T301-ETHERNET – QUICK START GUIDE

WARNING

If you are setting up your T301 instrument for the first time, please read first the T301-Quick Start Guide, document # MAN0004.

Introduction

This short form guide deals with the basic operation of your new T301™ instrument when fitted with the Ethernet communication link. Basically, this includes 3 topics:

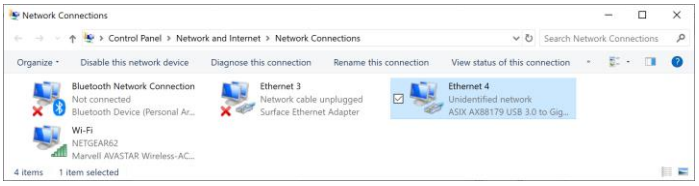
- Configuring your PC for fixed IP ethernet communication
- Webserver description
- Advanced protocols documentation.

This guide assumes that your T301 instrument is already installed and working. Furthermore, this guide assumes that the software Rugged Connect is up and running. For more information on how to install the T301, please refer to the short form guide # MAN0004, "T301 – Quick Start Guide" and to the complete T301 User Guide # MAN0005.

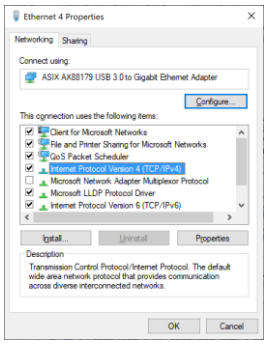
Initial Ethernet connection to the T301

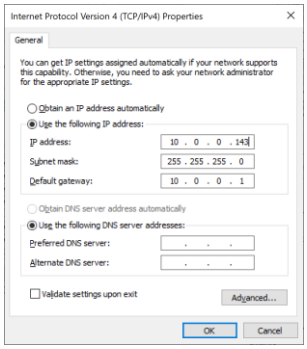
We assume here that your Ethernet connection to the T301 will be done through a private network, without a DHCP server (i.e., with a static or fixed IP address). If you want to connect to your office network with a DHCP server, please refer to the complete T301 user guide, # MAN0005 (this is much simpler).

Let's first configure your PC Ethernet interface. To do this, you need to open the window shown below (from "Setting", then "Network and Internet", then "Network and Sharing Center", and finally "Change adapter settings"):



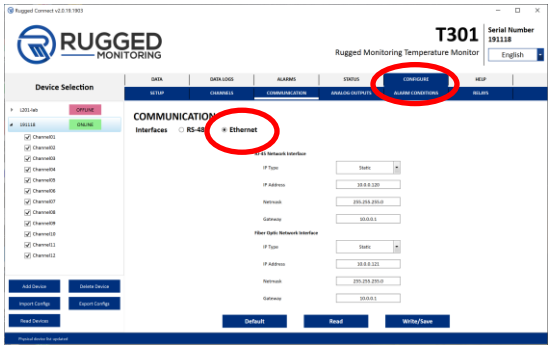
Next right-click when your mouse is highlighting the Ethernet interface you want to use for communication with your T301, and then select "Properties". The following window appears; highlight "Internet Protocol Version 4 (TCP/IPv4)":





Click the "Properties" button, and the window shown at right above will appear. Here you should enter the IP address, subnet mask and Default gateway values, as shown above. The default T301 values are 10.0.0.120, 255.255.255.0 and 10.0.0.1. Note that the IP address for your PC MUST be different than all addresses selected for all T301 that you intend to connect. Close all windows.

You are done. Next step would be to set up your T301. You need to know its IP address, and change it if required. To do this, run Rugged Connect; As shown in the next figure, select CONFIGURE, then COMMUNICATION, then Ethernet.

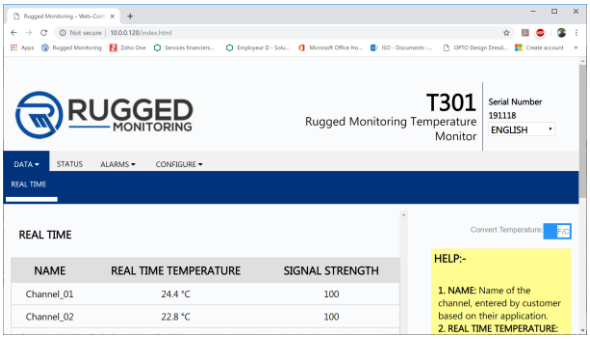


In this window, you can read or set the IP address you want; the default address is 10.0.0.120. You can also set the IP address of the fiber Ethernet interface, if you have one. Make sure these IP addresses are different than the one you selected for your PC. If you make any changes here, do not forget to click the Write / Save button.

