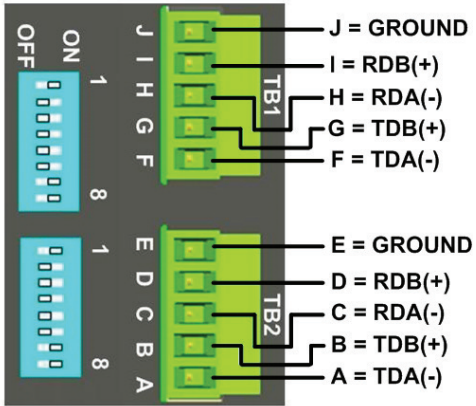


(Continued)

+ RS-422 / 4-Wire RS-485 Example



DIP SWITCH

1	2	3	4	5	6	7
X	OFF	OFF	OFF	x	x	x

Position 1 = ON for RS-485, OFF for RS-422.
 Positions 5, 6, 7 are used for termination and biasing. (See Section #2.)
 Position 8 is NOT used.

7 | Operation

1. During normal operation, the Power LED should be illuminated.
2. When data is sent or received on either port, the corresponding Data LED should flash.

8 | UL Class 1 / Division 2

1. Refer to Nonincendive Field Wiring Apparatus Control Drawing for important information.
2. Power, Input/Output (I/O) wiring for the end use enclosure must be in accordance with C1/2 wiring methods (Article 501.10(B) of the National Electric Code (NFPA 70) and in accordance with the local authority having jurisdiction.
3. Maximum ambient air temperature 85°C.
4. Temperature rating of field installed conductors 105°C. Use Copper Wire Only.
5. These devices must be installed in end use enclosure suitable for the location.
6. **WARNING** – EXPLOSION HAZARD. SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.
7. **WARNING** – EXPLOSION HAZARD: DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
8. **WARNING** – THIS APPARATUS IS SUITABLE FOR USE IN CLASS 1 DIVISION 2, GROUPS A, B, C, AND D OR NONHAZARDOUS LOCATIONS ONLY.

Recommended Accessories

Model MDR-20-24
Power Supply



Model DRAD35
DIN Rail Adapter



B+B SMARTWORX

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+ QUICK START GUIDE



485OPDRI-PH

Triple Isolated
RS-422/485 Repeater

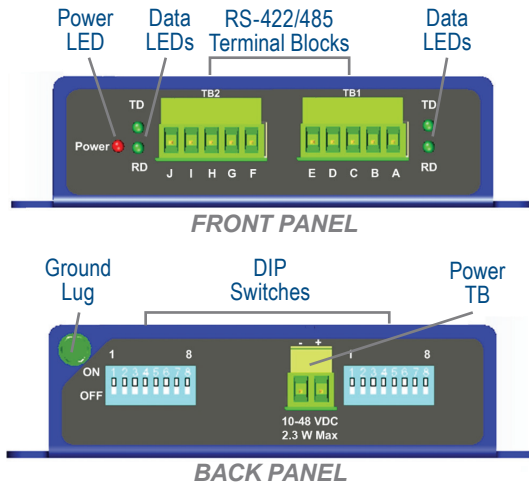
Before you begin, be sure you have the following:

- + 485OPDRI-PH Repeater
- + 10-48VDC Power Supply (2.3W max.)

B+B SMARTWORX

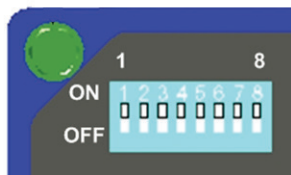
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1 | Product Overview



Power LED	Red, ON when power is applied.
Data LEDs	Green, LEDs flash when data is on port.
RS-422/485 TB	5 position, removable terminal block.
Ground Lug	Chassis Ground to Earth Ground.
DIP Switches	Used to configure serial mode.
Power TB	2-position, removeable terminal block.

2 | DIP Switch Configuration



+ Switch position 8 is not used.

Highlighted settings indicate factory default. Switch functions are identical for each port.

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
Use Built-in 120Ω Termination	ON
Use External or No Termination	OFF

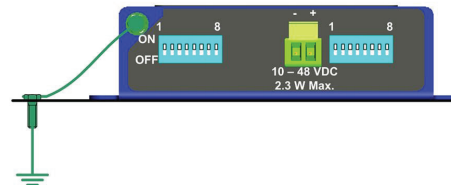
BUILT-IN TRANSMIT BIAS RESISTOR	SWITCH
Use External or No Bias Resistor	ON
Use Built-in 1.2KΩ Transmit Bias Resistor	OFF

BUILT-IN RECEIVE BIAS RESISTOR	SWITCH
Use External or No Bias Resistor	ON
Use Built-in 1.2KΩ Receive Bias Resistor	OFF

For an explanation of RS-485 termination and biasing requirements, refer to the B+B SmartWorx RS-485 Application Note. Download at: www.bb-elec.com

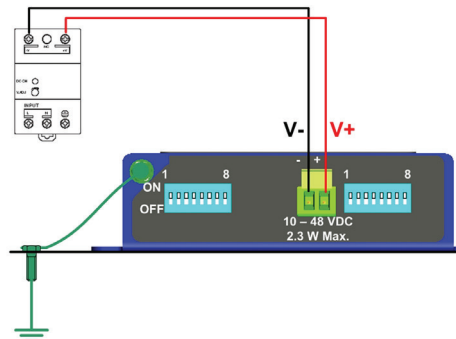
3 | Ground Connection

- + 1. Grounding the unit is recommended.
- 2. Connect a grounding wire from the Ground Lug to a good source of Earth Ground.

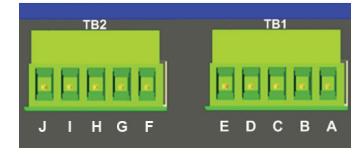


4 | Power Connection

- + 1. Connect power. Power Requirements: 10 to 48 VDC, 2.3W maximum.
- 2. Terminal block will accept 28 to 12 AWG wire.



5 | RS-422/485 Terminal Blocks

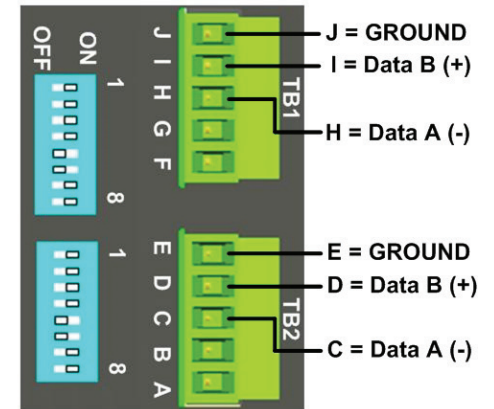


TERMINAL	RS-485 2-WIRE	RS-422/485 4-WIRE
A & F	***	TDA (-)
B & G	***	TDB (+)
C & H	Data A (-)	RDA (-)
D & I	Data B (+)	RDB (+)
E & J	GROUND	GROUND

6 | Wiring Examples

2-Wire RS-485 Example

See Section #1 for wire recommendation.



DIP SWITCH						
1	2	3	4	5	6	7
ON	ON	ON	ON	x	x	x

Positions 5, 6, 7 are used for termination and biasing. (See Section #2.)
Position 8 is NOT used.

(Continued)