

1 - General:

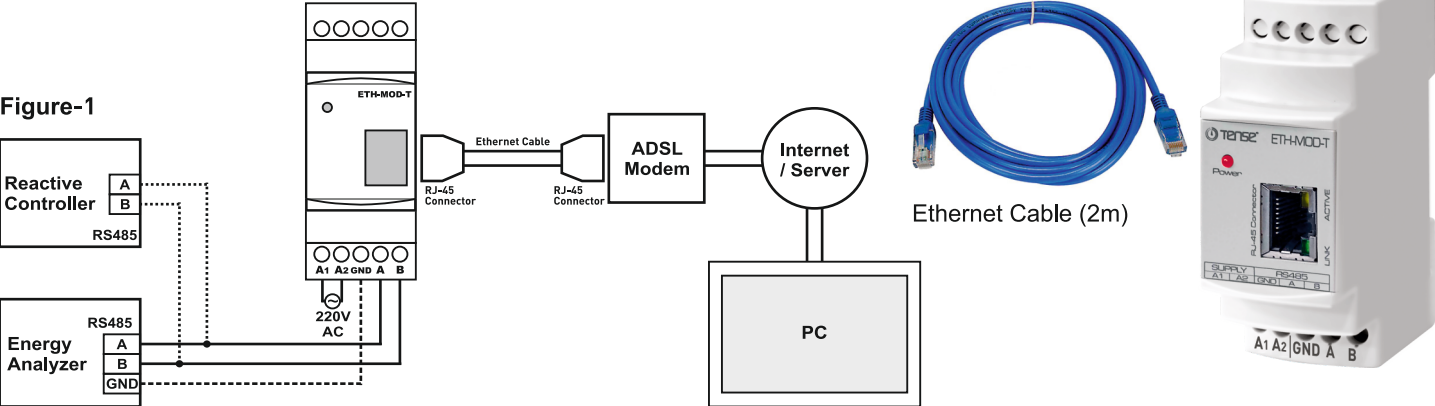
Reading of all the data related to the reactive relay, energy analyzers and multimeters connected to ETH-MOD is provided remotely (using LAN and WAN). It can be, archive and report the instant energy consumption of the company by obtaining the network analyzer data, capacitor power values can be obtained through the compensation system, stage tests can be done, retroactive power flow graphics can be charted, active/reactive consumption values can be archived and reported, the current and voltage irregularities, reactive rations and the faults occurred in the system can be detected from a distance.

Remote communication is provided through energy analyzer and reactive relay on www.tenseenerji.com (remote server) by using WAN or LAN connection.

2 - Serial Number and Modbus Address

If more than one device is connected to the ETH-MOD's RS485 interface, the Modbus IDs of the devices must not be the same. Otherwise, you can receive wrong data.

3 - Connection Diagram



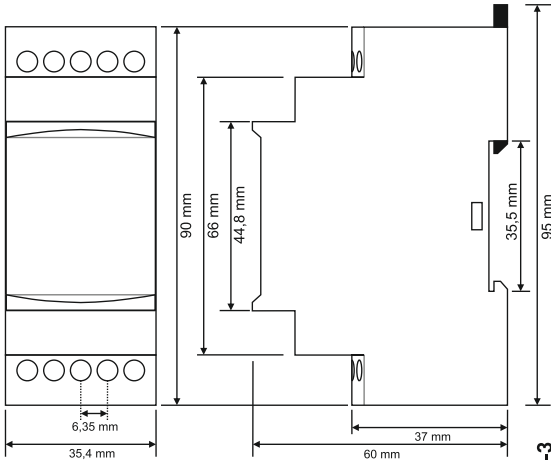
ETH-MOD-T front view

The maximum cable length of RS485 is 1000 meter. (It is recommended that the conductivity resistance of the cable to be used should be a maximum of 13 ohms/km).If Cable length and number of device is rising you can 120 ohm resistor supplied with device. Connection speed increase with cable length decreases and connection speed decrease with cable length increases. Ethernet Modem supports maximum 32 devices.

