

Base LAN PoE v1.2

SKU:K012-C-V12



Description

Base LAN PoE v1.2 is an **Ethernet control module** with integrated **PoE** (Power Over Ethernet) functionality. It adopts the **W5500** full hardware TCP/IP embedded Ethernet controller (SPI communication interface) solution, supports multiple communication protocols (TCP, UDP, IPv4, ICMP, ARP, IGMP, and PPPoE, etc.), and integrates storage buffers for easier Ethernet packet handling.

Reserved expansion pads are available for expanding **RS485/RS232/CAN** communication adapter modules or adding custom designs. It supports PoE power supply and comes standard with rail mounting accessories, allowing easy deployment in industrial sites without the need for additional power cables or structural design. Combining performance with expansion flexibility, **Base LAN PoE v1.2** can provide you with a more simplified embedded Ethernet connection solution.

Features

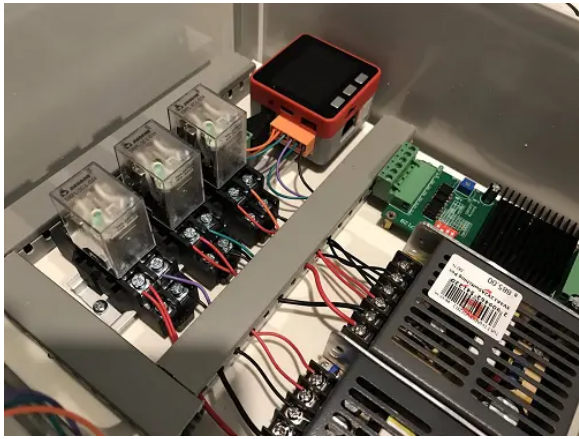
- W5500:
 - Supports 8 independent hardware sockets for simultaneous communication
 - Supports TCP, UDP, ICMP, IPv4, ARP, IGMP, PPPoE protocols
 - Integrated 10BaseT / 100Base-T Ethernet PHY
- Wired Ethernet access
 - RJ45 adaptive 10/100M port
- Power input methods:
 - Supports PoE IEEE802.3 AF / Supply voltage DC 37-57V
 - Supports input power voltage: 9-24V
 - Supports M5-Bus 5V power supply (when used with M5Core)
- Rail or magnetic mounting
- RS485/RS232/CAN communication expansion board

Includes

- 1 x Base LAN PoE v1.2
- 1 x RS485-to-TTL Converter Board
- 1 x RS232-to-TTL Converter Board
- 1 x CAN-to-TTL Converter Board
- 1 x HT3.96-4P Terminal
- 2 x HT3.96-3P Terminal
- 1 x Hex Key L-Shape 1.5mm (For M2 Screw)
- 1 x Hex Key L-Shape 2.0mm (For M2 Screw)
- 1 x Hex Key L-Shape 2.5mm (For M2 Screw)
- 10 x 2mm Crimp Terminal
- 1 x Magnet (Center Hole, 15mm Diameter, 3mm Thickness)
- 1 x 35mm Silver Metal DIN Rail
- 1 x 35mm Black DIN Rail Clip
- 1 x M3 * 6mm countersunk head machine screw
- 2 x M3 * 28mm cap head machine screw
- 4 x M2 * 5mm cap head self-tapping screw
- 1 x 2.54mm-20P Straight Male Header (Overall Height 5.32mm)
- 1 x Product Sticker

Applications

- M5Core + LAN to implement transmission with controller
- Wired transmission of video data between PC and Core



