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IP SETTINGS AS7010

SOFTWARE

Operation and Installation Manual

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IP Settings Utility for the AS7010

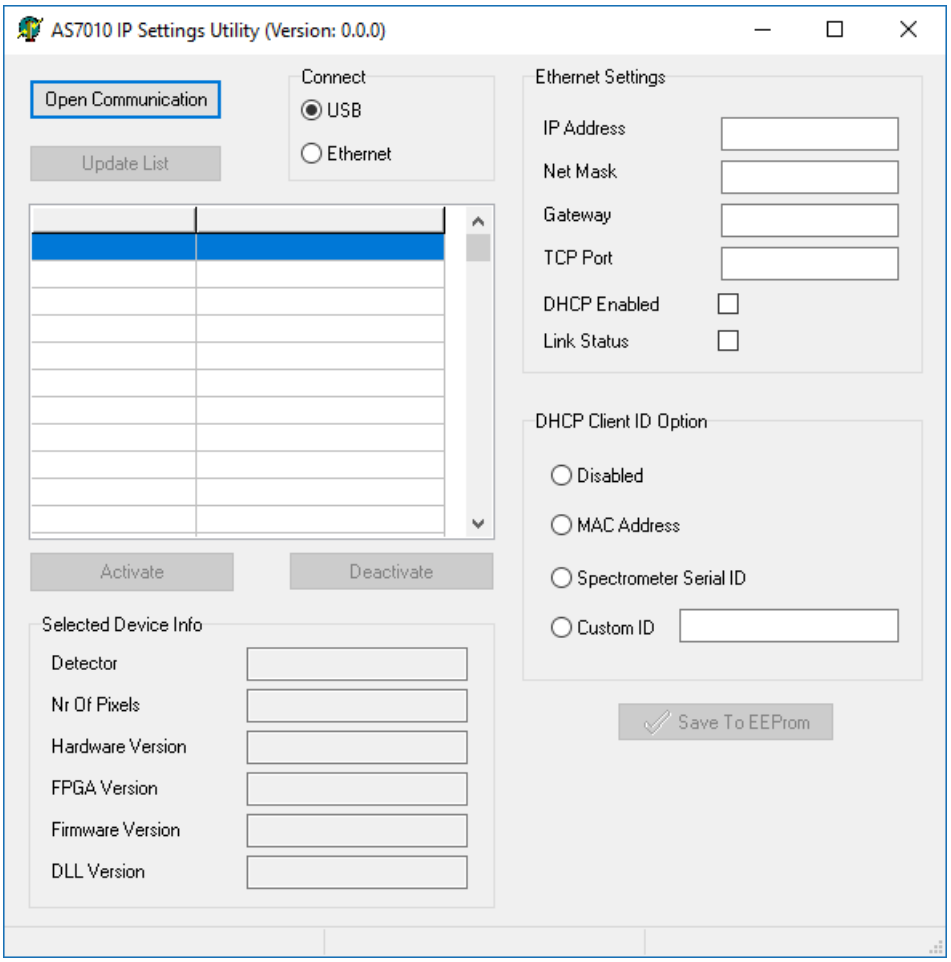
To use the AS7010 spectrometer within a local network, you need to provide the spectrometer with a correct IP address. Currently the AS7010 spectrometer supports only the IPv4 protocol. The AS7010 spectrometer IP address can be assigned in two ways:

- Manually by assigning a static IP address.
- Automatically by using DHCP (Dynamic Host Configuration Protocol) server.

