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
> COM port assignments maintained across different PCs
> Supports fixed-base COM Utility for setting the initial extended COM port number
> Mini DB9 female to terminal block adapter 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 U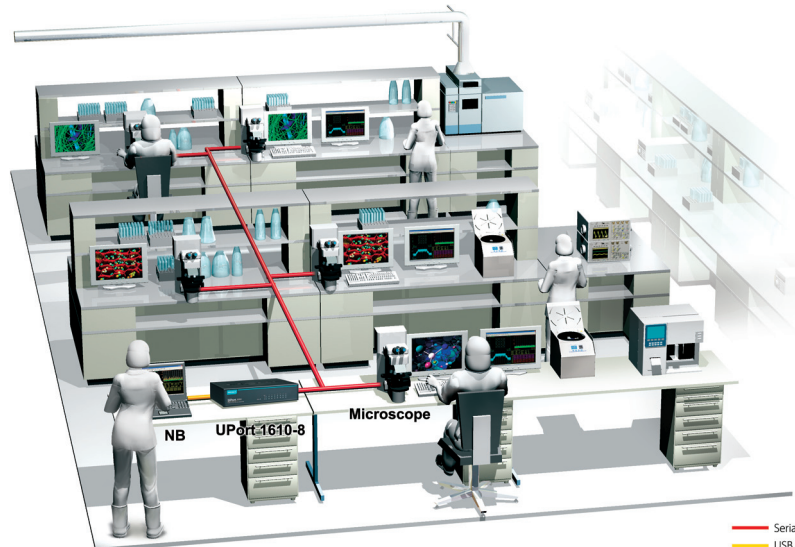SB (Universal Serial Bus) port. The UPort® 1600-8 converters are compatible with new and legacy serial devices, and they are perfect for instrumentation and manufacturing applications.

Typical 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

MOXA®

: 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

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/2008/7/8/8.1/10 (x86/x64), Windows 2012 (x64), Windows Embedded CE 5.0/6.0
Linux Real TTY Drivers: Linux 2.4.x, 2.6.x, 3.x
Android Driver: Android 3.1x and later
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: 1435 g (3.16 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: EN 55022/24
EMI: CISPR 22, FCC Part 15B Class A
EMS:
IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m
IEC 61000-4-4 EFT: Power: 1 kV
IEC 61000-4-5 Surge: Power: 1 kV
IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m
IEC 61000-4-8 PFMF
Green Product: RoHS, CRoHS, WEEE

Power Requirements
Input Voltage: 12 to 48 VDC
Input Current: 580 mA @ 12 VDC

MTBF (mean time between failures)
Time:
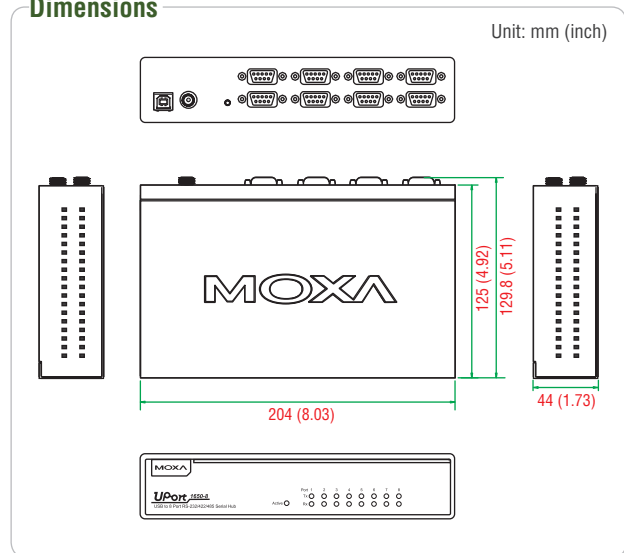UPort 1610-8: 208,413 hrs
UPort 1650-8: 186,567 hrs
MIL-HDBK-217F

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)

: Ordering Information

Available Models
UPort 1610-8: 8-port RS-232 USB-to-serial converter, adapter included
UPort 1650-8: 8-port RS-232/422/485 USB-to-serial converter, adapter included

