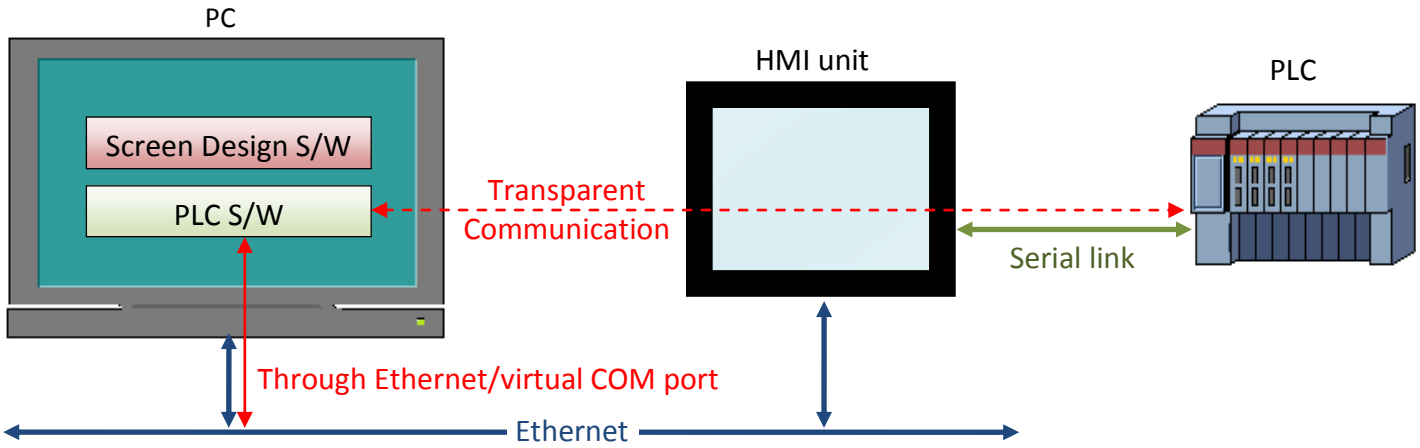
Transparent Communication through Ethernet

Introduction

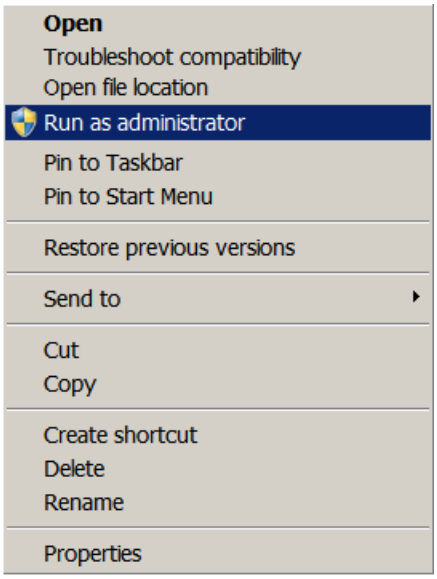
To monitor or modify something of a PLC with the PLC software running on a PC, usually you need to connect the PC and the PLC with a serial communication cable. If the only serial port of the PLC is connected to the HMI unit, what can you do without disconnecting the HMI unit and reconnecting the PC to that port? The solution is right here. The screen design software allows you to make the HMI unit work as an Ethernet-to-serial converter and therefore a virtual COM port is provided for the PLC software to communicate with the PLC through the Ethernet and the HMI unit. Thanks to this feature, working on the operator interface and the PLC program at the same time with only one serial port is easier than before.



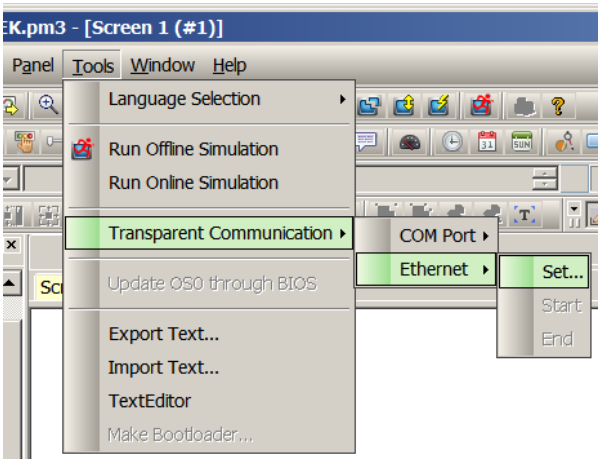
Installation

Follow the steps below to install the driver for the feature:

