

# USB to RS-232 Miniature Converters

Models BB-232USB9M, BB-232USB9M-LS

**B+B SMARTWORX**

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## PRODUCT FEATURES

- Connect RS-232 devices to your USB port
- RS-232 data rates up to 921.6 Kbps
- In-line installation
- FCC, CE approved
- USB port powered
- USB 2.0 (12 Mbps) compatible
- Perfect for field service applications
- (1) USB cable included
- Locked serial number option (Model# BB-232USB9M-LS)

Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing the familiar serial ports. However, many commercial and industrial devices still use the RS-232 interface.

To connect these devices to modern PCs, you need a simple and reliable conversion solution. Model BB-232USB9Mx offers this solution in a compact, space saving, USB port-powered package.

Simply install the drivers supplied on CD ROM and plug the converter into an available USB port on your computer or USB hub. The device will show up as an additional COM port in the Windows Device Manager which is fully compatible with your Windows applications. Locked serial number version is also available. A USB cable is included.

## ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
<b>BB-232USB9M</b>	USB to RS-232 Miniature Converter
<b>BB-232USB9M-LS</b>	USB to RS-232 Miniature Converter (Locked Serial Number)

## ACCESSORIES - sold separately

**BB-USBAMB3F** - USB Cable, 0.91 m (3 ft) *(one cable included with converter)*

**BB-9PAMF6** - Serial Cable – 1.8 m (6 ft), DB9 male to DB9 female

## Locked Serial Numbers Explained

We configure our single-port USB to serial converters in two ways. In standard format, each product has a unique serial number. "Locked serial" format uses the same serial number that is associated with a model type.

If your converter will always be used with the same computer, the standard serialized model is all you need. If the converter is shared among several computers, like field service laptops, the locked serial number model lets you plug and play without having to worry about matching the two.

Description	Serialized	Locked Serial Number
Every unit is assigned a unique COM port	✓	-
Same type model numbers shares the same COM port	-	✓
Ideal applications	Fixed Locations	Field Service

When ordering Locked Serial Number versions, add an "LS" to the item number. Serialized and Lock Serial Number versions sell for the same price.

All product specifications are subject to change without notice.  
BB-232USB9M-BB-232USB9M-LS\_3918ds

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## SPECIFICATIONS

### SERIAL TECHNOLOGY

RS-232	TD, RD, DCD, DTR, GND, SDR, RTS, CTS, RI
Connector	DB9 Male (DTE)
Data Rate	Up to 921.6 Kbps

### USB TECHNOLOGY

Connector	USB Type B Female
Standard	2.0 (backward compatible)
Data Rate	12 Mbps

### FIFO BUFFERS

FIFO TX	128 bytes Data from USB Data OUT endpoint is stored in FIFO TX buffer and removed from the buffer to UART Transmit Register under control of UART FIFO controller.
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FIFO RX	256 bytes Data from UART Receive Register is stored in FIFO RX buffer prior to being removed by the SIE on a USB data request from the device Data IN endpoint.
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### POWER

Source	USB Port
Input Voltage	5 VDC
Consumption	~ 0.5 W (Low power device, draws less than 100 mA)

### SOFTWARE

Driver CD	Windows 98, ME, 2000, XP, Vista, 7 (32/64 bit), 8 (32/64 bit), 10 (32/64 bit)
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### MECHANICAL

Dimensions	5.8 x 3.2 x 1.6 cm (2.3 x 1.3 x 0.6 in)
Enclosure	In-line mount, plastic
Weight	104.3 g (0.23 lb) with included USB cable

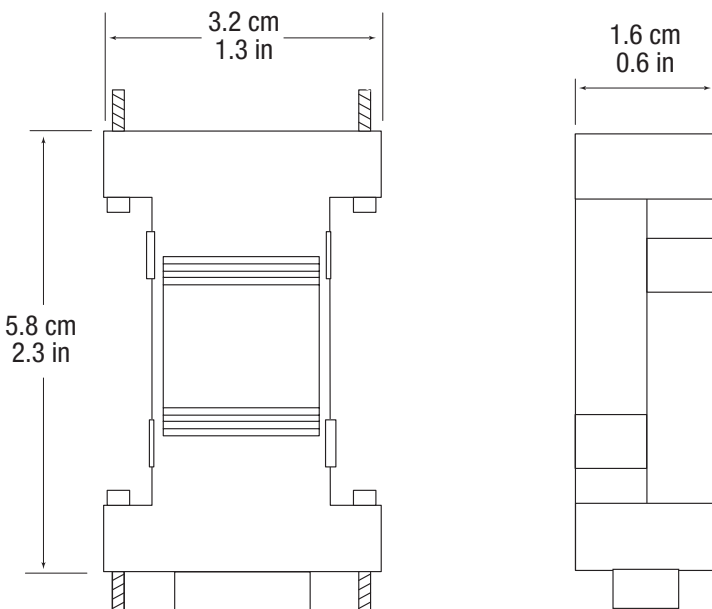
### ENVIRONMENTAL

Operating Temperature	0 to +70 C° (+32 to +158 °F)
Storage Temperature	-40 to +85 C° (-40 to +185 °F)
Operating Humidity	0 to 95% (non-condensing)
MTBF	1946086 hours
MTBF Method	MIL 217F Parts Count Reliability Prediction

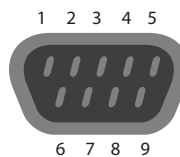
### APPROVALS, DIRECTIVES, STANDARDS

Approvals	FCC, CE
2014/30/EU	Electromagnetic Compatibility Directive
2011/65/EU	Reduction of Hazardous Substances Directive (RoHS)
2012/19/EU	Waste Electrical and Electronic Equipment Directive (WEEE)
EN 55032 Class B	Electromagnetic Compatibility of Multimedia Equipment - Emissions Requirements
EN 61000-6-1	Generic Immunity Standard for Residential, Commercial and Light-industrial Environments

## MECHANICAL DIAGRAM



## PINOUTS: RS-232 DB9 MALE DTE CONNECTOR



PIN	DIRECTION	SIGNAL NAME
1	Input	DCD (Receive Line Signal Detector)
2	Input	RD (Receive Data)
3	Output	TD (Transmit Data)
4	Output	DTR (DTE Ready)
5	N/A	SG (Signal Ground)
6	Input	DSR (DCE Ready)
7	Output	RTS (Request to Send)
8	Input	CTS (Clear to Send)
9	Input	RI (Ring Indicator)