Specifications

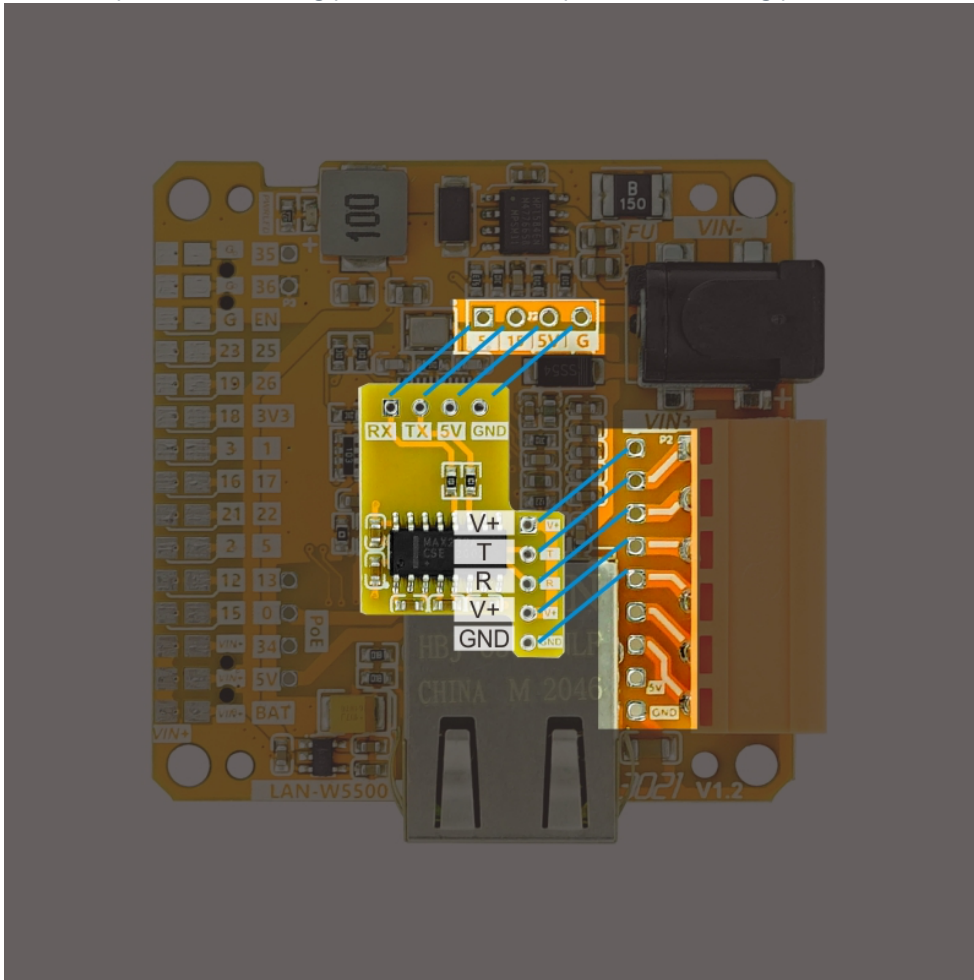
Specification	Parameter
W5500 Ethernet Ctrl	Supports TCP/IP protocol suite: TCP, UDP, ICMP, IPv4, ARP, IGMP, PPPoE; supports 8 independent hardware sockets; high-speed SPI (SPI MODE 0, 3); integrated 32Kbytes TX/RX Buffers
RS485-To-TTL	SP485EEN-L/TR
RS232-To-TTL	MAX232ESE
CAN-To-TTL	CA-IS3050G
Network Port	RJ45 adaptive 10/100M
Product Size	54.0 x 54.0 x 27.5mm
Product Weight	41.3g
Package Size	105.0 x 65.0 x 41.0mm
Gross Weight	146.1g

