

Quick Start Guide

NeoPAC SoftPLC / Gateway Models SN1-x

Thank you for purchasing a SoftPLC Corporation product! This guide is for those who don't like reading users manuals and just want to get started using the product quickly.

System Defaults

IP Address	192.168.1.100
Serial Console (TTL port)	baud=115200 No parity 8 bits 1 stop bit
System Console/SSH login	login = root password = softplc
FTP login	login = anonymous password = softplc

PC Software Requirements

The software programs listed below are needed on your programming computer. They can be found on the SoftPLC Product CD and from our website at [Support | Resources | Software](#), unless otherwise indicated. Items marked "R" are required. "O" items are optional and may be required for certain functions or low-level troubleshooting.

SoftPLC or Gateway Configuration/ Programming software	TOPDOC NexGen	Configuration, Programming & Troubleshooting Smart SoftPLC / Gateway	R
Java RTE (Run time environment)	Java 6 or above	Req'd for TOPDOC NexGen	R
SSH client program	PuTTY (Windows) ssh (Linux)	Ethernet Troubleshooting and advanced configuration	O
FTP client program	WSFTP or FileZilla (Windows) gFTP (Linux)	File transfer to/from Smart Compact Flash	O
Terminal emulation program	PuTTY (Windows) minicom (Linux)	Serial port based troubleshooting - in the event Ethernet comms are not working	O

PC Hardware Requirements

- Ethernet RJ45 cable (patch or cross-over)

Optional – for troubleshooting in the event Ethernet comms are not working:

- USB port
- TTL to USB Serial Cable (Cat No SPO-TUCBL)

Connecting to a SoftPLC/Gateway for the first time

1. Install the recommended software on your PC. This includes Java RTE, TOPDOC NexGen and PuTTY.
2. Set your PC's Ethernet port TCP/IP properties to use a fixed IP address that is on the same subnet as the default IP address of the SoftPLC (192.168.1.100). For example, set your PC to 192.168.1.2.
3. Connect an Ethernet cable from your PC's Ethernet port to the SoftPLC Ethernet port (located on the bottom surface).
4. Connect a non-powered 24VDC power supply (such as our Cat No ICO-PSH1524) to the SoftPLC using the supplied 2-pin spring loaded connector. (15W minimum supply recommended).



CAUTION: Be careful to connect according to the marked polarity.

5. Turn on the power supply and allow the SoftPLC to boot up.
6. Start TOPDOC NexGen, click OK to login as “Default” and select PLC.
7. Press “Detect-On-Net” to discover the PLC. If successful, click on “Save Selected” to upload and save configuration to your PC. A new PLC Definition will be added to the list in the upper left called “SN1x”, which is your new SoftPLC.

NOTE: You may need to turn off Firewall, virus protection or other ethernet interfaces.

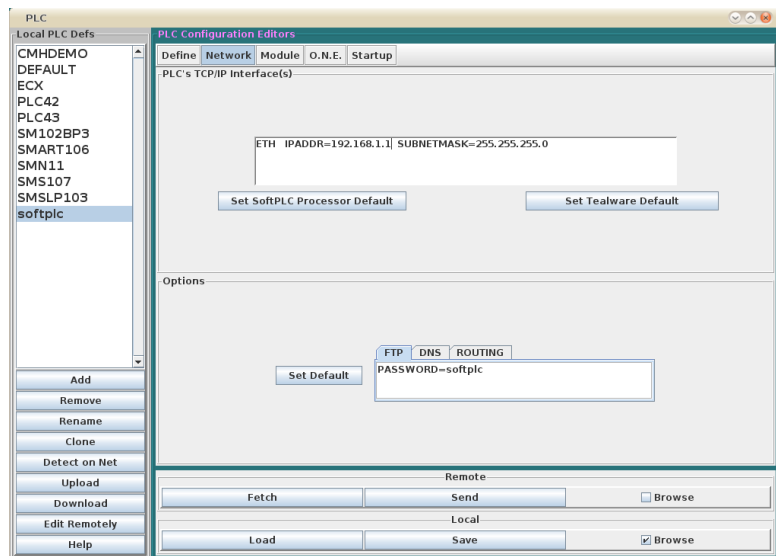
8. Press “Edit Remotely” to connect to the PLC and view the current running APP.

Changing the Ethernet Address

1. Click on your SoftPLC's name. Then click on the Network tab to the right of the PLC name list.
2. Enter the desired IPADDR and SUBNETMASK in place of the displayed addresses.
3. Press “Send” (bottom center of the screen) to write the new address to the SoftPLC. *(It will not take effect until you restart the SoftPLC.)*

Also press “Save” to copy the new setting to your PC drive.

4. Set your PC's Ethernet port TCP/IP properties to use a fixed IP address that is on the same subnet as the new IP address of the SoftPLC.
5. Cycle power on the SoftPLC or use PuTTY/ssh to restart *(using instructions found later in this document)*.
6. Test communications using Detect-On-Net as before.



