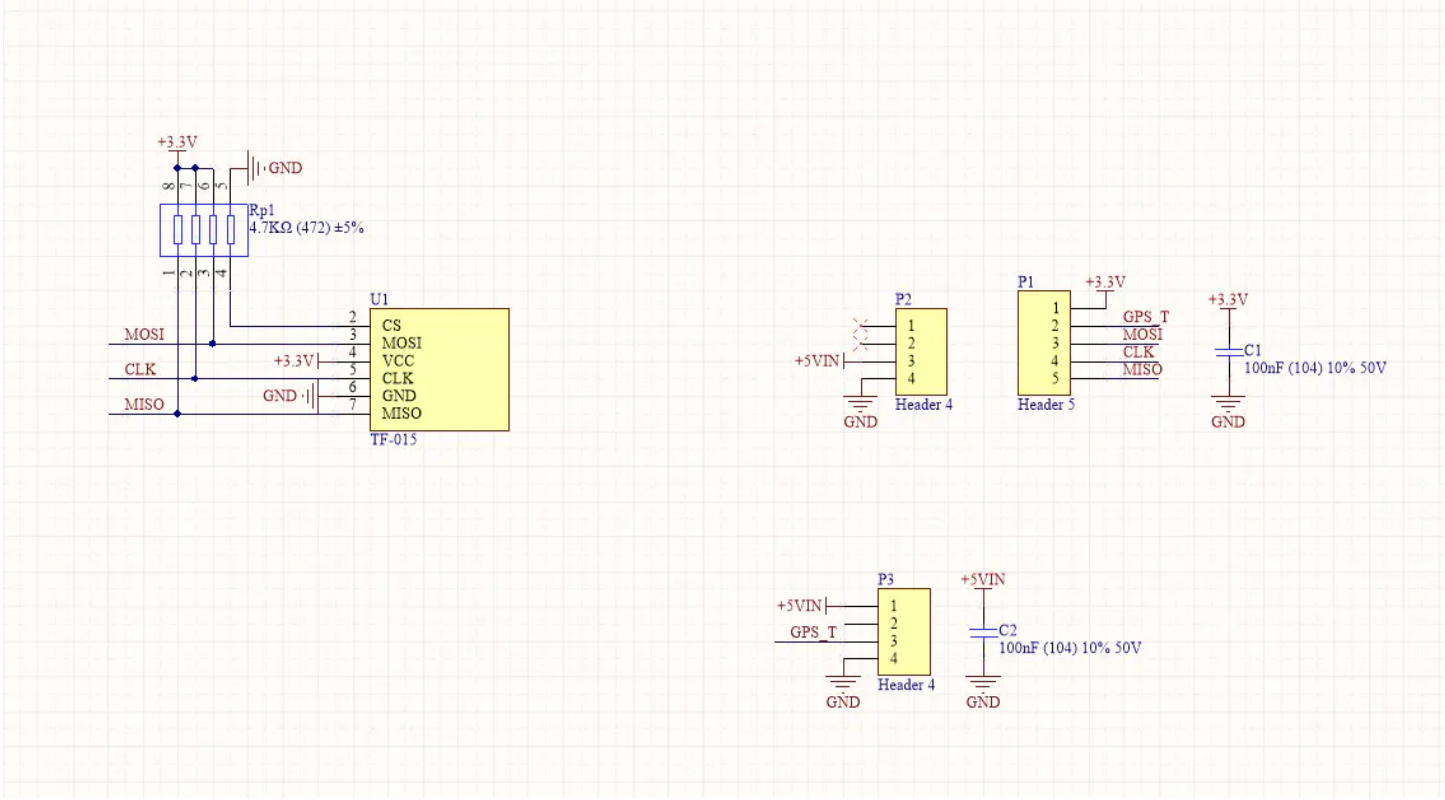
Applications

- Vehicle and ship positioning and navigation
- Trajectory recording
- File reading and writing

Specifications

Specification	Parameter
Frequency	GPS L1, GLONASS L1, BDS B1, GALILEO E1, SBAS L1, QZSS L1
Accuracy	Horizontal: 2m, Speed: 0.1m/s, Time: 1us
Number of Channels	72 search channels
Update Rate	1-10Hz
Maximum Speed	515 m/s
Maximum Acceleration	< 4g
Sensitivity	Tracking: -167dBm, Acquisition: -160dBm, Cold Start: -148dBm, Hot Start: -156dBm
Start Time	Cold Start: 26 seconds, Warm Start: 25 seconds, Hot Start: 1 second
Baud Rate	9600bps
Output Protocol	NMEA-0183
NMEA Sentences	RMC, VTG, GGA, GSA, GSV, GLL
Indicators	TX: Blue light flashes when powered on, indicating data output; PPS: Flashes after 3D positioning, does not light up when not positioned
Operating Temperature	0°C - 40°C
Product Size	48.0 x 24.0 x 17.5mm
Package Size	136 x 92 x 20mm
Product Weight	14.4g
Gross Weight	18.1g

