

# NPort® 6250 Series

## 2-port RS-232/422/485 secure terminal servers



- > Simple solution for connecting serial devices to a network
- > Secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal, and Reverse Terminal
- > Non-standard baudrates supported with high precision
- > Choice of network medium: 10/100BaseTX or 100BaseFX
- > Enhanced remote configuration with HTTPS and SSH
- > Port buffers for storing serial data when the Ethernet is off-line
- > Supports IPv6



### Overview

The 2-port NPort® 6250 device servers use the SSL and SSH protocols to transmit encrypted serial data over Ethernet. Models are available for connecting to a 10/100BaseTX copper Ethernet or

100BaseTX fiber network. Both single-mode and multi-mode fiber are supported.

### Zero Data Loss if Ethernet Connection Fails

The NPort® 6250 device servers help guarantee reliability by providing users with secure serial-to-Ethernet data transmission and a customer-oriented hardware design. If the Ethernet connection fails, the NPort® 6250 will queue all serial data in its internal 64 KB port buffer. When

the Ethernet connection is re-established, the NPort® 6250 will immediately release all of the data in the buffer in the order that it was received. Users can increase the port buffer size by installing an SD card.

### Specifications

#### Ethernet Interface

**Number of Ports:** 1  
**Speed:** 10/100 Mbps, auto MDI/MDIX  
**Connector:** 8-pin RJ45  
**Magnetic Isolation:** 1.5 KV built-in

#### Optical Fiber Interface (NPort 6250-S-SC/6250-M-SC)

|                  | 100BaseFX                              |                    |
|------------------|--|--------------------|
|                  | Multi-mode                             | Single-mode        |
| Wavelength       | 1300 nm                                | 1310 nm            |
| Max. TX          | -14 dBm                                | 0 dBm              |
| Min. TX          | -20 dBm                                | -5 dBm             |
| RX Sensitivity   | -32 dBm                                | -34 dBm            |
| Link Budget      | 12 dB                                  | 29 dB              |
| Typical Distance | 5 km <sup>a</sup><br>4 km <sup>b</sup> | 40 km <sup>c</sup> |
| Saturation       | -6 dBm                                 | -3 dBm             |

a. 50/125 μm, 800 MHz\*km fiber optic cable  
 b. 62.5/125 μm, 500 MHz\*km fiber optic cable  
 c. 9/125 μm, 3.5 PS/(nm\*km) fiber optic cable

#### Serial Interface

**Number of Ports:** 2  
**Serial Standards:** RS-232/422/485  
**Connector:** DB9 male

**RS-485 Data Direction Control:** ADDC® (Automatic Data Direction Control)

**Serial Line Protection:** 15 KV ESD protection for all signals  
**Console Port:** Serial port 1 doubles as RS-232 console port

#### Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8  
**Stop Bits:** 1, 1.5, 2  
**Parity:** None, Even, Odd, Space, Mark  
**Flow Control:** RTS/CTS, DTR/DSR, XON/XOFF  
**Baudrate:** 50 bps to 921.6 Kbps (supports non-standard baudrates)  
**Pull High/Low Resistor for RS-485:** 1 KΩ, 150 KΩ

#### 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

#### Memory Expansion Slot

**Slot Type:** SD socket (supports up to 2 GB)

#### Software

**Network Protocols:** ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE  
**Security Protocols:** DES, 3DES, AES, SSH, SSL  
**Configuration Options:** Web Console, Serial Console, Telnet Console, Windows Search 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

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

**Management:** SNMP MIB-II

**IP Routing:** Static, RIP-I, RIP-II

**Operation Modes**

**Standard:** Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled

**Secure:** Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH

**Applications**

**Terminal Sessions:** 8 sessions per port

**Physical Characteristics**

**Housing:** Metal

**Weight:** 730 g

**Dimensions:**

Without ears: 77 x 111 x 28 mm (3.30 x 4.37 x 1.1 in)

With ears: 89 x 111 x 28 mm (3.50 x 4.37 x 1.1 in)

