

# RS-232 Optical Isolator - 4kV Isolation, Port Power

Model BB-232SPHI4

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## FEATURES

- Isolates and protects RS-232 equipment
- 4000V, 2-way optical isolation
- Data rate: up to 115.2 kbps
- Quick, convenient, inline installation
- Port-powering or optional external 12VDC power supply (not included, sold separately)

## Overview & Isolation

Model BB-232SPHI4 isolates and protects RS-232 equipment from lightning surges, accidental high voltage shorts and ground loops. The isolator provides 4000 Volts isolation between sides — twice the rating of many isolators. The two sides of the isolator are powered independently to maintain isolation.

Model BB-232SPHI4 supports RS-232 data signals up to 115.2 kbps as well as RTS and CTS handshake lines. DTE device connections are made through a DB-25 female. DCE device connections are made through a DB-25 male.

## Power Options – handshake lines, low-power ports, external power

Both sides of the isolator can draw power from the RS-232 data and handshake lines, eliminating external power source requirements for most systems.

Each side of the isolator can be powered independently. If the isolator is to be used with low power ports or when handshake lines are not available, external +12V power can be supplied to either side or both (power supply not included, sold separately). This versatile powering configuration minimizes the number of supplies required by the overall system.

## Connections

When connecting Model BB-232SPHI4, it is recommended that all device signals be connected. The isolator derives power from these signals, even if they are not used by your system. On a computer with a standard DB-9M serial port, a 9-to-25 pin adapter can be used to connect the isolator.

## SPECIFICATIONS

SERIAL TECHNOLOGY	
Data Rate	115.2 kbps, maximum
RS-232	
Connector & Signals - DTE	DB25 female (DTE) TD(2), RD(3), RTS(4), CTS(5), DTR(20)
Connector & Signals - DCE	DB25 male (DCE) TD(2), RD(3), RTS(4), CTS(5), DSR(6), CD(8)
Transmission Mode	Asynchronous, half-duplex or full-duplex, point-to-point
POWER	
Source	Port-powered from RS-232 data and handshake lines
Optional External Source	12 VDC
External Connections	2.5mm power jacks (tip positive) or DB25 connectors pins 11 (+) and 12 (-)
ISOLATION	
Volts/Duration	4,000 Volts RMS isolation for 1 minute (may be limited by external supply)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	351896
MTBF Calc. Method	MIL217F Parts Count Reliability Prediction

## ORDERING INFORMATION

MODEL NUMBER	CHANNELS PROTECTED	DTE CONNECTOR	DCE CONNECTOR	ISOLATION
BB-232SPHI4	4	DB25 Female	DB25 Male	4,000 V

## ACCESSORIES - sold separately

**BB-SMI6-12V-P230C1** - Power Supply, 12 VDC 6 Watt, 2.5mm plug, international AC input, international AC blades

**BB-232AMF5** - DB25 male to DB25 female, 1.8 m (6 ft)

MECHANICAL	
Dimensions	10.4 x 5.8 x 2.4 cm (4.1 x 2.3 x 0.95 in)
Min. Air Clearance between DTE & DCE sides	5 mm (0.197 in)
Min. Creepage Distance between DTE & DCE sides	8 mm (0.315 in)
ENVIRONMENTAL	
Operating Temperature	0 to +70 °C (+32 to +158 °F)
Storage Temperature	-55 to +125 °C (-67 to +257 °F)
Operating Humidity	10 to 90%, non-condensing
REGULATORY	
FCC Part 15, CISPR, EN55032, CE	
CE - Directives	2014/30/EC – Electromagnetic Compatibility 2011/65/EU – Reduction of Hazardous Substances (RoHS) 2012/19/EC – Waste Electrical and Electronics Equipment (WEEE)
CE - Standards	EN 55022 +AC – Information Technology Equipment - Class B RF Emissions EN 61000-6-1 – Generic Immunity for Residential, Commercial & Light-Industrial Environments

All product specifications are subject to change without notice.  
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