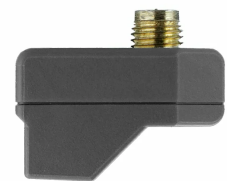
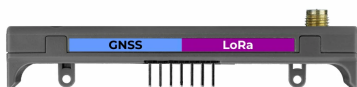
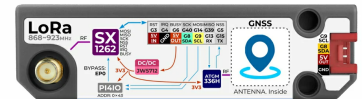


Cap LoRa-1262

SKU:U214





Description

Cap LoRa-1262 is a high-performance communication expansion module that integrates LoRa communication and GNSS global positioning and navigation, designed for use with Cardputer-Adv. The module is equipped with an HY2.0-4P expansion interface, enabling stable connection and functional expansion with host devices.

The LoRa module adopts a solution based on the SX1262 chip and is equipped by default with an **external RP-SMA antenna**. In addition, a shielding cover design is used to further enhance anti-interference capability and optimize overall performance, providing stronger interference resistance and long-range communication capability. It supports the **868MHz ~ 923MHz frequency band**, delivering long-distance, low-power wireless links for Internet of Things (IoT) scenarios.

The GPS module adopts a solution based on the AT6668 chip and features a built-in ceramic antenna, providing accurate and reliable satellite positioning services. It supports reception of **multi-band and multi-constellation GNSS signals**, and can receive signals from multiple satellite navigation systems, including GPS, BD2, BD3, GLONASS, GALILEO, and QZSS. It supports both multi-system combined positioning and single-system independent positioning, offering strong anti-interference capability and high positioning accuracy. Even in weak signal environments, it can quickly obtain higher-precision location information, making it suitable for applications such as remote data acquisition, smart cities, smart homes, vehicle positioning and navigation, and IoT device positioning.

Note

Note

Do not connect or power on the device without installing the antenna, otherwise the device hardware may be permanently damaged!

Features

- Integrates LoRa modulation technology and GNSS global positioning system
- Operating frequency: 868 ~ 923 MHz
- Supports FSK, GFSK, MSK, GMSK, LoRa, and OOK modulation modes
- LoRa receiving sensitivity: down to -147 dBm (LoRa low data rate mode)
- LoRa maximum transmission power: +22 dBm
- External RP-SMA antenna interface for LoRa, built-in ceramic antenna for GPS
- Positioning supports multiple satellite navigation systems (GPS / QZSS / BD2 / BD3 / GAL / GLO)

- Multi-frequency and multi-system reception
- HY2.0-4P expansion interface
- Development Platform:
 - Arduino
 - UiFlow2

| Includes

- 1 x Cap LoRa-1262
- 1 x LoRa Rubber Antenna

| Applications

- Remote data acquisition
- Smart cities
- Smart homes
- Vehicle positioning and navigation
- IoT device positioning

| Specifications

Specification	Parameter
LoRa Module	SX1262
LoRa Frequency Range	868 ~ 923 MHz
LoRa Programmable Bitrate	Up to 300kbps
LoRa Communication Interface	SPI
LoRa Antenna	Size 108 x 9.3mm, Interface Type RP-SMA (internal thread, internal hole), Gain 3dBi
LoRa Transmit Power	+22dBm
LoRa Receiver Sensitivity	-147dBm (LoRa Low Data Rate Mode)
LoRa Operating Current	DC 5V@163.4mA
Supported Modulation Modes	FSK / GFSK / MSK / LoRa / OOK
GPS Module	ATGM336H-6N@AT6668
GPS Communication Interface	UART, default 115200bps@8N1
Supported GNSS Systems	GPS / QZSS / BD2 / BD3 / GAL / GLO
Frequency Bands	BDS: B1I+B1C
	GPS / QZSS / SBAS: L1
	GALILEO: E1
	GLONASS: R1
GPS Channels	50 Channels
GPS Positioning Accuracy	<1.5m (CEP50)
GPS Update Rate	Up to 10Hz
GPS Protocol	NMEA 0183 4.1
GPS Sensitivity	Tracking: -162dBm
	Acquisition: -160dBm
	Cold Start: -148dBm
GPS Time to First Fix	Cold Start: 23s
	Hot Start: 1s
Power Consumption (Power On)	33.1mA
Product Size	84.0 x 24.0 x 15.2mm
Product Weight	22.1g (excluding antenna)

Specification	Parameter
Package Size	170.0 x 120.0 x 17.0mm
Gross Weight	31.6g

Schematics

- [Cap LoRa-1262 Schematics PDF](#)
- [Stamp LoRa-1262 Mini Schematics PDF](#)

PinMap

Cap-Bus

PIN	LEFT	RIGHT	PIN
GPS_TX	1	14	LoRa_NSS
GPS_RX	2	13	LoRa_MISO
SCL	3	12	LoRa_MOSI
SDA	4	11	LoRa_SCK
5V_OUT	5	10	LoRa_BUSY
GND	6	9	LoRa_IRQ
5V_IN	7	8	LoRa_RST

Cardputer-Adv	G3	G4	G6	G40	G14	G39	G5
Cap LoRa-1262 (LoRa)	RST	IRQ	BUSY	SCK	MOSI	MISO	NSS

