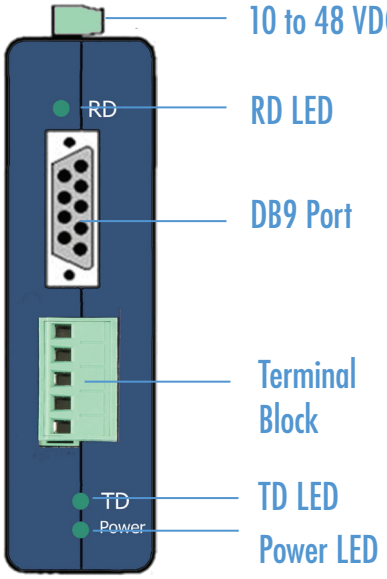
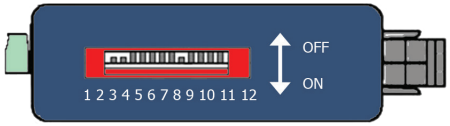
Product Overview



1 Set DIP Switches

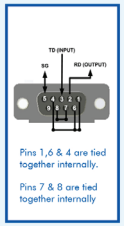


Communications Mode				
Switch	**1**	**2**	**3**	**4**
RS-485 2-Wire Half Duplex	ON	ON	ON	ON
RS-485 4-Wire Full Duplex	ON	OFF	OFF	OFF
RS-422 Full Duplex	OFF	OFF	OFF	OFF

Built-In Termination Resistor	Switch
	5
Use built-in 120Ω Termination	ON
Use External or No Termination	OFF

Built-In Transmit Bias Resistor	Switch
	6
Use External or No Bias Resistor	ON
Use built-in 1.2K Ω Transmit Bias Resistor	OFF

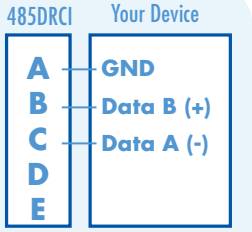
Built-In Receive Bias Resistor	Switch
	7
Use External or No Bias Resistor	ON
Use built-in 1.2K Ω Receive Bias Resistor	OFF

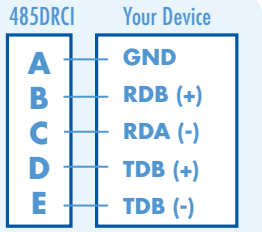


PIN	SIGNAL	DIRECTION
1	DCD	***
2	RD	OUTPUT
3	TD	INPUT
4	DTR	***
5	GND	***
6	DSR	***
7	RTS	***
8	CTS	***
9	RI	***

DB9 Pinout

2 Wire the Converter





DIP Switch RS-422/485 4-Wire						
1	2	3	4	5	6	7
On/Off	OFF	OFF	OFF	...	...	...

Position 1 = ON for RS-485, OFF for RS-422
Positions 5,6,7 are used for termination and biasing
Positiobs 8 -12 are used to set baud rate

DIP Switch RS-485 2-Wire						
1	2	3	4	5	6	7
ON	ON	ON	ON	x	x	x

Positions 5,6,7 are used for termination and biasing
Positions 8 -12 are used to set baud rate

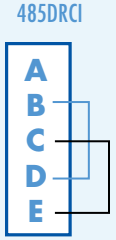
3 RS-422/485 Timeout

Switch Selectable						
Baud (Kbps)	8	9	10	11	12	Timeout (ms)
2.4	ON	OFF	OFF	OFF	OFF	4.37
4.8	OFF	ON	OFF	OFF	OFF	2.03
9.6	OFF	OFF	ON	OFF	OFF	1.02
19.2	OFF	OFF	OFF	ON	OFF	0.57
38.4	OFF	OFF	OFF	OFF	ON	0.27

Resistor Selectable			
Baud (Kbps)	8 thru 12	R11 Value	Timeout (ms)
1.2	OFF	820 KΩ	8.32
57.6	OFF	16 KΩ	0.16
115.2	OFF	8.2 KΩ	0.08

Pre-defined timeouts are set using switches 8 through 12. Resistor selectable baud rates are set by inserting a through hole resistor (R-11) on the circuit board. Timeout selections are equal to one character time at the indicated baud rate. Setting the converter to 9600 will generally work at 9600 and higher baud rates. In RS-422 mode, timeouts are not required.

4 Loopback Test



Configure for RS-485 Four wire, 9600 baud. Jumper terminals B to D and C to E. Connect a PC to the RS-232 port Using HyperTerminal or similar program, connect to the appropriate COM port. (Remember to set the baud rate to 9600.) Turn off HyperTerminal local echo. Transmit data. The same data should be returned.

5 Check LEDs

LEDs	
Power LED	Red. ON when power is applied
Data LEDs	Green, LEDs flash when data is present on the port

Information – UL Class 1 Div 2

1. Power, input /output (I/O) wiring must be in accordance with Class 1 Division 2 wiring methods [Article 501.10(B) of the National Electric code, NFPA70] and in accordance with the local authority having jurisdiction.
2. Maximum ambient air temperature 80°
3. WARNING – EXPLOSION HAZARD: SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABLITY FOR CLASS 1, DIVISION 2.
4. WARNING – EXPLOSION HAZARD: WHEN IN HAZARDOUS LOCATIONS, TURNING OFF POWER BEFORE REPLACING OR WIRING MODULES
5. WARNING – EXPLOSION HAZARD: DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
6. WARNING – THIS APPARATUS IS SUITABLE FOR USE IN CLASS 1 DIVISION 2, GROUPS A, B, C, AND D, OR UNCLASSIFIED AREAS.

Document number – pn8453_R004_485DRCI_0715qsg.

Recommended Accessories

MDR-20-24

Power Supply

http://www.bb-elec.com/Products/Power-Supplies-Accessories/DIN-Power-Supplies/Industrial-Slimline-Power-Supplies.aspx

485HESP

RS-485 Hi-Energy Surge Protector w/Terminal Blocks

http://www.bb-elec.com/Products/Serial-Connectivity/Surge-Protection/Heavy-Duty-Surge-Protectors.aspx

Fast, Easy Answers...

- **Please double check Step 1.**
- **You can also use your smart phone to access complete documentation on our website. Simply scan code to the right.**

B&B ELECTRONICS

1-888-948-2248 | Europe: **+353 91 792444**

www.bb-elec.com

707 Dayton Road | PO Box 1040 | Ottawa, IL 61350
Phone: 815-433-5100 | Fax: 815-433-5109
www.bb-elec.com | E-mail: info@bb-elec.com

B&B ELECTRONICS

QUICK START GUIDE

485DRCI

Triple Isolated RS-232 to RS-422/485 Converter

First Things First...

Before you begin, be sure you have the following:

- ○ 485DRCI
- ○ Additional Items Required but Not Included:
  - ☐ A 10 to 48 VDC Power Supply, 0.2A.
  - ☐ RS-232 cable. The converter is a DCE device.
  - ☐ RS-422/485 Cable

B&B ELECTRONICS

Fast and easy on the web: www.bb-elec.com