

# UPort® 1600-8 Series

## 8-port RS-232 and RS-232/422/485 USB-to-serial converters



- > Hi-Speed USB 2.0 for up to 480 Mbps USB transmission
- > 921.6 Kbps maximum baudrate for super fast data transmission
- > 15N high retention USB type B connector
- > 128-byte FIFO and on-chip H/W, S/W flow control
- > Built-in 15 KV ESD protection for all serial ports
- > IP30-rated, rugged metal housing
- > COM port assignments maintained across different PCs
- > Mini DB9 female to terminal block adaptor for easy wiring
- > Drivers provided for Windows, WinCE, and Linux
- > Locking power cord



### Overview

The UPort® 1600-8 USB-to-serial converters allow you to connect 8 RS-232 or RS-232/422/485 devices to your laptop or workstation through the USB (Universal Serial Bus) port. The UPort® 1600-8

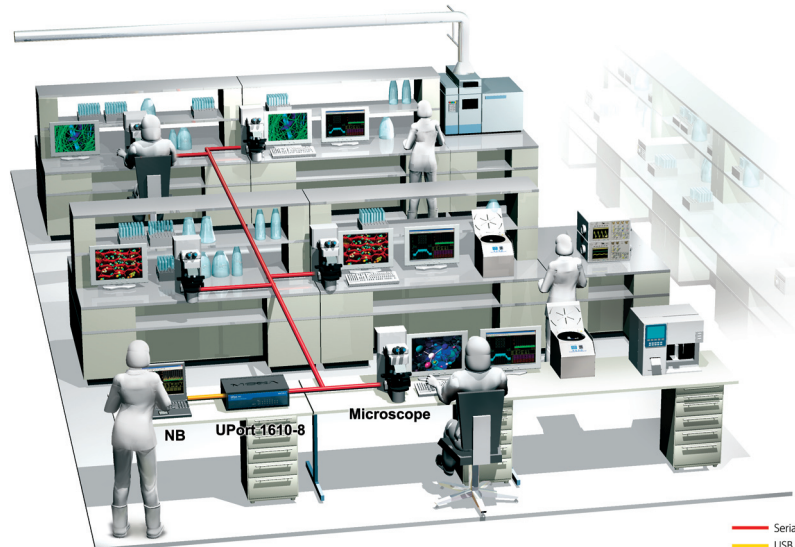
converters are compatible with new and legacy serial devices, and are perfect for instrumentation and manufacturing applications.

### Typical Application— Application Topology

Medical scientists and pharmaceutical researchers rely on sophisticated laboratory equipment to discover new treatments for patients. Most research is carried out in teams given the complex and collaborative nature of medical science. Scientists often transfer images and data from microscopes and other equipment to each other's laptops or desktop computers. Connecting all of these pieces of equipment usually requires multiple serial ports, one for each peripheral device. Since computers are only equipped with a limited number of serial ports, expanding a USB connection into multiple serial ports can provide researchers with the connectivity they need to make their next scientific breakthrough. Moxa's solution is the UPort®

1610-8, which is an RS-232 USB-to-serial converter that can be used to connect multiple serial interface microscopes and other equipment to a computer's USB port. The UPort® 1610-8 provides the following benefits:

- Up to 8 ports for easy USB-to-serial expansion
- True USB 2.0 high-speed transmission for large data transmission
- 128-byte FIFO and on-chip hardware and software flow control to ensure stable data transmission
- Easy troubleshooting with LED indicators for each serial port
- Compatibility with both laptop and desktop PCs



## Specifications

### USB Interface

**Compliance:** USB 1.1/2.0 compliant  
**Connector:** USB type B  
**Speed:** 480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)

### Serial Interface

**Number of Ports:** 8  
**Serial Standards:**  
 UPort 1610-8: RS-232  
 UPort 1650-8: RS-232/422/485  
**Connector:** DB9 male

