

UPort 1600-8-G2 Series

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



Features and Benefits

- USB 3.2 SuperSpeed capability
- 512-byte on-chip FIFO cache and flow control for enhanced performance
- Drivers provided for a broad selection of operating systems, including Windows and Linux
- 50 bps to 921.6 kbps baudrate (nonstandard baudrates supported)
- Double-sided LEDs located at the corners show power, TX, and RX statuses in either directions
- Cascades with 3 UPort-G2 devices to up port capacity to 32 ports; no additional power adaptors required (UPort 1650-8-G2-Hub)
- Latching USB cable design for firmer connection
- Wide operating temperature models available for -40 to 75°C (-40 to 167°F) environments
- Serial port with 2 kV isolation protection (for “-I” models)

Certifications



Introduction

The UPort® 1600-8-G2 Series USB-to-serial converters are ideal for laptop or workstation computers that need serial port expansion. They are essential for computers which need to connect different serial devices in the field or need separate interface converters for devices without a standard COM port or DB9 connector. The computers also come with a USB cable that has a latch and screw lock for a more secure connection between the UPort and your computer. With the cascading capability of the UPort® 1650-8-G2-Hub, you can link up to 32 serial ports without a power adaptor to the UPort. The UPort® 1600-8-G2 Series converts from USB to RS-232/422/485. All products are compatible with legacy serial devices and can be used with instrumentation and point-of-sale applications.

Specification

USB Interface

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| USB Standards | USB 3.2 Gen 1 USB 1.1/2.0 compliant |
| Speed | 5 Gbps, 480 Mbps, 12 Mbps |
| No. of USB Ports | 1 x UFP for all models, and 3 additional DFP for UPort 1650-8-G2-Hub |
| USB Connector | USB type B (UFP) for all models, and type A (DFP) for UPort 1650-8-G2-Hub |

Serial Interface

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| Connector | DB9 male |
| No. of Ports | 8 |
| Serial Standards | RS-232: UPort 1610-8-G2 RS-232/422/485: All other models |
| FIFO | 512 bytes |
| Baudrate | 50 bps to 921.6 kbps (supports non-standard baudrates) |

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|-----------------------------------|---|
| Parity | None, Even, Odd, Space, Mark |
| Data Bits | 5, 6, 7, 8 |
| Stop Bits | 1, 1.5, 2 |
| Flow Control | RTS/CTS, XON/XOFF |
| RS-485 Data Direction Control | Automatic Data Direction Control (ADDC) |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms |
| Terminator for RS-485 | 120 ohms |
| Surge | 0.5 kV |
| Isolation | 2 kV (I models) |

Serial Signals

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| 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 |

Serial Software Features

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| Windows Drivers | Windows 11, 10, 8.1, 8, and 7 Windows Server 2022, 2019, 2016, 2012 R2, 2012 and 2008 R2 |
| Linux Drivers | Kernel 6.x, 5.x and 4.x |
| Mac Drivers | macOS version (Intel 64): 13, 12, 11 and 10.1x |
| Virtual Machine | VMware Fusion (Windows on macOS 13, 12, 11, 10.1x, Intel 64) VMWare ESXi (Linux kernel 4) Parallels Desktop (Windows on macOS 13, 12, 11, 10.1x, Intel 64) |
| Arm®-based Platform Support | Linux kernel 6.x, 5.x and 4.x |
| Android API | Android 3.1.x and later |

Power Parameters

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| Input Voltage | UPort 1610-8-G2/1650-8-G2 models: 5 VDC by USB bus power or 12 to 48 VDC by external power adaptor UPort 1650I-8-G2 models/1650-8-G2-Hub: 12 to 48 VDC by external power adaptor |
| Input Current | UPort 1610-8-G2: 308 mA @ USB 2.0, 495 mA @ USB 3.2, 260 mA @ 12 VDC UPort 1650-8-G2 models: 466 ma @ USB 2.0, 652 mA @ USB 3.2, 350 mA @ 12 VDC UPort 1650I-8-G2 models: 530 mA @ 12 VDC UPort 1650-8-G2-Hub: 2,250 mA @ 12 VDC |
| Output Power Rating | UPort 1650-8-G2-Hub: 900 mA @ 5 VDC (USB 3.2) 500 mA @ 5 VDC (USB 2.0) |

Physical Characteristics

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| Housing | Metal |
| Dimensions | 216 x 41.5 x 121.6 mm (8.50 x 1.63 x 4.79 in) |

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| Weight | UPort 1610-8-G2: 650 g (1.43 lb) UPort 1650-8-G2 models: 670 g (1.48 lb) UPort 1650I-8-G2 models: 678 g (1.49 lb) UPort 1650-8-G2-Hub: 689 g (1.52 lb) |
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| IP Rating | IP20 |
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Environmental Limits

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| Operating Temperature | Standard models: 0 to 60°C (32 to 140°F) -T models: -40 to 75°C (-40 to 167°F) |
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| Storage Temperature | -40 to 75°C (-40 to 167°F) |
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| Ambient Relative Humidity | 5 to 95% (non-condensing) |
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Standards and Certifications

