# MOXA®

# NPort 5600-8-DT Series
# Quick Installation Guide

## 1.  Overview

The following models comprise the NPort 5600-8-DT Series:

**NPort 5610-8-DT**:   8 ports, RS-232, DB9
**NPort 5610-8-DT-J**: 8 ports, RS-232, RJ45
**NPort 5650-8-DT**:   8 ports, RS-232/422/485, DB9
**NPort 5650-8-DT-J**: 8 ports, RS-232/422/485, RJ45
**NPort 5650I-8-DT**:  8 ports, RS-232/422/485, DB9, optical isolation.

## 2.  Package Checklist

The NPort 5600-8-DT package should contain the following items:

- NPort 5600-8-DT 8-port serial device server
- NPort Document & Software CD
- NPort 5600-8-DT Quick Installation Guide
- DIN-rail kit

*Optional Accessories*:

- DK-35A:            DIN-rail mounting kit (35 mm)
- CBL-RJ45M9-150:    8-pin RJ45 to male DB9 cable, 150 cm
- CBL-RJ45F9-150:    8-pin RJ45 to female DB9 cable, 150 cm
- CBL-RJ45M25-150:   8-pin RJ45 to male DB25 cable, 150 cm
- CBL-RJ45F25-150:   8-pin RJ45 to female DB25 cable, 150 cm
- NP21101:           DB25-M to DB9-F RS-232 cable, 30 cm

*Please notify your sales representative if any of the above items are missing or damaged.*
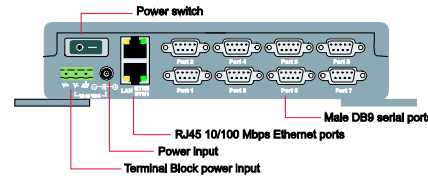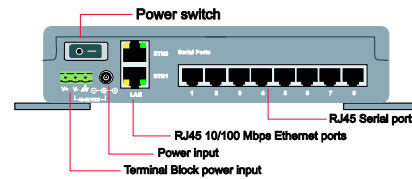
## 3.  Hardware Introduction

**Top and Rear View**
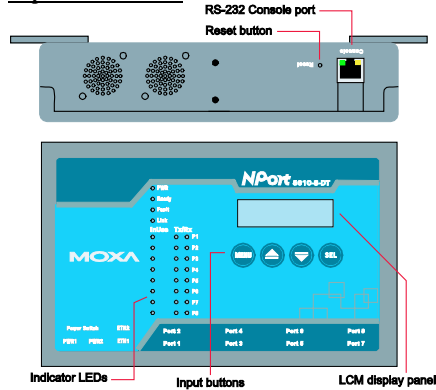


**P/N: 1802056001011**

**Front View (NPort 5610-8-DT, 5650-8-DT, 5650I-8-DT)**



**Front View (NPort 5610-8-DT-J, 5650-8-DT-J)**



## Reset Button

The reset button is used to load the factory defaults. Use a pointed object to hold the reset button down for five seconds. You may release the reset button when the Ready LED stops blinking.

## LED Indicators

The LED indicators on the top panel are used to display status as follows:

| Name | Color | Function |
|---|---|---|
| PWR | red | Power is on. |
| | off | Power is off. |
| Ready | green | Steady:     NPort is operational<br>Blinking:   NPort is responding to NPort Administrator "Locate" function |
| | off | Power is off or fault condition exists. |
| Fault | red | IP conflict or DHCP or BOOTP server did not respond properly. |
| | off | No fault condition detected. |
| Link | green | Steady:     Network is connected, no data is being transmitted.<br>Blinking:   Network is connected, data is being transmitted. |
| | off | Ethernet cable is disconnected or has a short. |
| InUse (P1 to P8) | green | Serial port has been opened by server side software. |
| | off | Serial port is not currently opened by server side software. |
| Tx/Rx (P1 to P8) | green (Tx) | Serial device is transmitting data. |
| | orange (Rx) | Serial device is receiving data. |
| | off | No data is flowing to or from the serial port. |

## 4.  Hardware Installation

**STEP 1:** After removing the NPort 5600-8-DT from the box, place it on a desktop or other horizontal surface. Connect the 12-48 VDC power adaptor to the NPort 5600-8-DT's power input when using an AC power source, or connect the NPort 5600-8-DT's terminal block directly to a DC power source.

**STEP 2:** Use an Ethernet cable to connect the NPort 5600-8-DT to a network hub or switch. You can also connect directly to your computer's Ethernet port, which is convenient for initial configuration or testing.

