

# BaudMaster™

**duTec**  
INNOVATIVE I/O SINCE 1977

## Description

The BaudMaster™ **BMUSB** family of converters are designed to allow the connection of RS-232 devices to any USB equipped PC. Each converter functions as an USB-to-UART bridge with an isolated or non-isolated RS-232 interface.

## A Converter for Every Application

The BaudMaster™ **BMUSB** converter is available in several configurations:

Non-Isolated and USB Bus Powered – Provides transient protection on all signal and power lines but does not provide ground loop and common-mode over-voltage protection.

Isolated and USB Bus Powered – Provides transient, ground loop and common-mode over-voltage protection. May not be compatible with bus-powered USB hubs due to power requirements (>100mA).

Isolated and Self powered - Provides transient, ground loop and common-mode over-voltage protection. Self-powered (external power supply) feature allows for connection to any USB host or hub.

## Isolates and Protects

Isolated BaudMaster™ **BMUSB** converters eliminate ground loops that destroy computer ports and reduce serial communications reliability. 2000-volt isolation is guaranteed from RS232-to-USB and RS232-to-Power. Galvanic isolation breaks the signal, power and ground paths using transformer and optical technology. Data is allowed to flow between systems but not electrical current, eliminating grounding problems. All communication and power lines are transient protected.

## Virtual Com Port

After installing the included virtual COM port drivers the BaudMaster™ **BMUSB** converter's USB-to-UART bridge appears as an additional COM port to a PC's application software. Drivers are supplied for Microsoft Windows® XP, Windows® 2000 and Windows® 98SE.

## Direct USB Device Support

Alternative drivers are available that provide an alternative interface solution that does not implement a COM port. A simple, high-level application program interface (API) is used to provide simpler USB-UART connectivity and functionality.



## 9-Wire or 5-Wire RS-232 Support

Non-isolated converter supports a full 9-wire RS-232 implementation. Isolated converters support Tx/D and RTS outputs, Rx/D and CTS inputs and signal return.

## Wide Supply Voltage Range

The self-powered BaudMaster™ **BMUSB** converter can be powered by almost any 9-24 volt, AC or DC source. Wall-plug adapters are available from duTec or others. Screw terminals are provided for use with other power supplies.

## RoHS Compliant

The BaudMaster™ **BMUSB** converters are RoHS compliant. The amount of lead, mercury, cadmium, hexavalent chromium, PBB and PBDE contained in the devices meets the EU's Restriction of Hazardous Substances Directive (RoHS).



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## Specifications

### UART

300 to 115.2K bps  
 Data Bits: 5,6,7 and 8  
 Stop Bits: 1,1.5 and 2  
 Parity: odd, even, mark, space, no parity  
 576 Byte receive buffer, 640 byte transmit buffer

### RS-232

Supports TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI (non-isolated)  
 TxD, RxD, CTS, RTS (isolated)  
 Connector: 9 pin D-Sub Male, DTE pin-out

### Indicators

Bus Powered: USB Suspend, RxD, TxD, CTS, RTS LEDs  
 Self Powered: USB Suspend, RxD, TxD, CTS, RTS, Power LEDs

### Isolation (BMUSB-R5I and BMUSB-R5IS)

RS232-to-USB and RS232-to-Power isolation  
 Hi-Pot: 2000 VRMS for 1 minute, 5500 VDC for 1 second  
 Leakage Current: Less than 50uA @ 2000 VAC / 60 Hz; 5500 VDC

### ESD Protection

ESD Protection to IEC1000-4-2 (801.2):  
 +/- 8kV: Contact Discharge  
 +/-15kV: Air-Gap Discharge  
 +/-15kV: Human Body Model  
 Fast Transient Burst (EFT) Immunity (IEC1000-4-4): Class 2, Severity Level 4

### Power

BMUSB-R9N: USB Low-Power Bus Powered Device (100ma)  
 BMUSB-R5I: USB High-Power Bus Powered Device (180mA)  
 BMUSB-R5IS: USB Self (External) Powered Device  
 External Supply: 7 to 24 volts AC/9 to 36 volts DC, 1.5W max.

### Compliance

Pending (CE, FCC Class A, CUL, UL Safety Class II)

### Operating Temperature

-25°C to +70°C

### Enclosure

18 gage Stainless Steel

## Ordering Information

### BMUSB-R9N-M

9-wire RS-232 interface  
 9-position 'D' plug connector  
 non-isolated  
 bus-powered

### BMUSB-R5I-M

5-wire RS-232 interface  
 9-position 'D' plug connector  
 isolated  
 bus-powered

### BMUSB-R5IS-M

5-wire RS-232 interface  
 9-position 'D' plug connector  
 isolated  
 self-powered (requires external power source)

## Optional Equipment

Part Number	Description
DA-01	DIN Rail Mounting Kit:
BM-PS120	AC Power Adapter: 120 VAC Input
BM-PS220	AC Power Adapter: 220 VAC Input
BM-PSU	AC Power Adapter: European: Universal Input: 90-264 VAC Input