Optional Accessories (can be purchased separately)
Mini DB9F-to-TB: DB9 female to terminal block connector
CBL-USBA/B-100: USB Type A to USB Type B cable, 100 cm
CBL-F9M9-150: DB9 female to DB9 male serial cable, 150 cm
CBL-F9M9-20: DB9 female to DB9 males serial cable, 20 cm
CBL-RJ45SF9-150: RJ45 to DB9 female shielded serial cable, 150 cm
ADP-RJ458P-DB9: DB9 female to RJ45 connector
A-ADP-RJ458P-DB9F-ABC01: DB9 female to RJ45 connector
DK-UP1400: DIN-rail/wall- mounting kit that includes 2 wall-mounting plates with 6 screws (WK-35-01), and 2 DIN-rail plates with 4 screws (DK35A)
DIN-Rail Kit: DIN-rail kit with 2 screws (P/N: 1490000150011)
Note: One power cord suitable for your region is included in the product package. Additional power adapters and power cords can be purchased separately. Please refer to the Power Accessory Selection Guide for details.

Package Checklist
- 1 UPort 1600-8 USB-to-serial converter
- 1 serial adapter: Mini DB9F-to-TB (UPort 1650-8 only)
- USB cable: CBL-USBA/B-100
- 100 to 240 VAC power adapter suitable for your region (excluding T models)
- 1 power cord (suitable for your region)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

MOXA®

Power Accessory Selection Guide

Barrel Plug Type		Non-locking barrel plug	Locking barrel plug				
O/P		12 VDC, 1.5 A, 100 to 240 VAC	12 VDC, 3 A 100 to 240 VAC (Switch Mode)				
Plug Type		CN	US/JP	EU	AU	UK	CN
Model Name		PWR-12150-CN-S2	PWR-12300-WPUSJP-S1	PWR-12300-WPEU-S1	PWR-12300-WPAU-S1	PWR-12300-WPUK-S1	PWR-12300-WPCN-S1
Appearance							
2 ports	UPort 1250	–	–	–	–	–	–
	UPort 1250I	✓	–	–	–	–	–
	UPort 2210	–	–	–	–	–	–
4 ports	UPort 1410	✓	–	–	–	–	–
	UPort 1450	✓	–	–	–	–	–
	UPort 1450I	✓	–	–	–	–	–
	UPort 2410	–	–	–	–	–	–
	UPort 204	–	✓	✓	✓	✓	✓
	UPort 404	–	✓	✓	✓	✓	✓
7 ports	UPort 207	–	✓	✓	✓	✓	✓
	UPort 407	–	✓	✓	✓	✓	✓
8 ports	UPort 1610-8	✓	–	–	–	–	–
	UPort 1650-8	✓	–	–	–	–	–
16 ports	UPort 1610-16	–	–	–	–	–	–
	UPort 1650-16	–	–	–	–	–	–

Barrel Plug Type		Locking barrel plug					
O/P		12 VDC 2 A, 100 to 240 VAC (desktop type)	2.5A/250 V Power Cord, 183 cm				
Plug Type		Must be used with a power cord	US	JP	EU	AU	UK
Model Name		PWR-12125-DT-S2	PWC-C7US-2B-183	PWC-C7JP-2B-183	PWC-C7EU-2B-183	PWC-C7AU-2B-183	PWC-C7UK-2B-183
Appearance							
2 ports	UPort 1250	✓	✓	✓	✓	✓	✓
	UPort 1250I	✓	✓	✓	✓	✓	✓
	UPort 2210	–	–	–	–	–	–
4 ports	UPort 1410	✓	✓	✓	✓	✓	✓
	UPort 1450	✓	✓	✓	✓	✓	✓
	UPort 1450I	✓	✓	✓	✓	✓	✓
	UPort 2410	–	–	–	–	–	–
	UPort 204	–	–	–	–	–	–
	UPort 404	–	–	–	–	–	–
7 ports	UPort 207	–	–	–	–	–	–
	UPort 407	–	–	–	–	–	–
8 ports	UPort 1610-8	✓	✓	✓	✓	✓	✓
	UPort 1650-8	✓	✓	✓	✓	✓	✓
16 ports	UPort 1610-16	✓	✓	✓	✓	✓	✓
	UPort 1650-16	✓	✓	✓	✓	✓	✓