

# NPort® 5600 Desktop Series

## 8-port RS-232/422/485 serial device servers



- > 8 serial ports supporting RS-232/422/485
- > Compact desktop design
- > 10/100M auto-sensing Ethernet
- > Built-in 15 KV ESD protection for all serial signals
- > Easy IP address configuration with LCD panel
- > Choice of configuration methods: Web console, Telnet console, and Windows utility
- > Versatile socket operation modes, including TCP Server, TCP Client, UDP, and Real COM
- > SNMP MIB-II for network management



### Overview

NPort® 5600-8-DT device servers can conveniently and transparently connect 8 serial devices to an Ethernet network, allowing you to network your existing serial devices with only basic configuration. You can both centralize management of your serial devices and distribute management hosts over the network. Since the NPort® 5600-8-DT device servers have a smaller form factor compared to our 19-inch models, they are a great choice for applications that need additional serial ports, but for which mounting rails are not available.

#### Convenient Design for RS-485 Applications

The NPort® 5650-8-DT device servers support selectable 1 K $\Omega$  and 150 K $\Omega$  pull high/low resistors and a 120  $\Omega$  terminator. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals. When using termination resistors, it is also important to set the pull high/low resistors correctly so that the electrical signal is not corrupted. Since no set of resistor values is universally compatible with all environments, NPort® 5600-8-DT device servers use DIP switches to allow users to adjust termination and pull high/low resistor values manually for each serial port.

#### Convenient Power Inputs

The NPort® 5650-8-DT device servers support both power terminal blocks and power jacks for ease of use and greater flexibility. Users can connect the terminal block directly to a DC power source, or use the power jack to connect to an AC circuit through an adaptor.

#### LED Indicators to Ease Your Maintenance Tasks

The System LED, Serial Tx/Rx LEDs, and Ethernet LEDs (located on the RJ45 connector) provide a great tool for basic maintenance tasks and help engineers analyze problems in the field. The NPort® 5600's LEDs not only indicate current system and network status, but also help field engineers monitor the status of attached serial devices.

#### Two Ethernet Ports for Convenient Cascade Wiring

The NPort® 5600-8-DT device servers come with two Ethernet ports that can be used as Ethernet switch ports. Connect one port to the network or server, and the other port to another Ethernet device. The dual Ethernet ports eliminate the need to connect each device to a separate Ethernet switch, reducing wiring costs.

## Appearance



LED Indicators

Ethernet Switch  
RJ45 10/100 Mbps

Power Input  
Both power Jack and  
Terminal block 12-48VDC

RS-232 Console Port

LCD Panel

Push Buttons

Serial Ports

NPort® 5610-8-DT: DB9, RS-232  
NPort® 5650-8-DT: DB9, RS-232/422/485  
NPort® 5610-8-DT-J: RJ45, RS-232  
NPort® 5650-8-DT-J: RJ45, RS-232/422/485

Reset Button

## Specifications

### Ethernet Interface

**Number of Ports:** 2 (1 IP)

**Speed:** 10/100 Mbps, auto MDI/MDIX

**Connector:** 8-pin RJ45

**Magnetic Isolation Protection:** 1.5 KV built-in

### Serial Interface

**Number of Ports:** 8

**Serial Standards:**

NPort 5610-8-DT: RS-232

NPort 5650-8-DT: RS-232/422/485

**Connector:**

NPort 5610-8-DT/5650-8-DT/5650I-8-DT: DB9 male

NPort 5610-8-DT-J/5650-8-DT-J: RJ45 (8 pins)

**Serial Line Protection:**

15 KV ESD protection for all signals

2 KV isolation protection (NPort 5650I-8-DT only)

**RS-485 Data Direction Control:** ADDC® (automatic data direction control)

**Pull High/Low Resistor for RS-485:** 1 K $\Omega$ , 150 K $\Omega$

**Terminator for RS-485:** 120  $\Omega$

### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 1.5, 2

**Parity:** None, Even, Odd, Space, Mark

**Flow Control:** DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF

**Baudrate:** 50 bps to 921.6 Kbps

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:** Tx+, Tx-, Rx+, Rx-, GND

**RS-485-4w:** Tx+, Tx-, Rx+, Rx-, GND

**RS-485-2w:** Data+, Data-, GND

### Software

**Network Protocols:** ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNTp, Rtelnet, ARP, RFC2217

**Configuration Options:** Web Console, Telnet Console, Serial Console, Windows Utility

**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i

**Linux Real TTY Drivers:** Linux kernel 2.4.x, 2.6.x

### Mini Screen with Push Buttons

**LCD Panel:** Liquid Crystal Display on the case

**Push Buttons:** Four push buttons for convenient on-site configuration

### Physical Characteristics

**Housing:** Metal, IP30 protection

**Weight:**

NPort 5610-8-DT: 1760 g

NPort 5610-8-DT-J: 1710 g

NPort 5650-8-DT: 1770 g

NPort 5650-8-DT-J: 1710 g

NPort 5650I-8-DT: 1850 g

**Dimensions:**

Without ears: 197 x 44 x 125 mm (7.76 x 1.73 x 4.92 in)

With ears: 229 x 46 x 125 mm (9.01 x 1.81 x 4.92 in)

With DIN-Rail kit on bottom panel: 197 x 53 x 125 mm (7.76 x 2.09 x 4.92 in)

