

Installing a Moxa Wireless serial device

The Moxa W2150-A wireless serial device needs to be configured to communicate with your wireless access point, and it also needs to be configured as a serial (COM) port on your PC-DNC Plus or PC-DNC Editor computer. Here's the step-by-step way to do that:

You will need this information:

- 1) Your wireless network's "SSID", or network name
- 2) A wireless network IP address that you can use, along with the subnet mask and gateway (if used)
- 3) Your wireless network's encryption type (WEP, WPA, WPA2) etc. and passwords

You will also need a computer or laptop with an available Ethernet port, a short Ethernet cable, and a power cube for the Moxa unit (provided with each Moxa unit).



Step 1: Connect the Moxa unit to your computer's Ethernet port with the Ethernet cable

Step 2: With your computer turned on, provide power to the Moxa unit using its power cube. After a few seconds, you will get a "beep" and the green "ready" LED should turn on.



Step 3: Set your computer's Ethernet port to use the IP address of 192.168.126.100. Here's how that's done: **Be sure to set it BACK when you're finished setting up all the Moxas**

Windows 7:

- 1) Left click on the Windows START button, then click on "Control Panel"
- 2) Select "Network and sharing center", then select "Change adapter settings"
- 3) Click to highlight "Local area connection", then RIGHT-click and select "Properties"
- 4) Select "Internet protocol version 4" then click the "Properties" button
- 5) Click the button to "use the following IP address", then enter 192.168.126.100
- 6) Enter the subnet mask of 255.255.255.0. Click OK, then Close

Windows 10:

- 1) RIGHT click on the Windows START button, then click on "Network Connections"
- 2) Select "Network and sharing center", then click "Ethernet"
- 3) Click "Change adapter options"
- 4) Click to highlight "Ethernet", then RIGHT-click and select "Properties"
- 5) Select "Internet protocol version 4" then click the "Properties" button
- 6) Click the button to "use the following IP address", then enter 192.168.126.100Enter the subnet mask of 255.255.255.0. Click OK, then Close



Network and Sharing Center







Right-click, then click properties

Select "Internet Protocol version 4"

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Internet Protocol Version 4 (TCP/IP	V4) Properties 🔹 😨 💌
You can get IP settings assigned a this capability. Otherwise, you nee for the appropriate IP settings.	utomatically if your network supports ed to ask your network administrator
🔘 Obtain an IP address automa	tically
• Use the following IP address:	
IP address:	192 . 168 . 126 . 100
Subnet mask:	255.255.255.0
Default gateway:	
Obtain DNS server address a	utomatically
• Use the following DNS server	addresses:
Preferred DNS server:	1
Alternate DNS server:	
Validate settings upon exit	Advanced
	OK Cancel

Enter an IP address that's on the same subnet as the Moxa's (wired) default IP address, as shown. Be sure to click OK, then Close

Next, open any browser (Chrome or IE), and enter the Moxa's default IP address of 192.168.126.254 and press ENTER. You should see the Moxa unit's internal web page.

Enter the password: "moxa" (all lower case) to enter the Moxa's configuration page.

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мох	Total	Solution for Industri	al Device Networking		www.moxa.co
Model Name Location	- NPortW2150A - NPortW2150A_9614 -	■ IP ■ Serial No.	- 192.168.126.254 - 9614	 MAC Address Firmware 	- 00:90:E8:79:49:9D - 2.1 Build 17112017
		Account admi	n 🔻		
		Password			
		Password	ain		
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		Password	gin		



Select "Network Settings", then "WLAN Settings" then enter the IP address you want the Moxa to use on your wireless network. Set the subnet mask (usually 255.255.255.0) and (optionally) any gateway address your network might use. Click "Submit"

