



Innovation in Automation

MBS100

HARDWARE MANUAL

- MBS100
MODBUS GATEWAY Series

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Preface



Mikrodev MBS100 Modbus Gateway connects Modbus RTU devices on RS232 and RS485 lines to Modbus TCP networks. Optionally, the model with 2 RS485 ports can be selected. The MBS100 series converters are optionally connected to the Modbus TCP protocol via GPRS, Ethernet or Wi-Fi networks.

In this document, you can find information about the hardware specifications of Mikrodev MBS100 series devices.

Please follow our website www.mikrodev.com for the up to date version of the document.

About Mikrodev



Since 2006, MIKRODEV has been developing and manufacturing industrial control and communication products. MIKRODEV serves the system integrators in the public and private sector, OEM and end users.

Our products are manufactured complying with the quality standards required by the industrial automation industry and the quality of our products are proved on the field for many years

MIKRODEV is one of the few companies in the world that has its own designed IEC 61131-3 compliant library for its programmable logic control devices. In addition, the open, flexible, programmable SCADA solution developed by MIKRODEV is also available to customers.

MIKRODEV products' performance and wide range of applications make them possible for customers to achieve faster, simplified and cost-effective results.

WARNING!

- ✓ Please take care of the following issues when using Mikrodev devices.
- ✓ Since the unit operates with 24 VDC (12-36 VDC) voltage, you should take care of the voltage level that the unit is connected to. If a voltage above this voltage level is applied, the device may be damaged and may be out of warranty.
- ✓ Make sure that the energy connection of your device is connected to the ground or to a properly grounded terminal.
- ✓ Make sure that the environment in which your device is being used is free of moisture, electric shock, vibration and dust.
- ✓ Pay attention to the supply voltage and the connections of the product. Mikrodev is not responsible for any issues due to power failure since there is no auxiliary supply (UPS) on the device.
- ✓ The fuse to be used must be a FF super fast type and current limit value 1A.
- ✓ Do not use the device under conditions other than the environmental conditions specified in the "Electrical Specifications" section (humidity, dust, liquid and temperature, etc.)
- ✓ Removing the warranty label on the product or removing the protective case will void the warranty.
- ✓ Products that are damaged, boxes have been changed and other brand labels are affixed are not covered by the warranty.
- ✓ The appliance must not be cleaned with solvents (thinner, benzine, acid etc.) or with abrasive cleaning agents.
- ✓ Only dry cloth should be used when cleaning the appliance.
- ✓ Do not open the device by removing the case of the appliance, do not interfere with the electronic components and circuits. There is no user-replaceable part inside the device.
- ✓ If there is a problem or malfunction on your device, it should only be repaired by an authorized service. Installation and electrical connections must be made by technical personnel in accordance with the instructions in the operating manual.

Failure to comply with these rules may result in death, serious injury or property damage

1 MBS100 GENERAL INFORMATION

1.1 Physical Interfaces

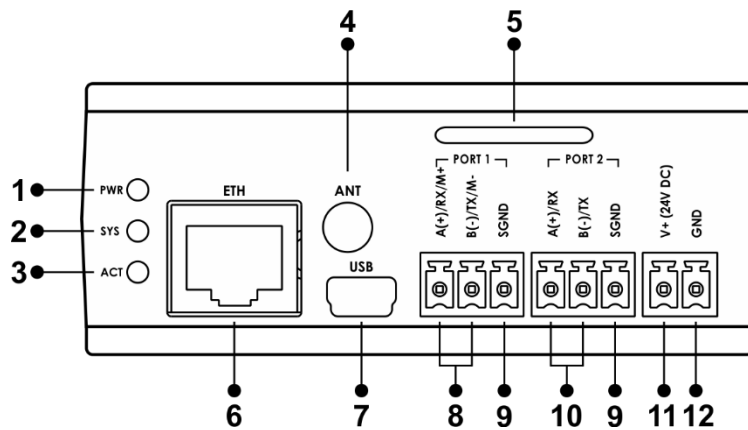


Figure 1 Connector and Physical Interfaces

| | | | |
|----------|---------------------------------|-----------|-------------------------------|
| 1 | Power LED | 7 | USB Configuration Port |
| 2 | System LED | 8 | RS485 Port 1 Connections |
| 3 | Remote Connection LED | 9 | Serial Port Ground Connection |
| 4 | GSM or Wi-Fi Antenna Connection | 10 | RS485 Port 2 Connections |
| 5 | SIM Card Slot | 11 | Device Power (V+) Connection |
| 6 | Ethernet Port | 12 | Device Power (V-) Connection |

1.2 General Device Specifications

| SPECIFICATION | ITEM | DESCRIPTION |
|--------------------------|-----------------------|------------------------------------|
| Electrical | Supply | 24 VDC (9-36 VDC) |
| | Power | <10W @ 24 VDC |
| | Power Protection | Yes |
| Environmental Conditions | Operating Temperature | -20...+75 C |
| | Storage Temperature | -40...+80 C |
| | Humidity | 5...95 RH |
| Communication Ports | Ethernet Port | 10/100 Mbps |
| | RS485* | 1 or 2 Port |
| | RS232 | 1 Port |
| Wireless Communication | GSM / GPRS | Quad-Band 850/900/1800/1900 MHz |
| | Wi-Fi | IEEE 802.11 b/g/n |
| Configuration | USB Port | 1 Port, Mini USB Type B |
| | Over TCP | Eth/Wi-Fi/GSM |

*Models with 2 RS485 ports do not have RS232 ports.

