Battery Powered
RS-232 to RS-485 Serial Converter

Model 485BAT3

B+B SmartWorx

Powered by **ADVANTECH**

www.advantech-bb.com

PRODUCT FEATURES

- 3 Powering Options: Battery (2-AAA), RS-232 handshake lines, or external power supply
- Extend RS-232 data signals up to 1.2 km (4,000 ft.)
- Change RS-232 TD and RD to RS-485 signals
- Automatic Send Data Control - no software drivers necessary
- Baud rates up to 115.2 kbps

Three Versatile Powering Options

Model 485BAT3 features power versatility, making it perfect for field testing solutions. It can be powered in three ways: batteries, port powered, or external power supply.

Use the battery power option with a low power RS-232 port (found on many laptops) or no handshake lines or when it is inconvenient to use a power supply. Model 485BAT3 will draw as much power as possible from the RS-232 port and get any additional current necessary from the batteries.

If you have a full power-port and all your handshake lines, turn off the battery switch. This allows you to run full port-powering and saves the batteries for emergencies. Note: The battery On/Off switch conserves battery life. It does not turn on and off all power to the unit.

Lastly, a stripped and tinned +12VDC external power supply may be used. Simply attach it to the terminal blocks and plug it in.

Model 485BAT3 converts unbalanced RS-232 signals to balanced RS-422 or RS-485 signals. RS-485 is an enhanced version of the RS-422 standard, allowing multiple drivers and receivers on a 2-wire system.

ORDERING INFORMATION

MODEL NUMBER	RS-232 CONNECTOR	RS-485 CONNECTOR	OUTPUT	OPTIONAL POWER SUPPLY
485BAT3	DB9 Female	Terminal Block	RS-485 2 or 4-wire or RS-422	(2) AAA batteries or port powered or external source

ACCESSORIES

SMI6-12-V-ST - Power Supply, 12 VDC, 500 MA, switching, stripped & tinned

9PAMF6 - DB9 male to DB9 female adapter cable, 1.8 m (6 ft.)

9PMTT - RS-232 Mini Tester

Why use an "optional" power supply with a port-powered converter?

Simply put, all RS-232 ports are not created equal. Many laptop PC's, for example, deliberately reduce power to the RS-232 port to save the battery. And, if you are working at the distance limits of RS-422 or 485, you might need an extra boost. For the majority of applications though, the converter's port powering is sufficient to accomplish the task.

Automatic Send Data Control Explained

As operating systems become more complex, it is increasingly difficult to control an RS-485 driver with standard software and the RTS line. This is especially true in Windows and multi-tasking operating systems. With B+B SmartWorx' Automatic Send Data Control circuit, driver control is in the converter hardware, so you do not have to work with software at all.

The circuit monitors data flow and enables the driver during transmission and automatically disables it when no data is being sent. There is no need to rework software or install new drivers. Most B+B SmartWorx RS-232 to RS-485 converters and RS-485 serial cards include Automatic Send Data Control.

All product specifications are subject to change without notice.
485BAT3_3217ds

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SPECIFICATIONS

SERIAL TECHNOLOGY	
Data Rate	115.2 kbps maximum
RS-232	
Connector	DB9 Female (DCE)
Signals	RD, TD, GND, DCD, DTR, DSR, RTS, CTS
Port Power *	Pins 7 (RTS) and 8 (CTS) are tied together, and pins 6 (DSR), 1 (CD), and 4 (DTR) are also tied together.
RS-422/485	
Connector	Terminal Block
Signals	TDA (-), TDB (+), RDA (-), RDB (+), GND
Operation	Dipswitch selectable RS-422 or RS-485. RS-485, 2 or 4-wire. RS-422, 4-wire.
Biasing Resistors	4.7k Ohms
Termination	None
POWER	
Power Source - 3 options	(2) AAA batteries (not included). Port-powered from RS-232 handshake lines.* External 12-16 VDC power supply, optional. *NOTE: Port-powering requires 7 to 12 VDC supplied on at least one handshake line.*
Power Connector	Terminal Block
Input Voltage	12 VDC @ 100 mA
Battery Life	7 hours fully loaded with no port power available. 100 to 250 hours, typical

MECHANICAL	
Dimensions	9.0 x 6.5 x 2.8 cm (3.6 x 2.6 x 1.1 in)
Enclosure	Plastic, ABS Inline
Weight	0.23 lbs. (104.3 g)
MEANTIME BEFORE FAILURE (MTBF)	
MTBF	241370 hours
MTBF Calculation Method	Parts Count Reliability Prediction
ENVIRONMENTAL	
Operating Temperature	0 to +70 °C (+32 to +158 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Operating Humidity	95% Non-Condensing
APPROVALS / CERTIFICATIONS	
FCC Part 15, CISPR, EN 55022 + AC Class A Emissions	
CE	
EN 61000-6-1 Generic Standards for Residential, Commercial and Light-Industrial Environments	
EN 61000-4-2 Electro-Static Discharge (ESD)	
EN 61000-4-3 +A1 +A2 +IS1 Radiated Field Immunity (RFI)	
EN 61000-4-4 Electrical Fast Transients-Burst Immunity (EFT)	
EN 61000-4-6 Conducted Immunity	