B&B ELECTRONICS

4kV RS-232 Optical Isolator

232SPHI4

PRODUCT FEATURES

- 4,000V, 2-way optical isolation
- DB25 male and DB25 female connectors
- Can be used in 60601-1 applications
- Port-powered OR use optional external power supply

The 232SPHI4 isolates and protects RS-232 equipment from lightning surges, accidental high voltage shorts, and ground loops. RS-232 data signals at up to 115.2K bps as well as the RTS and CTS handshake lines are supported. The 232SPHI4 provides 4000 Volts of isolation between sides, and maintains creepage and air clearances required for double or reinforced insulation by IEC 60601-1.

Model 232SPHI4 has 4000 Volts of isolation — twice the rating of most isolators — to protect RS-232 equipment from lightning strikes, accidental high voltage shorts and ground loops.

DTE device connections are made through a DB-25 female. DCE device connections are made through a DB-25 male. The two sides of the isolator are powered independently to maintain isolation. Both sides can draw power from the RS-232 data and handshake lines, eliminating external powering requirements in nearly all systems.

If the isolator is to be used with low power ports or when no handshake lines are available, external power can be supplied to either side. This versatile powering configuration minimizes the number of supplies required by the overall system.

ACCESSORIES

232PS2 - 12VDC@100mA wall transformer power supply, tinned stripped leads

PS1EU-1000 - 220-240 VAC to 12 VDC Power Supply, jack, Euro CEE7/7 plug

PS1UK-1000 - 220-240 VAC to 12 VDC wall power supply, jack, UK BS-1363 plug

232CAMR - DB9 Male to DB25 Female, 6 in (15.2 cm)

232CAMS - DB9 Female to DB25 Male, 6 in (15.2 cm)

ORDERING INFORMATION

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

SPECIFICATIONS

SERIAL TECHNOLOGY	
Data Rate	115.2 kbps maximum
RS-232	
Connector	DB25 female (DTE)
Connector	DB25 male (DCE)
Signals	TD, RD, RTS, CTS
Transmission Mode	Asynchronous, half or full duplex, point-to-point
POWER	
Source	Port-powered from RS-232 data and handshake lines
Optional External Source	+10 to +16 VDC @ 40 mA max
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)
MECHANICAL	
Dimensions	10.4 x 5.8 x 2.4 cm (4.1 x 2.3 x 0.95 in)
Minimum Air Clearance between DTE & DCE Sides:	5 mm (0.197 in)
Minimum Creepage Distance between DTE & DCE Sides:	8 mm (0.315 in)
ENVIRONMENTAL	
Operating Temperature	0 to +70 °C
Storage Temperature	-55° to 125°C
Operating Humidity	10 to 90% Non-Condensing
MTBF	351896
MTBF Calc. Method	Parts Count Reliability Prediction
APPROVALS / CERTIFICATIONS - 232SPHI4	
FCC Part 15, CISPR, EN 55022: 2010 + AC:2011 Class B Emissions	
CE	
IEC 60601-1-2:2007 Medical Electrical Equipment, Electromagnetic Compatibility	
EN 61000-6-1: 2007 Generic Standards for Residential, Commercial and Light-Industrial Environments	
EN 61000-4-2: 2009 Electro-Static Discharge (ESD)	
EN 61000-4-3: 2006 +A1 +A2 +IS1 Radiated Field Immunity (RFI)	
EN 61000-4-4: 2012 Electrical Fast Transients-Burst Immunity (EFT)	
Download complete Declaration of Conformity at www.bb.elec.com	