2 INSTALLATION INFORMATION

2.1 Rail Installation

DIN Rail Mountage

First, the upper part of the device is mounted on the DIN rail. Then, with the help of the springs behind the device, when a lightly force is applied to the lower part, the device locates into the DIN rail easily and the montage is completed.

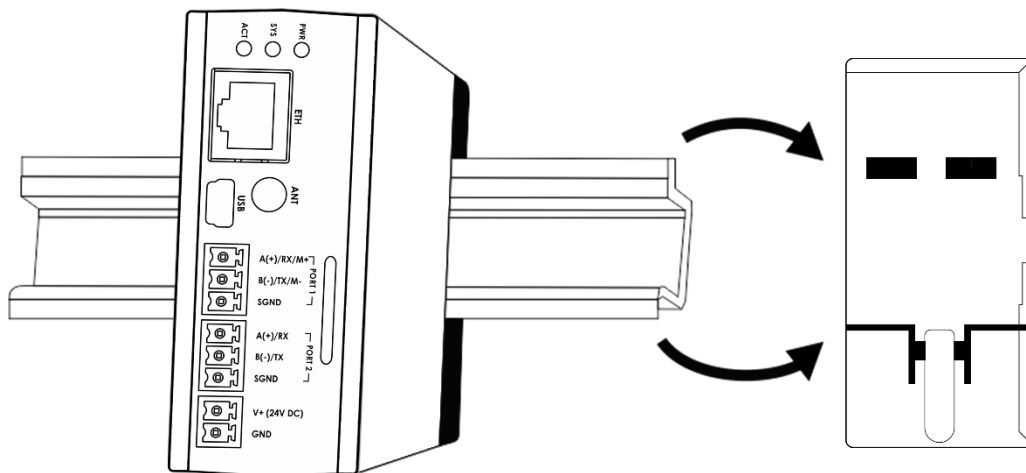


Figure 2 Mounting Information

DIN Rail Demountage

To demount the device, firstly it is pulled from the bottom using flexibility of the spring, the device is removed from the DIN Rail and the demounting is completed.

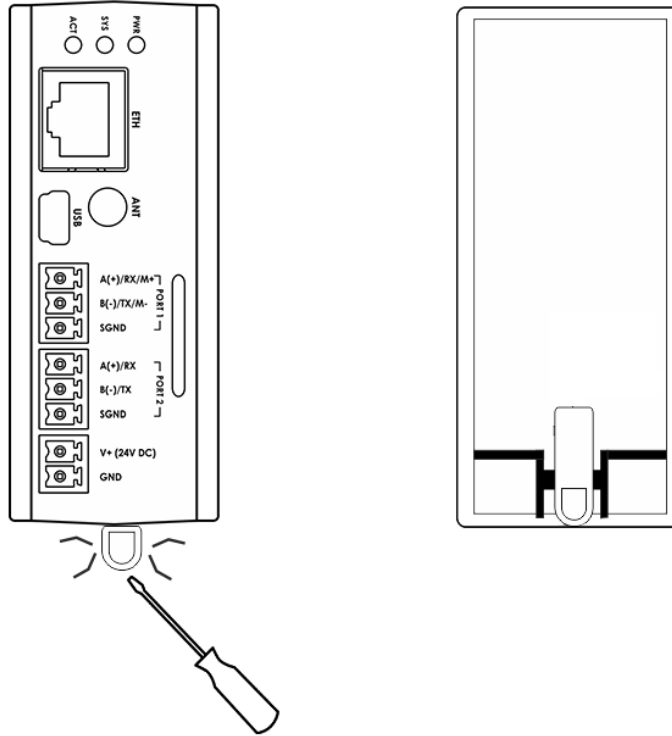


Figure 3 Demountage

3 CONNECTION DIAGRAMS

3.1 Supply Connection

| | |
|---------|---------------------|
| Supply: | 9-36 VDC, Protected |
| Power: | <13 W |