Schematics

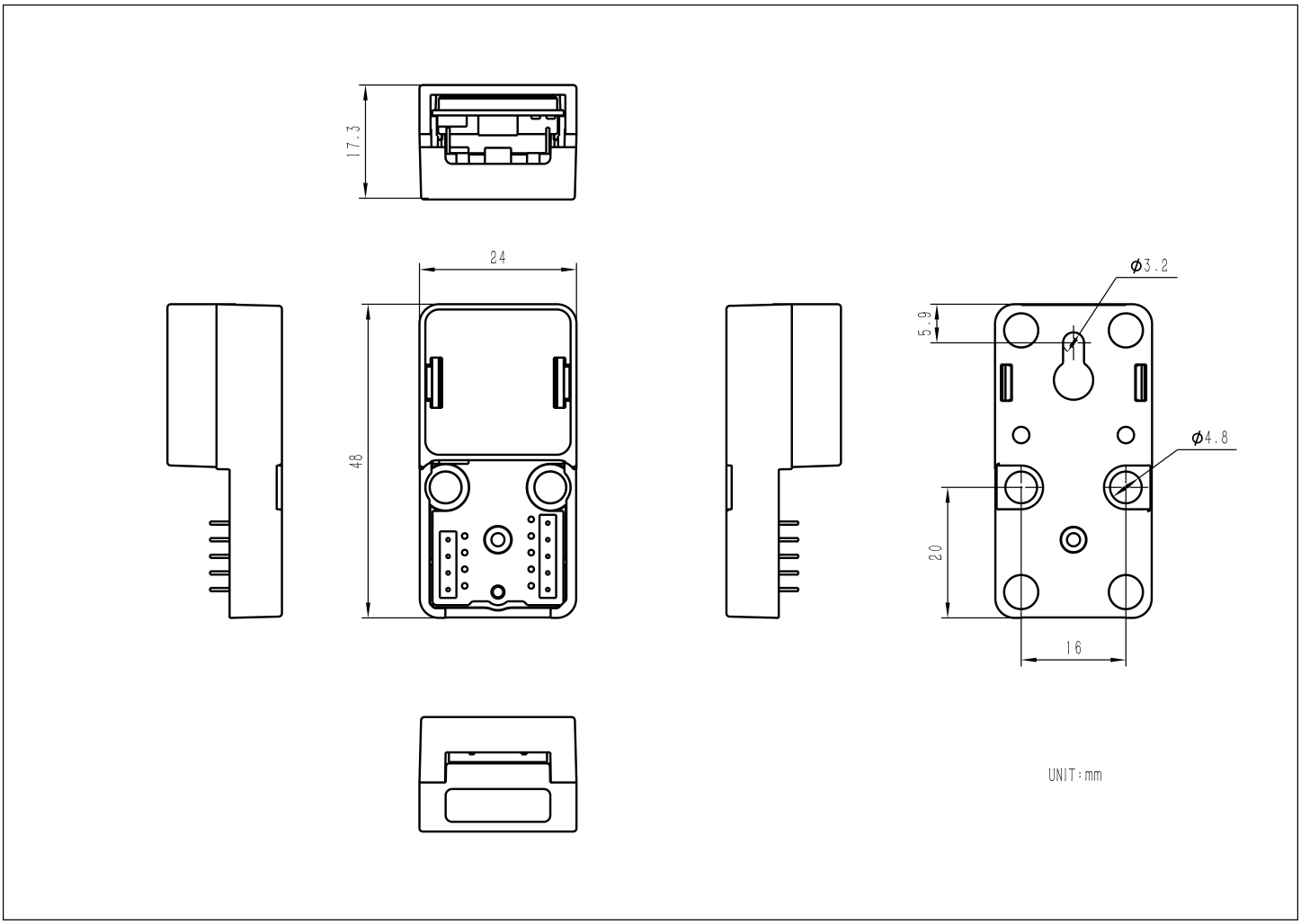


PinMap

PIN	LEFT	RIGHT	PIN
		1	3V3
	2	3	UART_TX
	4	5	SPI_MOSI
5V	6	7	SPI_CLK
GND	8	9	SPI_MISO

Model Size

- Atomic GPS Base Model Size PDF



Softwares

Arduino

- Atomic GPS Base Arduino Quick Start
- Atomic GPS Base microSD Example - with Atom
- Atomic GPS Base Location Example - with AtomS3

UiFlow1

- Atomic GPS Base UiFlow1 Docs

UiFlow2

- Atomic GPS Base UiFlow2 Docs

Protocol

- CASIC multi-mode satellite navigation receiver protocol specification
- ATOMGPS method of changing the navigation system

EasyLoader

Easyloader	Download Link	Notes
Atomic GPS Base Location Example Easyloader	download	/

Video

- Connecting to a mobile wireless serial port tool to view GPS information

AtomGPS.mp4