

Quick Reference Guide

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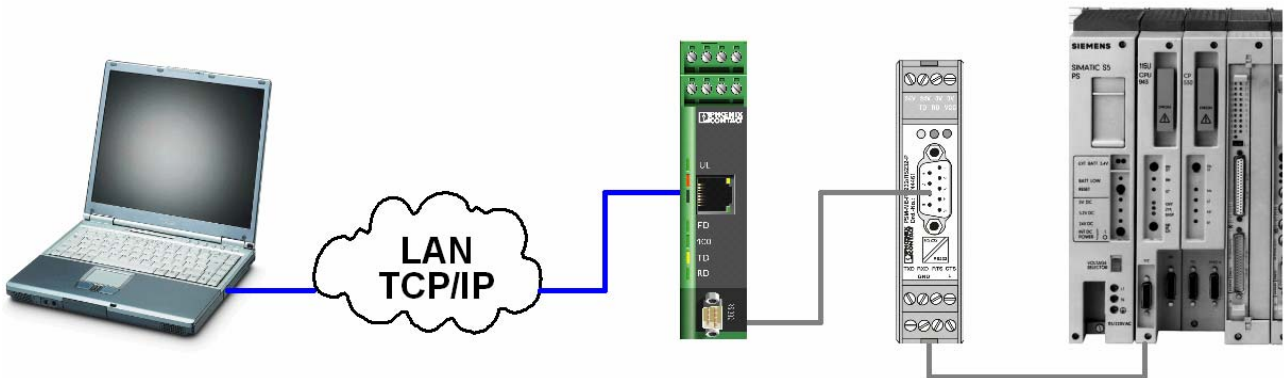
S5 programming via Ethernet and FL COMSERVER

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1. Introduction

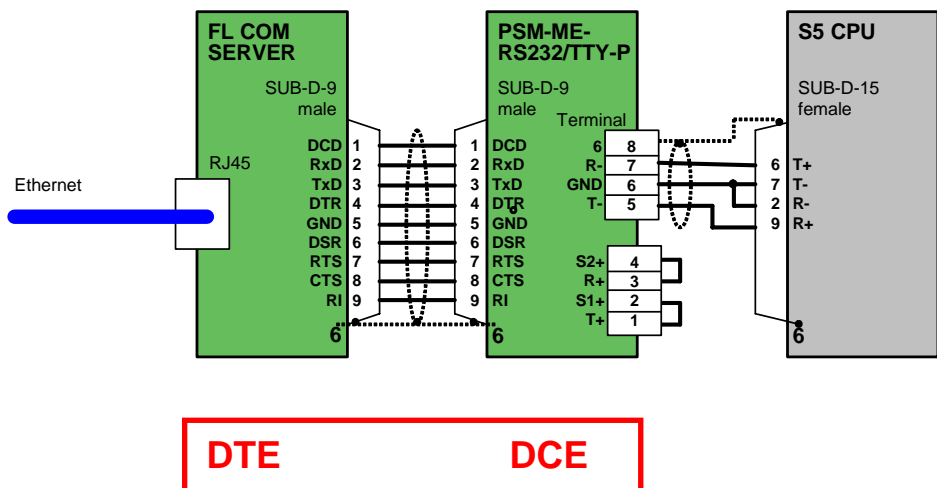
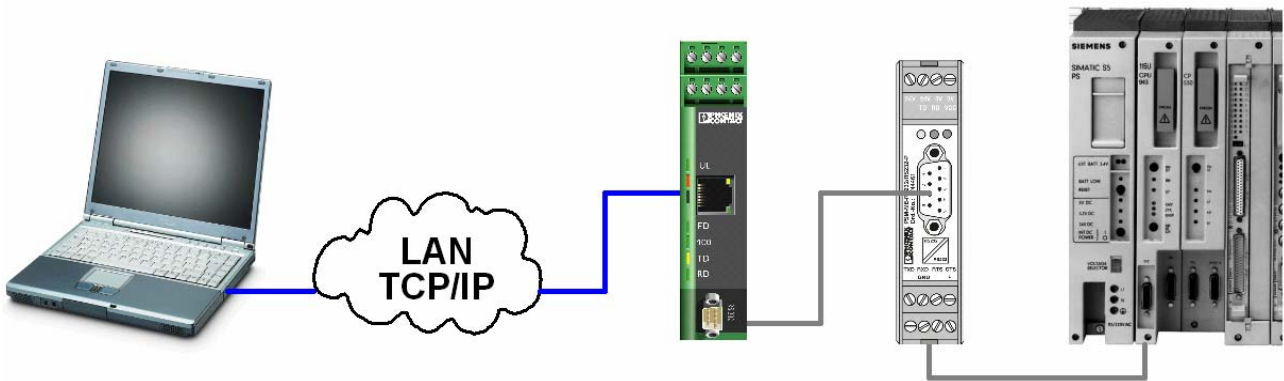
This document describes the startup of a programming connection from a PC with STEP5 software to the SIMATIC S5 PLC. These are connected via the Ethernet network and a FL COMSERVER. This guide is for **SIMATIC STEP5 version 7.2.1** and higher, for a longer timeout time. The following equipment is used.

