

ELA-MA



Main Features

- Easy to setup and maintain
- Long distance (up to 2,000 meters)
- 9 ~ 48 V wide DC input range
- Supports Modbus TCP to RTU conversion
- Support MQTT protocol (available in NBloT model)
- Versatile interfaces with RS232, RS485, DI/DO for connection to sensor and field devices
- Broadcast mode (no pairing required)
- Fast response (no need to wait 50-150 seconds)
- Up to 255 Bytes per packet
- Receiving sensitivity: -137 dBm
- Secured AES encryption in wireless communication
- Web based management and remote firmware image upgrade

Product Overview

ELA-MG is an industrial-grade LoRa gateway integrated with LoRa wireless communication, serial interface (RS232/485) and DI/DO interfaces. Versatile interfaces make it flexible communication with most popular sensor / field devices for big data collection. In NBloT model, MQTT protocol is equipped for cloud connection feature. This effectively reduces the development effort for connecting to cloud service in project design. In addition, NBloT enables distributed architecture in wide area deployment. ELA-MG can achieve very good wireless performance in 2 Km distance with 90% successful transmission rate with ELA-MA. ELA-MG is designed for easy setup and maintenance. Multi-end points can form a broadcast network, with the same frequency and encryption the end points can communicate without pairing in advance. Thus, effectively reduce the effort in deployment and maintenance.

Specifications

Main Chip

- LoRa Transmission : Semtech SX1272
- Soc : 1G Sitara ARM Cortex®-A8
 - Memory: DDR3 512M Bytes
 - NAND Flash 256M Bytes
- Operating System: GNU Linux

Wireless Interface

- Modulation: LoRa
- Frequency: 862 ~ 932MHz
- Frequency Accuracy: ± 10 KHz
- Data Rate: 0.244 ~ 18.2Kbps(LoRa)
- Antenna Impedance: 50ohm

RF Output Power :

- 2 ~ 20dBm

Receive sensitivity :

- -137dBm

USB

- 1 port USB Host

Ethernet

- 1*10/100/1000 Base-TX LAN port

DI/DO

- 125 Vac @0.5A, 24 Vdc @1A
- Output: 1*Relay Dry Contacts, Terminal Block
- Input: 1*Dry Contacts, Terminal Block

Configurations and Management

- WEB: Support HTML web control interface
- CGI: Support CGI control interface
- Firmware: Web based remote firmware image upgrade

Power Source

- Supply Voltage: 9 ~ 48 VDC, Terminal Block
- Power Consumption@12V: Max 12W

LoRa Communication Distance:

- 2 ~ 5Km

Baud Rate

- RS232/RS485:
 - 1 port RS232 with DB9
 - 1 port RS485 with TB5
 - Full Duplex of RS232/Baud Rate up to 115K bps
 - Half Duplex of RS485/Baud Rate to 115K bps

Environment

- Operating Temperature: -10°C ~ 70°C

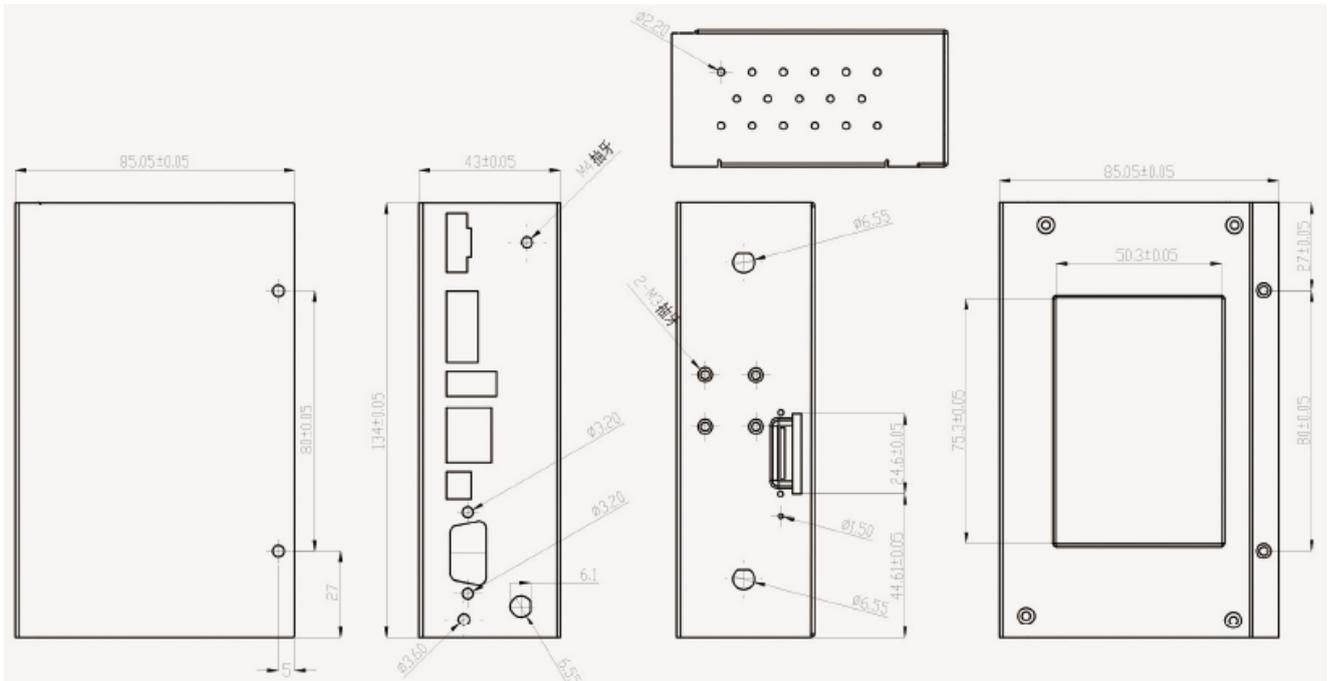
Mechanism

- Dimensions: W*H*D: 43*135*96 (mm)
- Weight: 450 ± 5g

Certification

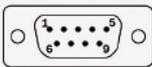
- FCC, CE

Dimension drawing



Pin Assignment

DB9 male connector



PIN	RS-232
1	
2	RXD
3	TXD
4	
5	
6	
7	RTS
8	CTS
9	