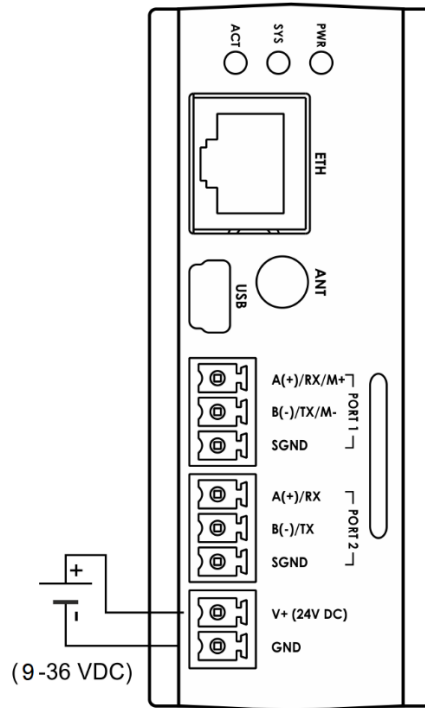


Figure 4 Power Connection Diagram

3.2 RS485 Serial Port

| | |
|-------------------------|---------------------|
| RS485 Port Count: | 1 or 2 Port |
| Isolation: | Galvanic Isolation |
| Maximum Slave Counts: | Limited to Hardware |
| Communication Distance: | 1000 m |
| Data Bits: | 7-8 |
| Stop Bits: | 1-2 |
| Parity: | None-Even-Odd |
| Baudrate: | 300 bps to 200 kbps |

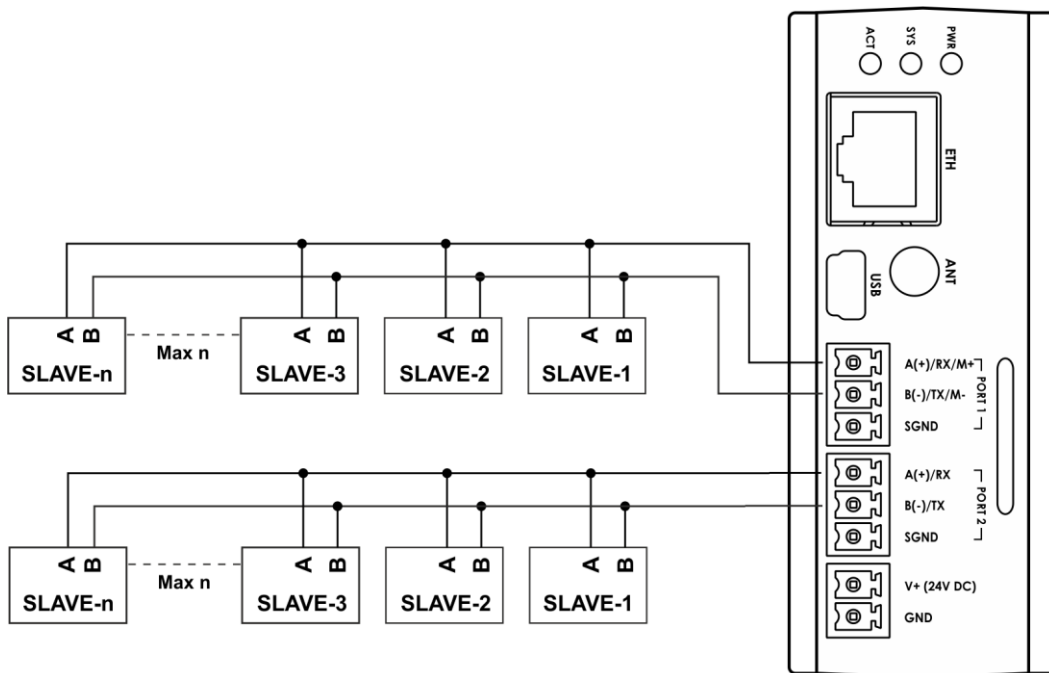


Figure 5 RS485 Input Connection Diagram

3.3 RS232 Serial Port

| | |
|-------------------------|---------------------|
| RS232 Port Count: | 1 Port |
| Communication Distance: | 10 m |
| Data Bits: | 7-8 |
| Stop Bits: | 1-2 |
| Parity: | None-Even-Odd |
| Baudrate: | 300 bps to 200 kbps |

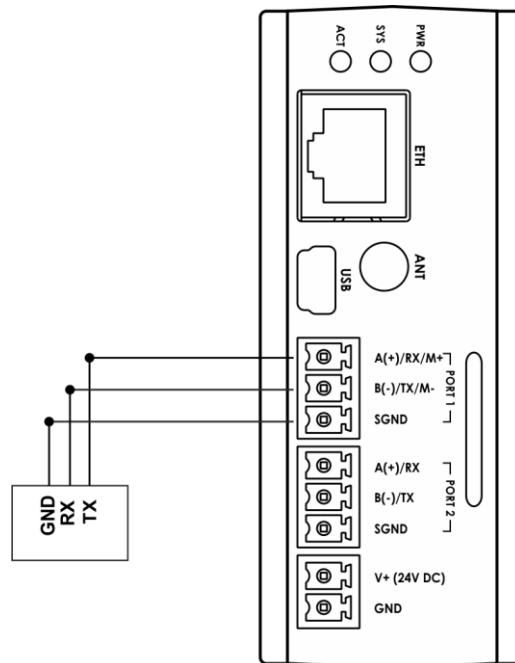


Figure 6 RS232 Input Connection Diagram