Pos.	Pcs.	Order No.	Type	Description
A	2	2832289	FL CAT5 PATCH 2,0	RJ45-Ethernet cable 2,0 m
B	1	2313478	FL COMSERVER BASIC 232/422/485	Converter Ethernet/RS232
C	1	2799474	PSM-KA9SUB9/BB/2METER	Serial 1:1 cable
D	1	2744458	PSM-ME-RS232/TTY-P	Converter RS232/20mA current loop
E	1		SIMATIC S5 PLC	PLC
	1		SIMATIC STEP5	Software for programming
	1		COM Port Redirector	Software, supplied as standard with the converter



2. Connecting the FL COMSERVER and the PLC

1. Using a 1:1 Ethernet cable, connect the FL COMSERVER to the LAN.
2. Using a 1:1 Ethernet cable, connect the PC to the LAN.
3. Using the serial 1:1 cable PSM-KA9SUB9/BB/2METER, connect the FL COMSERVER to the converter PSM-ME-RS232/TTY-P.
4. Open the housing of the converter PSM-ME-RS232/TTY-P, switch the DTE/DCE slide switch to „DCE“ mode and close the housing.
5. Using the self assembled cable and a plug SUBCON 15/M, connect the converter PSM-ME-RS232/TTY-P to the PG interface of the SIMATIC S5 CPU (see wiring map below).
6. Supply the converters FL COMSERVER and PSM-ME-RS232/TTY-P with 24 V DC.



3. Configuring the FL COMSERVER

The web-based management interface (WBM) can be used to manage the FL COMSERVER from anywhere in the network using a standard browser.

By default the settings of the FL COMSERVER has the IP address “**192.168.0.254**” and the password “**private**”.

1. Start the browser and enter the default IP address (192.168.0.254). You see the home page of the FL COMSERVER.
2. In the site map select the option “General Configuration”.
3. In the access window enter the default password “**private**”. Don’t enter an user name. Press the “OK” button.
4. In the site map select the option “IP”.
5. Enter the values into the mask as you see below. Adjust the values depend on your network if necessary.
6. Press the “Confirm” button.

IP Configuration - Static Assignment				
Current configured addresses				
IP Address	192	168	0	254
Subnet Mask	255	255	255	0
<i>If Subnet Mask is 0.0.0.0 the standard netmask for class A, B, C is used.</i>				
Default Gateway	0	0	0	0
<i>If Default-Gateway is 0.0.0.0 no gateway is used.</i>				
DNS	0	0	0	0
IP Address Assignment				
Type	<input checked="" type="radio"/> Static		<input type="radio"/> Automatic	
<input type="button" value="Confirm"/>				
<i>Note: You have to save and reboot to activate the new configuration.</i>				

7. In the site map select the option "Serial".
8. Enter the values into the mask as you see below (RS232, 9600, 8, even, 1, none, **DTE**).
9. Press the "Confirm" button.

Serial Configuration	
Interface Type	Port 0 RS-232
Baud Rate	9600
Data Bits	8
Parity	even
Stop Bits	1
Flow Control	none (485 is selfcontrolled)
RS-232 Interface Type	DCE
Switching output	RESET (Setting is NOT retained after a reboot)

*Note: You have to **save and reboot** to activate the new configuration.*

DTE !

10. In the site map select the option "Application".
11. Enter the values into the mask as you see below (TCP, 3001, 0, 0.0.0.0, Server).
12. Press the "Confirm" button.

