# BB-232USB9M-LS



# Introduction

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.

# **Locked Serial Numbers Explained**

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

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

Note: Serialized and Lock Serial Number versions sell for the same price.

## **USB to RS-232 Miniature Converters**

#### **Features**

- Connect RS-232 devices to your USB port
- RS-232 data rates up to 921.6 Kbps
- Small form factor with in-line installation
- 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)

### **Ordering Information**

Model No.	Description	
BB-232USB9M	USB to RS-232 Miniature Converter	
BB-232USB9M-LS	-232USB9M-LS USB to RS-232 Miniature Converter (Locked Serial Number)	

#### Accessories - Sold Separately

BB-USBAMBM-3F – 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





BB-232USB9M BB-232USB9M-LS

# **Specifications**

Serial Technology	У		
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			
	128 bytes		
FIFO TX	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.		
	256 bytes		
FIFO RX	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 end-point.		
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)		

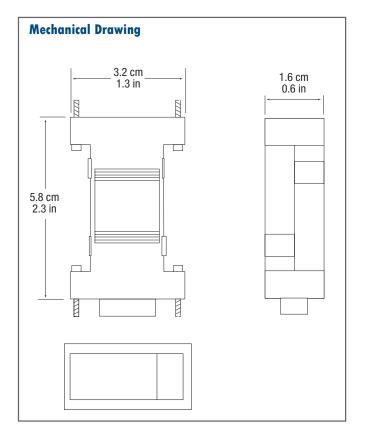
Mechanical			
Dimensions	5.8 x 3.2 x 1.6 cm (2.3 x 1.3 x 0.6 in)		
Enclosure	In-line mount, plastic		
Weight	104.3 gm (0.23 lb) with included USB cable		
Environmental			
Operating Temperature	0 to +70 C° (+32 to +158 °F)		
Storage Temperature	-40 to +85 C° (-40 to +185 °F)		
Operating Humidity	0 to 95%, non-condensing		
Meantime Between F	ailures (MTBF)		
MTBF	1946086 hours		
Calculation Method	MIL 217F Parts Count Reliability Prediction		
Regulatory - Approva	ils / Standards / Directives		
FCC, CE			
CE – Directive	2014/30/EU - Electromagnetic Compatibility Directive 2011/65/EU amended by (EU) 2015/863 - Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU - Waste Electrical and Electronic Equipment Directive (WEEE)		
CE - Standards	EN 55032 Class B - Electromagnetic Compatibility of Multimedia Equipment - Emissions Requirements EN 55024:2010 Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement		
EN 61000-6-1	Generic Immunity Standard for Residential, Commercial and Light-industrial Environments		

## Pinouts: RS-232 DB9 Male DTE Connector



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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)



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