



Innovation in Automation

# **MDC100**

# **HARDWARE MANUAL**

- MDC100

DLMS MODBUS GATEWAY Series

**05 / 2022**

**MIKRODEV\_HM\_MDC100\_EN**

**v1.2**

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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](http://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.

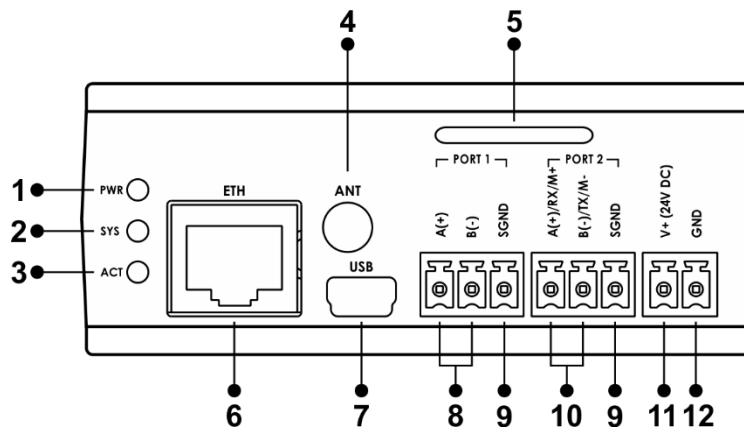
# WARNING!

- ✓ 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, benzene, 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

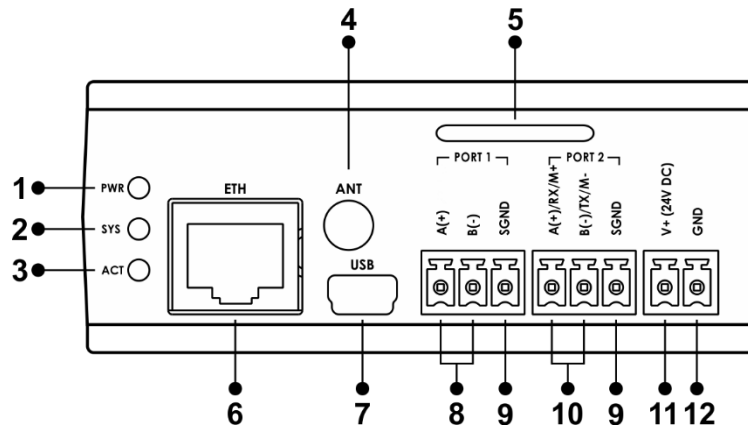
## 1.1 GC2 Board Type Physical Interfaces



**Figure 1 GC2 Board Type Connector and Physical Interfaces**

<b>1</b>	Power LED	<b>7</b>	USB Configuration Port
<b>2</b>	System LED	<b>8</b>	RS485 Connections
<b>3</b>	Remote Connection LED	<b>9</b>	Serial Port GND Connection
<b>4</b>	GSM or Wi-Fi Antenna Connection	<b>10</b>	RS232 Connections
<b>5</b>	SIM Card Slot	<b>11</b>	Device Power (V+) Connection
<b>6</b>	Ethernet Port	<b>12</b>	Device Power (V-) Connection

## 1.2 GC3 Board Type Physical Interfaces



**Figure 2 GC3 Board Type Connector and Physical Interfaces**

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



### 1.3 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	Board Type	GC2	GC3
	Ethernet Port	10/100 Mbps	10/100 Mbps
	RS485	1 Port	2 Port
	RS232	1 Port	
Wireless Communication	GSM / GPRS*	Quad-Band 850/900/1800/1900 MHz or LTE	
	Wi-Fi*	IEEE 802.11 b/g/n	
Configuration	USB Port	1 Port, Mini USB Type B	
	Over TCP	Eth/Wi-Fi/GSM	