Application Settings for TCP	
Protocol settings	
Operation Mode	<input type="radio"/> UDP <input checked="" type="radio"/> TCP
IP and port address	
Own TCP port	<input type="text" value="3001"/>
Remote TCP port	<input type="text" value="0"/>
Remote IP address	<input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
Remote Domain name	<input type="text"/>
Channel settings	
Device type	<input checked="" type="radio"/> Server(Responder) <input type="radio"/> Client(Initiator)
Modem DTR Control	<input checked="" type="radio"/> Off <input type="radio"/> On
Modem Mode	<input checked="" type="radio"/> Off <input type="radio"/> On without echo <input type="radio"/> On with echo
Disconnect with inactivity timeout	<input type="text" value="0"/> minutes <input type="text" value="0"/> seconds
<i>Valid range: 0...255. For Autoconnect on power up set to 0,0.</i>	
TCP Flush Mode	Clear Input Buffer <input type="radio"/> Off <input checked="" type="radio"/> On Clear Output Buffer <input checked="" type="radio"/> Off <input type="radio"/> On
Idle Force Timeout Characters	<input type="text" value="10"/>
<input type="button" value="Confirm"/>	

13. In the site map select the option "Save and Reboot".
14. Enter the values into the mask as you see below.
15. Enter the default password "private".
16. Press the "Confirm" button.

Save and Reboot

Save current configuration for next Reboot

The confirmed configuration settings will be saved. The device starts with the new configuration after a reboot.

Save

The device executes a reboot. Only confirmed configuration settings will be included. The device starts with the last saved configuration.

Reboot

Enter password

Warning! The configuration values have been changed

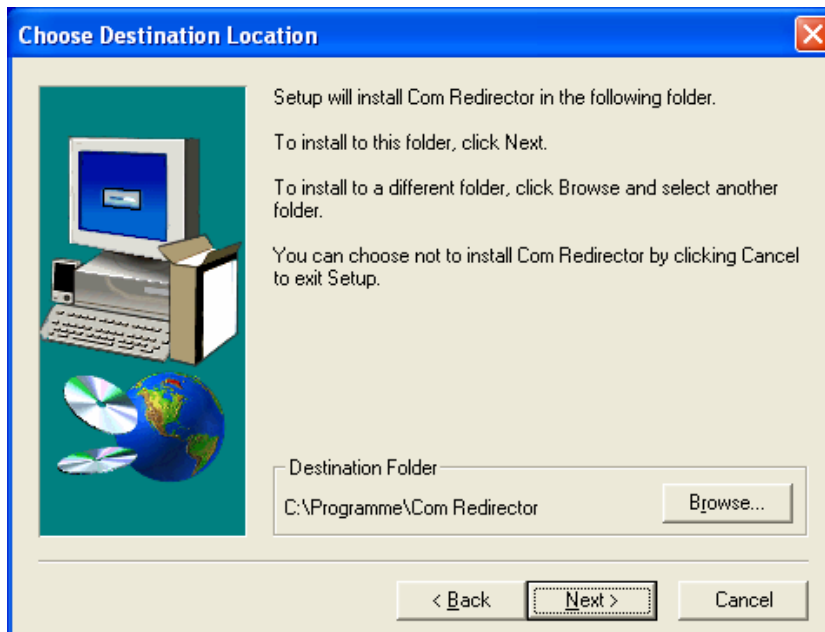
Security Flags: TFTP enabled

4. Installing the Com Port Redirector

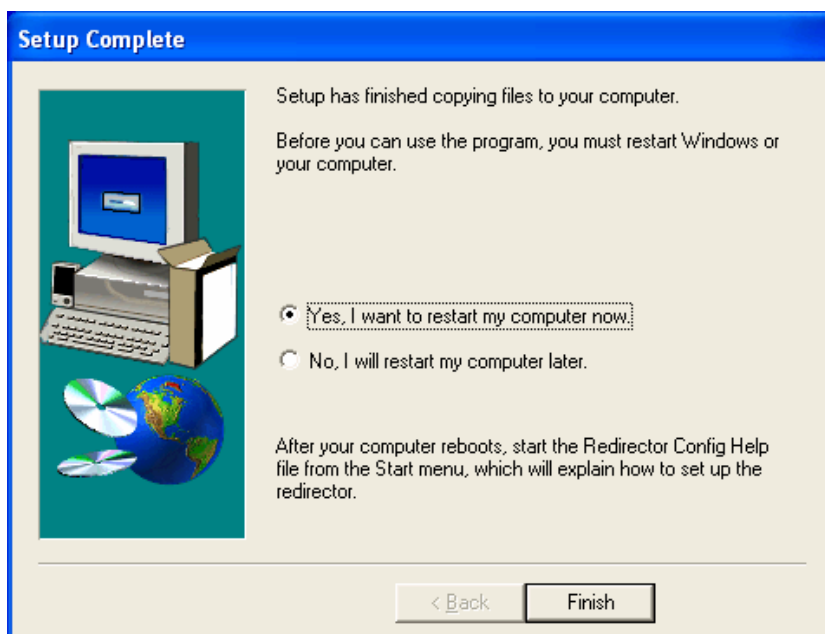
1. Insert the CD in the CD-ROM drive. The CD starts automatically. If the auto start mechanism is deactivated, switch to the CD-ROM drive in the Explorer and double-click on the "start.html" file to start the CD.
2. Select the desired language.
3. Start the software installation by double-clicking on the "red32bit.exe" file. An automatic installation routine will appear.



