

How to Set a Static IP Address on Optris EtherNet/IP Modules



INTRODUCTION

Optris EtherNet/IP modules are delivered with DHCP mode enabled by default, automatically obtaining an IP address from a network server. However, many industrial applications require a fixed, static IP address to ensure reliable communication with control systems and networks.

This technical note outlines the process for switching from DHCP to a static IP address using the Molex EtherNet/IP Tool. It also explains how to assign a temporary IP address if no DHCP server is available.

CHANGING THE IP ADDRESS SETTING ON OPTRIS ETHERNET/IP MODULES

By default, Optris EtherNet/IP modules start in DHCP mode. The EtherNet/IP modules have a fixed MAC address 9C:43:1E:7x:xx:xx. The prefix 9C:43:1E:7 is registered to Optris devices and remains constant; the suffix is a sequential number.

Caution: To change settings on an EtherNet/IP module, such as changing it to a static IP, a company server/router, or a software solution can act as a DHCP server.

As software tool the „BOOTP^{*1}/ DHCP EtherNet/IP Commissioning Tool“ from Rockwell or the “Phoenix Contact IPAssign” can be used.

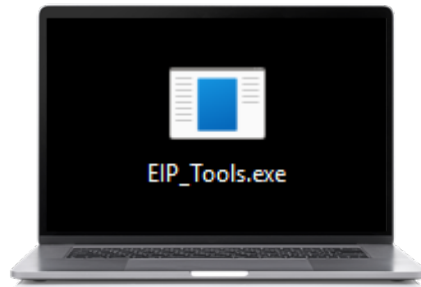
^{*1} BOOTP, or Bootstrap Protocol, is a network protocol that automatically assigns IP addresses to network devices.

STEP BY STEP

1.

Connect the CT with the EtherNet/IP interface or the CSvision / Xi with the EtherNet/IP box to a network with a DHCP server.

Optris EtherNet/IP modules are delivered in DHCP mode as standard.



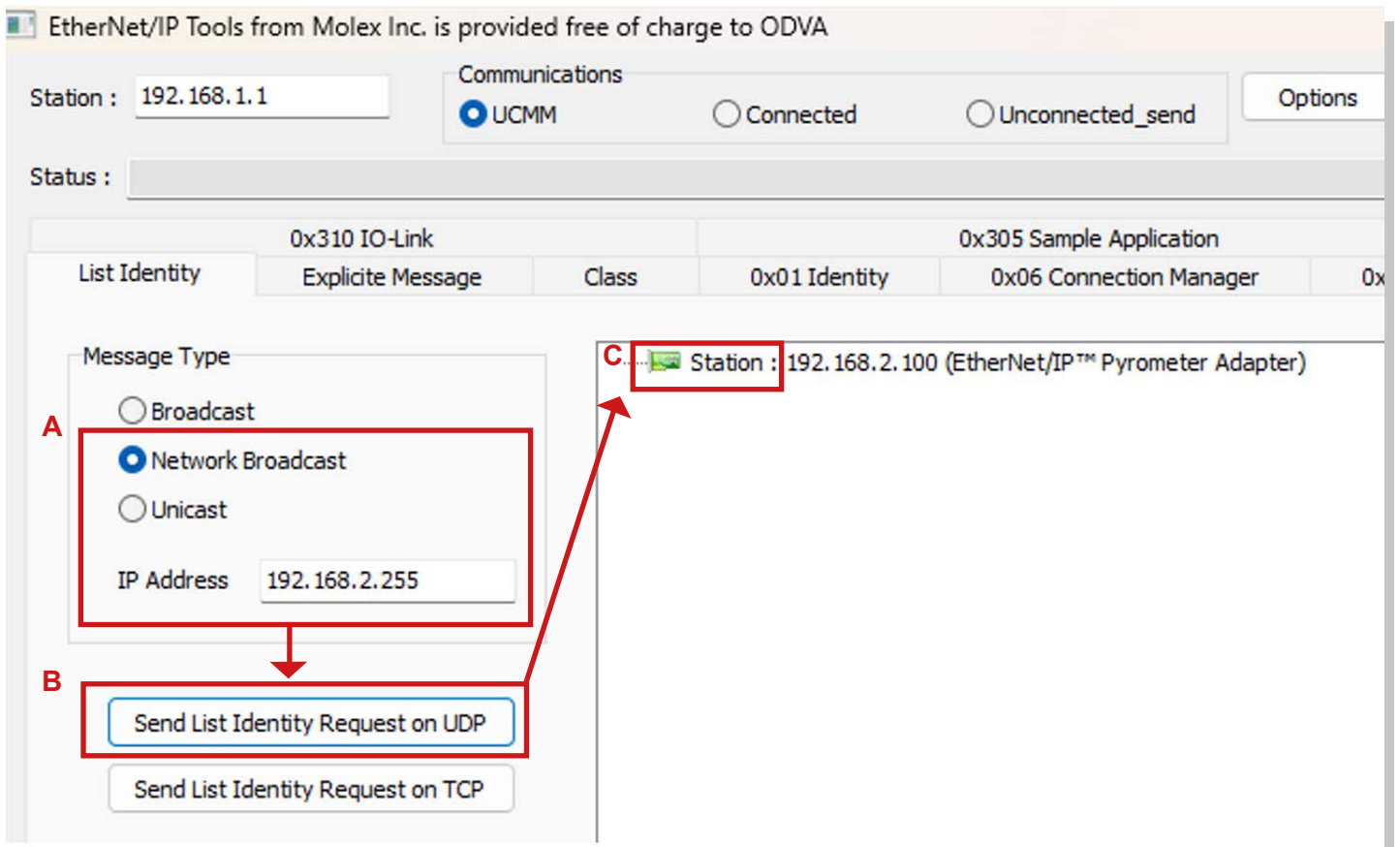
2.