### Environmental Limits

**Operating Temperature:** 0 to 55°C (32 to 131°F)

**Storage Temperature:** -20 to 70°C (-4 to 158°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Power Requirements

**Input Voltage:** 12 to 48 VDC

**Power Consumption:**

NPort 5610-8-DT:

611 mA @ 12 V, 300 mA @ 24 V, 140 mA @ 48 V

NPort 5610-8-DT-J:

611 mA @ 12 V, 300 mA @ 24 V, 140 mA @ 48 V

NPort 5650-8-DT:

615 mA @ 12 V, 300 mA @ 24 V, 156 mA @ 48 V

NPort 5650I-8-DT:

1066 mA @ 12 V, 510 mA @ 24 V, 200 mA @ 48 V

NPort 5650-8-DT-J:

615 mA @ 12 V, 300 mA @ 24 V, 156 mA @ 48 V

### Standards and Certifications

**Safety:** UL 60950-1, EN 60950-1

**EMC:** CE, FCC

**EMI:** EN 55022 Class A, FCC Part 15 Subpart B Class A

**EMS:** EN 55024

### Reliability

**Alert Tools:** Built-in buzzer and RTC (real-time clock)

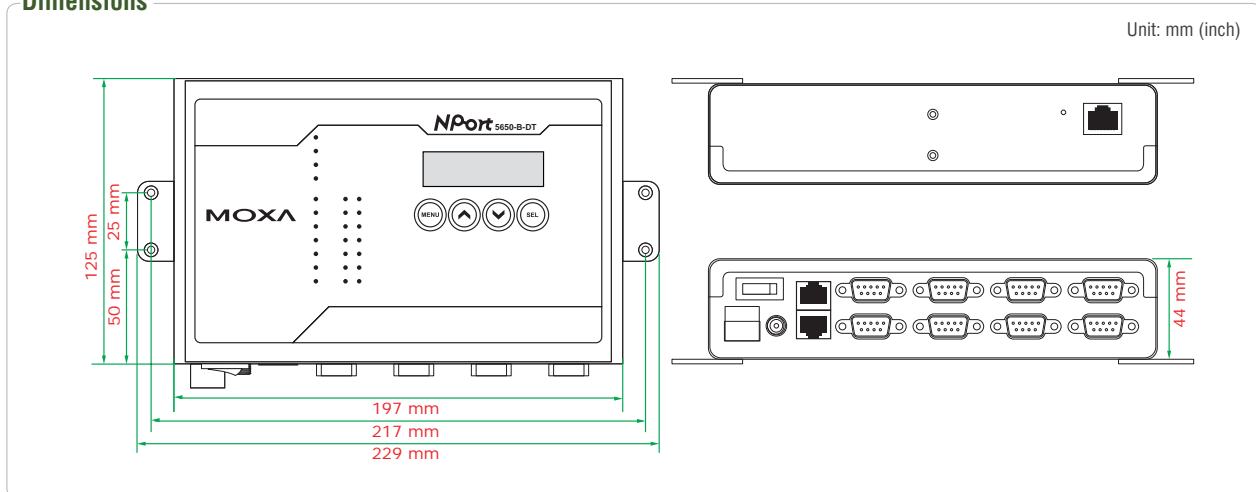
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

**MTBF (mean time between failures):** 163,356 hrs

### Warranty

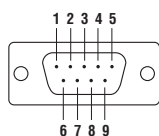
**Warranty Period:** 5 years

## Dimensions



## Pin Assignment

### DB9 male connector



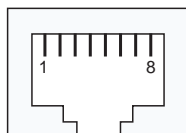
### NPort® 5610-8-DT (RS-232)

PIN	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

### NPort® 5650-8-DT/5650I-8-DT (RS-232/422/485)

PIN	RS-232	RS-422/485-4w	RS-485-2w
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	-	-

### 8-pin RJ45 connector



### NPort® 5610-8-DT-J (RS-232)

PIN	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

### NPort® 5650-8-DT-J (RS-232/422/485)

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DSR	-	-
2	RTS	TxD+	-
3	GND	GND	GND
4	TxD	TxD-	-
5	RxD	RxD+	Data+
6	DCD	RxD-	Data-
7	CTS	-	-
8	DTR	-	-

## Ordering Information

### Available Models

**NPort 5610-8-DT:** 8-port RS-232 desktop device server with DB9 male connectors and 48 VDC power input

**NPort 5610-8-DT-J:** 8-port RS-232 desktop device server with RJ45 connectors and 48 VDC power input

**NPort 5650-8-DT:** 8-port RS-232/422/485 desktop device server with DB9 male connectors and 48 VDC power input

**NPort 5650-8-DT-J:** 8-port RS-232/422/485 desktop device server with RJ45 connectors and 48 VDC power input

**NPort 5650I-8-DT:** 8-port RS-232/422/485 desktop device server with DB9 male connectors, 48 VDC power input, and 2 KV optical isolation

### Optional Accessories (can be purchased separately)

**CBL-RJ45F25-150:** 8-pin RJ45 to DB25 female cable, 150 cm

**CBL-RJ45M25-150:** 8-pin RJ45 to DB25 male cable, 150 cm

**CBL-RJ45F9-150:** 8-pin RJ45 to DB9 female cable, 150 cm

**CBL-RJ45M9-150:** 8-pin RJ45 to DB9 male cable, 150 cm

### Package Checklist

- NPort 5600 device server
- Power adaptor
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

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