4. Click "Finish".



5. In the destination folder the Com Port Redirector will be installed. If necessary, select another installation path by clicking "Browse". Click "Next" to confirm the selection. The software is going to install.



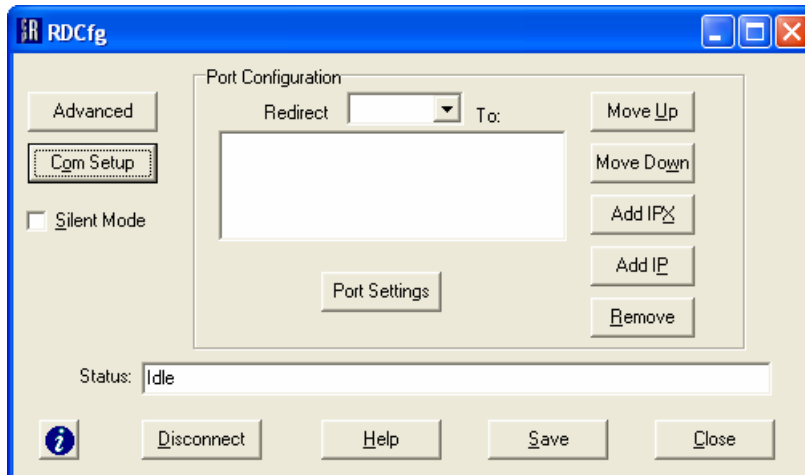
6. The software has been installed successfully. Restart the computer. Select "Yes, I want..." and click "Finish" (1st restart).




The PC must now be restarted.

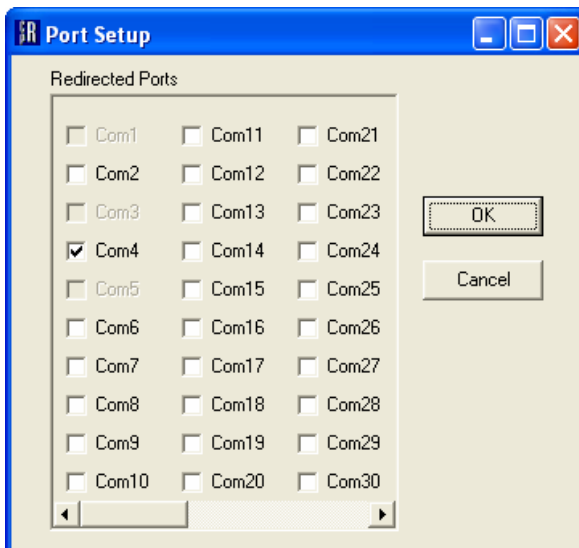
5. Selecting and Configuring the Virtual COM Port

1. Once installed, the program can be started via "Start → Programs → Com Redirector → Configuration". The main menu window is opened.



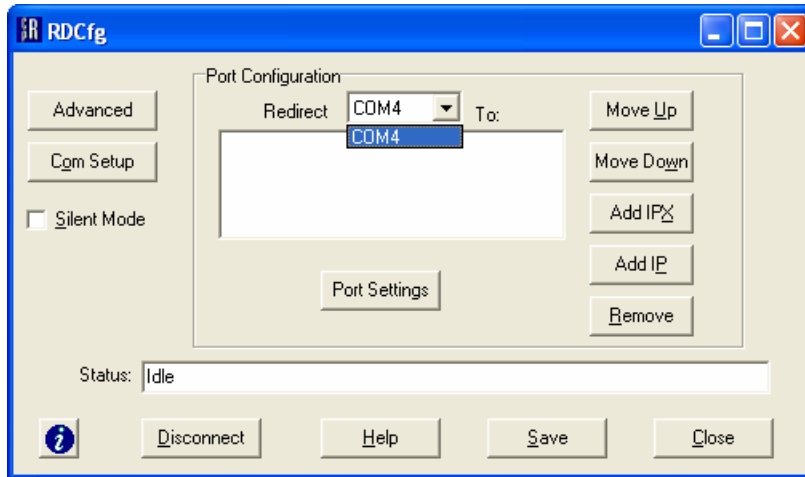
2. Click the "Com Setup" button. The window "Port Setup" is displayed. Activate the port number, which you need (e.g. COM 4).