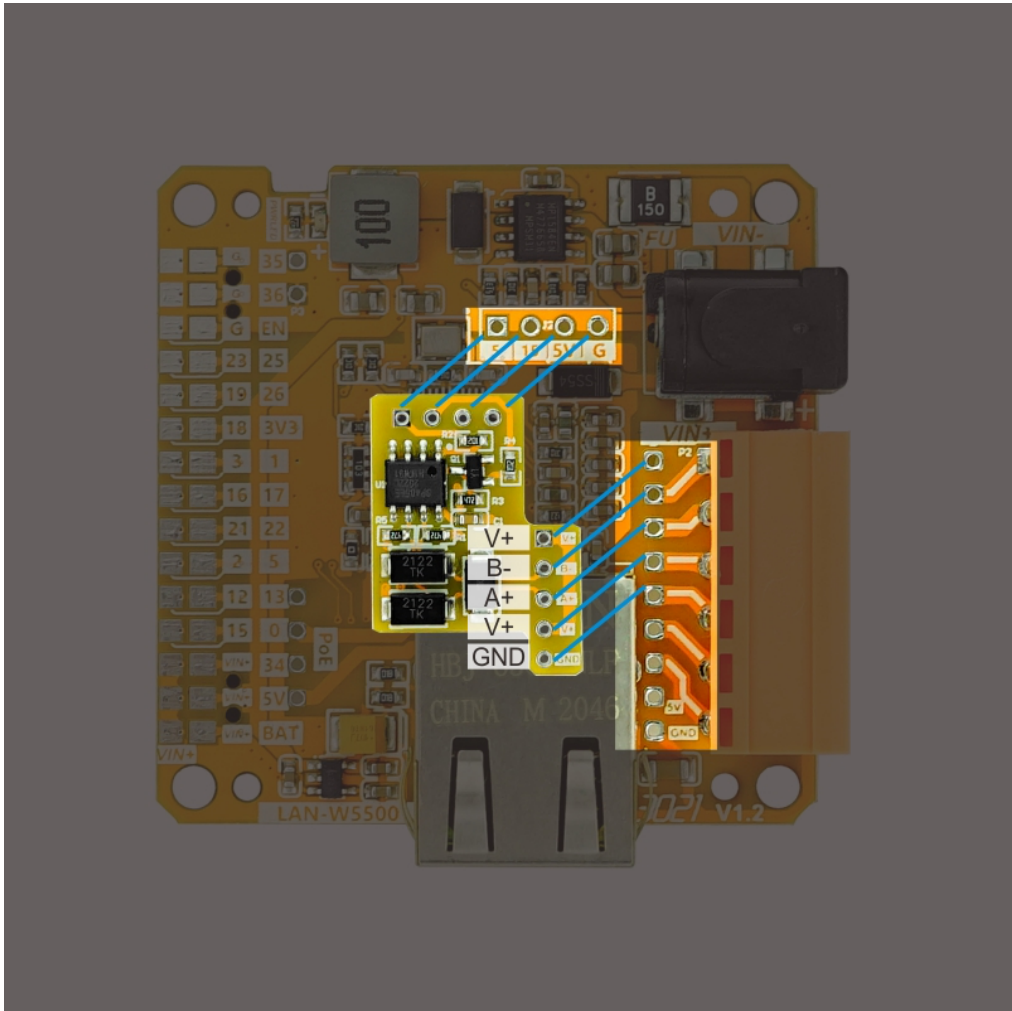
Learn

Expansion Board Soldering Position

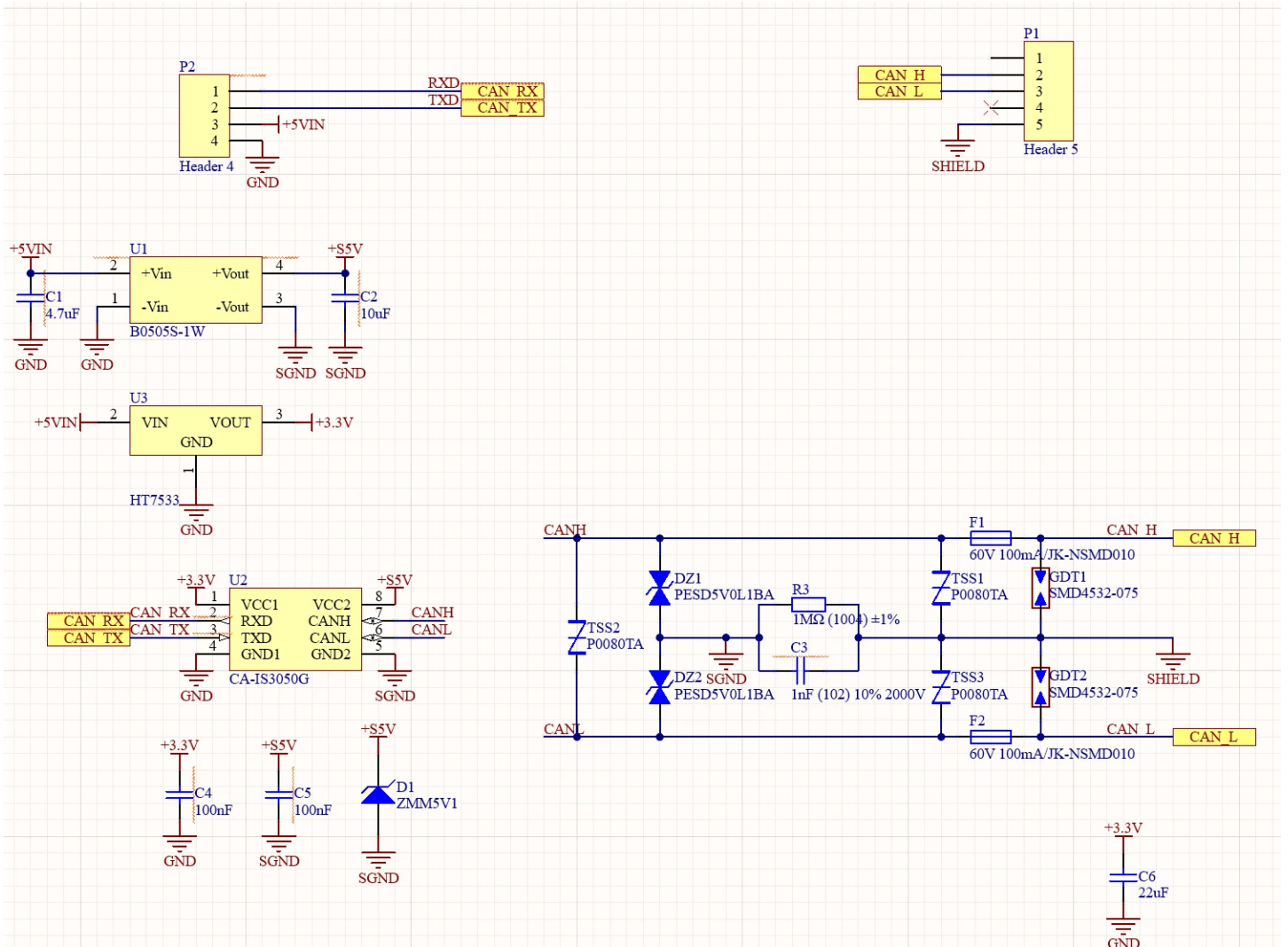
