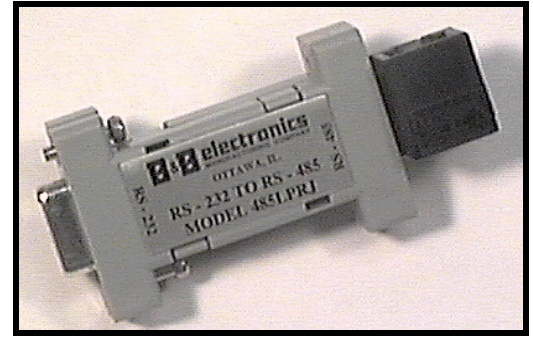


## Port-Powered Half-Duplex RS-232 to RS-485 Converter CE Model 485LPRJ

The 485LPRJ is a port-powered half-duplex RS-232 to RS-485 converter. It converts TD and RD RS-232 lines to balanced RS-485 signals. It supports two-wire RS-485 communications only. The unit is powered from the RS-232 handshake lines, DTR and RTS. **The DTR handshake line must be high (asserted) to power the unit.** The RS-485 driver is enabled when RTS is asserted and disabled when RTS is disasserted. The RS-485 receiver is disabled when the driver is enabled and is enabled when the driver is disabled.



In order to maximize the amount of power available to the RS-485 driver, the RS-232 **handshake lines are not looped back** (tied together). As a result the following handshake lines will appear as disasserted (low): CTS, DCD, and DSR. Care should be taken to insure that any software being used doesn't require any of these handshake lines be asserted. If existing software requires any of the handshake lines to be asserted, you can loop back the required handshake lines in your cable.

The RS-232 side has a DB-9 female connector. The RS-485 side has a six-position RJ11 connector.

### Connections

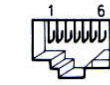
Regardless of the system, the 485LPRJ must be connected with the proper polarity (See Table 1). With no data being sent and the driver enabled, the RS-232 line should be negative and the Data(A) should be negative with respect to Data(B).

Proper operation of any RS-485 system requires the presence of a signal return path between the signal grounds of the equipment at each end of an interconnection. This circuit reference may be established by a third conductor connecting the common leads of devices, or it may be provided by connections in each equipment to an earth reference. When the circuit reference is provided by a third conductor, the connection between the signal grounds and the third conductor should contain some resistance (e.g. 100 ohms) to limit circulating currents when other ground connections are provided for safety.

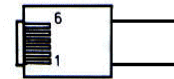
Table 1 - 485LPRJ Pin-Outs

Signal	RJ11 Pin #
Data A (-)	2
Data B (+)	5
Signal Ground	4

Modular Connector Pin Assignment



Jack End RJ-11



Plug End RJ-11 6 Conductor

### Biasing Resistors

The biasing resistors for the RS-485 receiver are 4.7K Ohm resistors. These resistors are labeled R1 and R6 (See Figure 1). Refer to B&B Electronics' RS-422/485 Application Note for further information on biasing.

### Specifications

Data Rate: 115.2K Baud max.  
Power: Port-powered from RTS and DTR  
Dimensions: 3.0"L x 1.3"W x 0.9"H

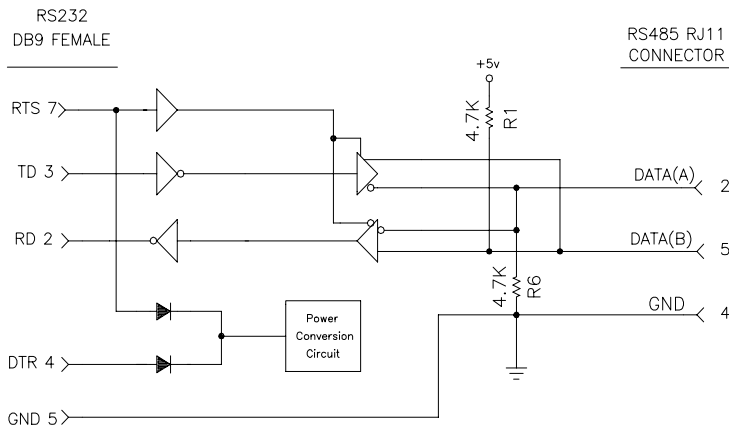


Figure 1

### DECLARATION OF CONFORMITY

Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	P.O. Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Number:	485LPRJ
Description:	Port-Powered Half-Duplex RS-485 Converter
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN 50082-1 (IEC 801-2, IEC 801-3, IEC 801-4) EN 50081-1 (EN 55022, IEC 1000-4-2) EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) ENV 50204 EN 55024

Michael J. Fahrion, Director of Engineering



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