 STEP 5 supports the ports COM 1 to COM 4 only.

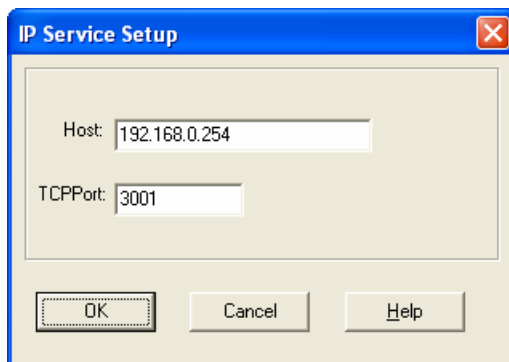


3. Confirm the selection which "OK" and return to the main menu.

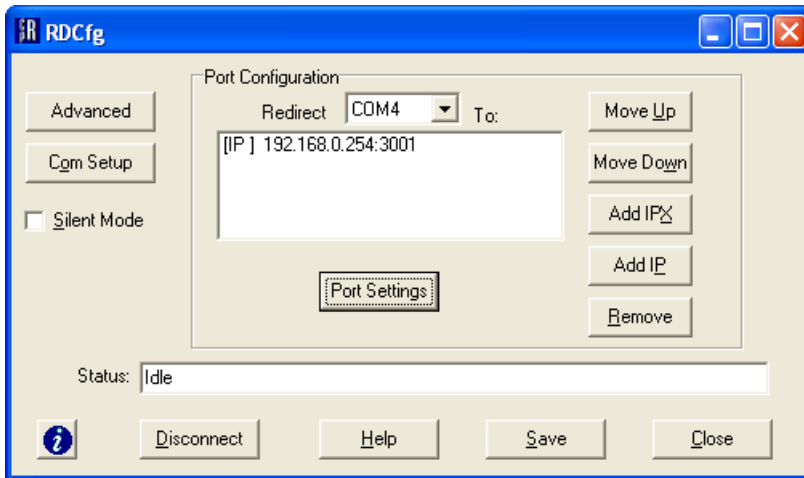
- In the box "Port Configuration" in the pull-down menu "Redirect" select the COM port that was previously activated (e.g. COM 4).



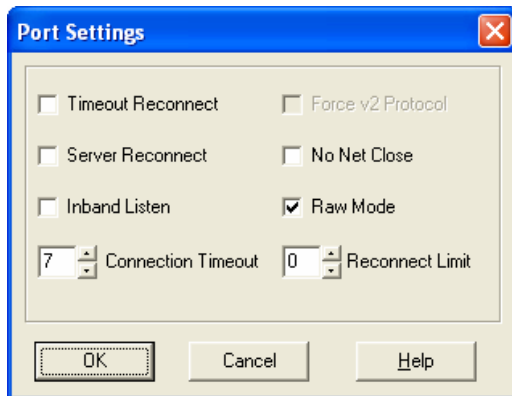
- Then click "Add IP" button. The window "IP Service Setup" is opened.




- In the box "Host" enter the IP address of the destination FL COMSERVER, to which the activated COM port should be redirected (as you had entered at page 3, e.g. 192.168.0.254).
- In the box "TCP Port" enter the Port number "3001", via which communication take place (as you had entered at page 5).
- Confirm your entries with "OK" and return to the main menu.



