

This Quick Start Guide is designed to familiarize the user with the connection and configuration of the IP settings in a DTS series energy meter fitted with onboard Ethernet connectivity utilizing the DTS Toolbox software and embedded web server. Windows 7 is the operating system used in these examples.

## 1. Introduction

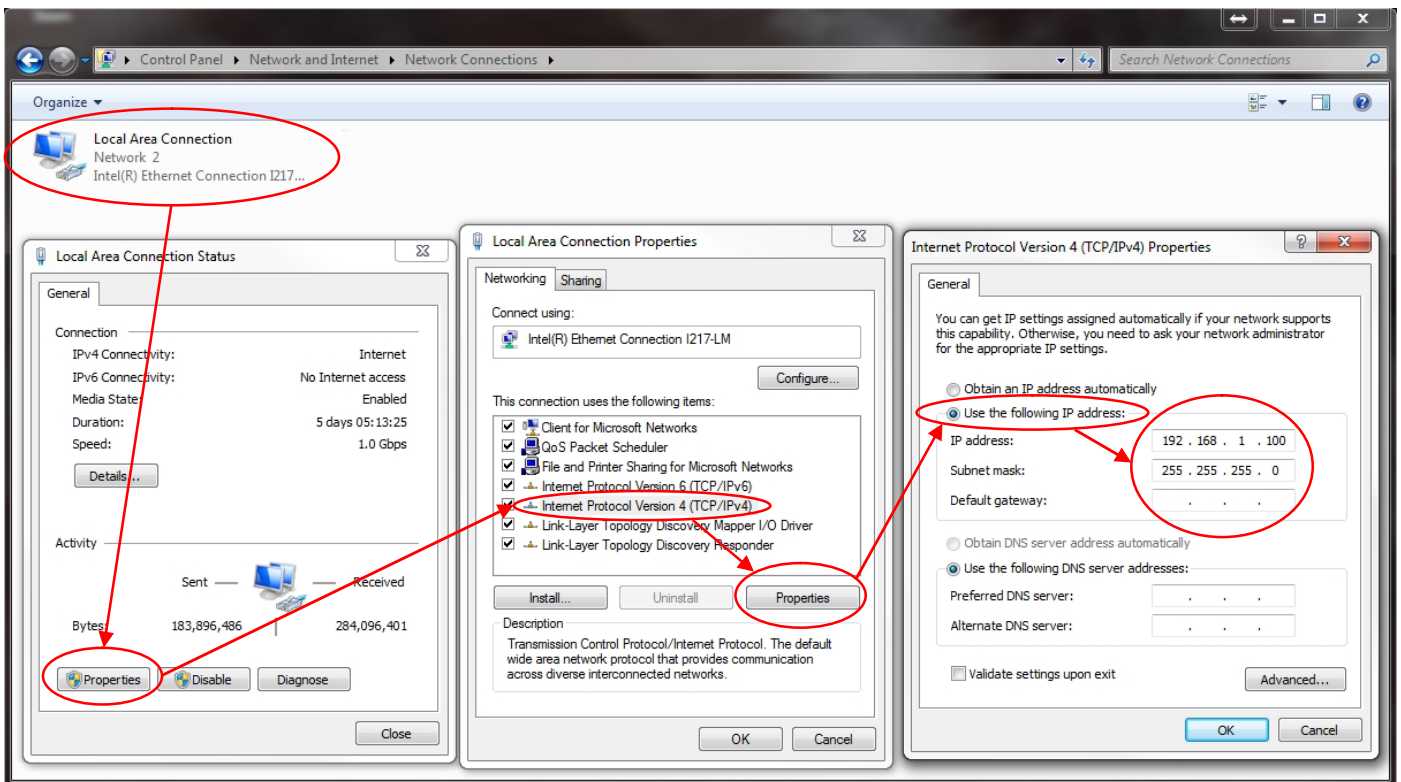
DTS series energy meters have multiple, model-dependent means of communications, including serial, Ethernet, and cellular connectivity options. When ordered with Ethernet communications protocols (Modbus TCP, BACnet/IP, SNMP, etc.) the meters are fitted with an onboard Ethernet port which must be configured with specific IP settings for the intended Ethernet network.