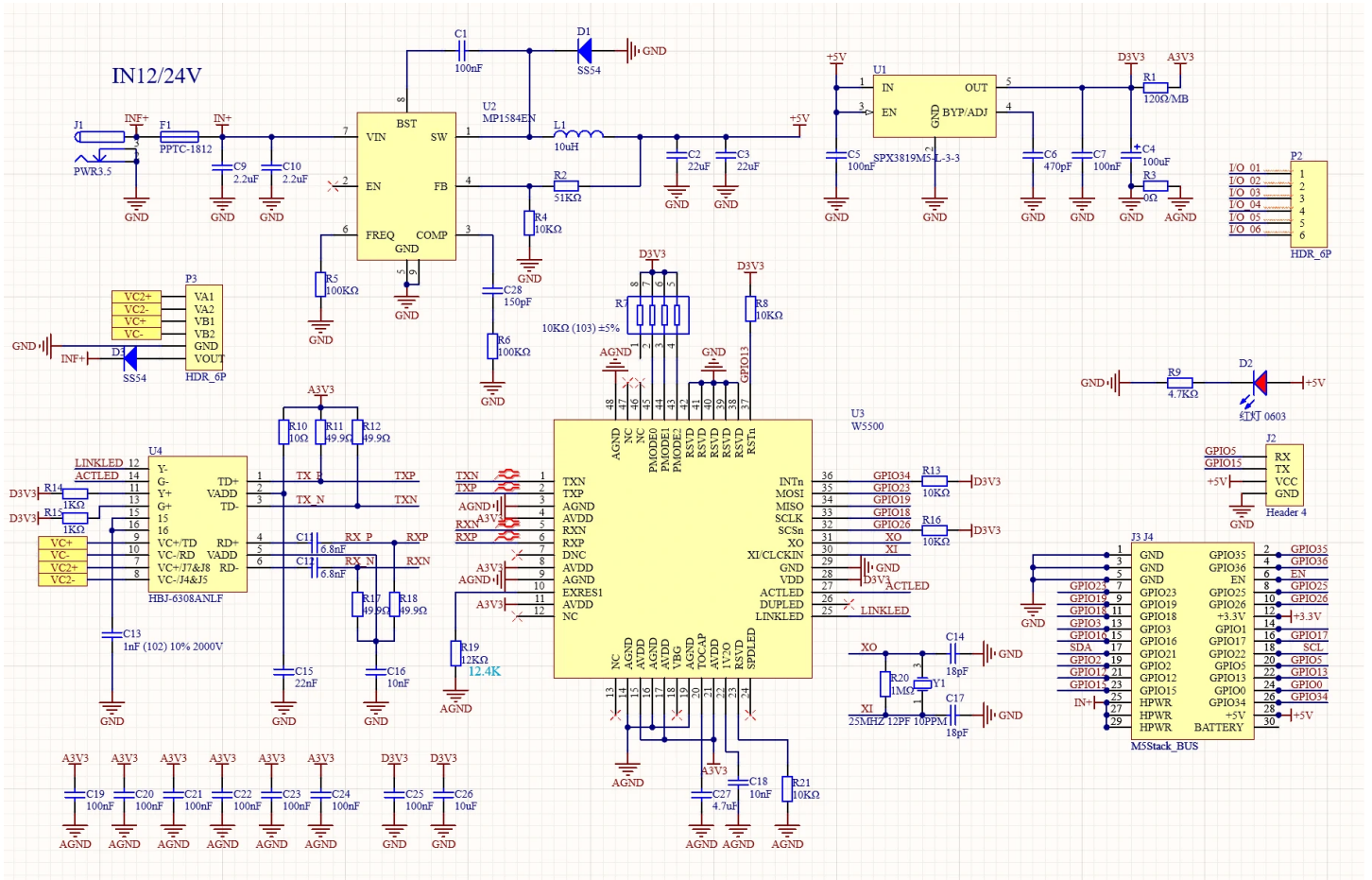
The LAN BASE V12 is equipped with TTL-RS485 and TTL-RS232 adapter boards for adapting to different communication interfaces. The soldering positions are as follows, and for actual GPIO connections please refer to the pin mapping table.

