

BB-4WSD90TB

BB-4WSD250TB

Isolated In-line Serial Converters



Features

- RS-232 to RS-422 or RS-485 (2 or 4 wire) serial conversion
- 2,000V two-way optical isolation
- Data rate: 115.2 kbps
- Quick, inline installation
- Modbus compatible
- 10 to 48 VDC external power required (not included, sold separately)
- Removable terminal blocks for RS-422/485
- Automatic Send Data Control - no software drivers required

Introduction

Models BB-4WSD90TB and BB-4WSD250TB convert RS-232 to RS-422 or RS-485 (2 or 4-wire). 2000V, two-way optical isolation protects devices from power surges, spikes and ground loops in harsh electrical environments.

These in-line converters support distances up to 1200 meters (4000 ft.) and data rates up to 115.2 kbps. Switchable modes support 2-wire RS-485, 4-wire RS-485, and full-duplex RS-422. Available with female DB9 or DB25 RS-232 inputs.

Removable terminal blocks for RS-422/485 and external power make wiring easy. Accepts external power from 10-48 VDC from an industrial power source or plug in power supply (not included, sold separately).

Ordering Information

Model No.	RS-232 Connector	RS-485 Connector
BB-4WSD90TB	DB9 Female	Removable Terminal Block
BB-4WSD250TB	DB25 Female	Removable Terminal Block

Accessories – Sold Separately

- BB-S116R-12-V-ST – Power Supply, 12VDC Output, 0.5A Current, 6W, Stripped/Tinned
- BB-S71MF6 – DB9 Male to DB9 Female Cable, 1.8 m (6 ft)
- BB-S9PAMM6 – DB9 Male to DB9 Male Cable, 1.8 m (6 ft)
- BB-232AMF5 – DB25 Male to DB25 Female Cable, 1.8 m (6 ft)
- BB-232AMM5 – DB25 Male to DB25 Male Cable, 1.8 m (6 ft)
- BB-TBKT3 – Replacement terminal block, 2-position, 3.5mm, 8A, 300V
- BB-TBKT6 – Replacement terminal block, 5-position, 3.5mm, 8A, 300V

Specifications

Serial Technology	
Data Rate	115.2 kbps, maximum
LED Indicators	TD, RD
RS-232 Connector	BB-4WSD90TB: DB9 female BB-4WSD250TB: DB25 female
RS-232 Signals	TD, RD, GND
RS-422/485 Connector	BB-4WSD90TB: Terminal block, removable BB-4WSD250TB: Terminal block, removable
RS-485, 2-wire	Data A(-), Data B (+), GND
RS-422/485, 4-wire	TDA(-), TDB(+), RDA (-), RDB(+), GND
Power	
Input Required	10-48 VDC input (power supply required, not included, sold separately)
Current Draw	28 mA at 12 VDC (typical)
Mechanical	
Dimensions	BB-4WSD90TB: 9.8 x 4.3 x 2.3 cm (3.9 x 1.7 x 0.9 in) BB-4WSD250TB: 9.8 x 5.5 x 2.3 cm (3.9 x 2.2 x 0.9 in)

Environmental	
Operating Temperature	0 to +70 °C (+32 to +158 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Meantime Between Failures (MTBF)	
MTBF	179604 hours
MTBF Calculation Method	MIL 217F Parts Count Reliability Prediction
Regulatory – Approvals / Standards / Directives	
Approvals	FCC, CE
CE Directives	2014/30/EU - Electromagnetic Compatibility 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances (RoHS) 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
CE Standards	EMC: EN 55032 Class B - Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements EN 55024 - Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurement
Other	EN 61000-6-3 + A1 - Generic Emission Standard for Residential, Commercial and Light-industrial Environments (Class B) EN 61000-6-1 - Generic Immunity Standard for Residential, Commercial and Light-industrial Environments