By default, DTS series energy meters are set to a **static IP address of 192.168.1.150**. The IP, Subnet Mask, Default Gateway, and DHCP settings can be reconfigured using either the **DTS Toolbox** software or the **configuration page on the embedded webserver**.

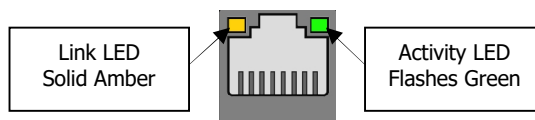
## 2. Initial Connection

While the DTS Toolbox scans the connected network and can often detect meters that are configured for different subnets or have IP conflicts, the most reliable method of connecting to a DTS series energy meter is directly by means of an Ethernet crossover cable. Consult your IT department for a crossover cable and follow these steps:

- Reconfigure a PC/laptop to use a static IP address on the same factory default subnet of 192.168.1.x. This can be done by navigating to Control Panel>Network and Sharing Center>Change Adapter Settings>Local Area Connection>Properties>Internet Protocol Version 4 (TCP/IPv4) and clicking 'Use the Following IP address' and entering '192.168.1.100' as the IP address as below:



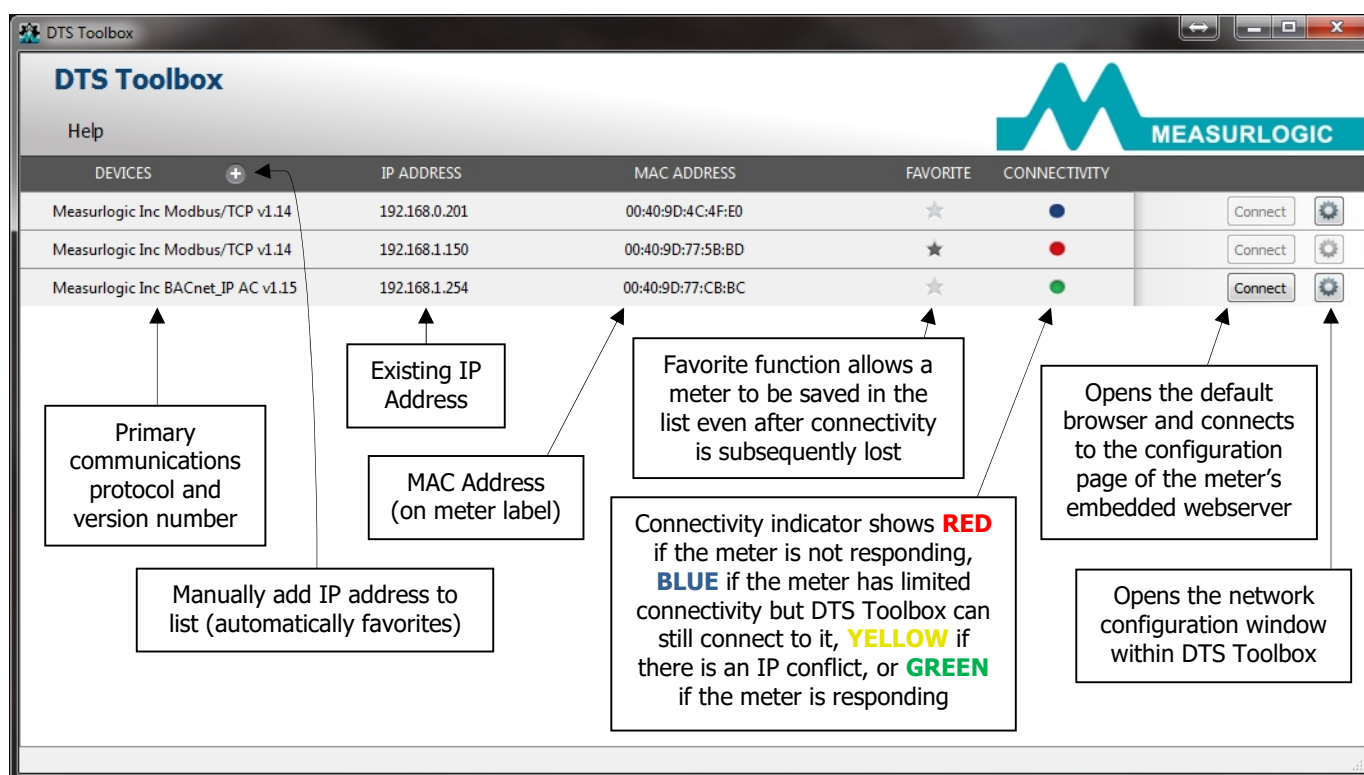
- Upon configuring the static IP address and clicking 'Ok', the PC will be set to the static IP of 192.168.1.100 and will now be able to connect directly to any meter at the factory default of 192.168.1.150.
- Connect the Ethernet crossover cable between the PC and the DTS series energy meter and confirm that the Link and Activity LEDs on the meter's Ethernet port light up.
- Utilize either the DTS Toolbox or the embedded web server methods to change the IP settings as detailed in the following sections.
- Repeat for each meter installed.
- Revert the properties of the TCP/IPv4 from the first step to the settings before the static IP was given – most likely 'Obtain an IP address automatically'.