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| EMC | EN 55032/35 |
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| EMI | CISPR 32, FCC Part 15B Class A |
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| 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, Signal: 0.5 kV IEC 61000-4-6 CS: 3 V; 150 kHz to 80 MHz IEC 61000-4-8 PFMF |
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| Safety | IEC 62368-1 EN 62368-1 UL 62368-1 (CB) KC |
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| Vibration | IEC 60068-2-6 IEC 60068-2-64 |
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| Shock | IEC 60068-2-27 |
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| Freefall | IEC 60068-2-31 |
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Declaration

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| Green Product | RoHS, CRoHS, WEEE |
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MTBF

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| Standards | Telcordia Standard SR332, Telcordia Issue 2 |
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| Time | UPort 1610-8-G2: 1,431,860 hrs UPort 1650-8-G2 models: 951,145 hrs UPort 1650I-8-G2 models: 782,795 hrs UPort 1650-8-G2-Hub: 823,983 hrs |
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Package Contents

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| Device | 1 x UPort 1600-8-G2 |
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| Cable | 1 x USB 3.2 Gen 1 cable with latch and screw |
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| Installation Kit | 4 x rubber stand |
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| Documentation | 1 x quick installation guide 1 x warranty card |
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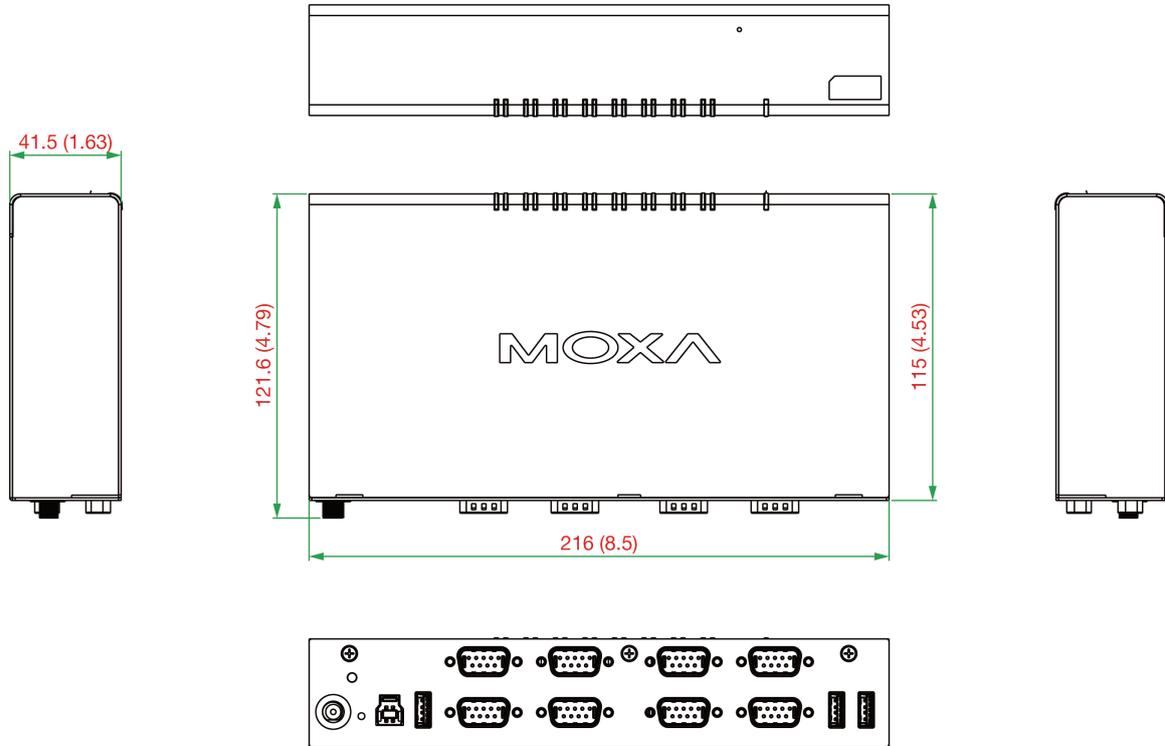
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|--------------|---|
| Power Supply | Power adapter, suitable for your region (UPort 1650I-8-G2 and UPort 1650-8-G2-Hub only) |
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Warranty

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| Warranty Period | 5 years Note: Product only |
| Details | See www.moxa.com/warranty |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Serial Standards | No. of Serial Ports | Isolation | Power Input | Operating Temp. |
|---------------------|------------------|---------------------|-----------|---------------------------------|-----------------|
| UPort 1610-8-G2 | RS-232 | 8 | - | USB bus power/ Power adapter | 0 to 60°C |
| UPort 1650-8-G2 | RS-232/422/485 | 8 | - | USB bus power/ Power adapter | 0 to 60°C |
| UPort 1650-8-G2-T | RS-232/422/485 | 8 | - | USB bus power/ Power adapter | -40 to 75°C |
| UPort 1650I-8-G2 | RS-232/422/485 | 8 | 2 kV | Power adapter | 0 to 60°C |
| UPort 1650I-8-G2-T | RS-232/422/485 | 8 | 2 kV | Power adapter | -40 to 75°C |
| UPort 1650-8-G2-Hub | RS-232/422/485 | 8 | - | Power adapter | 0 to 60°C |