9. Click "Port Settings". The window "Port Settings" is opened.

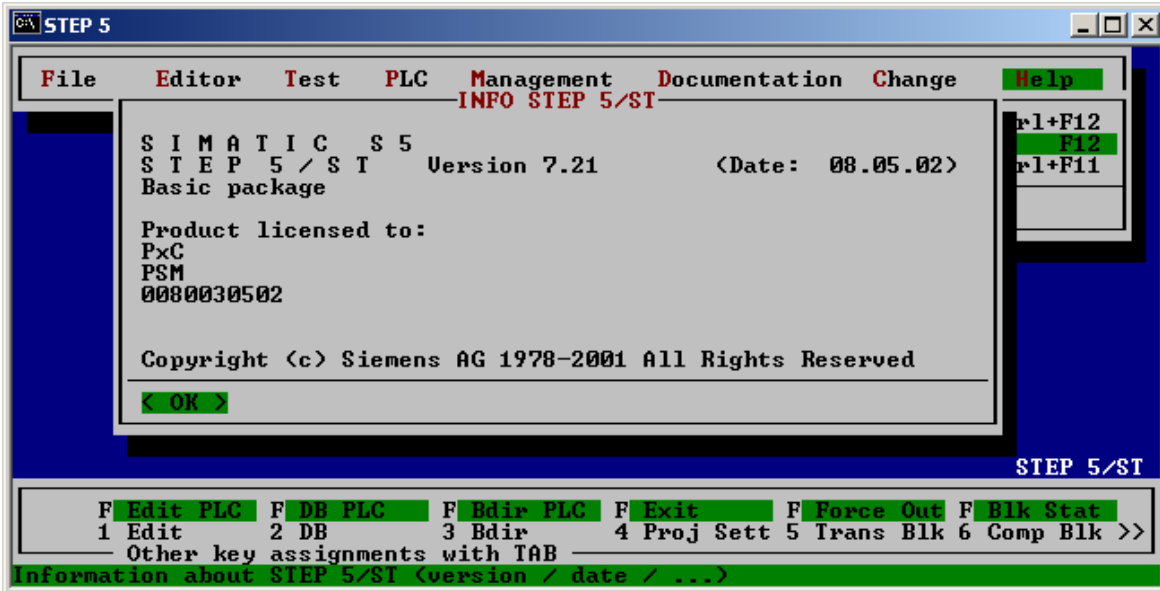


10. Activate the "RAW Mode" option.
11. Confirm your entries with "OK" and return to the main menu.
12. Click "Close" and restart the PC (2nd restart).

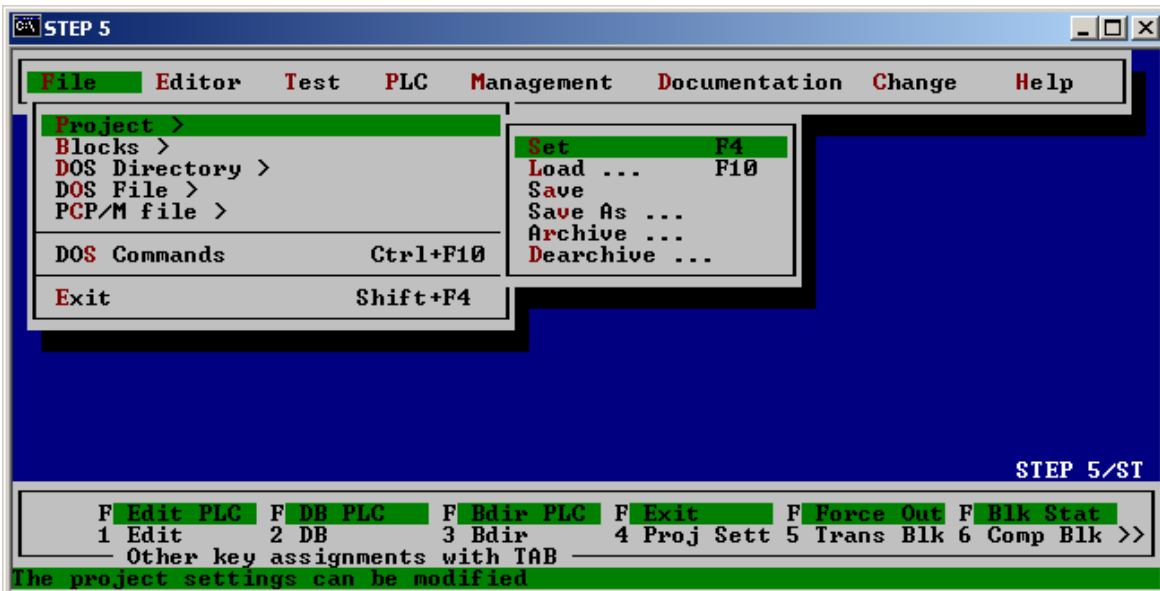
 Restart the PC to ensure that the virtual COM ports are available in the operating system.