Cardputer-Adv	G13	G15
Cap LoRa-1262 (GPS)	GPS-RX	GPS-TX

Cardputer-Adv	G8	G9
Cap LoRa-1262 (PI4IOE5V6408)	SDA	SCL
Cap LoRa-1262 (HY2.0-4P)	SDA	SCL

PI4IOE5V6408	P0
FM8625H	SX_ANT_SW

The following operations are required to initialize the LoRa module:

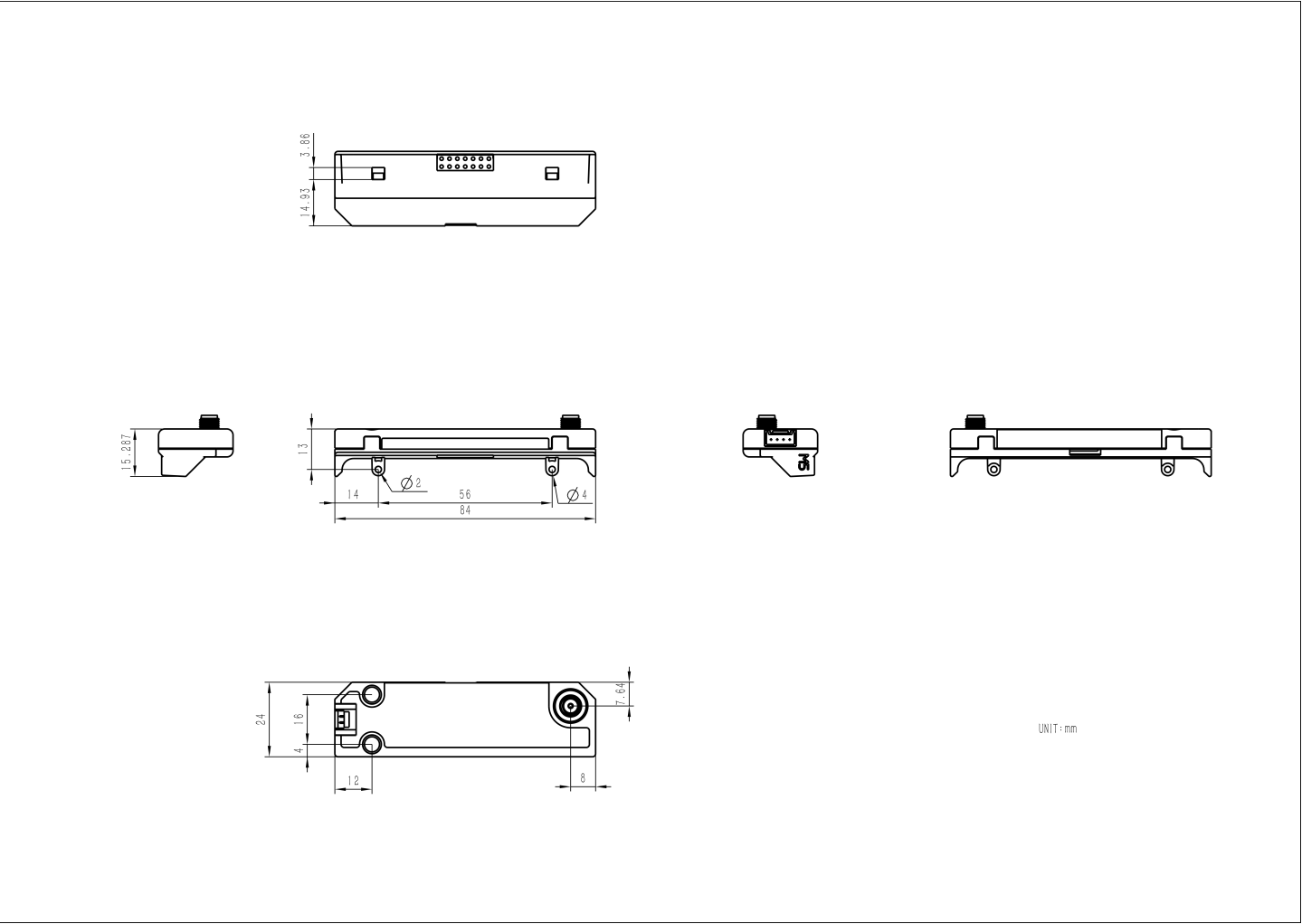
- Enable the RF antenna switch: Set P0 of the PI4IOE IO expansion chip to high level.

Cap LoRa-1262

HY2.0-4P	Black	Red	Yellow	White
PORT.A	GND	5V	SDA	SCL

Model Size

- Cap LoRa-1262 Model Size PDF



Datasheets

- SX1262
- ATGM336H-6N
- CASIC Multi-Mode Satellite Navigation Receiver Protocol Specification

Softwares

Arduino

- Cap LoRa-1262 Arduino Quick Start
- Cap LoRa-1262 Arduino LoRa Driver Library
- Cap LoRa-1262 Arduino GPS Driver Library

Video

- Cap LoRa-1262 Product Introduction and Feature Demonstration

U214-Cap-LoRa-1262-EN.mp4

Product Comparison

Compare Feature



	Cap LoRa-1262	Cap LoRa868
HY2.0-4P Expansion Interface	Yes	No
Module	Stamp LoRa-1262, smaller size	Stamp LoRa-1262 legacy version, standard size
Shielding Cover	Yes	No
Performance	Better	-
RF Switch Control	Controlled via IO Expander	None