

HMOD7

(7 Inch Industrial Modbus RTU HMI)



7-inch PCAP Touch 800 x 480, 700 cd/m ²	Industrial Power 5-35 VDC input	Modbus RTU RS-485 master	Wireless Wi-Fi + OTA
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Product Overview

The MODB-7-4L is a compact industrial HMI designed as a local user interface for Modbus RTU networks. It combines a bright 7-inch capacitive touchscreen, RS-485 communication, wide-range DC input and integrated Wi-Fi in a wall-mount enclosure. The HMI can discover and monitor compatible Modbus devices, display live values and status information, provide access to device configuration, and visualize stored measurement history.

- IP54 wall-mount plastic enclosure with click-on installation system
- Recommended for up to 10 Modbus devices; networks of up to 20 devices supported
- Integrated Wi-Fi for network functions and over-the-air firmware updates
- Operating temperature range: -20 °C to +70 °C
- Compact enclosure: 176.5 x 118.5 x 33.5 mm; weight: 42

Technical Specifications

Display & Touch

Display size	7 inch
Resolution	800 x 480 pixels
View direction	12 o'clock (12H)
Display interface	RGB
LCD driver IC	HX8264-E + HX8664-B
Brightness	700 cd/m ²
Touch technology	Projected capacitive touch (PCAP)
Touch points	5-point multi-touch

Communication & System

Fieldbus	RS-485, Modbus RTU
HMI role	Modbus RTU master
Recommended devices	Up to 10 devices
Maximum supported devices	Up to 20 devices

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Wireless	Integrated Wi-Fi
Data Logging & Storage	Local SQLite data logging on SD card
Firmware maintenance	OTA (Over-the-Air) firmware update
Device functions	Discovery, monitoring, configuration, status and history visualization

Electrical, Mechanical & Environmental

Supply voltage	5-35 VDC
Terminal block	4-position removable terminal block
Terminal order, left to right	/B, A, GND, 5-35 VDC
Enclosure size	176.5 x 118.5 x 33.5 mm (W x H x D)
Weight	425 g
Protection rating	IP54
Enclosure	Plastic, wall-mount
Operating temperature	-20 °C to +70 °C

Typical Applications

- HVAC and building automation
- CO₂ / temperature / humidity monitoring
- Refrigeration
- Environmental monitoring
- Industrial sensor networks
- Machine and process monitoring
- Local Modbus device configuration.

Wiring & Communication

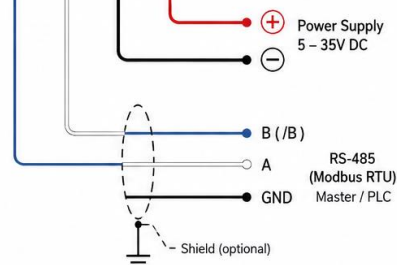
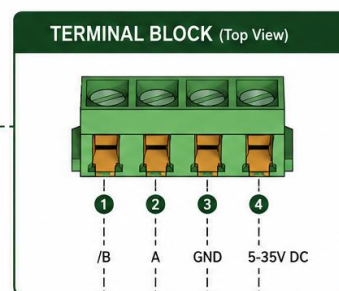
The rear terminal block combines the RS-485 bus and DC power connection. Always disconnect power before wiring. Observe the terminal order shown below and maintain the same A/B polarity across all Modbus devices.

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WIRING CONNECTIONS

Terminal block is located on the rear side of the HMI.



TERMINAL DESCRIPTION

No.	Label	Description
1	/B	RS-485 negative (B)
2	A	RS-485 positive (A)
3	GND	Power supply ground / RS-485 ground reference
4	5-35V DC	Power input 5 – 35V DC

WIRING SPECIFICATIONS

Connector type	Pluggable screw terminal
Wire range	0.2 – 1.5 mm ² (24 – 16 AWG)
Strip length	7 – 8 mm
Tightening torque	0.5 – 0.6 N·m



- Use twisted pair cable for RS-485 (A and /B).
- Connect GND to the system ground for reliable communication.
- For long communication lines, it is recommended to use a shielded cable and connect the shield to ground at one point (typically at the master side).



CAUTION

- Do not reverse the polarity of the power supply.
- Ensure the power supply is within the specified range (5 – 35V DC).