Start the „EtherNet/IP Tool“ from Molex, which is an official ODVA-certified tool.

3.

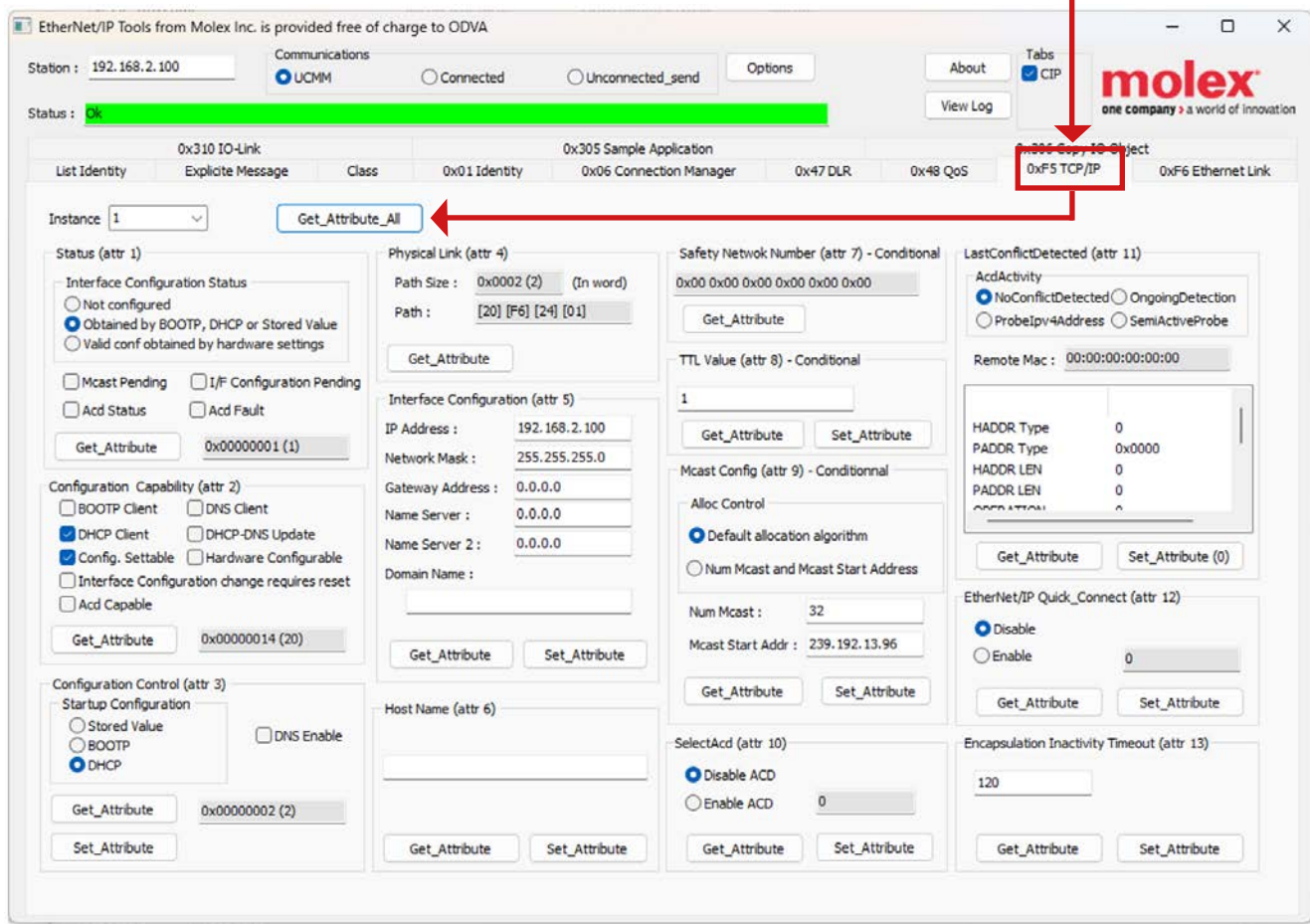
Enter the “broadcast” address (A) under “IP Address” (usually .255 at the end) and then click “Send List Identity on UDP” (B).

Here, the EtherNet/IP module should show up as „Station“ -> Please select this device (C).



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4. Then go to the “0xF5 TCP/IP” tab and click on “Get_Attribute_All”.

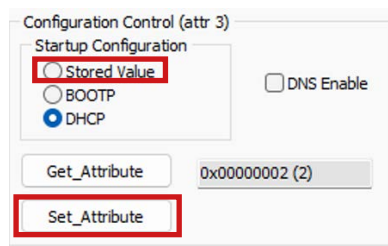


5. A temporary IP address is assigned to the EtherNet/IP module, provided by the DHCP server.



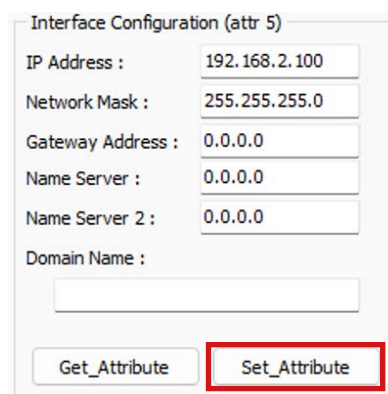
In this example, the server has assigned the dynamic IP address: 192.168.2.100

6. At the bottom left (“Configuration Control (attr 3)”), set the “Startup Configuration” to “Stored Value” to set to static IP addresses.



Then click on “Set_Attribute”.

7. In the middle, (“Interface Configuration (attr 5)”) adjust the IP settings to the IP address wanted.



Then click on “Set_Attribute” in this menu.

8. After restarting the device, the IP settings should now be set to Static IP.

Caution: After resetting the device using the reset button, it reverts to DHCP mode.

DHCP SOFTWARE SOLUTION TO ASSIGN A TEMPORARY IP ADDRESS.

