

Eltek TU1029 - Moxa Nport 5110 Setup - Additional instructions

This should be read in conjunction with the normal instructions for the Moxa NPort 5110, Eltek Squirrel and Darca software.

Why use a Moxa?

The Moxa NPort 5110 is a compact palm-sized communications device that allows Windows based serial RS-232 enabled programs to remotely connect over a TCP/IP Ethernet/Internet. Eltek Data loggers can be placed anywhere on a local area network, by using this device. They appear as if they are directly connected to a serial port on your PC. The Eltek Darca software can then be used in the usual way.

What is supplied from Eltek?

Two versions of the Moxa NPort 5110 are available:-

1) Moxa NPort D5110AC

This is the NPort 5110 unit and an AC power supply with regional connector. It connects directly to the Squirrel by the LC68 cable supplied.

2) Moxa NPort D5110DC

This is the NPort 5110 unit only and is powered by the external power supply connected to the logger. It connects directly to the Squirrel by the LC68Moxa cable supplied.

Pre Setup

The following questions need to be asked of the Network Administrator before attempting to setup the Moxa:

- What is the Static IP allocated to the Moxa?
- Is the Moxa located on the same subnet as the PC? If not see LAN Configuration Issues below.
- Does the Moxa to PC communication pass through Firewalls / routers? If it does then see LAN Configuration Issues below.

LAN Configuration Issues

Firewalls / Routers

If the PC and Moxa are not on the same subnet, the Network administrator must ensure there is an unhindered IP path between PC and Moxa. Any Firewalls must follow the port routing rules defined in NAPT routing, or allow all packets / routes between the relevant subnets.

NAPT Routing

You may want to allow the Moxa to use a private IP Address behind your NAT/firewall. To do this you need to port route using the NAPT protocol to map the Public IP to the Moxa's private IP in your NAT router. Most routers/firewalls now support this function. For example, when you configure the Moxa's private IP as 192.168.1.1 and the NAT router's Public IP is 61.x.x.x., you should map TCP/UDP port numbers shown as follows:

Protocol	Public IP	Public Port No.	Purpose	NPort Private IP	Private Port No.
TCP	61.x.x.x	23	Telnet	192.168.1.1	23
TCP	61.x.x.x	80	Web Console	192.168.1.1	80
TCP	61.x.x.x	4900	Write Firmware	192.168.1.1	4900
TCP	61.x.x.x	950(~965)	Data Port	192.168.1.1	950(~965)
TCP	61.x.x.x	966(~981)	Command Port	192.168.1.1	966(~981)
UDP	61.x.x.x	4800	Broadcast, Monitor, Get current settings, RealCOM Port mapping	192.168.1.1	4800

Setting up

Installing and running

From the Installation Disk run the Windows Installer:

(At time of creating this document):

<CD DRIVE>:\Software\Windows\Npadm_Setup_Ver1.15_build_10112214.exe

(This may have been updated since this was written).

Once installed run the program from the “start” menu.

Note: if using Windows 7 you will need to run under administrator mode by right clicking on the NPort Administrator Icon in the “start” menu and then clicking on Run as administrator. (This is found under ‘More’ in Windows 10).

To run the program go to:

Start > (All) Programs [Pre Windows 10 only] > NPort Administration Suite > NPort Administrator

Configuration

Always set the Moxa to use a static IP for access.

- Click on **Configuration** then click **Search** (or you click **Search IP** and enter IP address if known).
- Once the Moxa is found, select the moxa in the right hand pane and click **configure**.
- In the **Network** tab Click **Modify** to change the IP address (Check with IT administrator), and modify **Netmask** and **Gateway**
- If you want to limit access to specific IP addresses then go to **Accessible IPs** and modify.
- In **Operating Mode** tab check that the mode is set to **Real COM Mode**
- Click **OK** to confirm changes

COM Mapping

A virtual COM port needs to be assigned to allow Darca to communicate with the Moxa. This is done using the COM Mapping function. This process also confirms that the PC is able to communicate with the Moxa – If the real com installer cannot 'see' the moxa box, there is a problem with the setup, or a firewall is blocking it.

- ✂ Click on **COM Mapping**.
- ✂ Select the NPort 5110 in the right hand pane then click **Configure**.
- ✂ In the basic **Settings** tab select a COM port to be used (You need to use the same COM Port in Darca) and click **OK**.
- ✂ Click **Apply** (to apply changes). If it fails see note about Windows 7 above.

Settings required in Darca

- ✂ Set Darca communications to use the COM port allocated by the real com installer
- ✂ Do not use baud rates more than 9600
- ✂ Set the **normal timeout** to at least 2000 to allow for network latency (**Settings > Site Settings > Options > timing** tab for Darca Heritage and **Preferences > Timing** for Darca Plus)
- ✂ Set **Wakeup Retries** to 6 (**Preferences > Timing**)
- ✂ Set the **Command retries** to 15 (**Preferences > Timing**)
- ✂ Do NOT check 'networking' checkbox (networking in Darca refers to parallel connected loggers only)

What to do if there is a problem connecting to the Squirrel;

If an error message in Darca indicates either:

- a) Comms handle error
- b) unable to initialise port

- 1) Ensure the COM Port in Darca is the same as that assigned in the real COM installer
- 2) Ensure that if IP Address restriction is on, that current PC's IP address is included (See **NPort Administrator > Configuration > Search > Configure > Accessible IPs**)
- 3) If the Squirrel is not found then this may be for one of the following reasons:
 - a) Power to the Moxa is lost
 - b) Network is down/has connection issues
 - c) Firewall rules are blocking connection (See LAN Configuration Issues section).
Firewall may be both on your PC and in a router (if on a separate sub net)
 - d) Moxa IP address has been changed or lost or reset.If connection is made, but an error indicates it is unable to wake the squirrel, check settings as in "Settings required in Darca" section.

Reference Information

IP Address (or Subnet if using DHCP) of host PC.....

IP Address of Moxa

Gateway IP Address for Moxa.....

If IP addresses are not on the same subnet(only Last digit of IP is different if on same subnet), then:-

Are there any Routers or Firewalls between Host PC and Moxa that require Configuring? YES/NO

If YES:

Is there a Network Administrator? YES/NO

If YES:

Network administrator's name:

phone number.....

E-mail

Mobile number.....

If NO:

Who has administrative privileges within the company?

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