6. Configuring the PG Interface of STEP5

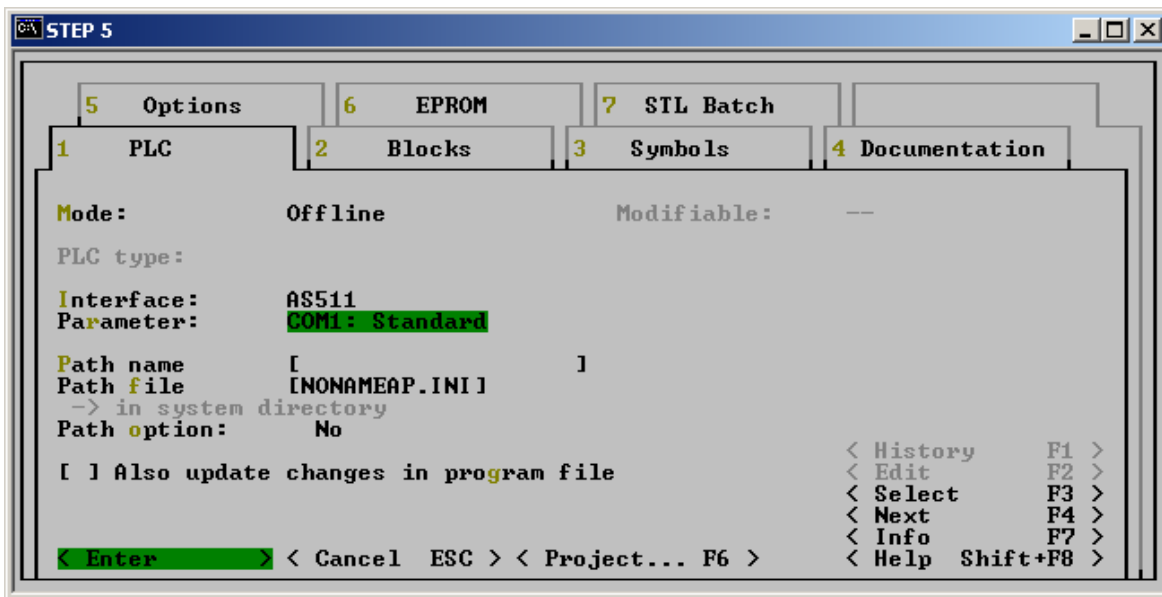
1. Start the software SIMATIC STEP 5.



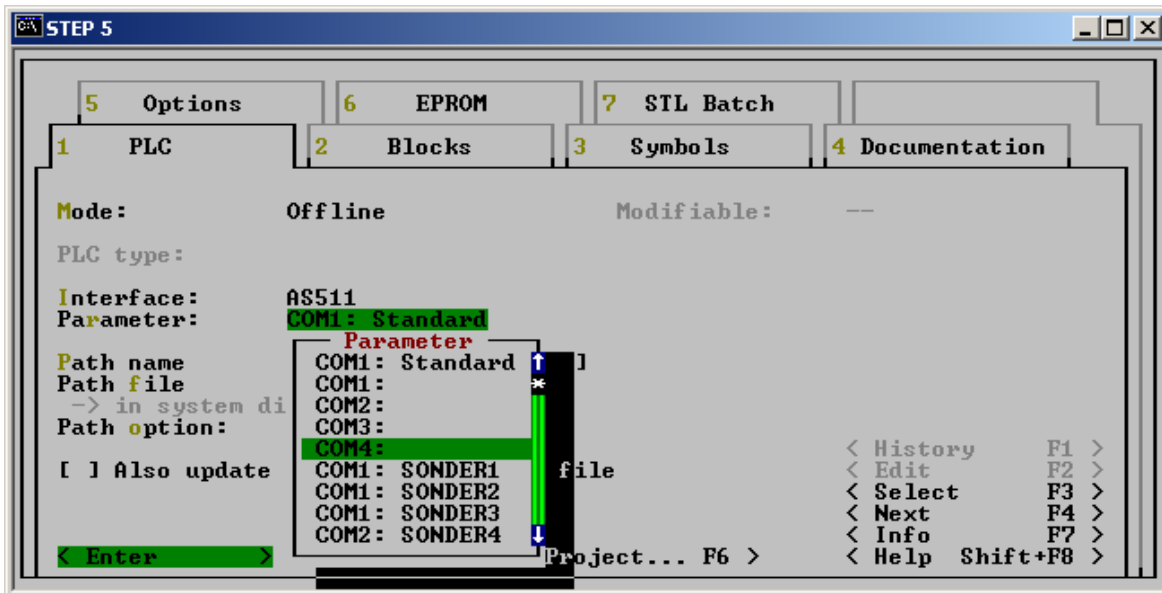
2. At the menu bar, click "File" and select "Project" and "Set".