**STEP 3:** Connect the NPort 5600-8-DT's serial port to a serial device.

## Wall or Cabinet Mounting

The NPort 5600-8-DT comes with two metal attachment plates to allow installation on a wall or the inside of a cabinet. First, attach the brackets to the back of the NPort with screws. Next, mount the unit on a wall or cabinet with screws. Screws should be less than 6.0 mm in head diameter, and less than 3.5 mm in shaft diameter.
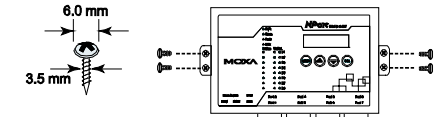


## DIN-Rail Mounting

DIN-rail attachments can be purchased separately to attach the product to a DIN-rail. The DIN-rail attachments should be oriented with the metal springs on top.

**Standard Attachment**                **DK-35A Attachment**
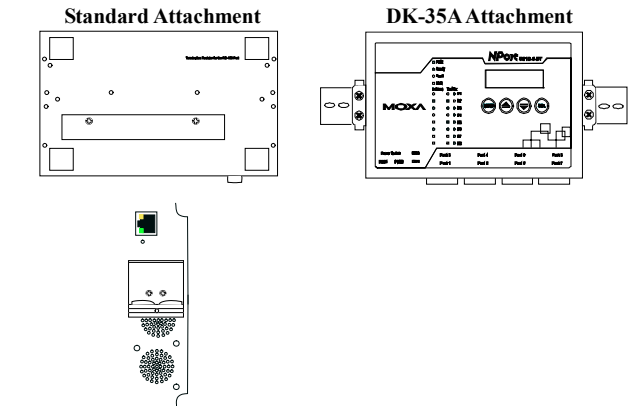
## 5. Pull High/Low Resistors for RS-485

Use the set of DIP switches on the bottom panel to set the pull high/low resistor values for each serial port. To access the switches, remove the screws holding the DIP switch cover in place and flip open the cover. There are three DIP switches for each port's pull high/low resistors:

| SW | 1 Pull High | 2 Pull Low | 3 Terminator |
|---|---|---|---|
| ON | 1KΩ | 1KΩ | 120Ω |
| Default→ OFF | 150KΩ | 150KΩ | --- |

## 6. Software Installation Information

To install **NPort Administration Suite**, insert the NPort **Document & Software CD** into your PC's CD-ROM drive. Locate and run the setup program and follow the on-screen instructions. The setup program will be named **Npadm_Setup_**[*Version*]**_Build_**[*DateTime*]**.exe** (e.g., "Npadm _Setup_Ver1.8_Build_07041316.exe"). For more information about NPort Administration Suite, please refer to the NPort 5600-8-DT User's Manual.
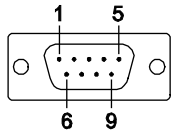
## 7. Pin Assignments and Cable Wiring

**RJ45 Ports** (NPort 5610-8-DT-J, 5650-8-DT-J)
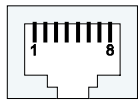
| Pin | RS-232 | RS-422 4-wire RS-485 | 2-wire RS-485 |
|---|---|---|---|
| 1 | DSR | --- | --- |
| 2 | RTS | TxD+ | --- |
| 3 | GND | GND | GND |
| 4 | TxD | TxD- | --- |
| 5 | RxD | RxD+ | Data+ |
| 6 | DCD | RxD- | Data- |
| 7 | CTS | --- | --- |
| 8 | DTR | --- | --- |

Note: The NPort 5610-8-DT-J supports RS-232 only.

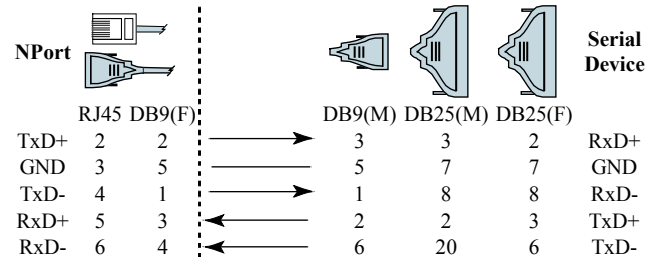**DB9 Male Ports** (NPort 5610-8-DT, 5650-8-DT, 5650I-8-DT)

| 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 | --- | --- | --- |

Note: The NPort 5610-8-DT supports RS-232 only.

