# Isolated In-line Serial Converters
## 4WSD90TB, 4WSD250TB

**B+B SmartWorx**

Powered by **ADVANTECH**

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## PRODUCT FEATURES

- Modbus compatible serial conversion
- Removable terminal blocks for RS-422/485
- 2,000V two-way optical isolation
- Automatic Send Data Control - no software drivers necessary
- Accepts external power from 10-48 VDC

Isolated Models 4WSD90TB and 4WSD250TB convert RS-232 to RS-422 or RS-485 (2 or 4-wire). 2,000V 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 1,200 m (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.

## SPECIFICATIONS

| SERIAL TECHNOLOGY | |
|---|---|
| Data Rate | 115.2 kbps maximum |
| LED Indicators | TD and RD |
| **RS-232** | |
| Connectors | 4WSD90TB: DB9 female<br>4WSD250TB: DB25 female |
| Signals | TD, RD, GND |
| **RS-422/485** | |
| Connector | 4WSD90TB: Terminal block, removable<br>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 |
| Current Draw | 28 mA at 12 VDC (typical) |
| **MECHANICAL** | |
| Dimensions, 4WSD90TB | 9.8 x 4.3 x 2.3 cm (3.9 x 1.7 x 0.9 in) |
| Dimensions, 4WSD250TB | 9.8 x 5.5 x 2.3 cm (3.9 x 2.2 x 0.9 in) |
| MTBF | 179604 |
| MTBF Calculation Method | MIL 217F 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) |
| **APPROVALS / CERTIFICATIONS - 4WSD90TB, 4WSD250TB** | |
| FCC Part 15, CISPR, EN 55022: 2010 + AC:2011 Class B Emissions | |
| CE | |
| EN 61000-6-1: 2007 Generic Standards for Residential, Commercial and Light-Industrial Environments | |
| EN 61000-4-2: 2009 Electro-Static Discharge (ESD) | |

## ORDERING INFORMATION

| MODEL NUMBER | RS-232 CONNECTOR | RS-485 CONNECTOR |
|---|---|---|
| 4WSD90TB | DB9 Female | Removable Terminal Blocks |
| 4WSD250TB | DB25 Female | Removable Terminal Blocks |

## ACCESSORIES

485PS2 - 12VDC@100mA wall transformer power supply, tinned stripped leads

7175 - 2 position 3.5MM Replacement Terminal Block (power, included)

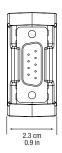7372 - 5 position 3.5MM Replacement Terminal Block (data, included)

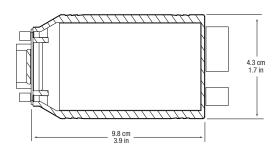TBKT4 - 5 position 3.5MM Replacement Terminal Block

9PAMF6 - 6 ft. (1.8 m) RS-232 Serial Cable

E1250BL-BB3 - 12VDC @ 500MA European wall transformer power supply, tinned stripped leads

MMNM9 - DB9 male to DB9 male Null Modem Adapter

## MECHANICAL DIAGRAM



4.3 cm / 1.7 in

2.3 cm / 0.9 in

9.8 cm / 3.9 in