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Model - N Name - N Location -	NPortW2150A NPortW2150A_9614	∎ IP ∎ Serial No.	- 192.168.126.254 - 9614	MAC Address	- 00:90:E8:79:49:9D - 2.1 Build 17112017
	Î P	Welcome to	NPort W2150A		
Main Menu	Model	name	NPortW2150A		
Overview	Serial	No.	9614		
Wizard	Firmw	are version	2.1 Build 17112017		
Basic Settings	Etherr	net IP address	192.168.126.254		
- Network Settings	Etherr	net MAC address	00:90:E8:79:49:9D		
General Settings	WLAN	IP address	N/A		
Ethernet/Bridge Settings	WLAN	MAC address	E0:4F:43:DC:DF:1E		
- WLAN Settings	SSID		N/A		
- Serial Port Settings	WLAN	network type	N/A		
- System Management	WLAN	security mode	N/A		
- System Monitoring	WLAN	RF type	N/A		
- Restart	WLAN	country code	US		
		,			
	WLAN	fast roaming	N/A		

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- Main Menu	WLAN Set	ttings			
Overview	IP configur	ration	Static V		
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- Network Settings	Catalan		233.233.233.0		
General Settings	Gateway		192.168.2.1		
Ethernet/Bridge Settin	igs				
- WLAN Settings			Submit		
WLAN					
Profile					
WLAN Log Setting	IS				
Advanced Settings					
- Serial Port Settings					
- System Management					
- System Monitoring					
Destat	•				



Select "Profile", then "General" and enter your wireless network's SSID (network name). Click "Submit"



Enter your wireless network SSID, then Click "Submit"



Select "Security" and enter your wireless network's encryption information and any passwords or passphrases you might use. Click "Submit"

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Main Menu	<u> </u>	Security Properties	Profile Propertie	es	
Overview Wizard Basic Settings - Network Settings General Settings Ethernet/Bridge Settin - WLAN Settings	P A E P	rofile name Authentication Encryption PSK passphrase	Infrastructure WPA2-PSK V TKIP V Submit		

Lastly, click the "Activate" button. You will get an alarm, but that's OK. You must now unplug the power from the Moxa, remove the Ethernet cable, and apply power again. The Moxa "Ready" LED should come on, the WLAN LED should blink for a few seconds, then the "Signal strength" LEDs should light up, indicating that the Moxa has connected successfully with your access point.

Note: If the signal strength LEDs does not light, or if the WLAN LED continues to blink, something is not right with the settings you just entered. Check the SSID and the Encryption data again. You could also just be out of range of your wireless network, so be sure the Moxa unit is within about 300 feet of your access point as well.

If you have several Moxa units to configure, repeat the process outlined above for each unit. Each Moxa must have a unique IP address, but all the other configurations will be the same.



Configuring the Moxa's serial port in the PC

Once you have all the Moxa units configured, be sure that they are all under power and connected to your wireless network. Now, you're ready to install the serial port device drivers on your computer.

On the computer that you intend to use the serial ports (PC-DNC Plus Server or PC-DNC Editor PC) Download the Moxa Driver Manager for the Nport W2150-A unit by going to this address:

https://moxa.com/en/support/search?psid=50591

Click the downward pointing arrow next to the "Windows Driver Manager" The file will be saved in your "Downloads" directory. Click on that .exe file to install the Driver Manager.

Start the Nport Windows Driver Manager:

<u>File</u> <u>C</u> OM				
Exit				
lo C	OM Port 🛛 🛆	Address 1	Address 2	

To search the network for all available Moxa wireless devices, click the "Add" toolbar button, then click "Search"

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Г	Mapping IPv6 COM	Port	_	Search Select /	All Clear All
No	Model	MAC 1	Address 1	MAC 2	Address 2
nput	Manually				
Real	COM Redundant	COM Reverse Re	al COM		
				First Mapping Port	
NF	Port IP Address			Data Port	950
Г	Enable Auto IP Re	port		Command Port	966
	MAC Address			Total Ports	

Click the "Search" button. The Moxa devices visible on your network will be listed automatically. If one or more Moxa unit is not under power, or if it does not appear in the "Search" list, you may click the "Input manually" button and enter the device's IP address manually to enter it into the list: If you are prompted "Activate COM port now?" answer NO until you are finished with all the following settings.