### Serial Line Protection

**ESD Protection:** 15 KV embedded

### Performance

**Baudrate:** 50 bps to 921.6 Kbps (including 500 Kbps)

### 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  
**FIFO:** 128 bytes

### Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND  
**RS-422:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND  
**RS-485-4w:** TxD+(B), TxD-(A), RxD+(B), RxD-(A), GND  
**RS-485-2w:** Data+(B), Data-(A), GND  
**RS-485 Data Direction:** ADDC® (Automatic Data Direction Control)

### Driver Support

**Operating Systems:** Windows 2000, Windows XP/2003/Vista/2008/7 x86/x64, WinCE 5.0/6.0, Linux 2.4, Linux 2.6 x86/x64

*Note: Please refer to Moxa's website for the latest driver support information.*

### Physical Characteristics

**Housing:** SECC sheet metal (1 mm), IP30 protection  
**Weight:**  
 Product only: 835 g (1.84 lb)  
 Packaged: 1440 g (3.17 lb)  
**Dimensions:** 204 x 44 x 125 mm (8.03 x 1.73 x 4.92 in)

### Environmental Limits

**Operating Temperature:** 0 to 55°C (32 to 131°F)  
**Storage Temperature:** -20 to 75°C (-4 to 167°F)  
**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Standards and Certifications

**Safety:** UL 60950-1  
**EMC:** CE, FCC  
**EMI:** EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A  
**EMS:** EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11  
**Green Product:** RoHS, CRoHS, WEEE

### Power Requirements

**Power Consumption:**  
 UPort 1610-8 (12 to 48 VDC external power): 230 mA @ 12 VDC  
 UPort 1650-8 (12 to 48 VDC external power): 340 mA @ 12 VDC

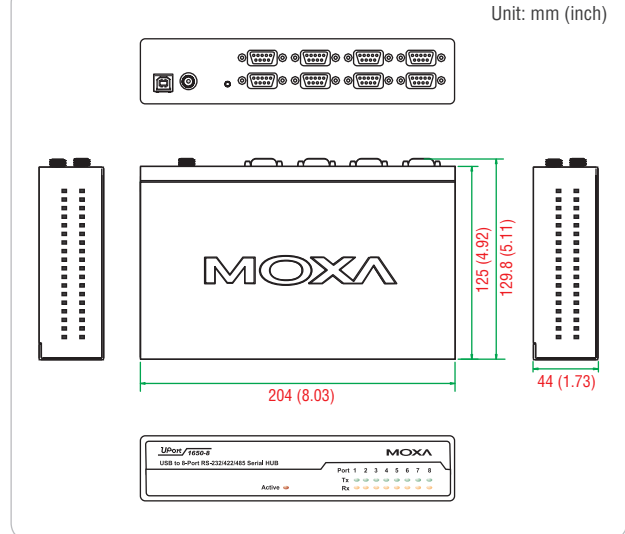
### MTBF (mean time between failures)

**Time:**  
 UPort 1610-8: 208,413 hrs  
 UPort 1650-8: 186,567 hrs  
**Database:** MIL-HDBK-217F

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

### Dimensions



## Ordering Information

### Available Models

**UPort 1610-8:** 8-port RS-232 USB-to-serial converter, adaptor included  
**UPort 1650-8:** 8-port RS-232/422/485 USB-to-serial converter, adaptor included

### Optional Accessories (can be purchased separately)

**Mini DB9F-to-TB Adaptor:** DB9 female to terminal block adaptor for RS-422/485 applications  
**Magnet Accessory:** Magnets for attaching the UPort 1600-8 to the PC's housing  
**Wall Mount Kit:** Metal plates and screws  
**DIN-Rail Kit:** DIN-Rail kit for the UPort 1600-8 series  
**DK35A:** Mounting kit for 35-mm DIN-Rail

### Package Checklist

- 1 UPort 1600-8 USB-to-serial converter
- USB-IF certified cable
- Power adaptor
- 1 mini DB9 female to terminal block adaptor (UPort 1650-8 only)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card