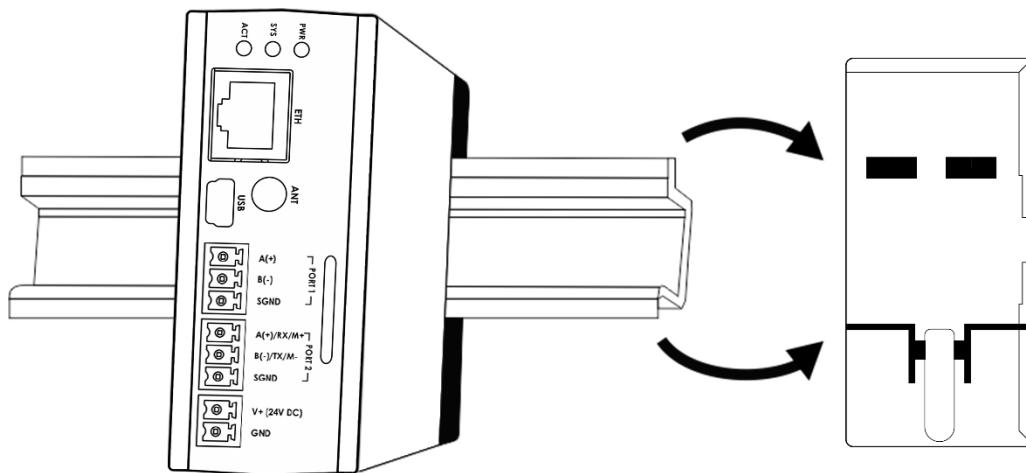
\*Optional Selection

## 2 INSTALLATION INFORMATION

### 2.1 Rail Installation

#### DIN Rail Mountage

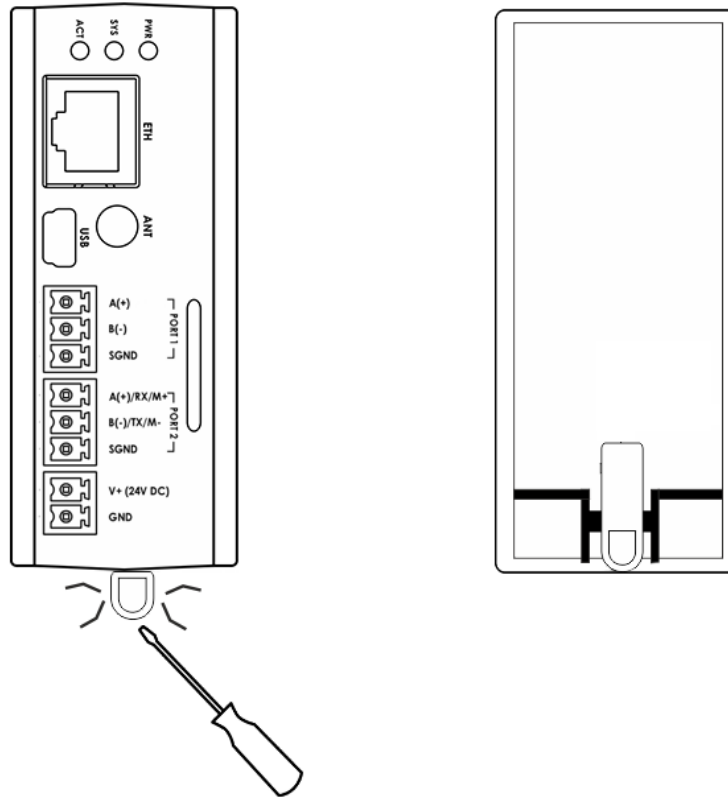
First, the upper part of the device is mounted on the DIN rail. Then, with the help of the springs behind the device, when a lightly force is applied to the lower part, the device locates into the DIN rail easily and the montage is completed.



