

lamaPLC: TTL to RS485 Module

The module is often listed as **HW-097**.



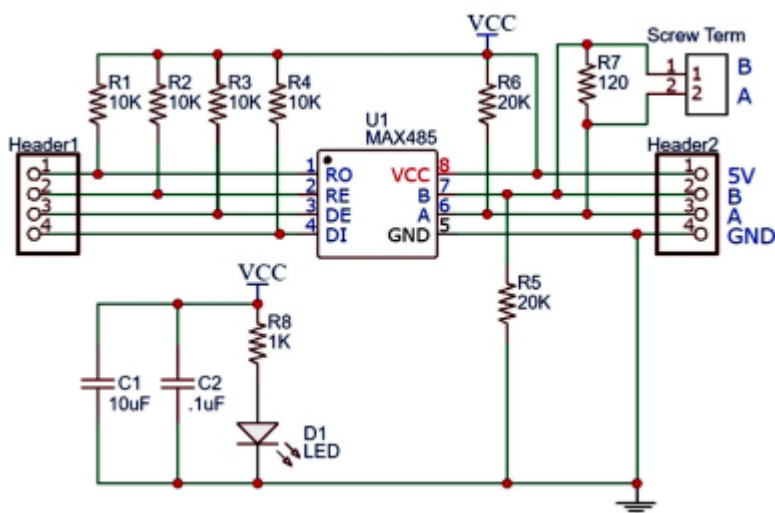
The onboard MAX485 chip is a low-power, slew-rate-limited transceiver for **RS-485** communication. It is connected to 5.08 mm pitch 2P binding posts, which makes **RS-485** wiring convenient. All the chip's pins are exposed and can be controlled and operated by the microcontroller. It operates on a single 5V power supply with a rated current of 300µA.

RS-485 is a type of asynchronous serial communication protocol because no synchronizing clock signal is transmitted with the data. RS-485 uses differential signaling to transfer binary data between devices. This differential signaling creates a differential voltage using positive and negative 5V supplies. The advantage of this method is its ability to reject common-mode noise.

RS-485 supports a **maximum data transfer rate of 30 Mbps** and can connect many slaves to a single master. The protocol allows up to 32 devices to be connected.

The module is suitable for Arduino and **Modbus RTU** applications. In this setup, the Arduino should use Tx/Rx TTL communication, while the standard Modbus A+, B-, and GND connections should be made on the other side of the module.

MAX485 switching logic

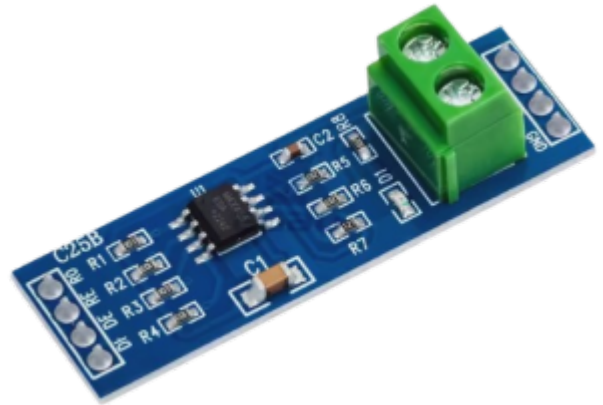


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2026/02/14 23:38

MAX485 modul pinout



RO	TTL side	Receiver output
RE	TTL side	Receiver output enable
DE	TTL side	Driver output enable
DI	TTL side	Drive input
Vcc		5V DC power supply
A+	RS-485 side	The non-inverting input of the receiver and the non-inverting output of the driver
B-	RS-485 side	Receiver inverting input and driver inverting output
GND		Ground

Modbus topics on lamaPLC

Page	Date	Tags
• Eastron Modbus maps	2026/04/23 21:51	modbus, modbus rtu, eastron, modbus map, mid
• lamaLib: #temp	2026/04/23 21:52	tia, scl, lamalibsimatic, source code, energy meter, modbus, register, word
• lamaLib: energyMeterToModbusRegs	2026/04/23 21:52	tia, scl, lamalibsimatic, source code, energy meter, modbus, register, word
• lamaPLC Communication: Modbus	2026/04/23 21:51	modbus, communication, bus, modicon, standard, rtu, tcp, multimaster, coil, register
• lamaPLC: DM56A04 / DM36B06 digital tube display with Modbus Communication	2026/02/14 18:25	dm56a04, dm36b06, eletechsup, 7-segment, display, modbus, rtu, modbus rtu, arduino
• LamaPLC: Eastron SDM 230 Communication	2026/04/23 21:51	modbus, modbus rtu, eastron, modbus map, mid
• LamaPLC: Eastron SDM 230 with Modbus Communication	2026/02/15 00:34	modbus, modbus rtu, eastron, modbus map, mid, sdm 230, sdm, arduino, code
• LamaPLC: Eastron SDM 630 Communication	2026/04/23 21:51	modbus, modbus rtu, eastron, modbus map, mid
• LamaPLC: Eastron SDM 630 Energy Meter with Modbus communication	2026/02/15 00:22	modbus, modbus rtu, eastron, modbus map, mid, sdm, sdm 630, arduino, code

• lamaPLC: PTA8C04 4-channel PT100 Modbus Modul	2026/02/14 18:42	pta8c04, sensor, modbus, rtu, rs-485, communication, platine, um72
• LamaPLC: S7-1500 and Metrawatt EM2389 Modbus TCP communication	2026/04/23 21:52	simatic, s7, modbus, communication, metrawatt, em2389, source code, scl, mid
• LamaPLC: S7-1500 and Sicam Q200 Modbus TCP communication	2026/04/23 21:52	simatic, s7, modbus, tia portal, communication, sicam, q200, sicam q200, source code, scl, class a
• lamaPLC: S7-1500 and UICPAL Temp.humi.sensor Modbus TCP communication	2023/06/19 23:24	bus, communication, s7, simatic, s7 1500, s7 1200, scl, uicpal, temperature, humidity, modbus, example, download, tia portal
• lamaPLC: TM1650 7-Segment Display with I ² C like or Modbus Communication	2026/02/14 18:26	tm1650, stc8g, tp8485e, hyuduo5x1b64edtk1244, 7-segment, display, modbus, rtu, modbus rtu, arduino
• lamaPLC: TTL to RS485 Module	2026/02/14 23:49	modbus, rtu, modbus rtu, hw-097, rs-485, max485
• LamaPLC: UICPAL Temp.humi.sensor	2023/06/25 00:43	simatic, s7, modbus, communication, temperature, humidity, sensor
• LamaPLC: XTM35SC Modbus communication	2024/08/18 16:52	xtm35sc, modbus, modbus rtu, measuring, power, communication, current meter, voltmeter
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• NT18B07: 7 Kanal RS485 Temperatur Sensor with Modbus RTU	2026/02/14 18:49	nt18b07, sensor, modbus, rtu, rs-485, communication, platine
• Simatic Modbus S7 error- and statuscodes	2026/04/23 21:52	communication, bus, modbus, error, modbus error code, 7000, 7001, 7002, 7003, 7004, 7005, 7006, 80a1, simatic, s7, siemens, tia
• Waveshare	2026/04/23 21:52	waveshare, converter, modbus, modbus rtu, modbus tcp, communication
• XTM35SC current / voltage meter	2026/04/23 21:52	xtm35sc, modbus, modbus rtu, measuring, power, communication, current meter, voltmeter

[modbus, rtu, modbus rtu, HW-097, RS-485, MAX485](#)

This page has been accessed for: Today: 4, Until now: 8

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