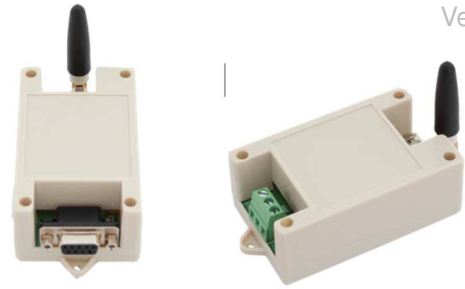


LLD-M16 LoRa Signal Conversion Module

- ✓ 410~441MHz LoRa frequency
- ✓ 6~24V DC Working Voltage Input
- ✓ RS-232/RS-485 Interface Conversion



Ver. 1.1

Product Introduction

LoRa's low power consumption、long transmission distance、high penetration rate and anti-interference wireless transmission characteristics are one of the main wireless communication interfaces of Internet of Things (IoT) applications。LLD-M16 is just a dedicated module that converts the RS-485 and RS-232 interfaces which are commonly used industrial communication to LoRa wireless communication。

☒ Easily wireless device monitoring

At present, the main equipment monitoring or automation applications are mainly based on the original interface of devices such as RS-485 or RS-232 to connect with the monitoring host through wired means。When the LLD-M16 converts the connection between the device and the host to the LoRa interface、the transparent data transmission (without protocol conversion) can maintain the original system data communication、but greatly reduce the cost and space requirements of the wiring。

☒ Flexible working voltage input

The 6~24V DC voltage input of LLD-M16 and the screw fixing terminal block can meet the power supply requirements in various industrial sites。It also has the opportunity to share the same working power with all connected devices and meters to reduce system deployment costs。

☒ Suitable for Modbus-RTU applications

The Modbus is a common industrial communication protocol with an identification code in the protocol。The signal conversion with the wireless transmission of the LLD-M16 simplifies the program control steps of the general LoRa transmission to switch the operation mode and communication channel in the program。If the existing system is replaced by the LLD-M16、the original monitoring program may not need to be modified。

☒ Easily build a closed LoRa wireless network

When the LLD-M16 is connected to multiple Modbus-RTU devices or meters, a closed wireless network can be formed because all LLD-M16s are set on the same frequency and channel to reduce the chance of interference with other LoRa applications.

Specification Outline

LoRa Specification

- ▶ Chip : SX1278
- ▶ Frequency Range : 410~441MHz
- ▶ Transmit power : 10~20dBm

Serial Port Interface

- ▶ RS-232 : DB9 (LLD-M16)
- ▶ RS-485 : 5.00mm pluggable (LLD-M16-485)

Power

- ▶ Working Voltage : 6~24V DC
- ▶ Power Consumption : 0.1W
- ▶ Contact : 5.00mm pluggable terminal block

Others

- ▶ Size : 80 x 48 x 32 mm (Antenna part excl.)
- ▶ Applicable temperature : 0~50°C
- ▶ Applicable humidity : 20%~80% RHG

Product Model Number:

- ▶ **LLD-M16** LoRa to RS-232 Module
- ▶ **LLD-M16-485** LoRa to RS-485 Module
- ▶ **LLD-M16-M01** LLD-ModbusIO-02 dedicated LoRa Expansion Module