NPort S8455I
Quick Installation Guide

Second Edition, July 2012

1. Overview

The Moxa NPort S8455I fully integrates an industrial serial device server and redundant managed Ethernet switch in a single device, making it easy to enable network operation of your serial devices and connecting Ethernet-enabled devices in industrial field applications.

2. Package Checklist

Before installing the NPort S8455I, verify that the package contains the following items:

- 1 NPort S8455I Switch Device Server
- NPort Documentation & Software CD
- NPort S8455I's Quick Installation Guide
- CBL-RJ45F9-150 Cable
- 4pcs RJ45 Dust Cover Pack
- Panel Mounting Kit (optional—must be ordered separately)
- Product Warranty

Notify your sales representative if any of the above items is missing or damaged.

3. Hardware Introduction

As shown in the following figures, the NPort S8455I integrated 5 Ethernet ports and 4 Male DB9 ports, for the RS-232/422/485 serial port.

Reset Button—Hold the Reset button for 5 sec to load factory default settings: Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. This will cause the Ready LED to blink on and off. The factory defaults will be loaded once the Ready LED stops blinking (after about 5 seconds). At this point, you should release the reset button.

P/N: 1802084550010

LED Indicators—NPort S8455I's front panel contains some LED indicators, as described in the following table.

Type	Color	Meaning
PW 1	Green	Power 1 input
PW 2	Green	Power 2 input
Master	Green	When the NPort is the Master of this Turbo Ring
	Blinking	When the NPort is the Ring Master of this Turbo Ring and the Turbo Ring is broken
Coupler	Green	When the NPort enables the coupling function to form a backup path
Serial Port TX	Green	The serial port is transmitting data.
Serial Port RX	Amber	The serial port is receiving data.
Ready	Red	Steady On: Power is on and NPort is booting up. Blinking: Indicates an LAN IP conflict, or DHCP or BOOTP server did not respond properly.
	Green	Steady On: Power is on and NPort is functioning normally. Blinking: The device server has been located by Administrator's Location function.
	Off	Power is off, or power error condition exists.

4. Hardware Installation Procedure

STEP 1: After removing the NPort S8455I from the box, the first thing you should do is attach the power adaptor.

STEP 2: Connect the NPort S8455I to a network. Use a standard straight-through Ethernet cable to connect to a Hub or Switch. When setting up or testing the NPort S8455I, you might find it convenient to connect directly to your computer's Ethernet port. In this case, use a cross-over Ethernet cable.

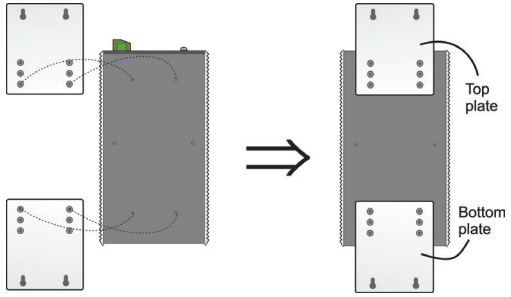
STEP 3: Connect the NPort S8455I's serial port to a serial device.

STEP 4: Placement Options.

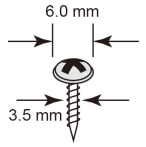
Wall Mounting (optional)

For some applications, you will find it convenient to mount the NPort S8455I on the wall, as shown in the following figures.

STEP 1:
Remove the aluminum DIN-Rail attachment plate from the NPort S8455I's rear panel, and then attach the wall mount plates with M3 screws, as shown in the figures at the right.



STEP 2:
Mounting the NPort S8455I on a wall requires 4 screws. Use the NPort S8455I, with wall mount plates attached, as a guide to mark the correct locations of the 4 screws. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown in the figure at the right.



NOTE Before tightening the screws into the wall, make sure the screw head and shank size are suitable by inserting the screw into one of the keyhole-shaped apertures of the Wall Mounting Plates.

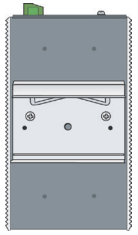
Do not screw the screws in completely—leave about 2 mm to allow room for sliding the wall mount panel between the wall and the screws.

STEP 3:
Once the screws are fixed to the wall, insert the four screw heads through the large parts of the keyhole-shaped apertures, and then slide the NPort S8455I downwards, as indicated. Tighten the four screws for added stability.

DIN-Rail Mounting

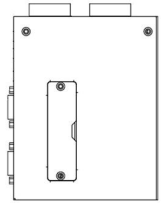
DIN-rail attachments can be purchased separately to attach the product to a DIN-rail. When snapping the attachments to the DIN-rail, make sure that the stiff metal springs are at the top.

DIN-Rail



5. Pull High/low Resistors Setting for the RS-485 Port

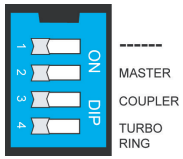
DIP switches on the bottom of NPort S8455I are used to set the pull high/low resistor values for each serial port.