4 - Technical Specifications :

Operating Voltage	85V - 300V AC
Operating Frequency	50/60Hz.
Operating Temperature	-20°C.....55°C
Air ESD Protection	10kV
Impact Resist	1500V
Operating Power	1VA(system standby), 6VA(system communicate)
Display	Power, Active and Link LEDs
Connection Features	Max. 115200bps
	Modbus Communication(Analyzers and Reactive Controllers)
	RS485 interface with max. 32 devices
	TCP/IP Communication Protocol
Connection Type	Modem with internet connection
Connection Speed	10 / 100 Mbps Ethernet
Weight	<200gr.
Protection Class	IP20
Operating Altitude	<2000m

5 - Dimensions:



6 - Start-up of the Device:

There are three step for setup ETH-MOD-T

Step - 1

Network Configuration with ETH-MOD-T

Step - 2

Configuration for Internet modem

Step - 3

ETH-MOD-T adding on Server

Network Configuration with ETH-MOD-T: Network Configuration will using Device of reading data's (Meter, Reactive relay etc.) parameter settings and determining on local network location (IP address, if available subnet mask, gateway and port settings)

Configuration for Internet modem: ETH-MOD-T's IP address and port number is introduced to the Internet modem. Internet modem is essential for the internet application belong to Ethernet modem or not and to receive this application to the Ethernet modem.

ETH-MOD-T adding on Server : is using for Device of reading data's will introduce to server (<http://en.tenseenerji.com>)

6.1 - Network Configuration with ETH-MOD-T

For Network Configuration with ETH-MOD-T run "Eth Config Tool.exe". It will be find <http://en.tenseenerji.com>.

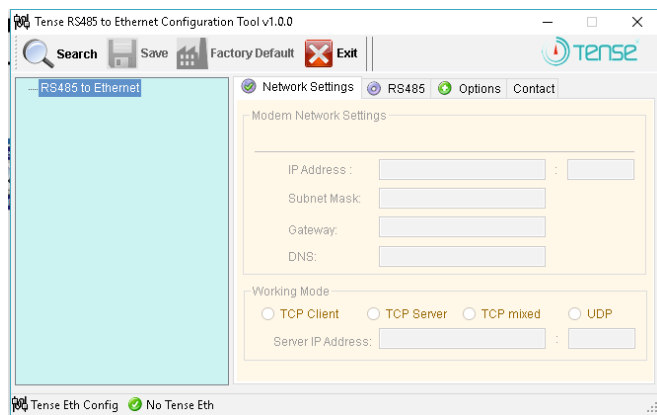


Figure-1

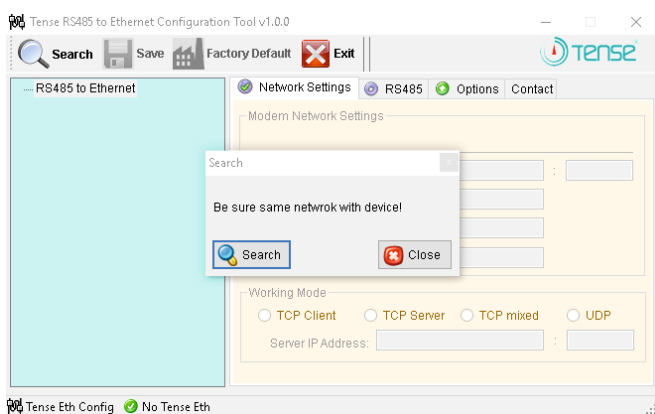


Figure-2

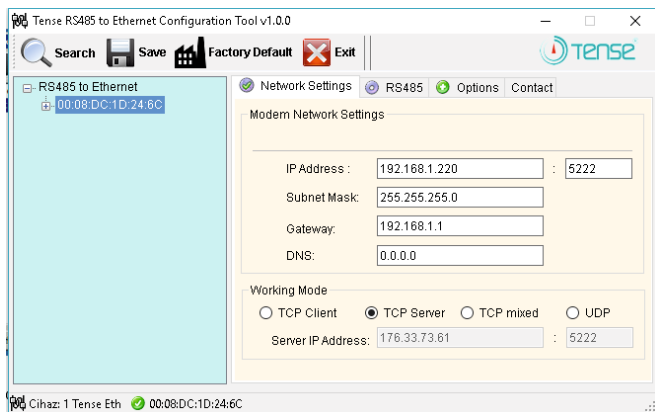


Figure-4

12-) If Communication is used only local network, you will select operating mode "TCP Server"