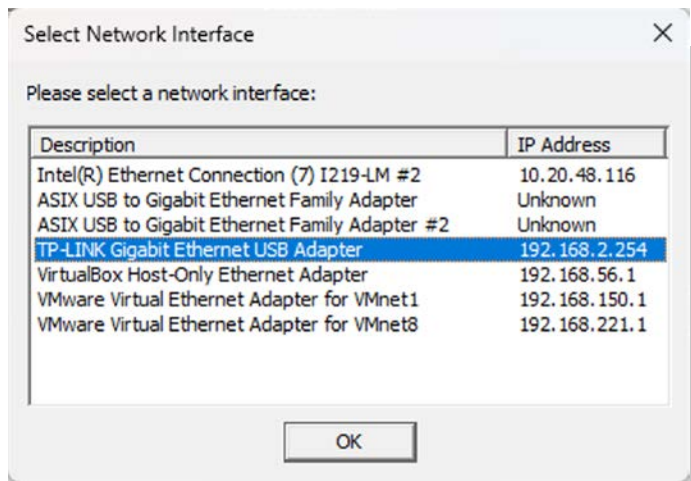
In case, no DHCP server is used between the computer and the EtherNet/IP module, additional software is required that acts as DHCP server and assigns a temporary IP address once.

In this case, the software solution “BOOTP DHCP EtherNet/IP Commissioning Tool” from Rockwell or “IPAssign” from Phoenix Contact can be used.

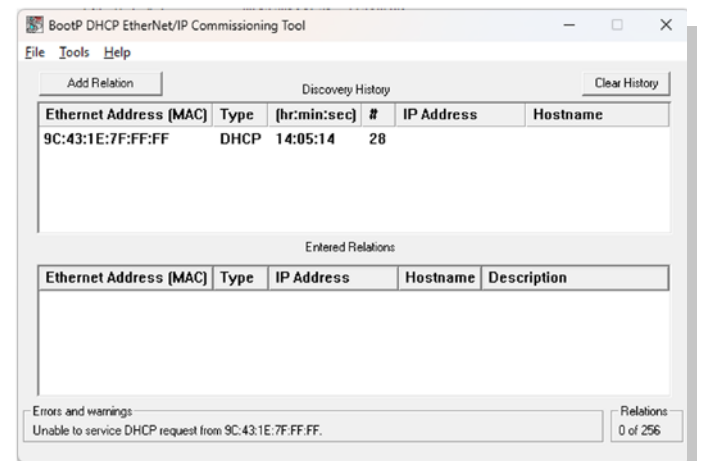
Both software solutions are **free of charge**.



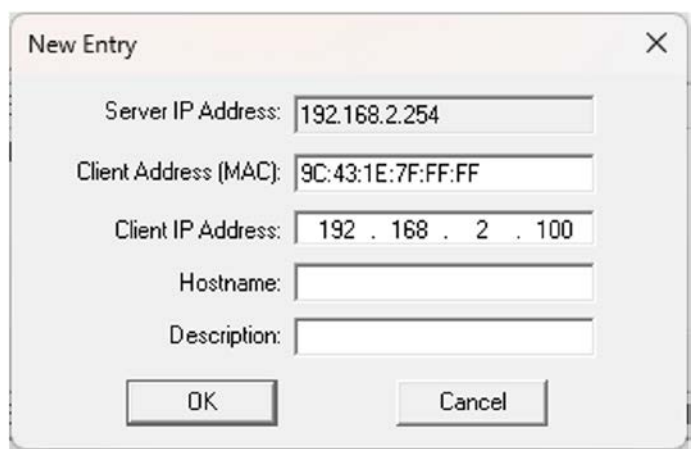
1. Select the Ethernet interface on the computer.



2. Select the MAC address with the prefix 9C:43:1E:7 ...



3. Assign a temporary IP address to the device.



4. Please start the Molex software tool to change the IP address setting.



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