

# NPort® DE-211/311

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



- > 3-in-1 serial port: RS-232, RS-422, or RS-485
- > Versatile operation modes, including TCP Server, TCP Client, UDP, Ethernet Modem, and Pair Connection
- > Real COM/TTY drivers for Windows and Linux
- > 2-wire RS-485 with patented Automatic Data Direction Control (ADDC®)
- > Built-in 15 kV ESD protection for all serial signals



### Overview

The NPort® DE-211 and DE-311 are 1-port serial device servers that support RS-232, RS-422, 4-wire RS-485, and 2-wire RS-485. The DE-211 supports 10 Mbps Ethernet connections and has a DB25 female connector for the serial port. The DE-311 supports 10/100

Mbps Ethernet connections and has a DB9 female connector for the serial port.

Both device servers are ideal for applications that involve information display boards, PLCs, flow meters, gas meters, CNC machines, and biometric identification card readers.

### Specifications

#### Ethernet Interface

**Number of Ports:** 1

**Speed:**

NPort DE-211: 10 Mbps, auto MDI/MDIX

NPort DE-311: 10/100 Mbps, auto MDI/MDIX

**Connector:** 8-pin RJ45

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

#### Serial Interface

**Number of Ports:** 1

**Serial Standards:** RS-232/422/485 (selectable by DIP Switch)

**Connector:**

NPort DE-211: DB25 female

NPort DE-311: DB9 female

**Serial Line Protection:** 15 kV ESD protection for all signals

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

#### 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, XON/XOFF

**Baudrate:** 150 bps to 230.4 kbps

#### Serial Signals

**RS-232:** Tx+, Rx+, RTS, CTS, DTR, DSR, DCD, GND

**RS-422:**

DE-211: Tx+, Tx-, Rx+, Rx-, GND

DE-311: Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND

**RS-485-4w:** Tx+, Tx-, Rx+, Rx-, GND (DE-211 only)

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

#### Software

**Network Protocols:** DHCP, BOOTP, Telnet, TCP, UDP, IPv4, ICMP, ARP

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

**Windows Real COM Drivers:** Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25,

QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X

**Linux Real TTY Drivers:** Linux 2.4.x, 2.6.x, 3.x

#### Physical Characteristics

**Housing:** Metal

**Weight:** 480 g

**Dimensions:**

Without ears: 67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)

With ears: 90.2 x 100.4 x 22 mm (3.55 x 3.95 x 0.87 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)

**Altitude:** Up to 2000 m

*Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.*

#### Power Requirements

**Input Voltage:**

DE-211: 12 to 30 VDC

DE-311: 9 to 30 VDC

**Power Consumption:**

NPort DE-211: 180 mA @ 12 V, 100 mA @ 24 V

NPort DE-311: 300 mA @ 9 V, 150 mA @ 24 V

#### Standards and Certifications

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

**EMC:** CE, FCC

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

**EMS:** EN 55024

**Medical:** EN 60601-1-2 Class B, EN 55011 (DE-311 only)

#### Reliability

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

NPort DE-211: 347,822 hrs

NPort DE-311: 225,529 hrs

#### Warranty

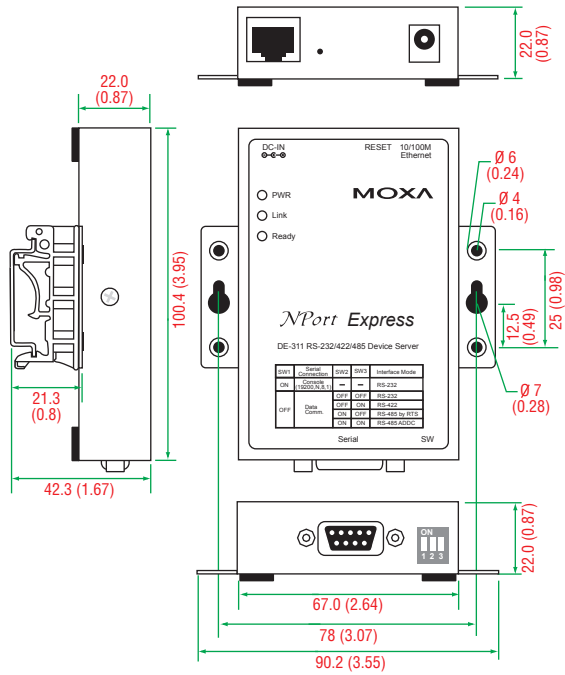
**Warranty Period:** 5 years

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

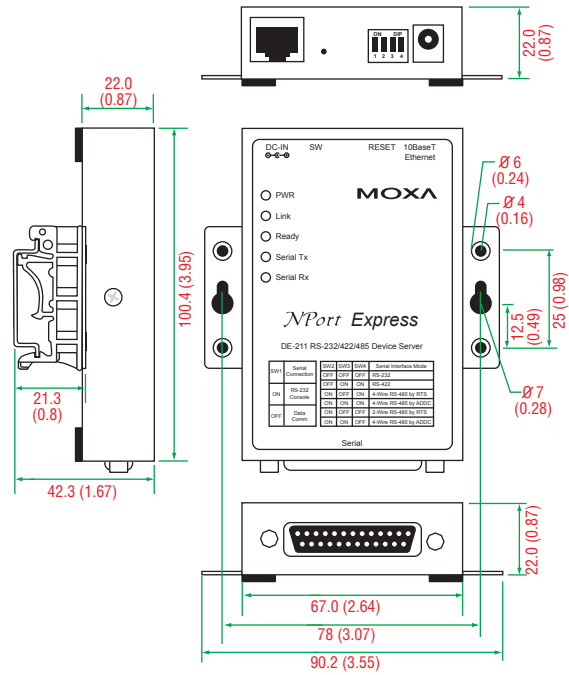
Dimensions

Unit: mm (inch)

NPort® DE-311

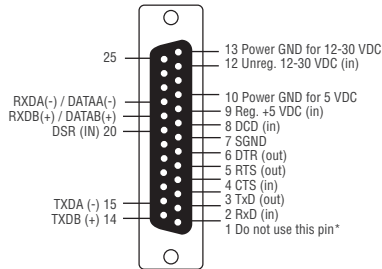


NPort® DE-211

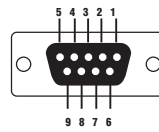


Pin Assignment

NPort® DE-211 (RS-232/422/485, DB25 female connector)



NPort® DE-311 (RS-232/422/485, DB9 female connector)



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

Ordering Information

Available Models

**NPort DE-211:** 1-port RS-232/422/485 device server with 10 Mbps Ethernet connection  
**NPort DE-311:** 1-port RS-232/422/485 device server with 10/100 Mbps Ethernet connection

Optional Accessories (can be purchased separately)

- NP21101:** DB25 male to DB9 female cable for RS-232 transmission, 30 cm (for DE-211)
- NP21102:** DB25 male to DB9 male cable for RS-232 transmission, 30 cm (for DE-211)
- NP21103:** DB25 male terminal block kit for RS-422/485 transmission (for DE-211)
- TB-M25:** DB25 male DIN-Rail wiring terminal (for DE-211)
- TB-M9 (for DE-311):** DB9 male DIN-Rail wiring terminal (for DE-311)
- DK-35A:** Mounting kit for 35-mm DIN-Rail
- Mini DB9F-to-TB Adapter:** DB9 female to terminal block adapter for RS-422/485 applications (DE-311 only)

Package Checklist

- NPort DE-211 or DE-311 device server
- 100 to 240 VAC power adapter
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card