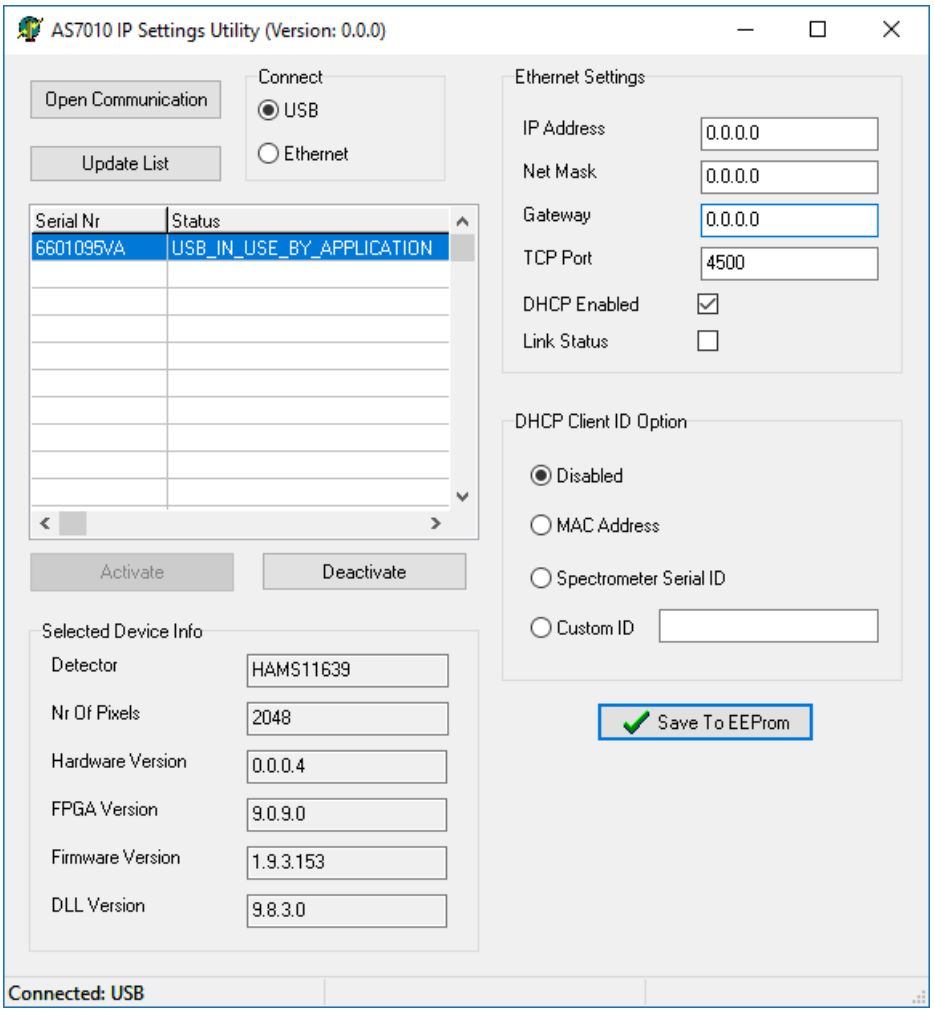
It is important that the spectrometer must be connected to the same network as it is used by the host PC on which the IP Settings Utility is running. It depends on your inter-network configuration to use a spectrometer which belongs to another network than your own local network.

The IP Settings Utility (IP_Settings_AS7010.exe) can be used to configure the IP settings of the AS7010 spectrometer to use it within your network in a proper way. Please perform the following steps for this;

Start the IP Settings Utility by clicking ‘Start’, ‘AVANTES Software’, ‘IP Settings AS7010 utility’. Usually the utility is installed along with an Avantes software package, such as AvaSoft 8. You may also start the IP_Settings_AS7010.exe executable directly from where it is located, by using Windows file explorer. The program will show up as depicted below.



Choose the way the spectrometer is connected to the PC; USB only or Ethernet. When the spectrometer is used for the very first time, it is recommended to connect the spectrometer to the PC using the USB interface. Press ‘Open Communication’, select the correct Serial number and press ‘Activate’.



Now you can edit the network IP settings as explained in the next chapters.