Pull High/low Resistors for the RS-485 Port

	SW	1	2	3	4	3&4
		Pull High	Pull Low	Terminator	Terminator	Terminator
	ON	1 KΩ	1 KΩ	120 Ω	100 Ω	55 Ω
Default	OFF	150 KΩ	150 KΩ	---	---	---

6. Turbo Ring DIP Switch Settings



The default setting for each DIP switch is OFF. The following table explains the effect of setting the DIP switch to the ON position.

Turbo Ring Settings

	DIP	DIP 1	DIP 2	DIP 3	DIP 4
		---	Ring Master	Ring Coupling port	DIP 1, 2, 3
	ON	---	Enable	Enable	Activates
Default	OFF	---	Disable	Disable	Disabled

Turbo Ring 2 Settings

	DIP	DIP 1	DIP 2	DIP 3	DIP 4
		Ring Coupling	Ring Master	Ring Coupling port	DIP 1, 2, 3
	ON	Backup port Enable	Enable	Enable	Activates
Default	OFF	Primary port Enable	Disable	Disable	Disabled.

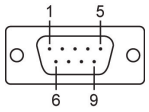
7. Software Installation Information

The Document & Software CD contains the User's Manual, NPort Search Utility, and the PComm Lite Suite. Insert the CD and follow the on-screen instructions. Please refer to the User's Manual for additional details on using the NPort Search Utility and PComm Lite.

8. Pin Assignments and Cable Wiring

DB9 Male Port Pinouts

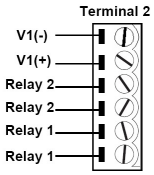
DB9 Male



Pin	RS-232	RS-422/ 4-wire RS-485	2-wire RS-485
1	DCD	TxD-(A)	---
2	RxD	TxD+(B)	---
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	---	---
7	RTS	---	---
8	CTS	---	---
9	---	---	---

Wiring the Relay Contact

The NPort S8455I has two sets of relay outputs—relay 1 and relay 2. Each relay contact consists of two contacts of the terminal block on the NPort S8455I's top panel. Refer to the next section for detailed instructions on how to connect the wires to the terminal block connector, and how to attach the terminal block connector to the terminal block receptor. The meaning of the two contacts used to connect the relay contacts is illustrated below.



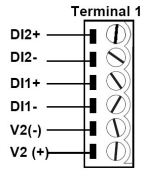
The fault circuit will open if

1. A relay warning event is triggered, OR
2. The NPort S8455I is the Master of this Turbo Ring, and the Turbo Ring is broken, OR
3. Start-up fails.

If none of these three conditions is met, the fault circuit will remain closed.

Wiring the Digital Inputs

The NPort S8455I unit has two sets of digital inputs, DI 1 and DI 2. Each DI consists of two contacts of the 6-pin terminal block connector on the NPort S8455I's top panel. The remaining contacts are used for the NPort S8455I's two DC inputs. Top and front views of one of the terminal block connectors are shown below.

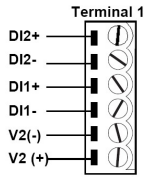


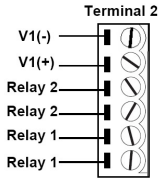
Take the following steps to wire the digital inputs:
STEP 1: Insert the negative (ground) or positive DI wires into the terminals.
STEP 2: To keep the DI wires from getting loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.
STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the NPort 8455I's top panel.

Wiring the Redundant Power Inputs

The NPort S8455I unit has two sets of power inputs—power input 1 and power input 2. The top two contacts and the bottom two contacts of the 6-pin terminal block connector on the top panel are used for the NPort S8455I's two digital inputs. Top and front views of one of the terminal block connectors are shown below.

Take the following steps to wire the redundant power inputs:
STEP 1: Insert the negative/positive DC wires into the V-/V+ terminals.
STEP 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.
STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the NPort S8455I's top panel.





9. Environmental Specifications

Power requirements	12 to 48 VDC, 887 mA at 12V (max.)
Operating temp.	0 to 55◦C (32 to 131◦F)
Operating humidity	5 to 95% RH
Dimensions (W×D×H)	73 × 125 × 144 mm 2.87 × 4.92 × 5.64 in
Regulatory approvals	
EMC:	CE (EN 55022 Class A, EN 55024), FCC Part 15 Subpart B Class A
Safety:	UL-508, LVD (EN 60950-1)
ESD:	IEC 61000-4-2, Level 4
EFT:	IEC 61000-4-4, Level 4
Surge:	Serial Port - IEC 61000-4-5 Level 1 Ethernet Port - IEC 61000-4-5 Level 2 Power Line - IEC 61000-4-5 Level 3

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