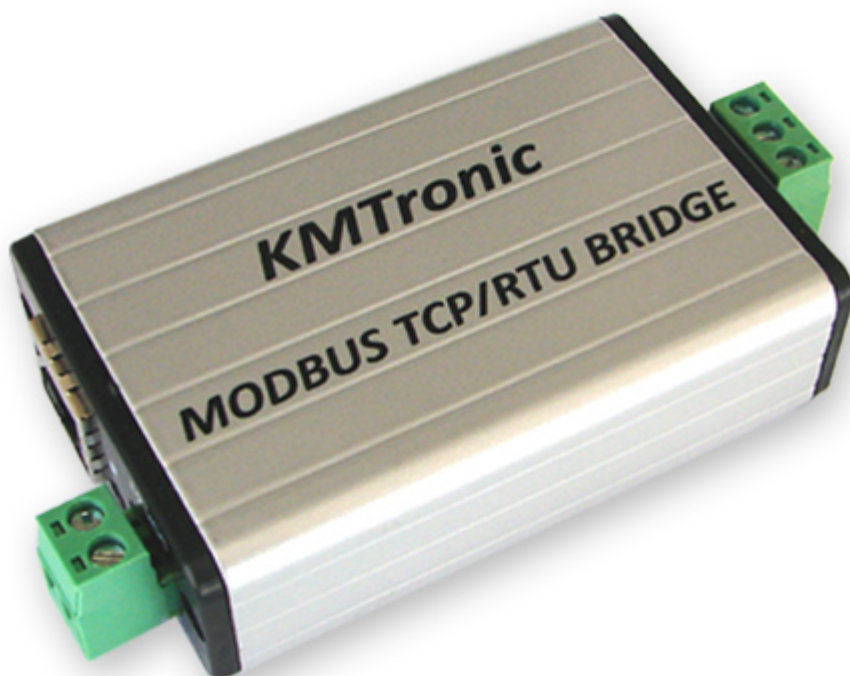


**KMTRONIC
LTD**

Modbus TCP/RTU Controller Model SS_MODBUS_TCP_LAN User Guide



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I. CONNECTING AND OPERATION

1. Security and Handling

Safety Instructions:

This device may be used to control external devices connected to RS485 interface. Care must be taken when using this device to avoid any damage to your equipment.

KMtronic, its shareholder, employees, suppliers, distributors and/or resellers are not liable for any damage or loss of data as a result of the use of this device, including special, incidental, or consequential damages resulting from the use of this device, or under any legal theory, including lost profits, downtime, goodwill, damage to or replacement of equipment or property, and any costs or recovering or reproducing any data stored in computers connected to this device.

Your use of this circuit indicates your acceptance of these terms

2. An Overview

KMtronic Modbus LAN TCP/IP to Modbus RS485 RTU Serial Converter is a versatile product for controlling electrical and electronic devices remotely from a LAN network over RS485 bus via Modbus protocol. Ease of use and wider operating system compatibility are the primary goals behind the product's design.

Some of the possible uses of the module include

- Home Automation
- Lighting Control
- Garden Equipment Control
- Industrial Automation
- Test Fixtures
- DIY and Hobby
- Monitoring (logging) photovoltaic systems and wind power turbines
- Monitoring (logging) of energy consumption

2.1 Specification

- Rated voltage: 12V DC
- Communication Port: RS485
- Baud rate support: 1200bps~115.2K bps; Support None, Odd, Even
- Dimension: 106mm x 51mm x 20mm (connectors mounted)

2.2 Package Contents

The following is included in the KMtronic Modbus LAN TCP/IP to Modbus RS485 RTU Serial Converter package

- KMtronic LAN TCP/IP Module Converter

2.3 Operation Requirements

- DC power supply 12V
- Medium size screwdriver

3 How to use KMtronic Modbus LAN TCP/IP to Modbus RS485 RTU Serial Converter

3.1 Connection Details



3.2 Installation

- **Web Server Configuration:**

Web server default parameters as follow:

Parameter	Default settings
Web server IP address	192.168.1.199
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
User name	admin
Password	admin

- **Reset to defaults settings:**

Hold Reset button for 10 seconds

- Connect power and LAN cable to router. Open any Internet explorer and type: 192.168.1.199.

If explorer opens new window with request for USER and PASSWORD, enter default Username and Password. That's all and you are ready to control and manage relays. If you cannot open default IP address, follow next:

- Check that IP your router LAN is 192.168.1.1:

<http://info.kmtronic.com/how-to-find-your-local-ip-address.html>

If LAN IP your router is different than 192.168.1.1 (192.168.0.1 or 192.168.10.1) you need one time access to network 192.168.1.1 to change default settings.

- Open again the web browser and type: 192.168.1.199.



Configuration**Authorization
Configuration**

Configuration

Enter the new settings for the board below:

	<input type="checkbox"/> Enable DHCP
IP Address:	<input type="text" value="192.168.1.199"/>
Gateway:	<input type="text" value="192.168.1.1"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
HTTP Port:	<input type="text" value="80"/>
RS485 Settings:	Baud Rate Parity Stop bits
	2400 Even 1
<input type="button" value="Save Config"/>	

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DC Power Supply

This board needs 12V / 200mA DC power supply for function properly. Make sure to connect the power supply in correct polarity. Connect the positive terminal of the power supply to the + terminal on the module. Connect negative terminal of the power supply to - terminal of the module.