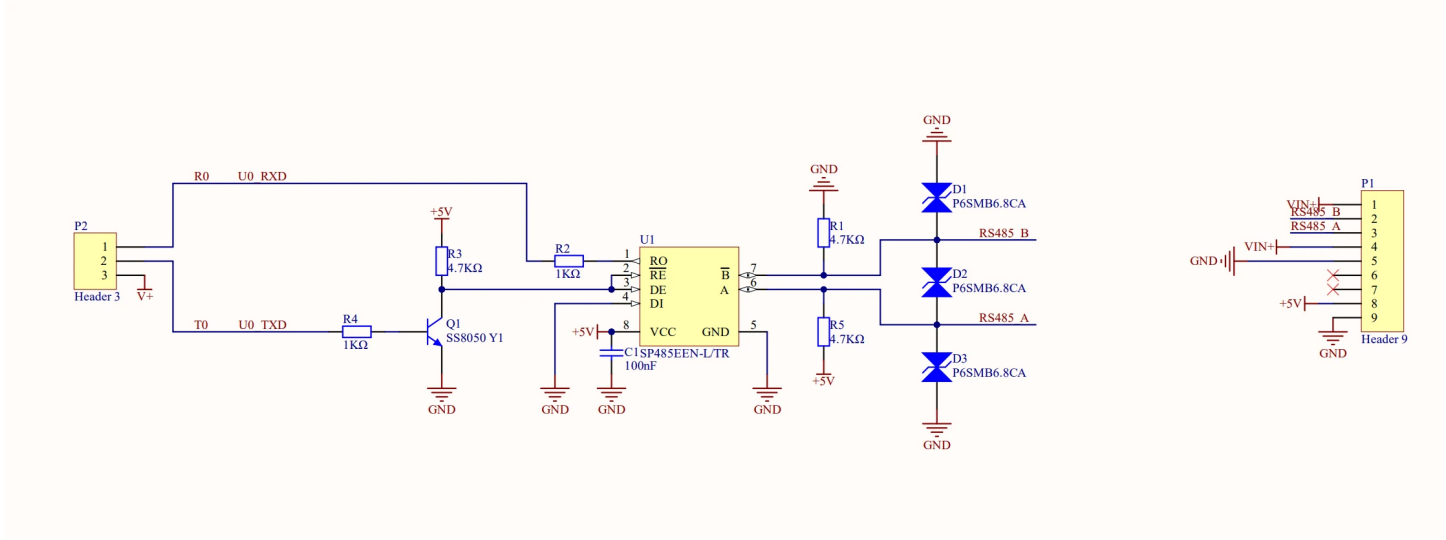
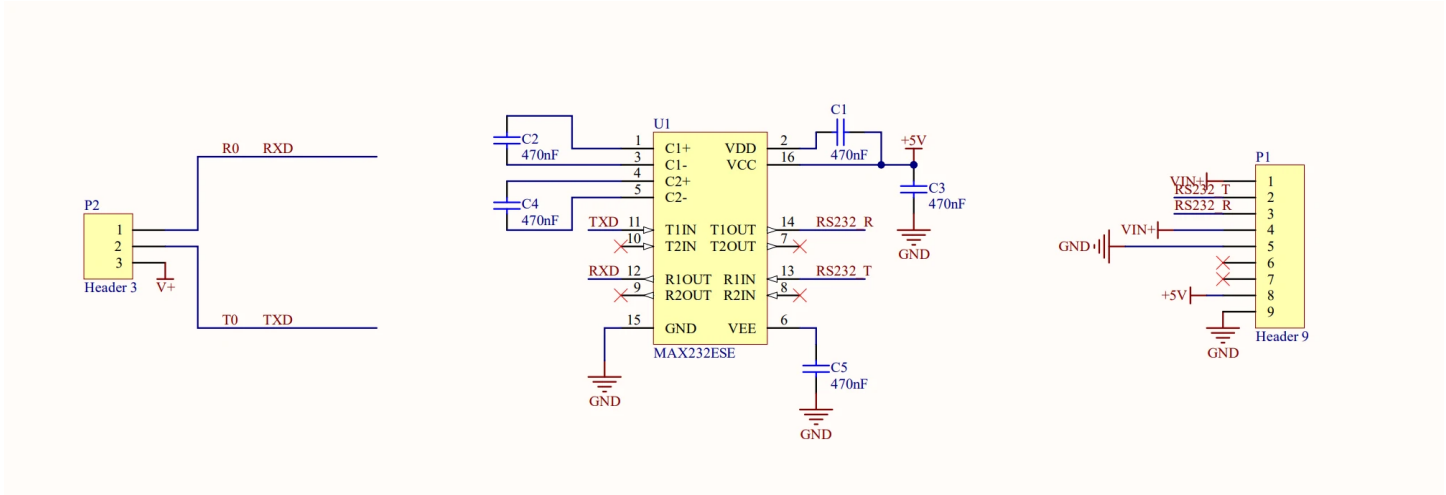
- **RS232** adapter board soldering position or **RS485** adapter board soldering position