13-) If you use <http://en.tenseenerji.com> for communication or remote server, you will select operating mode "TCP mixed" and enter server's IP address and Port number. (Figure-5)

Note: 176.33.94.175 is IP address that it is belong to <http://en.tenseenerji.com>

- 1-) Energize to the ETH-MOD-T from point of A1 and A2. You will see Power Led on.
- 2-) One of the point of Ethernet cable (RJ-45 connector) connect to the RJ-45 connector of Ethernet modem, other point of Ethernet cable connect to the Internet modem or switch.
- 3-) When network is enabled Led of green (Active LED) will be steady on, Led of yellow will be blinking along for a few seconds.
- 4-) Your computer have to connect same network with Ethernet modem. Ethernet modem connect direct or via Internet modem/Switch and Wi-Fi to the PC.
- 5-) Run Tense Eth Config Tool.exe
- 6-) You will see Figure -1. Press search button on Figure-1

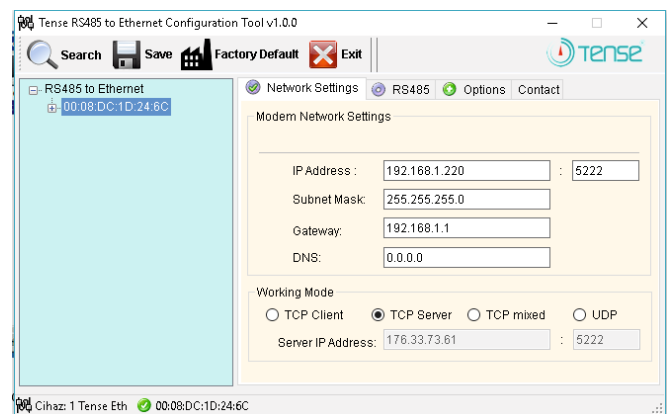


Figure-3

- 7-) If Your computer and Ethernet modem connect same network you will press "Search" button on warning message. (Figure-2)
- 8-) Program find Ethernet modem and its MAC address on Figure-3
- 9-) Enter Ethernet modem's IP address, subnet mask, gateway and port on tabs of networks Settings.
- 10-) You have to enter unused IP address on your network.
- 11-) If your local network have other device that it use port of 5000. You have to select other port between 5001 and 5100.

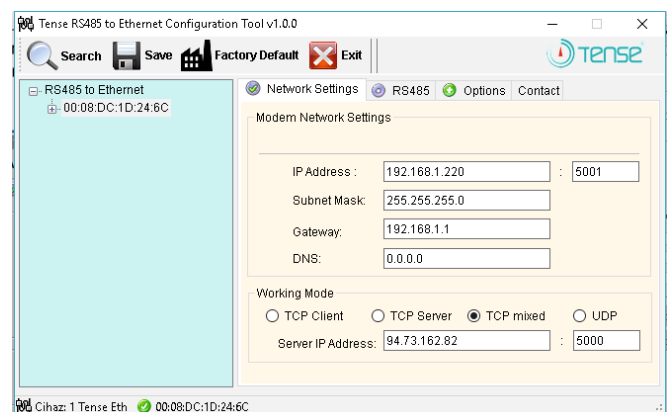


Figure-5

Baud Rate: Baud rate is communication speed that ETH-MOD-T support this speeds on work Modbus protocol. (300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400 bps)

Data Bit : Size of data-package(7, 8, 9 bit)

Parity: For using check data (odd, even, none bit)

Stop Bit: Stop bit locate at the end of the data package and mean is that data package finished. (1, 2 bit)

Time Out: Waiting for response time, when modem send request. (0 - 65535 millisecond)

Data Size: Limitation of reading data size (0, 255 byte)

