MDC100

HARDWARE MANUAL

- MDC100

    DLMS MODBUS GATEWAY Series

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Preface

Mikrodev MDC100 DLMS Modbus Gateway connects electricity meters on RS232 and RS485 lines to Modbus TCP networks. Optionally, the model with 2 RS485 ports can be selected. The MDC100 series converters are optionally connected to the Modbus TCP protocol via GPRS, Ethernet or Wi-Fi networks. There are options that can read 2, 8, 16 and 32 electricity meters in Ethernet and GSM models. 32 electricity meters can be read in models with Wi-Fi.

In this document, you can find information about the hardware specifications of Mikrodev MDC100 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 MDC100 GENERAL INFORMATION

1.1 Physical Interfaces
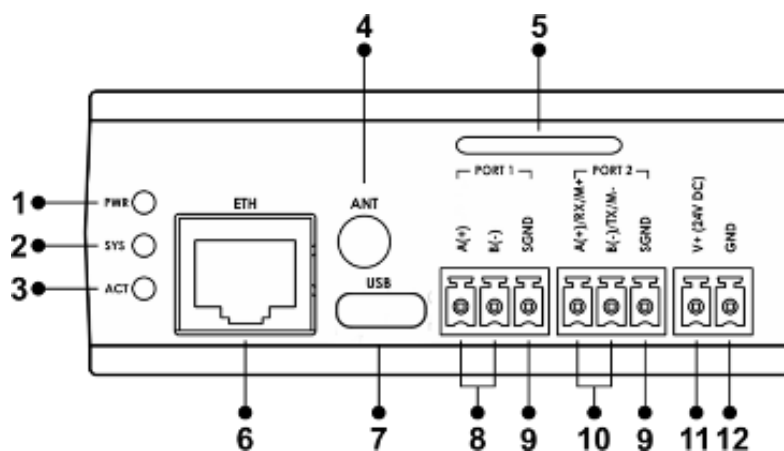
Figure 1 Connecter and Physical Interfaces

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 Spesifications

SPECIFICATION	ITEM	DESCRIPTION
Electrical	Supply	24 VDC (9-36 VDC)
	Power	<10W @ 24 VDC
	Power Protection	Yes
Enviromental 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, USB Type-C
	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.
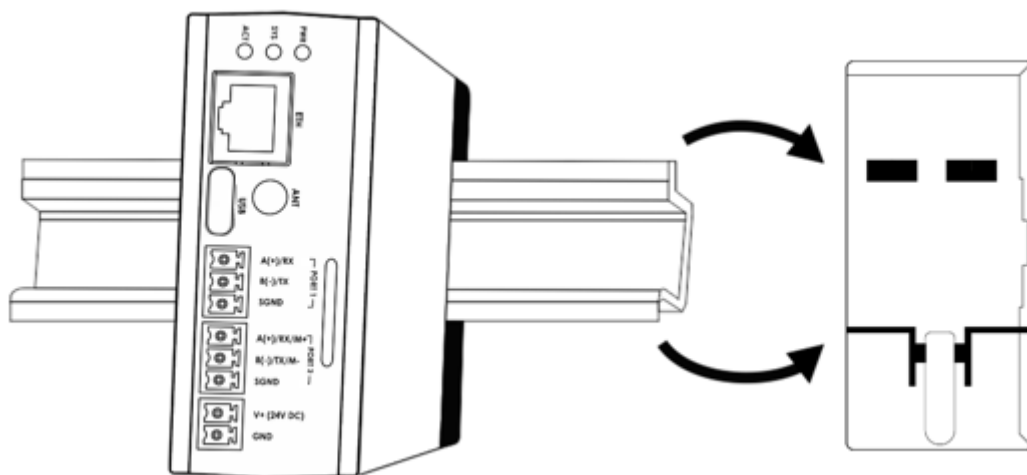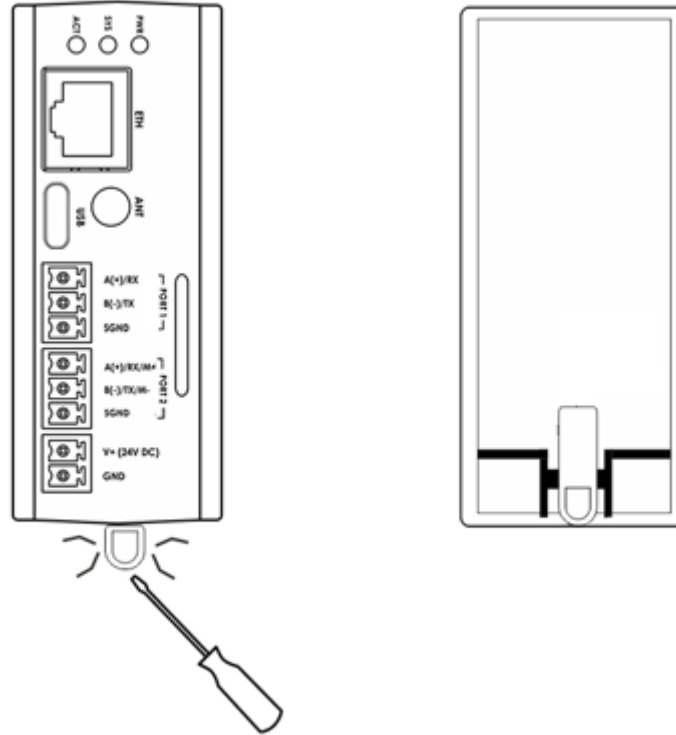