Accessory

Cables

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|--------------------|--|
| CBL-USB3-BA-G-120 | USB 3.2 Gen 1 cable, type A-to-type B with latch and screw, 1.2 m |
| CBL-USB3-BA-G-028 | USB 3.2 Gen 1 cable, type A-to-type B with latch and screw, 0.28 m |
| CBL-USB3-BA-BK-120 | USB 3.2 Gen 1 cable, type A-to-type B, 1.2 m |
| CBL-F9M9-20 | DB9 female to DB9 male serial cable, 20 cm |
| CBL-F9M9-150 | DB9 female to DB9 male serial cable, 1.5 m |

Connectors

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|-----------------|--|
| LB-DB9F-G-01 | Serial loopback DB9 adaptor |
| Mini DB9F-to-TB | DB9 female to terminal block connector |
| ADP-RJ458P-DB9F | DB9 female to RJ45 connector |

Wall-Mounting Kits

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| WK-UP400A-BOT-BK | Bottom-panel wall-mounting kit for the UPort 400A/1400-G2/1600-G2 Series with 2 plates (43 x 30 x 2 mm or 1.69 x 1.18 x 0.08 in), 6 M3 x 5 mm screws |
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DIN-Rail Mounting Kits

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| DK-UP1600-G2 | DIN Rail mounting kits for UPort 1600-G2 |
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Rack-Mounting Kits

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| RK-UP1600-G2 | Rack mounting kits for UPort 1400/1600-G2 |
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Power Adapters

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| PWR-12050-EU-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, EU plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2 UPort 1650-8-G2 UPort 1650I-8-G2 |
| PWR-12050-USJP-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, US/JP plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2 UPort 1650-8-G2 UPort 1650I-8-G2 |
| PWR-12050-CN-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, CN plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2 UPort 1650-8-G2 UPort 1650I-8-G2 |
| PWR-12050-UK-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, UK plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2 UPort 1650-8-G2 UPort 1650I-8-G2 |
| PWR-12050-AU-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, AU plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2 UPort 1650-8-G2 UPort 1650I-8-G2 |
| PWR-12050-KR-S1 | Locking barrel plug, 12 VDC, 0.5 A, 100 to 240 VAC, KR plug, 0 to 40°C operating temperature Applicable Models: UPort 1610-8-G2/KC UPort 1650-8-G2/KC UPort 1650I-8-G2/KC |
| PWR-12300-WP-S2 | Locking barrel plug with 12 VDC, 3 A, 100 to 240 VAC, without plug, 0 to 40°C operating temperature Applicable Models: UPort 1650-8-G2-Hub UPort 1650-8-G2-Hub/KC |
| PWR-Plug-EU-02 | EU plug for PWR-12150-WPEU and PWR-12300-WPEU Applicable Models: UPort 1650-8-G2-Hub |
| PWR-Plug-USJP-02 | US/JP plug for PWR-12150-WPUSJP and PWR-12300-WPUSJP Applicable Models: |

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|---------------------|---|
| | UPort 1650-8-G2-Hub |
| PWR-Plug-CN-02 | CN plug for PWR-12150-WPCN and PWR-12300-WPCN Applicable Models: UPort 1650-8-G2-Hub |
| PWR-Plug-UK-02 | UK plug for PWR-12150-WPUK and PWR-12300-WPUK Applicable Models: UPort 1650-8-G2-Hub |
| PWR-Plug-AU-03 | AU plug for PWR-12300-WPAU Applicable Models: UPort 1650-8-G2-Hub |
| PWR-Plug-KR-02 | KR plug for the PWR-12150-WPKR and the PWR-12300-WPKR Applicable Models: UPort 1650-8-G2-Hub/KC |
| PWR-12150-EU-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, EU plug, -40 to 75°C operating temperature Applicable Models: UPort 1650-8-G2-T UPort 1650I-8-G2-T |
| PWR-12150-USJP-SA-T | Locking barrel plug, 12 VDC 1.5 A, 100 to 240 VAC, US/JP plug, -40 to 75°C operating temperature Applicable Models: UPort 1650-8-G2-T UPort 1650I-8-G2-T |
| PWR-12150-CN-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, CN plug, -40 to 75°C operating temperature Applicable Models: UPort 1650-8-G2-T UPort 1650I-8-G2-T |
| PWR-12150-UK-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, UK plug, -40 to 75°C operating temperature Applicable Models: UPort 1650-8-G2-T UPort 1650I-8-G2-T |
| PWR-12150-AU-SA-T | Locking barrel plug, 12 VDC, 1.5 A, 100 to 240 VAC, AU plug, -40 to 75°C operating temperature Applicable Models: UPort 1650-8-G2-T UPort 1650I-8-G2-T |

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