4 Examples and test software

MODBUS Test Software (Demo version):

The screenshot shows the main interface of the ModbusView TCP software. At the top, there is a menu bar with 'File', 'Configure', 'Communications', 'Help', and 'Register'. Below the menu bar, there are several input fields: 'Start Register' set to '0001', 'Variable Type' set to 'Coils 0xxxx', and 'Status' set to 'Poll 0 Data OK'. There are also 'Display Length' (8) and 'Display As' (Unsigned Integers) fields. Below these are buttons for 'Start Polling', 'Read', 'Write All', and 'Write to Register 1'. The main area is a table with columns for 'COIL' and numerical values. The table shows a sequence of coils with values 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0. To the right of the table, there are 'Address' (255), 'Port' (Active), and 'Mode' (Master - TCP) fields. Below these are 'Navigation' buttons for 'Next 8' and 'Previous 8', and 'Views' buttons for 'Page 1', 'Next Page', 'Previous Page', and 'Save Page'.

COIL	1	21	41	61	81
+0	1				
+1	0				
+2	0				
+3	0				
+4	0				
+5	0				
+6	0				
+7	1				
+8					
+9					
+10					
+11					
+12					
+13					
+14					
+15					
+16					
+17					
+18					
+19					

The screenshot shows the 'Configuration' dialog box. It is divided into three main sections: 'Master/Slave', 'Communications Mode', and 'Modbus'. In the 'Master/Slave' section, 'Master' is selected. 'Polling Period (ms)' is set to 1000 and 'Response Time mSec' is set to 400. In the 'Communications Mode' section, 'TCP/IP' is selected. 'Com Port' is set to 1, 'BaudRate' is 9600, 'Data Bits' is 8, 'Parity' is N, and 'Stop Bits' is 1. The 'IP Address' is 192.168.1.199 and the 'Port' is 502. In the 'Modbus' section, 'Address' is set to 255. There is also a checkbox for 'Function 6 For Single Registers' which is unchecked. An 'OK' button is at the bottom right.

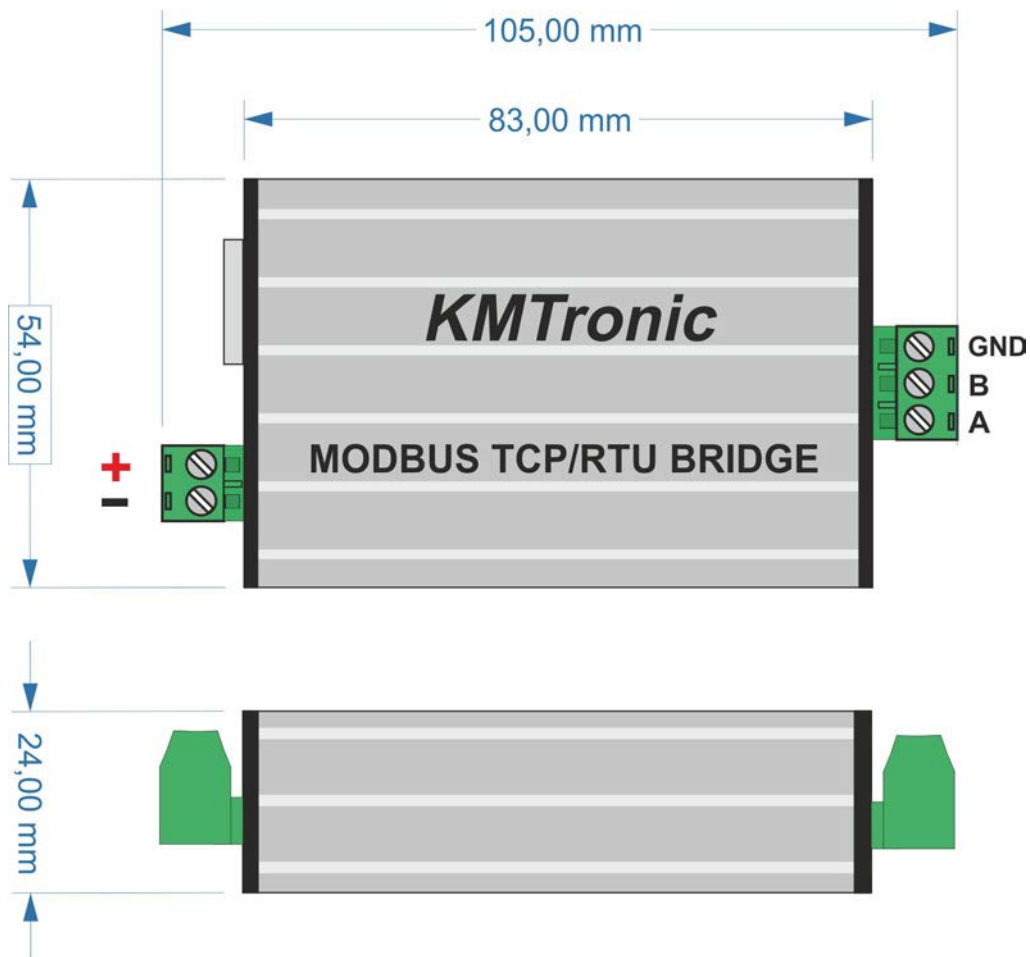
Select IP address and port (in this example it is default IP 192.168.1.199 with default port 502) and click to OK button.

5 Technical specifications

Parameter *	Value	Unit
Basic Specification		
Digital circuit power supply voltage (USB or external)	12	V
Standby current at 12V	80	mA
Maximum current drawn by digital circuitry at 12V	200	mA

* All parameters considered nominal. KMtronic LTD reserves the right to modify products without notice.

6 Physical Dimensions



8 Sample code & Demo Applications

9 Other information

You can find test software and programs, as well as additional information at:

<http://info.kmtronic.com/>

Manufacture by:

KMtronic LTD

Bulgaria