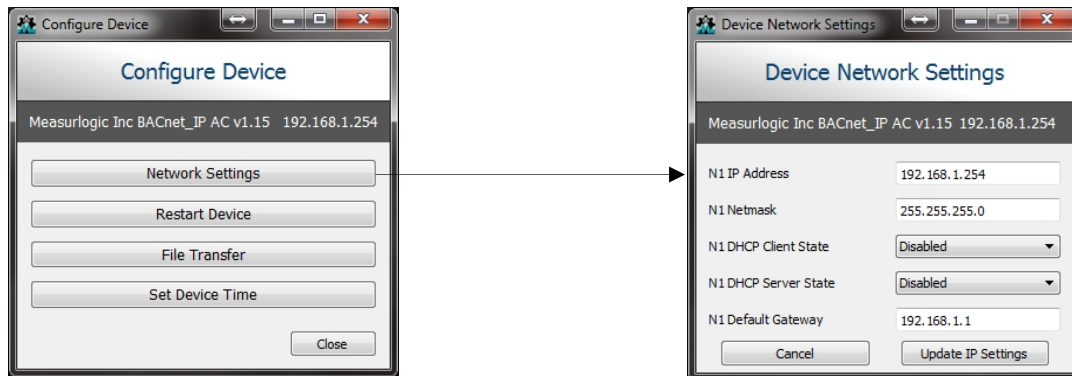
## 3. DTS Toolbox

The DTS Toolbox is a convenient software utility that scans for DTS series energy meters on the same Local Area Network (LAN) the PC is connected to. The latest version can be found at [www.measurlogic.com/software.html](http://www.measurlogic.com/software.html) and requires a Windows XP SP3 operating system or later (32 or 64-bit), as well as WinPcap 4.1.3 or later, which will be automatically downloaded and installed if required during the DTS Toolbox setup.

Once downloaded and installed, the DTS Toolbox can be launched from All Programs>Measurlogic>DTS Toolbox. It will immediately scan the LAN and list the attached meters. Note that the utility scans at the Network layer, which typically allows it to detect meters with IP conflicts and incompatible IP settings, but the scan broadcast cannot traverse separate subnets. Once launched, the DTS Toolbox window will appear:



Clicking the gear  icon on the row of the meter to be configured will open the 'Configure Device' window. Clicking the 'Network Settings' button will open the window that allows the IP settings to be changed:

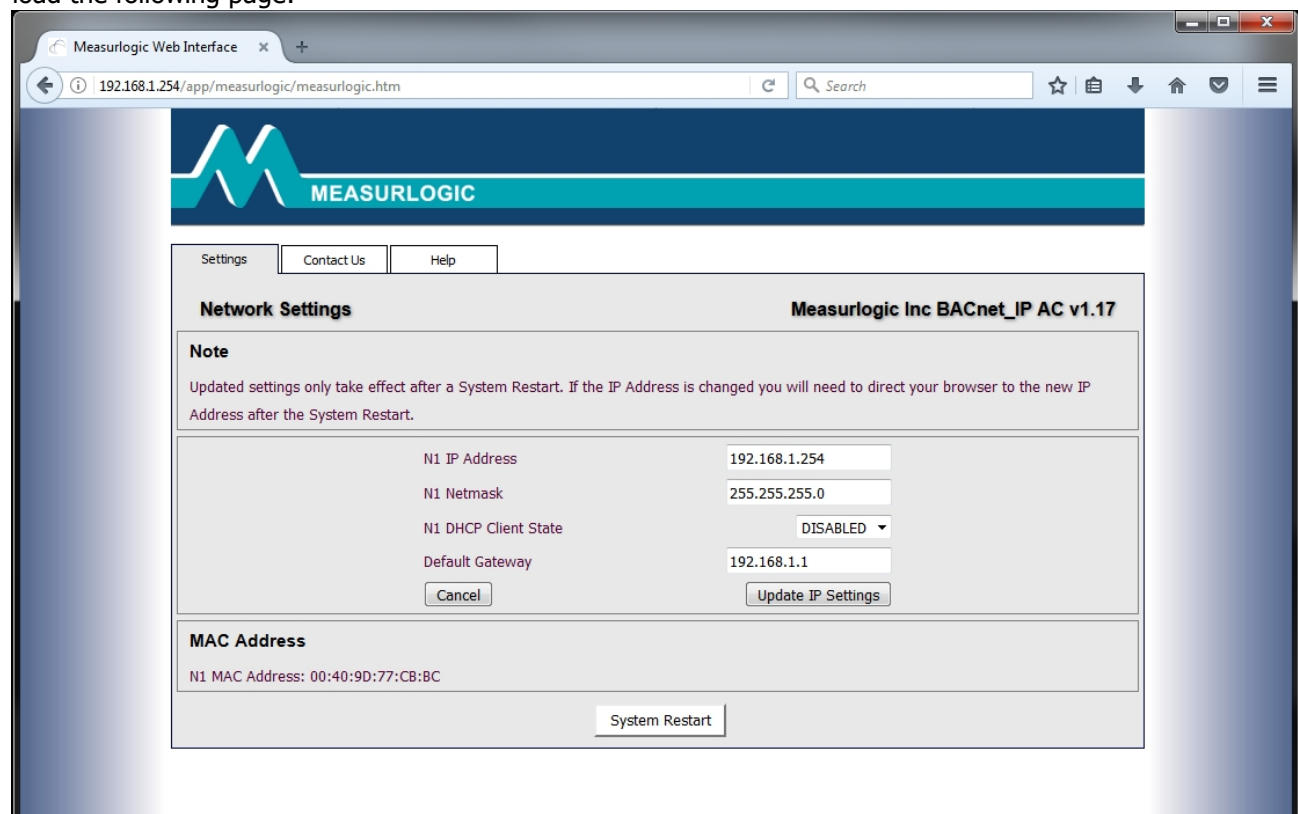


From this window, the IP Address, Subnet Mask, and Default Gateway settings can be changed. Note that if the DHCP Client is enabled, it will override any settings manually entered. This is an advanced setting and should remain disabled unless specifically required by the application.

