**Introduction**

Model BB-485O19TB, isolated converter, converts unbalanced, full-duplex RS-232 signals to balanced full-duplex (4-wire) RS-422/485 or half-duplex (2-wire) RS-485 signals.

The converter provides 1500 Volts RMS optical isolation for data lines and ground (and connected devices) between the RS-232 and RS-422/485 signals. RS-232 port has a female DB9 connector. RS-422/485 port has a 6-position terminal block.

The RS-232 side of the converter draws power from the handshake lines (DTR, RTS). At least one handshake line must be asserted (raised high) to power the RS-232 side. The RS-422/485 side must be powered by an external 12 Vdc power supply (not included, sold separately).

**Features**

- Converts RS-232 data signals to RS-422/485
- 1500V optical isolation for data lines and ground
- Data rate: up to 9600 bps
- Inline installation
- 10 to 14 Vdc power supply (required, not included, sold separately)
- cULus, FCC, CE

**Specifications**

<table>
<thead>
<tr>
<th>Serial Technology</th>
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</thead>
<tbody>
<tr>
<td>Data Rate</td>
<td>9600 bps</td>
</tr>
<tr>
<td>RS-232 Connector</td>
<td>DB9 female (DCE)</td>
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<tr>
<td>RS-232 Signals</td>
<td>TD, RD, GND</td>
</tr>
<tr>
<td>RS-422/485 Connector</td>
<td>Terminal block</td>
</tr>
<tr>
<td>RS-485, 2-Wire</td>
<td>Data A (-), Data B (+), GND</td>
</tr>
<tr>
<td>RS-422/485, 4-Wire</td>
<td>TDA(-), TDB(+), RDA(-), RDB(+), GND</td>
</tr>
</tbody>
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**Isolation**

- Lines Protected: Data lines
- Method: Optical
- Rating: 1500 V

**Terminal Block**

- Wire Size: 26 to 16 AWG
- Torque: 2.0 lb fin

**Power**

- Power: Requires Two (2) Power Sources
- RS-232 Source: Port-powered from DTR and RTS handshake lines
- RS-422/485 Source: External power supply (not included, sold separately)
- RS-422/485 Connector: Terminal block
- RS-422/485 Consumption: 0.9 W
- RS-422/485 Source: External power supply (not included, sold separately)

**Ordering Information**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>RS-232 Connector</th>
<th>RS-422/485 Connector</th>
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<tr>
<td>BB-485O19TB</td>
<td>DB9 Female</td>
<td>Terminal Block</td>
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</table>

**Accessories – Sold Separately**

- BB-SMI6-12-V-ST – Power supply, 12 Vdc 6 Watt, stripped and tinned, international AC input, international AC blades
- BB-9PAMF6 - 1.8 m (6 ft) RS-232 serial cable
- BB-MMNM9 - DB9 male to DB9 male null modem adapter

**Mechanical**

- Enclosure Material: Plastic
- Dimensions: 5.5 x 8.3 x 1.7 cm (2.2 x 3.3 x 0.7 in)
- Mounting: Inline installation

**Environmental**

- Operating Temperature: 0 to +50 °C (+32 to +122 °F)
- Storage Temperature: -40 to +85 °C (-40 to +185 °F)
- Operating Humidity: 0 to 95%, non-condensing

**Meantime Between Failures (MTBF)**

- MTBF: 272581 hours
- MTBF Method: MIL 217F Parts Count Reliability Prediction

**Regulatory – Approvals / Standards / Directives**

- Approvals: FCC, CE, cULus File Number: E222870
  2011/65/EU – Amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS)
  2012/19/EU – Waste Electrical and Electronic Equipment (WEEE)
- CE – Standards: EN 55032 (Class B) - Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements
  EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement
- IEC Standards: EN 61000-6-1 – Generic Immunity Standard for Residential, Commercial and Light-industrial Environments