Schematics





PinMap

W5500 Ethernet Chip

W5500	ESP32 Chip
MOSI	G23
MISO	G19
CLK	G18
CS	G26
RST	G13
INTn	G34

RS485/RS232/CAN Adapter Board

ESP32 Chip	RS485/RS232
RX	G5
TX	G15

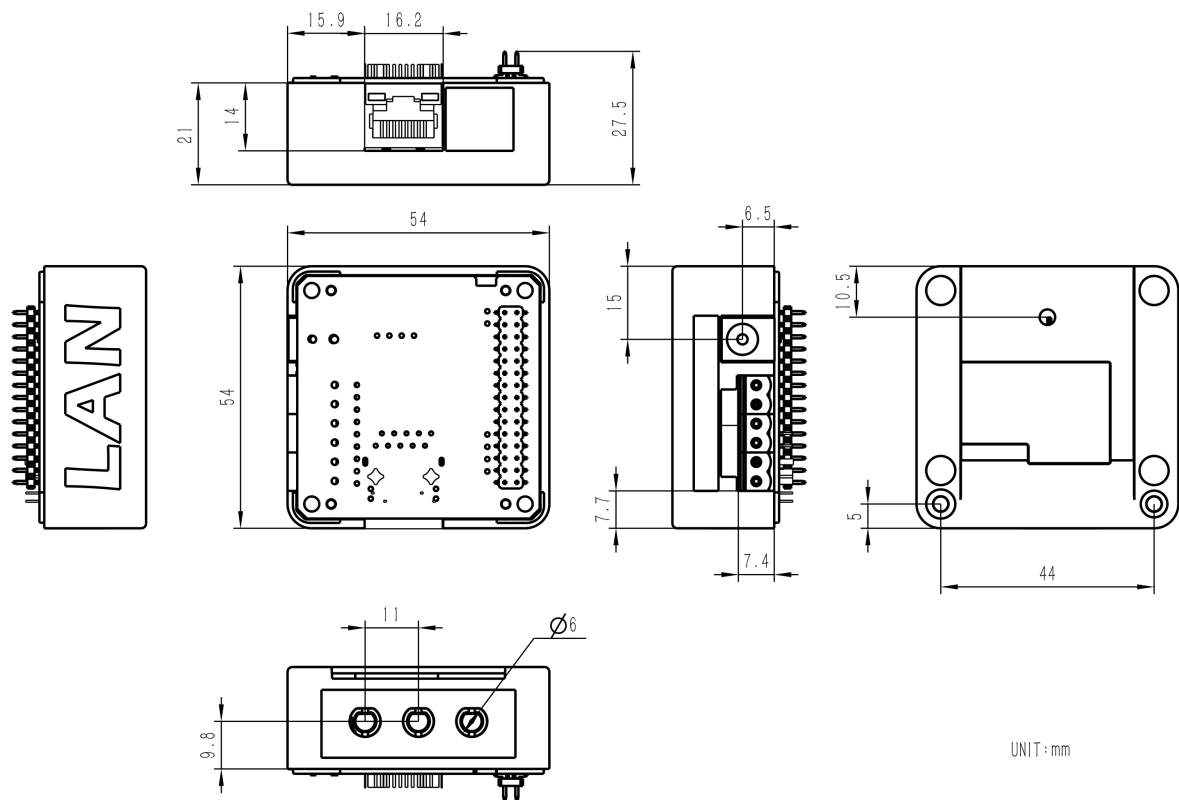
M5-Bus

Switch

The pins marked **SW** in the following M5-Bus can be switched via the DIP switch to adapt to different controllers.

PIN	LEFT	RIGHT	PIN
GND	1	2	NC
GND	3	4	NC
GND	5	6	NC
SPI_MOSI	7	8	NC
SPI_MISO	9	10	CS
SPI_CLK	11	12	NC
NC	13	14	NC
NC	15	16	NC
NC	17	18	NC
NC	19	20	RS232_TX/RS485_TX
NC	21	22	RST
RS232_RX/RS485_RX	23	24	NC
HPWR	25	26	INT
HPWR	27	28	5V
HPWR	29	30	BAT

Model Size



Datasheets

- [W5500](#)

Softwares

Arduino

- [Base LAN PoE v1.2 Web Server Example](#)
- [Base LAN PoE v1.2 RS485 Example](#)

UiFlow1

- [Base LAN PoE v1.2 UiFlow1 Docs](#)

EasyLoader

Easyloader	Download	Note
Base LAN Test Easyloader	download	/

Video

Base LAN Case - PC using UDP protocol with LAN Base for wired video transmission to Core\
[M5StackLovyanlauncher.mp4](#)