General Ethernet/IP Settings

The IP configuration depends on your network demands. As explained in the previous section, there are two ways to configure the spectrometer;

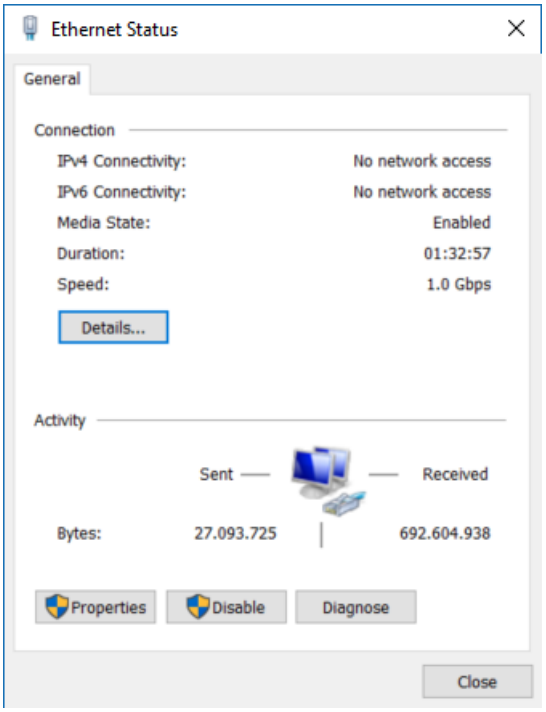
1) With a Dynamic IP address using DHCP:
   - Check the 'DHCP Enabled' checkbox
   - Leave all other fields in Ethernet Settings section as is
   - Please perform the steps given in section *DHCP Client ID Option*, to configure your system using the 'Client Identifier' option of the DHCP protocol
   - Press the 'Save to EEProm' button to save the values to the AS7010
   - Close the IP Settings utility
   - Be sure that a DHCP server is running in your network
   - Restart the AS7010 spectrometer
   - At startup the spectrometer will wait for an IP address from the DHCP server. You will see the power light, light up, which after in a short moment will start blinking and afterwards will stop blinking when it has acquired an IP address. The blinking time depends on the reaction time of the DHCP server.

2) With a Static IP address:
   - Uncheck the 'DHCP Enabled' checkbox
   - Enter values for the required *IP Address*, *Net Mask* and *Gateway*. Please consult your IT department for the correct values. The Gateway address is the address of your router or internet server
   - Press the 'Save to EEProm' button to save the values to the AS7010
   - Close the IP Settings utility
   - Restart the AS7010 spectrometer

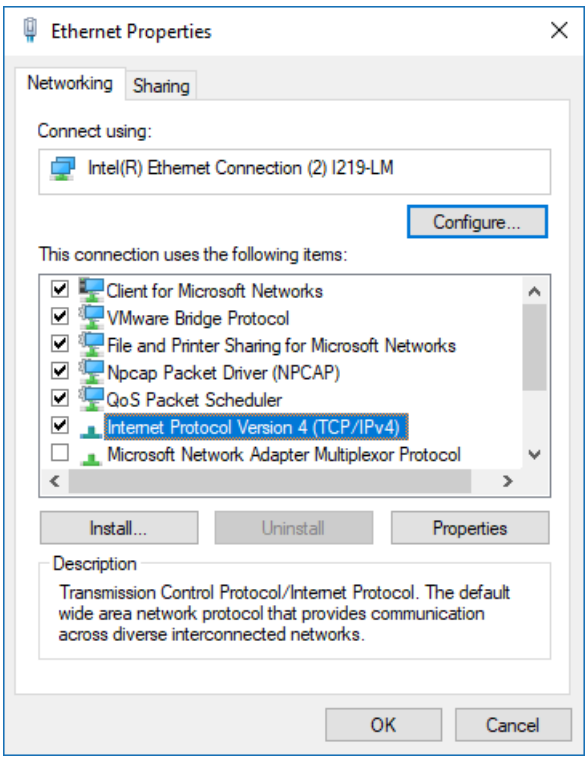
In case the spectrometer is used with a static IP address, you have to be sure that the used IP address is unique within the local network. The IP address of your host (PC) should also be in the same network range. One way to guaranty this is to change the settings of your PC to issue a static IP address to it as well. Of course you can also choose to use DHCP on the host and to use a static IP address on the Spectrometer. In this case you have to be sure that the used static IP address is not in the range of the addresses distributed by the DHCP server within your network. Please consult your network administrator to properly set those network configurations.