Rear view - the 4-position terminal block is located on the right side of the electronics assembly.

/B	A	GND	5-35 VDC
RS-485 B / negative line	RS-485 A / positive line	Power ground	DC supply positive

Typical RS-485 Connection

MODB-7-4L	Modbus Device 1	Modbus Device 2 ... n
Terminal /B	Connect to B	Connect to B
Terminal A	Connect to A	Connect to A
Terminal GND	Signal reference / GND*	Signal reference / GND*

* Connect signal reference/ground where required by the installation and connected equipment. For reliable industrial RS-485 operation, use suitable twisted-pair cabling, keep bus wiring in a daisy-chain

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topology, and apply termination/biasing according to the complete network design and connected-device requirements.

Important: The DC input is 5-35 VDC. Verify supply polarity and voltage before applying power. Do not connect the DC supply to the RS-485 terminals.

Local Data Logging

The HMOD7 supports local measurement logging to an **SQLite database stored on the SD card**. This allows measurement data from connected Modbus devices to be retained locally for historical analysis and trend visualization.

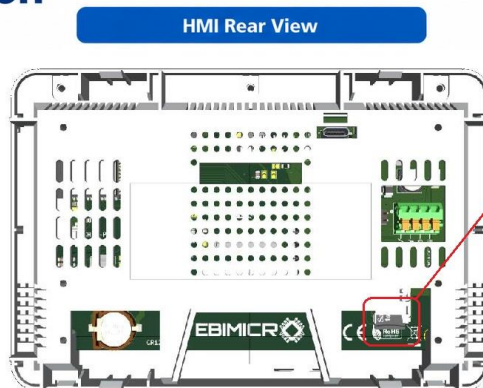
The database provides a structured storage format for recorded measurements, enabling future data-processing and export functionality.

SD Card Installation (SQLite Data Logging)

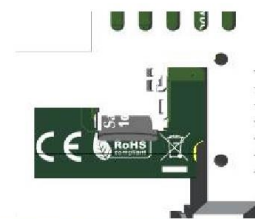
The HMI supports data logging using a microSD card. Logged data is stored in a SQLite database and can be viewed, exported or copied from the SD card.

Important Notes

- Always power OFF the device before inserting or removing the SD card.
- Remove the HMI from the wall mount part before accessing the SD card.
- Use a standard microSD card (formatted as FAT32).
- After inserting the SD card, mount the HMI back on the wall and power it ON.



SD Card Slot (Close-up View)



Insert the microSD card with the contacts facing up, as shown.

Warning

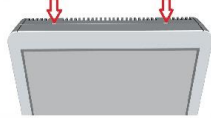
- Always turn OFF the device before inserting or removing the SD card.
- Remove the HMI from the wall mount part before accessing the SD card.
- Inserting or removing the SD card while the device is powered ON can cause data loss or damage to the SD card and the device.

1 Power OFF



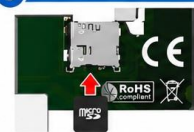
Turn off the device and disconnect the power supply.

2 Remove from wall mount



Insert a flat screwdriver into the two slots on the top side and gently press to release the HMI from the wall mount part.

3 Insert SD card



Insert the microSD card into the slot (contacts facing up), as shown. Gently push the card until it clicks into place.

4 Mount back and power ON



Align the HMI with the wall mount part and press the HMI towards the wall mount until it clicks securely into place. Reconnect the power supply and turn the device ON.