**Environmental Limits**

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

**Storage Temperature:** -40 to 75°C (-40 to 167°F)

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

**Power Requirements**

**Input Voltage:** 12 to 48 VDC

**Power Consumption:**

NPort 6250: 333 mA @ 12 V, 173 mA @ 24 V

NPort 6250-M-SC: 428 mA @ 12 V, 219 mA @ 24 V

NPort 6250-S-SC: 376 mA @ 12 V, 193 mA @ 24 V

**Alarm Contact:** Relay output with current carrying capacity of 1 A @

24 VDC

**Power Line Protection:** 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV surge (EN61000-4-5)

**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

EN 61000-4-2 (ESD) Level 2/3,

EN 61000-4-3 (RS) Level 2,

EN 61000-4-4 (EFT) Level 2,

EN 61000-4-5 (Surge) Level 2,

EN 61000-4-6 (CS) Level 2,

EN 61000-4-8 Level 1,

EN 61000-4-11

**Freefall:** IEC-68-2-6, IEC-68-2-34, IEC-68-2-32

**Vibration:** IEC-68-2-6, IEC-68-2-34

**Green Product:** RoHS, CRoHS, WEEE

**Reliability**

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

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

**MTBF (mean time between failures):**

NPort 6250: 226,128 hrs

NPort 6250-M-SC: 225,762 hrs

NPort 6250-S-SC: 225,762 hrs

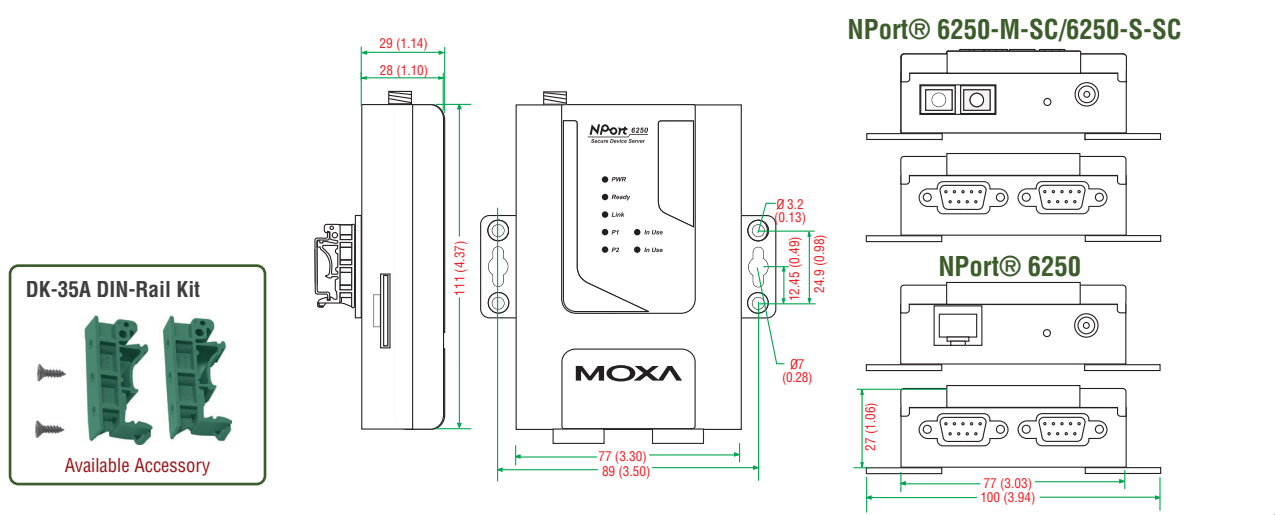
**Warranty**

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

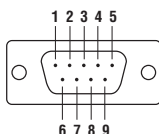
**Dimensions**

Unit: mm (inch)



**Pin Assignment**

| 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    | -             | -         |



DB9 male connector

**Ordering Information**

**Available Models**

**NPort 6250:** 2-port secure device server, RS-232/422/485 to Ethernet

**NPort 6250-M-SC:** 2-port secure device server, RS-232/422/485 to multi-mode fiber (SC connector)

**NPort 6250-S-SC:** 2-port secure device server, RS-232/422/485 to single-mode fiber (SC connector)

**Optional Accessories (can be purchased separately)**

**DK-35A:** Mounting Kit for 35-mm DIN-Rail

**NP21101:** DB25 male to DB9 female RS-232 cable, 30 cm

**Package Checklist**

- 1 NPort 6250 device server
- Power Adaptor
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card