

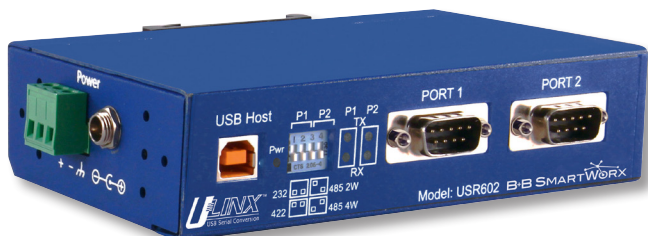
# Heavy Duty USB to Serial Converters With Port to Port Isolation

## USR602 & USR604

B+B SMARTWORX

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ADVANTECH



### PRODUCT FEATURES

- 2 kV Port to Port Isolation
- ESD Protection - 8 kV Contact, 15 kV Air
- Rugged Metal Case & High Retention USB Connector
- Wide Operating Temperature (-40 to 80°C)
- Redundant Power Inputs
- Modbus ASCII/RTU Compatible
- DIN Rail & Panel Mounting Options

These industrial grade, isolated, USB to serial converters allow you to add two or four RS-232/422/485 ports to your PC. Built to rugged specifications, the USR602 and USR604 offer 2 kV Port to Port isolation. This means that your upstream PC is isolated from the downstream serial devices and the downstream serial devices are isolated from each other and the upstream PC. Additional features such as a heavy duty metal enclosure with panel and DIN Rail mounting options, high ESD protection, shock and vibration testing, and wide operating temperatures, make them ideal for use in harsh environments. Designed for industrial use, they are also suitable for instrumentation, utilities, and laboratory applications. Full speed (480 Mbps) USB 2.0 support allows connectivity with modern computer technology.

### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
USR602	USB to Isolated Converter, 2 port
USR604	USB to Isolated Converter, 4 port

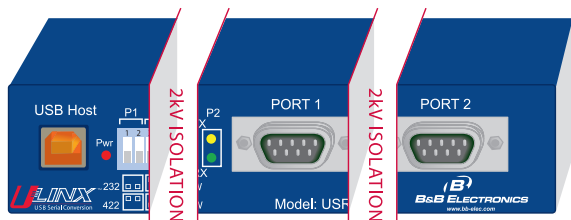
The serial ports are configurable for RS-232, RS-422 and RS-485 (2-Wire & 4-Wire). Modbus support enables them to be used with a wide variety of industrial devices. Each unit comes with DIN Rail and panel mounting hardware, giving maximum flexibility for your installation.

### ACCESSORIES

PS12VLB-INT-MED - 12 VDC power supply, locking barrel plug, international blades  
MDR-20-24 - 24 VDC, 24 W power supply, DIN rail

### WHAT IS PORT TO PORT ISOLATION?

Most isolated USB to Serial Converters isolate the upstream device from the downstream device. This is fine when you are working with a single port unit. However, with multi-port devices, you need the additional protection offered by Port to Port Isolation. Simply put, Port to Port Isolation isolates the upstream device from the downstream devices as well as the downstream devices from each other. This is the only way you can be sure that ground loop or surge can not be transferred through Port 1 to a device connected to Port 2.



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USR602 & USR604



## SPECIFICATIONS

SERIAL TECHNOLOGY	
RS-232	TD, RD, RTS, CTS, DTR, DSR, DCD, GND
RS-422/485 4-Wire	TDA(-), RDA(-), TDB(+), RDB(+), GND
RS-485 2-Wire	DATA A(-), DATA B(+), GND
Connector	DB9 Male
Data Rate	921.6 Kbps
Isolation	2 kV – Port to Port
Surge Protection	+/- 0.5 kV DC Ports, +/- 1 kV Signal Ports
Industrial Bus	Modbus ASCII/RTU
Bias	1 KΩ on receive lines in RS-422/485 mode
USB TECHNOLOGY	
USB Compatibility	1.1 and 2.0
Speed	1.5, 12, and 480 Mbps
Connector	Type B High Retention (15 N / 3.4 lbs-force withdrawal)
Operating System	Windows 2000, XP (32/64 bit), Vista (32/64 bit), 7 (32/64 bit), 8 (32/64 bit), 2003 & 2008 Server (32/64 bit)
POWER	
Source	External (Dual Input)
Power Connector	Terminal Block Locking Barrel Plug
Input Voltage	10 to 48 VDC
Power Consumption	USR602 – 3.5 Watts Maximum USR604 – 4.5 Watts Maximum
INDICATORS	
Power	Green LED
TD / RD (Each Port)	Green / Amber LED
MECHANICAL	
Dimensions USR602	13.8x3.5x8.8 cm (5.4x1.4x3.5 in)
Dimensions USR604	20.3x3.5x12.0 cm (8.0x1.4x4.7 in)
Enclosure	IP 30, Metal
Weight	USR602 = 0.38 kg, USR604 = 0.68 kg
MTBF USR602	90,013 hours
MTBF USR604	51,098 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability
ENVIRONMENTAL	
Operating Temperature	-40 to 80°C
Storage Temperature	-40 to 85°C
Operating Humidity	0 to 95% Non-condensing

## APPROVALS / CERTIFICATIONS

Emissions	FCC Class B, CISPR Class B (EN55022:2006)	
CE	EN61000-6-2: 2005 (Industrial)	
	EN61000-4-2: 2008 (ESD)	+/-8kV Contact, +/-15kV Air 10V/m, 80-1000MHz; 3V/m, 1.3 to 2.7 GHz
	EN61000-4-3: 2006 (RI)	
	EN61000-4-4: 2004 (EFT Burst)	+/-2kV DC power port
	EN61000-4-6: 2005 (CI)	10 VRMS, 0.15 to 80 MHz
	EN61000-4-8: 2001 (Magnetic)	10A/m, 50Hz & 60Hz
Shock	IEC60068-2-27	50G peak, 11ms, 3 axes
Vibration	IEC60068-2-6	10-500Hz, 4G, 3 axes
Freefall (Drop)	IEC60068-2-32	10 total drops from sides, corner and edges, 1M

## INFORMATION – FCC RULES

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference that may cause undesired operation.

## INFORMATION – UL CLASS 1 DIV 2

Suitable for use in Class 1, Division 2, Groups A, B, C and D Hazardous Locations, or Nonhazardous locations only.

**WARNING - EXPLOSION HAZARD – DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.**

**WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2**

Install in accordance with control drawing number 9340R0.

Ind. Cont. Eq.  
For HAZ LOC  
3HTV  
E245458  
Class I, Div. 2, Groups A, B, C & D  
Temp. Code: T4A

## MECHANICAL DIAGRAM USR604

