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
> 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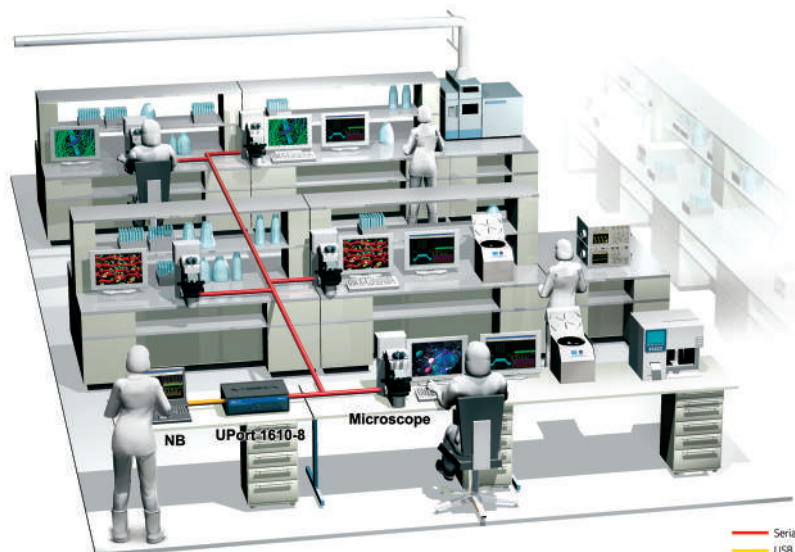 USB (Universal Serial Bus) port. The UPort® 1600-8 converters are compatible with new and legacy serial devices, and are perfect for instrumentation and manufacturing applications.

: 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)

Operating Systems
Windows Real COM Drivers: Windows 2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2012 (x64), Windows Embedded CE 5.0/6.0

Android Driver
Linux Real TTY Drivers: Linux 2.4.x, 2.6.x, 3.x
Note: Please refer to Moxa's website for the latest driver support information.

Physical Characteristics
Housing: SECC sheet metal (1 mm)
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)
Altitude: Up to 2000 m
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

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
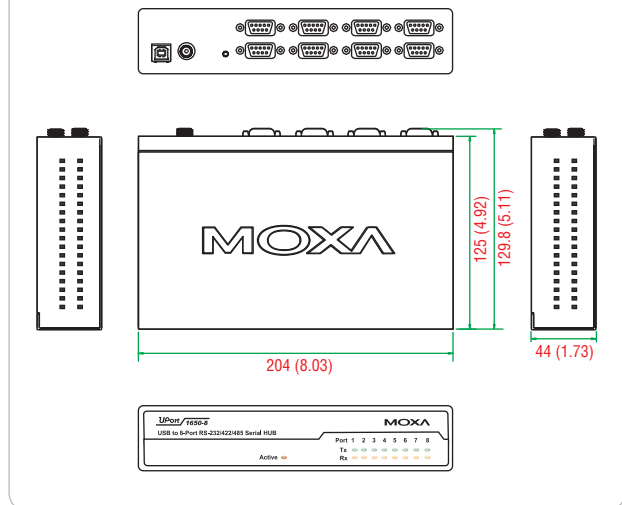UPort 1650-8: 186,567 hrs
Database: MIL-HDBK-217F

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

125 (4.92)
129.8 (5.11)
204 (8.03)
44 (1.73)

UPort 1650-8
USB to 8-Port RS-232/422/485 Serial HUB
MOXA
Port 1 2 3 4 5 6 7 8
Tx
Rx
Active

: 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