**Figure 3 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.

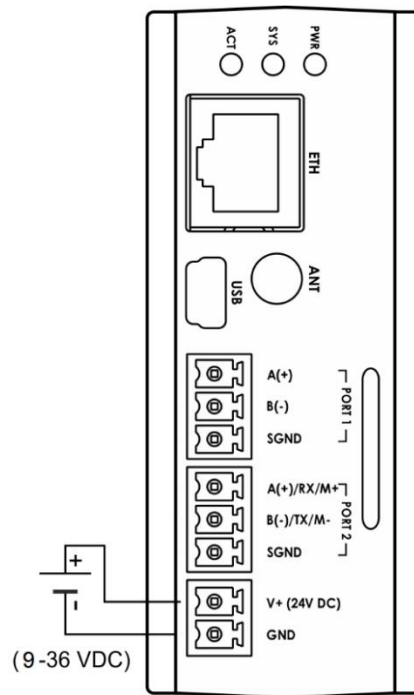


**Figure 4 Demountage**

### 3 CONNECTION DIAGRAMS

#### 3.1 Supply Connection

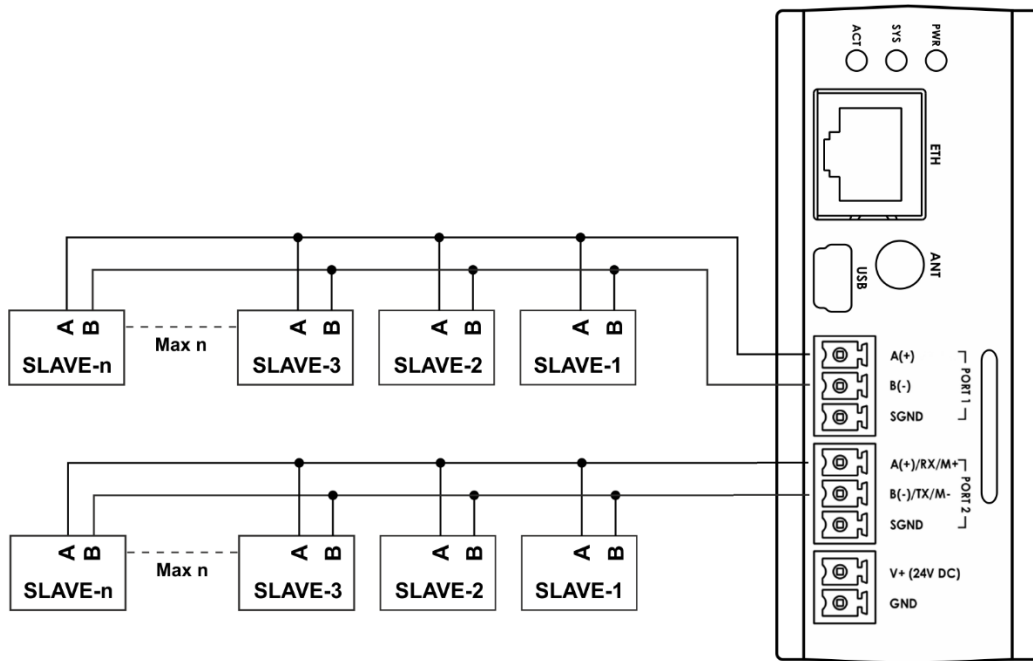
Board Type:	GC2, GC3
Supply:	9-36 VDC, Protected
Power:	<13 W



**Figure 5 Power Connection Diagram**

### 3.2 RS485 Serial Port

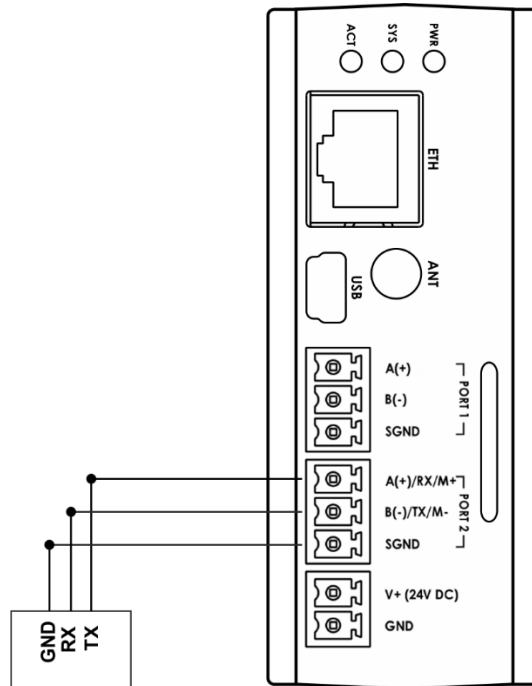
Board Type:	GC2	GC3
RS485 Port Count:	1 Port	2 Port
Isolation:	ESD Protection, 8 kV Direct, 25 kV Air Discharge	
Maximum Slave Counts:	32	
Communication Distance:	1000 m	
Data Bits:	7-8	
Stop Bits:	1-2	
Parity:	None-Even-Odd	
Baudrate:	300 bps to 200 kbps	



**Figure 6 RS485 Input Connection Diagram**

### 3.3 RS232 Serial Port

Board Type:	GC2
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 7 RS232 Input Connection Diagram**