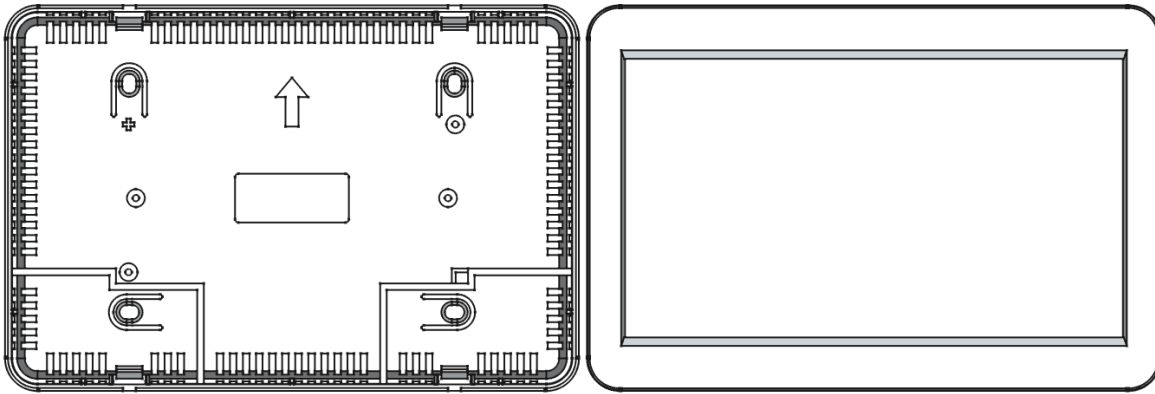
Wall Installation

The enclosure uses a two-part wall-mount system. The rear mounting plate is fixed to the wall first; wiring is then connected before the HMI is aligned and clicked onto the plate.

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Wall-mount plate (left) and HMI front enclosure (right).

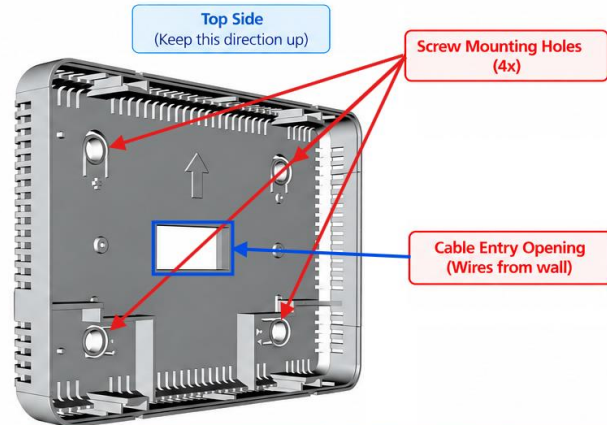
1. Prepare the location	Choose a flat mounting surface with adequate space for the 176.5 x 118.5 mm enclosure and cable routing.
2. Fix the wall plate	Orient the mounting plate using the molded upward arrow. Secure the plate through the provided mounting points using fasteners appropriate for the wall material.
3. Route and connect wiring	Bring the RS-485 and DC supply wiring to the terminal area. Connect /B, A, GND and 5-35 VDC in the specified left-to-right order.
4. Align the HMI	Position the HMI over the installed wall plate and align the enclosure with the plate's retaining features.
5. Click into position	Press the HMI evenly toward the wall until the retaining features engage and the enclosure is securely seated.
6. Power and commission	Apply DC power, verify startup, configure the Modbus network and confirm communication with the connected devices.

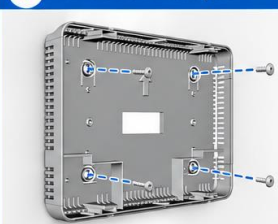
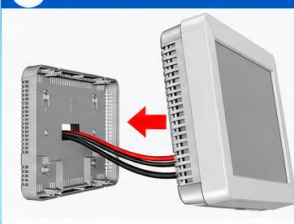
Wall Mount Installation (Wall Mount Part)

The HMI is supplied with a wall mount part for easy and secure installation. Follow the steps below to mount the wall part, connect the wires and attach the HMI.

Important Notes

- Install the wall mount part on a flat and stable surface.
- Ensure the correct orientation (arrow pointing up).
- Route the cables through the central opening.
- Connect the wires according to the wiring map.
- Use suitable screws and wall plugs for your wall type.
- Always power OFF the device before connecting or disconnecting wires and before attaching or removing the HMI.



1 Fix the wall mount part	2 Route the cables	3 Connect the wires and attach the HMI	4 Installed
 Use 4 screws (and wall plugs if required) to fix the wall mount part to the wall. Ensure it is level and the arrow is pointing up.	 Route the required cables from the wall through the central opening.	 Connect the wires to the HMI according to the wiring map, then align the HMI with the wall mount part and press it towards the wall mount until it clicks securely into place.	 The HMI is now securely mounted and ready for use.

*Installation note: IP54 performance depends on correct installation and the complete assembled product. Use suitable cable routing and installation practices for the intended environment.