**NOTE: DHCP Server feature should always be DISABLED.**

## 4. Embedded Web Server Configuration Page

All DTS series energy meters support an embedded web server that hosts an IP setting configuration page. To access this page, enter the IP address (factory default 192.168.1.150) into a standard web browser and it will load the following page:



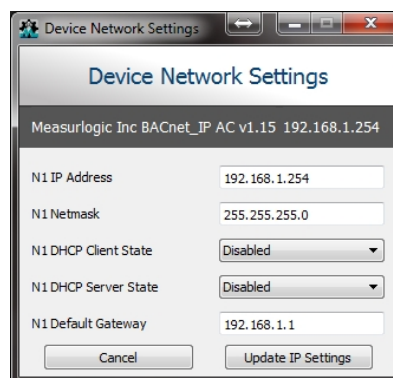
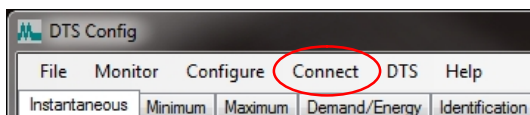
From this window, the IP Address, Subnet Mask, Default Gateway, and DHCP Client settings can be changed. Note that if the DHCP Client is enabled, it will override any settings manually entered. This is an advanced setting and should remain disabled unless specifically required by the application.

## 5. DTS Config

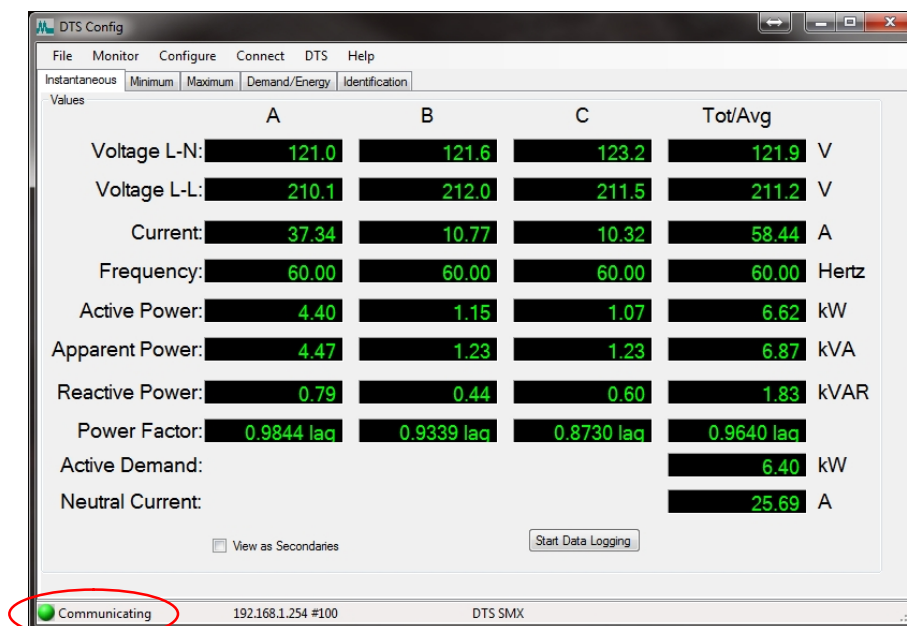
DTS Config is a free software utility developed by Measurlogic for configuration and diagnostic monitoring of any DTS series energy meter. The latest version can be downloaded from [www.measurlogic.com/software.html](http://www.measurlogic.com/software.html) and requires Windows XP or later, as well as Microsoft .NET Framework 4.0 or later, which will be installed automatically if required during the DTS Config setup.

DTS Config can be used to connect to verify the connectivity of an Ethernet DTS series energy meter after it has been configured using the previous steps. DTS Config utilizes Modbus TCP, which is **always** present regardless of which primary communications protocol the meter was ordered with. Once installed, the program can be launched from All Programs>Measurlogic>DTSCfg. Once open, click the 'Connect' button:

- **IP Address:**                      **Meter IP**
- **Port:**                              **502**
- **Timeout:**                        **2000 ms**
- **Modbus Address:**            **100**



Upon successfully connecting, you will see a green indicator in the bottom-left corner and the word 'Communicating' will be displayed. Once the upload is finished, the 'Monitor' page will appear and you will be able to view the real-time electrical measurements of the meter, as well as the minimum, maximums, and accumulated energy values using the various tabs within the page.



If you have any questions, please contact Measurlogic. Data maps for each protocol are available upon request.

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