If you do not know Ethernet address of your SoftPLC, from the console:

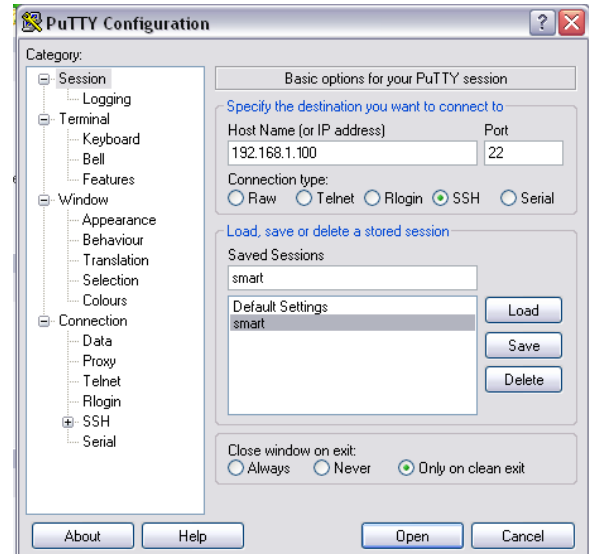
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ping 224.0.0.1
```

This will perform a multi-cast, which is responded to by all capable hosts on the network, including SoftPLC.

Connecting to the SoftPLC for diagnostic and problem resolution

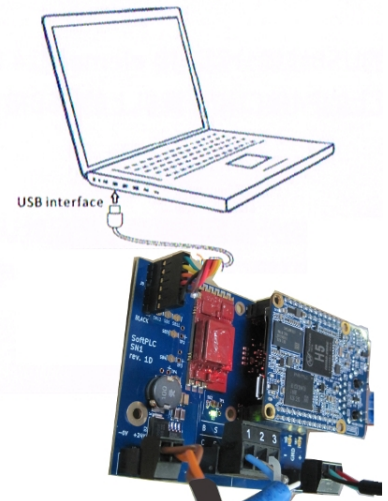
Ethernet Connection from Windows

1. Connect your PC to the SoftPLC's Ethernet port, making sure your PC and the SoftPLC are on the same subnet.
2. Use PuTTY to connect to the SoftPLC's console.
 - a) Start PuTTY.
 - b) Enter the IP address of the SoftPLC into the Host Name field (*default=192.168.1.100*).
 - c) Ensure Port 22 and SSH are selected.
 - d) Press Open.
 - e) When the console window appears:
 - Login as: root
 - At prompt enter the password: softplc
3. Now you can use Console commands to view log files, edit files, search, etc. (*see last page*)



Serial Connection

1. Carefully open the metal case. Connect your PC to SoftPLC's internal TTL port using the USB to TTL cable (see figure to right).
2. Start PuTTY using a "Direct to COMx" connection, with the communication parameters set to:
 - 115200 baud
 - 8 bits
 - No Parity
 - Stop bit
3. Login at the serial console (*case sensitive*).
 - Login=root
 - Password=softplc



Basic Console Utilities and Commands

At the SoftPLC console, the following are only some of the Utilities and Shell commands that may be executed.

NOTE: All utilities and commands should be typed in lower case characters and Linux uses the “/” rather than the “\” used in Windows.

less "file"	Shows contents of "file". Use Up/Down to transverse file and 'q' to exit.
journalctl --unit=softplc	Dump contents of softplc log to console.
ifconfig	List network interfaces
date MMDDhhmmCCYY.ss	Set system date and time
nano "file"	Edit file name "file" Save: CTRL-o Exit: CTRL-x
tar [mode] [format] [file options] "file"	Lists, creates or extracts an archive file extract bzip2: tar -xjvf filename.tar.bz2 extract gzip: tar -xzvf filename.tar.gz
apt [options] [subcommand] ["packagename"]	SoftPLC Package Manager. (Requires Gateway & DNS IP's defined.) List upgradable packages: apt list --upgradable Update package list: apt update Upgrade packages: apt upgrade Install package: apt install "packagename"
systemctl {start stop restart status} networking	Start, Stop, Restart or get status of networking. (use 1 of the 4 options) ex. systemctl restart networking
systemctl {start stop restart status} softplc	Start, Stop, Restart or get status of the SoftPLC runtime (use 1 of the 4 options) ex. systemctl stop softplc
cd "path"	Change to directory (ie. cd /SoftPLC/run)
ls [options]	List lies in current directory. Long format: ls -l Complete list of "ls" options: ls --help
rm "file"	Remove file with name "file"
mkdir "path"	Make new directory
which "file"	Locate executable files. Example: which ifconfig
find -name "file"	Search for a file in current directory and subdirectories. Example: find -name "NETWORK.LS"
cp file1 file2	Copy file1 to file2
df	report file system disk space usage.
free	Display amount of free and used memory in the system.