Figure 2 Mounting Information

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.
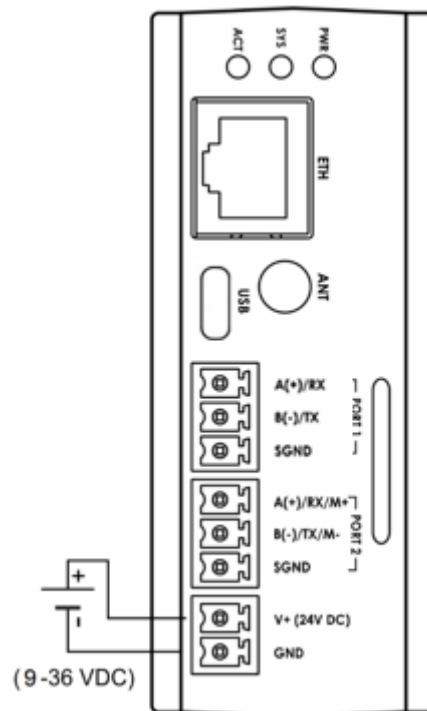

Figure 3 Demountage
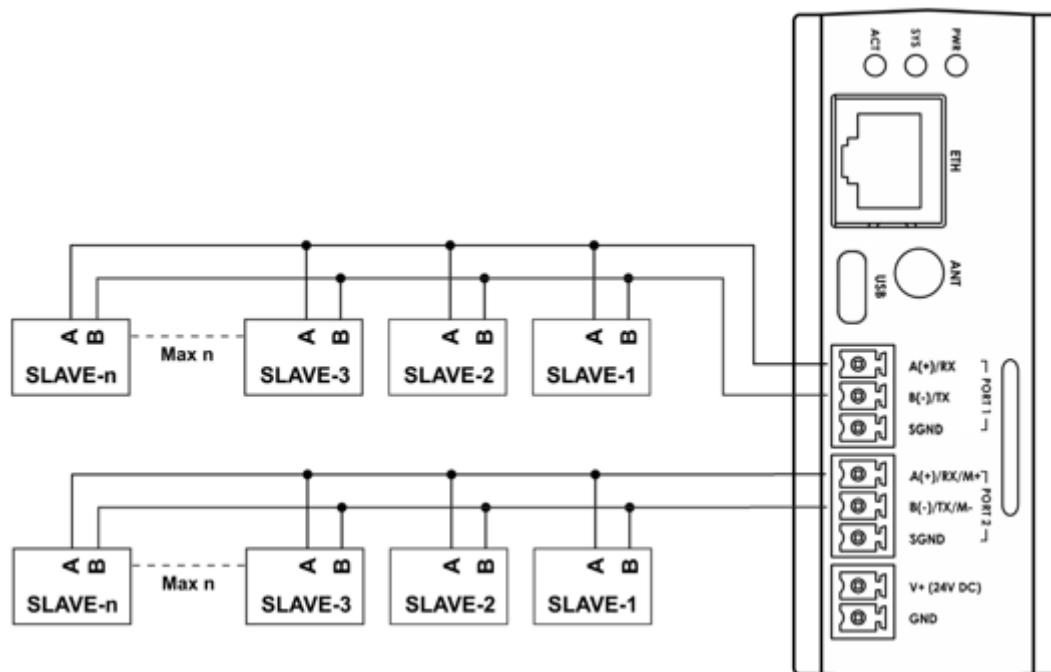
3 CONNECTION DIAGRAMS

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:	32
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

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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
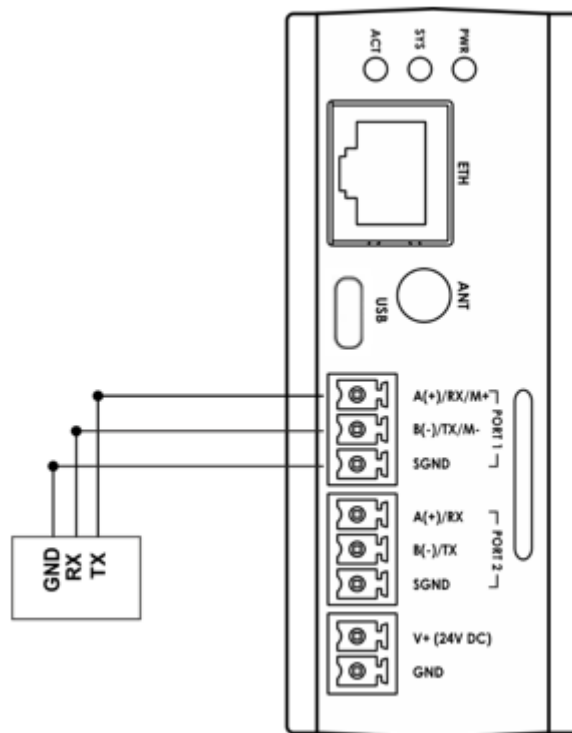
Figure 6 RS232 Input Connection Diagram