**RS-232 Cables**



| | RJ45 | DB9(F) | | DB9(M) | DB25(M) | DB25(F) | |
|---|---|---|---|---|---|---|---|
| DSR | 1 | 6 | ← | 4 | 6 | 20 | DTR |
| RTS | 2 | 7 | → | 8 | 4 | 5 | CTS |
| GND | 3 | 5 | — | 5 | 7 | 7 | GND |
| TxD | 4 | 3 | → | 2 | 2 | 3 | RxD |
| RxD | 5 | 2 | ← | 3 | 3 | 2 | TxD |
| DCD | 6 | 1 | ← | 1 | 8 | 8 | DCD |
| CTS | 7 | 8 | ← | 7 | 5 | 4 | RTS |
| DTR | 8 | 4 | → | 6 | 20 | 6 | DSR |
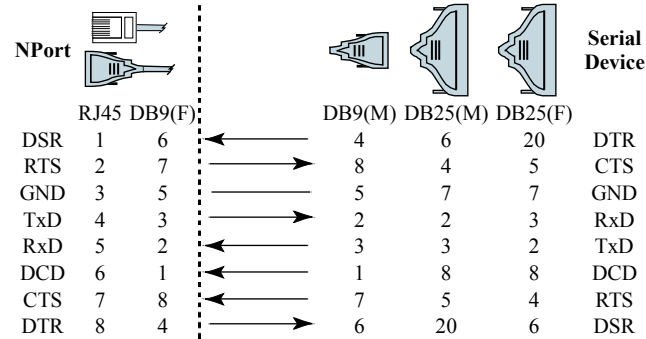
**RS-422, 4-wire RS-485 Cables**



| | RJ45 | DB9(F) | | DB9(M) | DB25(M) | DB25(F) | |
|---|---|---|---|---|---|---|---|
| TxD+ | 2 | 2 | → | 3 | 3 | 2 | RxD+ |
| GND | 3 | 5 | — | 5 | 7 | 7 | GND |
| TxD- | 4 | 1 | → | 1 | 8 | 8 | RxD- |
| RxD+ | 5 | 3 | ← | 2 | 2 | 3 | TxD+ |
| RxD- | 6 | 4 | ← | 6 | 20 | 6 | TxD- |

**2-wire RS-485 Cables**



| | RJ45 | DB9(F) | | DB9(M) | DB25(M) | DB25(F) | |
|---|---|---|---|---|---|---|---|
| GND | 3 | 5 | — | 5 | 7 | 7 | GND |
| Data+ | 5 | 3 | ↔ | 2 | 2 | 3 | Data+ |
| Data- | 6 | 4 | ↔ | 6 | 20 | 6 | Data- |
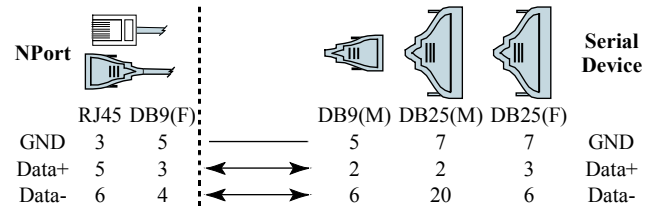
## 8. Specifications

**LAN**
| | |
|---|---|
| Ethernet Ports | 2 × 10/100 Mbps (RJ45) |
| Protection | Built-in 1.5 KV magnetic isolation |

**Serial Interface**
| | |
|---|---|
| RS-232 | NPort 5610-8-DT, 5610-8-DT-J |
| RS-232/422/485 | NPort 5650-8-DT, 5650-8-DT-J, 5650I-8-DT |
| Serial Ports | 8 (DB9-M or RJ45 connectors) |
| Isolation | 2K VDC isolation (NPort 5650I-8-DT) |
| Signals | |
| RS-232 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422 | Tx+, Tx-, Rx+, Rx-, GND |
| RS-485 (2-wire) | Data+, Data-, GND |
| RS-485 (4-wire) | Tx+, Tx-, Rx+, Rx-, GND |
| Serial Line Protection | 15KV ESD for all signals |
| RS-485 Data Direction | ADDC™ (Automatic Data Direction Control) |

**Serial Communication Parameters**
| | |
|---|---|
| Parity | None, Even, Odd, Space, Mark |
| Data Bits | 5, 6, 7, 8 |
| Stop Bit(s) | 1, 1.5, 2 |
| Flow Control | RTS/CTS, DSR/DTR (for RS-232 only), XON/XOFF |
| Transmission Speed | 50 bps to 921.6 Kbps |

**Power Requirements**
| | |
|---|---|
| Power Input | 12 to 48 VDC |

**Mechanical**
| | |
|---|---|
| Operating Temperature | 0 to 55°C (32 to 131°F), 5 to 95% RH |
| Storage Temperature | -20 to 70°C (-4 to 185°F), 5 to 95% RH |
| Material | SECC sheet metal (0.8 mm) |
| Dimensions (W × D × H) | 197 × 44 × 125 mm |
| | 229 × 46 × 125 mm (with wall-mount) |
| | 197 × 52.8 × 125 mm (with DIN-rail kit) |
| Power Line Protection | 4 KV Burst (EFT), EN61000-4-4 |
| | 2 KV Surge, EN61000-4-5 |

**Certifications**
| | |
|---|---|
| Regulatory Approvals | FCC Class A, CE Class A, UL, CUL, TÜV |
| Warranty | 5 years |

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