Remember that each time you save new Ethernet parameters in the T301, it will reboot, and will become non-responsive for about 15 seconds.

Using an Internet browser

Now that we know the IP address of the T301 instrument, we are ready to communicate with it via an Internet browser. Start your browser and enter the IP (or URL) address in the address box (10.0.0.120, as an example). You should get:

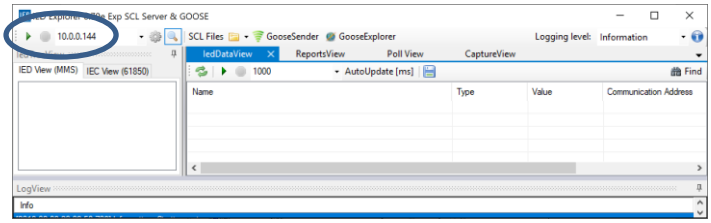


From here, you can experiment with different windows, etc. You will notice that the menu structure of the webserver is very similar to the Rugged Connect software, which should make it easy for you to use both software's.

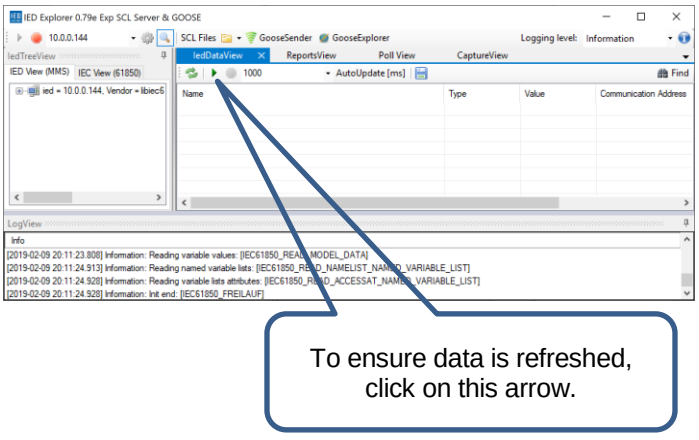
The Ethernet option comes with its own logging memory (if ordered with the instrument). In addition to benefiting from a mirrored logging memory, the transfer speed is much faster using the webserver.

Using the IEC 61850 protocol

IED Explorer can be a very useful tool to exercise your Ethernet IEC 61850 protocol. You can download a free copy from here: https://sourceforge.net/projects/iedexplorer/. At time of this writing, it is version 0.79e. IED Explorer does not require any installation, as it is a portable program. You get the following window:



In the text box found near the top-left corner, enter the IP address of your instrument (e.g. 10.0.0.120), and click the arrow found just to the left of this text box, as shown in the above window. This will start the connection process to your instrument, and you should get this updated window:

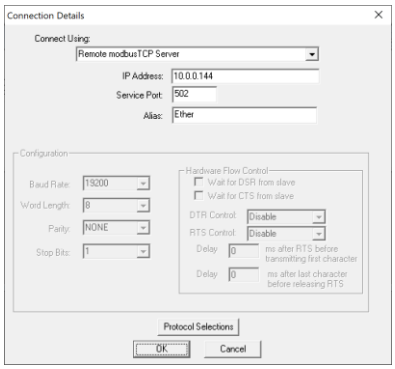


For more information, refer to the complete User Guide.

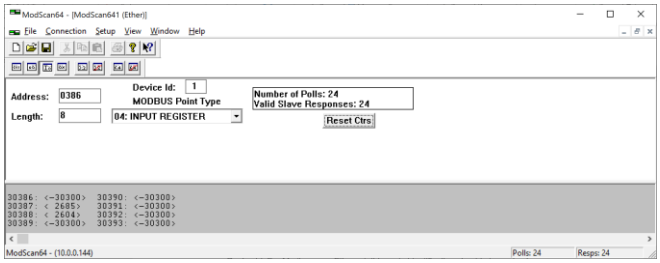
Using the Modbus over Ethernet protocol

ModScan can be a very useful tool to exercise your Ethernet Modbus connection. You can download it from: https://www.win-tech.com/html/demos.htm; it can be used free of charge for up to 30 days, after which you will need to buy it from WinTech. Start ModScan.

Select Connection from the top tool bar of ModScan and then Connect, to get this setup window; enter your IP address:



Then, the following main window should appear. The settings shown in this window should be used to display temperature data. If you need more information, refer to the complete user guide.



Using the DNP3 and 60870-5-104 protocols

No freeware programs are available for these protocols.

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