

# Exposed RS-485

## IEC 61000-4-5 Level 4 and 120 Vrms Power Fault Protection

Bourns® PortNote® solutions provide protection recommendations for typical port threats.

### Solution Products



TBU-RS085-300-WH



TISP4350J3BJR-S

### Objective

RS-485 is a balanced data transmission scheme utilizing voltage levels from -7 V to +12 V (max.) at data rates up to 10 Mbps. This solution provides Level 4 and power fault protection in a compact PCB area.

### Solution

- 1 TBU® High-Speed Protector (HSP) Device:  
TBU-RS085-300-WH
- 2 TISP® Thyristor Surge Protectors:  
TISP4350J3BJR-S

### Benefit

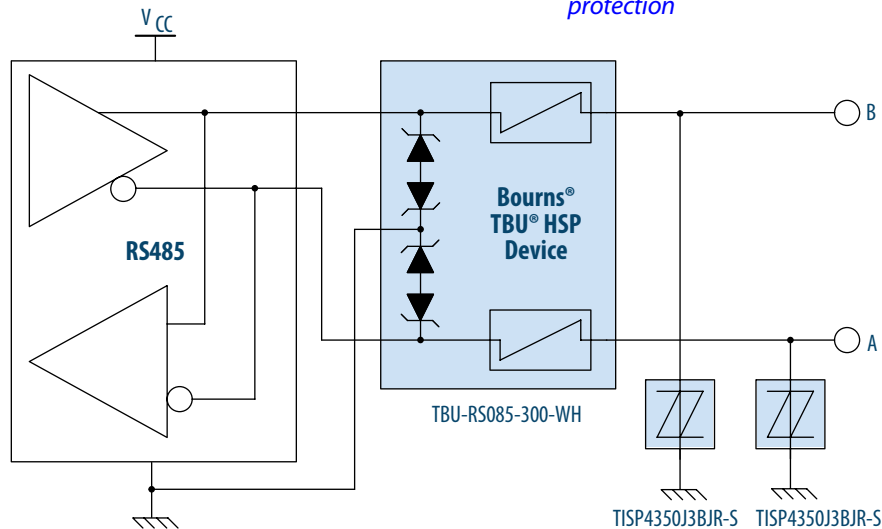
This solution utilizes the compact TBU-RS series which integrates a 7/12 V TVS diode array, and protects against 120 Vrms power fault conditions.

### Compliance\*

IEC 61000-4-5 Level 4  
120 Vrms power fault protection

### Alternate Recommendations

*RS-485 - Serial Port - ESD / EFT / Surge protection PortNote® solution*  
*RS-485 Port Protection Evaluation Board 4 Design Note*  
*TISP4500H3BJR-S for 230 Vrms power fault protection*



The schematic above illustrates the application protection and does not constitute the complete circuit design.

\*The Bourns® Model TBU-RS085-300-WH and TISP4350J3BJR-S have been tested to a 4 kV with 1.2/50 μs combination wave generator which is compliant with IEC 61000-4-5 Level 4 specifications. The combination also survives with 120 Vrms power fault. Customers should verify actual device performance in their specific applications.

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