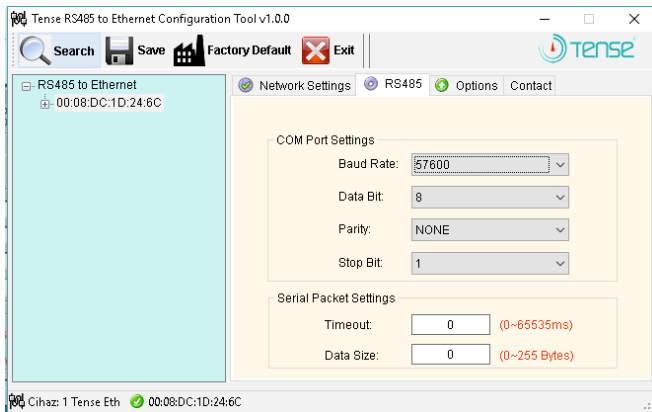


Figure-6

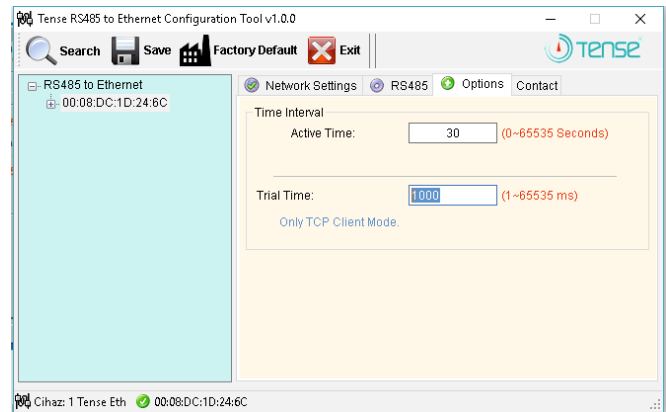


Figure-7

14-) Enter Communication configuration that you want to read with using Modbus on RS485 tabs on program. If there are more than device on Ethernet modem its baud rate, data bit, stop bit parity, Time out and data size are same all of them.

15-) You can be limitation time out (ms) and maximum data size (byte) for want to reading device from Modbus on RS485 tabs on program (figure -6)

16-) You can be set active session time (ms) and Ethernet modem is working TCP mode, the Modem will request to server for the period time.

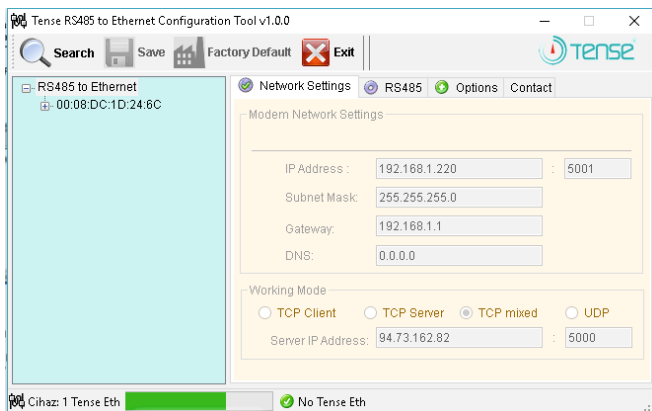


Figure-8

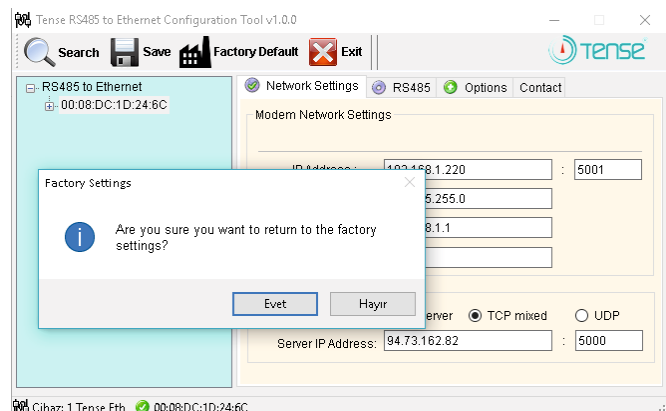


Figure-9

17-) Press Save button for saving your settings. Please you do not any operating along saving. (Figure-8)

18-) End of the saving, your settings save on Ethernet modem.

19-) Ethernet modem work on your local network for you want. You want to read device point of A and B connect to the Ethernet modem point of A and B.

20-) If you want to back factory defaults , you can press factory defaults button. (Figure-9)

21-) If you press factory defaults button, system give notice for us if you press "yes" button system back to factory defaults.