🐝 NPort	: Windows Driver	r Manager	
<u> </u>	OM Mapping C <u>o</u> r	nfiguration ⊻iew <u>H</u> elp	
Exit	din di Add Ren	nove Apply Undo Setting	
No	COM Port	Address 1	Address 2
1 2 3 3 4 4	COM11 + * COM12 + * COM13 + * COM14 + *	132.168.2.25 950:966 (Port1) 132.168.2.26 950:966 (Port1) 132.168.2.27 950:966 (Port1) 132.168.2.28 950:966 (Port1)	
Total COI	M Port - 0		/



(We're almost finished).

Here's the last step: In the Moxa Driver manager list, you can see each device's IP address and the automatically assigned (by plug & play) serial COM port number. If you want to change this COM port number, simply double-click on that device and select "Settings"

OM Port Setting	X
Port Number:	1 Port(s) are Selected.
Basic Settings Adv	ranced Settings Serial Parameters Security IPv6 Settings
🗖 Auto Enumera	ting COM Number for Selected Ports.
COM Number	COM10 (in use) ▼ COM10 (in use) ▲ COM11 ▲ COM13 ■ COM14 ■ COM15 ■ COM16 ▼ COM17 ▼
? <u>H</u> elp	🗸 OK 🛛 🗶 Cancel

After selecting the desired COM Port number, click the "Advanced settings" tab and make this final adjustment to the "TX Mode" and to the "FIFO" buffer settings (see next page)



Port Number:	1 Port(s) are Selected.	
Basic Settings	Advanced Settings Serial Parameters Security IPv6 S	iettings
🔲 Apply All :	Selected Ports	
The FIFO	settings will overwrite the firmware	
setting. Tx Mode		
FIED	Disable 🗸	
Network 1	imeout 5000 ms (500 - 20000)	
🔽 Fast F	lush (Flush Local Buffer Only)	
🔽 Auto N	letwork Re-Connection	
🗖 Alway	s Accept Open Requests	
🗖 Drop \	Vriting Data If Network Connection Lost	
🗖 Retur	Error If Network Is Unavailable	
🔲 Ignore	TX Purge	
🔽 Enabl	e Auto IP Report	

Set the "TX mode" pull-down menu to "Classical" and set the "FIFO" setting to "Disable", then click OK

Important:

You MUST make this TX mode and FIFO setting change if you plan to use this Moxa device with a Fanuc CNC control, or any other CNC control that requires serial port compatibility with a standard PC serial port. The FIFO buffer must be disabled to prevent "Buffer overflow" alarms in the CNC control when loading programs INTO the CNC.

Last Step (promise!) See next page:



<u>F</u> ile <u>I</u>	COM Mapping Co	nfiguration <u>V</u> iew <u>H</u> elp	
Ē. E xit	Add Ren	nove Apply Undo Setting	
No	COM Port	Address 1	Address 2
1	COM11 + *	192.168.2.25 950:966 (Port1)	
2	COM12 + *	192.168.2.26 950:966 (Port1)	
3	COM13 + *	192.168.2.27 950:966 (Port1)	
4	COM14 + *	192.168.2.28 950:966 (Port1)	

At the main Driver Manager list, Click the **APPLY** button. To save your configurations file as a backup, use the "COM Mapping" pull-down menu and select "Export". You will then be prompted to save a file as a backup. Keep this file safe in case you need to re-install the Moxa units on another computer.

🔹 NPort Windows Driver Manager							
Eile COM Mapping	Configuration Vie	tion ⊻iew <u>H</u> elp					
Ex C Remove	Ctrl+N Ctrl+D Apply	Dindo Setting					
No Setting	Ctrl+C ess 1		Address 2				
2 Apply 3 D Undo	Ctrl+S 68.2.2 Ctrl+Z 68.2.2 68.2.2 68.2.2	5 950:956 (Port1) 5 950:966 (Port1) 7 950:966 (Port1) 3 950:966 (Port1)					
Export Timport							
Total COM Port - 0							