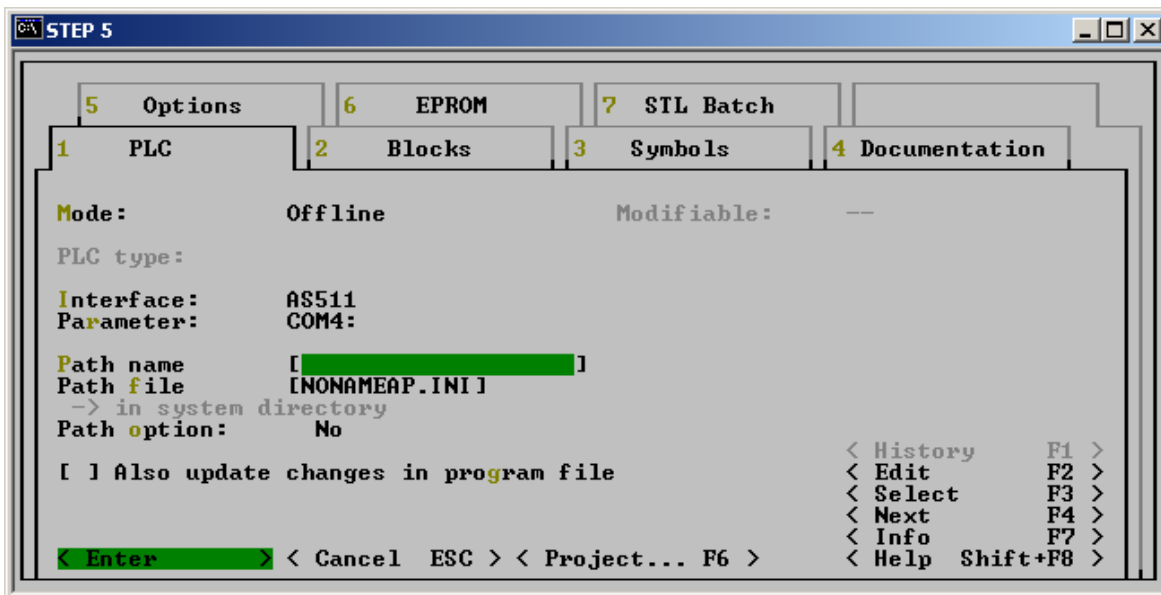
3. Select the "PLC" tab, then select the parameter of interface AS511 and press the "F3" key.



4. At the parameter list box select "COM4:".



5. Confirm with „Enter”.



6. Check the connection between STEP 5 and PLC S5.

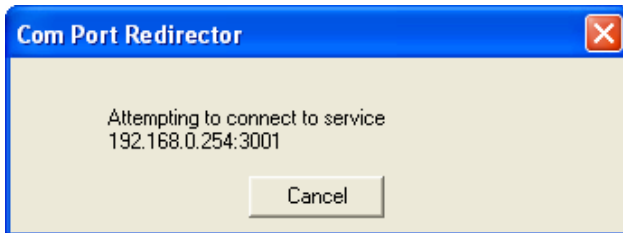
7. Function Test Components

The function test was performed using the following devices and software.

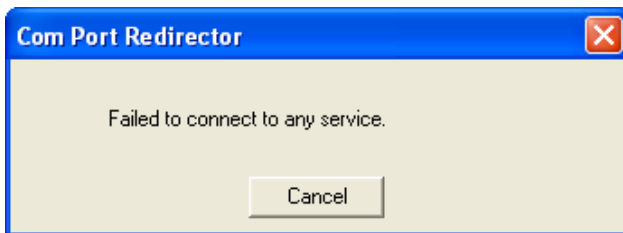
Artikel-Nr.	Bezeichnung	Beschreibung	HW	SW
2313478	FL COMSERVER BASIC 232/422/485	Converter Ethernet/RS485	1.0	2.10
2744458	PSM-ME-RS232/TTY-P	Converter RS232/20mA current loop		
6ES5-943-7UB21	SIMATIC S5 AG 943	PLC		V3
	SIMATIC STEP5	Software for programming		7.2.1
	COM Port Redirector	Software, supplied as standard with the converter		2.2
	Internet Explorer or Mozilla Firefox	Web-browser		6.0. SP2 3.0.8

8. Checking the Connection

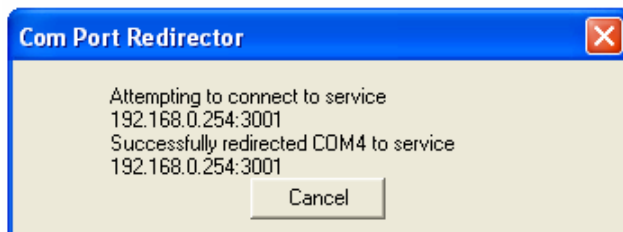
1. Open the application software SIMATIC STEP 5 and select the access path to the PLC via COM 4.
2. It tries to open the COM port and a pop-up window is displayed.



3. If the connection failed, the following pop-up window is displayed.



4. If the connection is successfully established, the following pop-up window is displayed.



5. The process data of the PLC are now available in the network.