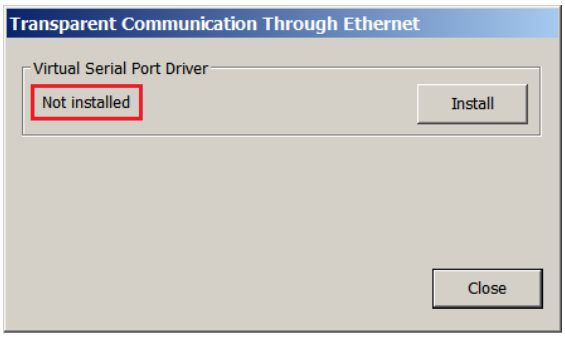
1) Use "Run as Administrator" to start the screen design software.



2) Click the menu item "Tools | Transparent Communication | Ethernet | Set..." to bring up the Transparent Communication Through Ethernet dialog box.

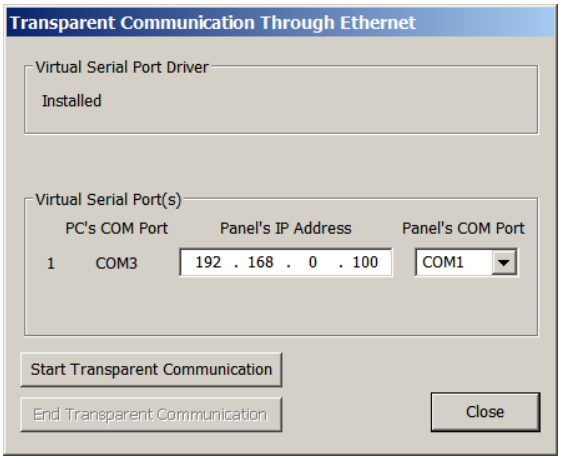


3) If the status of Virtual Serial Port Driver in the dialog box is "Not installed", click the Install button to install the driver. If the status is "Installed", the driver has been installed and you don't need to install it again.



4) During the installation, skip the automatic search for the driver/software offered by the Windows as the driver is already in the local disk.

5) After the installation is done successfully, the dialog box displays the following contents.



Property	Description
PC's COM Port	The virtual COM port provided by the installed driver. You need to configure the PLC software to use this port to communicate with the PLC.
Panel's IP Address	The IP address of the HMI unit that is used as an Ethernet-to-serial converter. The default address is 192.168.0.100.
Panel's COM Port	The serial port of the HMI unit that is physically connected to the PLC. The default is COM1.

Operation

1) Connect the HMI unit to the LAN and turn on its power. Run the Panel Setup.

a. Press General button to open the General dialog box.

b. Set the Transparent Communication to True in the General dialog box.

c. Press OK button to save the setting.

2) Run the screen design software.

a. Click the menu item "Tools | Transparent Communication | Ethernet | Set..." to bring up the Transparent Communication Through Ethernet dialog box.

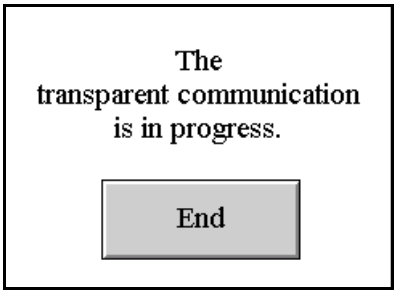
b. Make sure the status of the Virtual Serial Port Driver is "Installed".

c. Memorize the PC's COM Port, i.e. the virtual COM port provided by the screen design software, to set up the PLC software later.

d. Set the Panel's IP Address to the HMI unit's IP address.

e. Set the Panel's COM Port to the serial port of the HMI unit that is connected to the PLC.

f. Click the "Start Transparent Communication" button. The HMI unit will display the message box as shown below when it is ready to perform the transparent communication.



g. Click Close button to exit the dialog box.

3) Run the PLC software.

   a. Set the serial communication port to the virtual COM port provided by the screen design software.

   b. Start your operation.

4) To end the transparent communication, close the PLC software first then click the menu item "Tools | Transparent Communication | Ethernet | End" on the menu bar of the screen design software.