Please perform the following steps in case you choose to use a static IP address on your host PC:

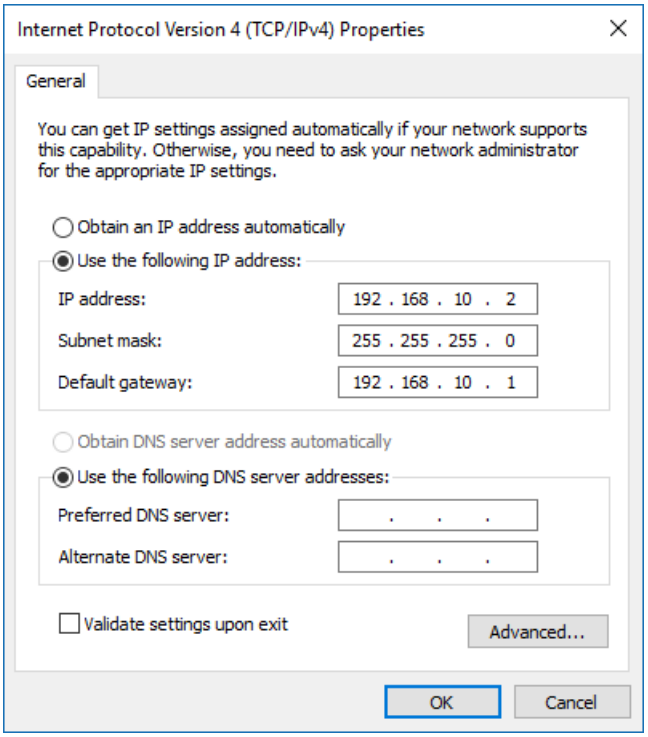
Open the Windows 'Network and Sharing Center'. Click on the right network adapter, e.g. 'Local Area Connection'. This is the adaptor to which the spectrometer is connected. A Status window is shown as given below.



Click on ‘Properties’ and make sure the TCP/IPv4 line is checked and selected as depicted below.



Click on ‘Properties’ and enter the desired values for *IP Address*, *Subnet Mask* and *Default Gateway* as given below.



The displayed values above (IP addresses) are only meant as an example and must be adjusted according to your own requirements. So the IP address should be in the same network range as the one entered for the AS7010 spectrometer. Do not enter an IP address here that already has been taken within your network.

Press ‘OK’ to leave the dialog.

Now the AS7010 spectrometer can be used with, for example AvaSoft, through an Ethernet connection.

DHCP Client ID Option

With the Client Identifier option of the DHCP protocol (option 61), it is possible to manage the IP address of the spectrometer within your local network. For this purpose, the spectrometer provides the following types of Client Identifier;

- **Disabled:**
  The DHCP Client Identifier option (option 61) is disabled in the DHCP client (spectrometer). No option 61 is sent to the DHCP server.

- **MAC Address:**
  The spectrometer (DHCP client) sends the devices’ MAC address as the Client Identifier option to the DHCP server. In this case, the *hardware type* field of option 61 contains the value 1.

- **Spectrometer Serial ID:**
  The spectrometer (DHCP client) sends the devices’ unique serial number as the Client Identifier option to the DHCP server. In this case, the *hardware type* field of option 61 contains the value 0.

- **Custom ID:**
  The spectrometer (DHCP client) sends a customized string as the Client Identifier option to the DHCP server. The customized string is given with the field next to the Custom ID radio button. The length of the customized text must be between 1 and 31. The *hardware type* field of option 61 contains the value 0 when *Custom ID* option is used. Please ensure that the used Custom ID's are unique for each spectrometer when using multiple spectrometers within your network. In case of duplicate Custom ID's used, serious problems can occur in your local network infrastructure.

Please use the 'Client Identifier' option with caution! Consult your IT department when using this DHCP option.