

**Model: 232HSP**  
**RS-232 High Energy**  
**Surge Protector**

**Overview**

The Model 232HSP is designed to help protect against lightning strikes, power surges, and other types of voltage disturbances. Pins 2 through 8 and 20 are protected on a DB-25 style connector with a final clamping voltage of approximately 15 volts. The 232HSP offers three stages of protection starting with a gas discharge tube followed by a series resistor and finally a Transient Voltage Suppressor (TVS). In order for a surge protector to work properly it is important to have a good connection to earth ground. The 232HSP offers two terminal posts and two metal mounting brackets that can also provide for a good ground connection for the user. Pin 1 of the DB-25 connectors is connected to the metal box through the terminal posts. The 232HSP has been tested to two specifications at 6 kilovolts, IEC 1000-4-5: 1995 "Surge Immunity Test" and IEEE C62.41-1991 "IEEE Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits". To ensure the best protection of your equipment some simple connection guidelines should be followed.

**Connections**

1. The 232HSP should be located as close as possible to the equipment being protected.
2. A good ground connection must be made between the 232HSP and earth ground. This can be done with the two terminal posts on the top of the unit or the two mounting brackets.
3. The earth ground connection should be kept as short as possible for best performance. As a recommendation a minimum of 10 gauge copper wire at no more than 3 feet should be used. If it is not possible to achieve the short distance a braided cable made specifically for grounding purposes should be used.
4. The chassis ground of the equipment should be connected to the buildings 3 prong plug ground.

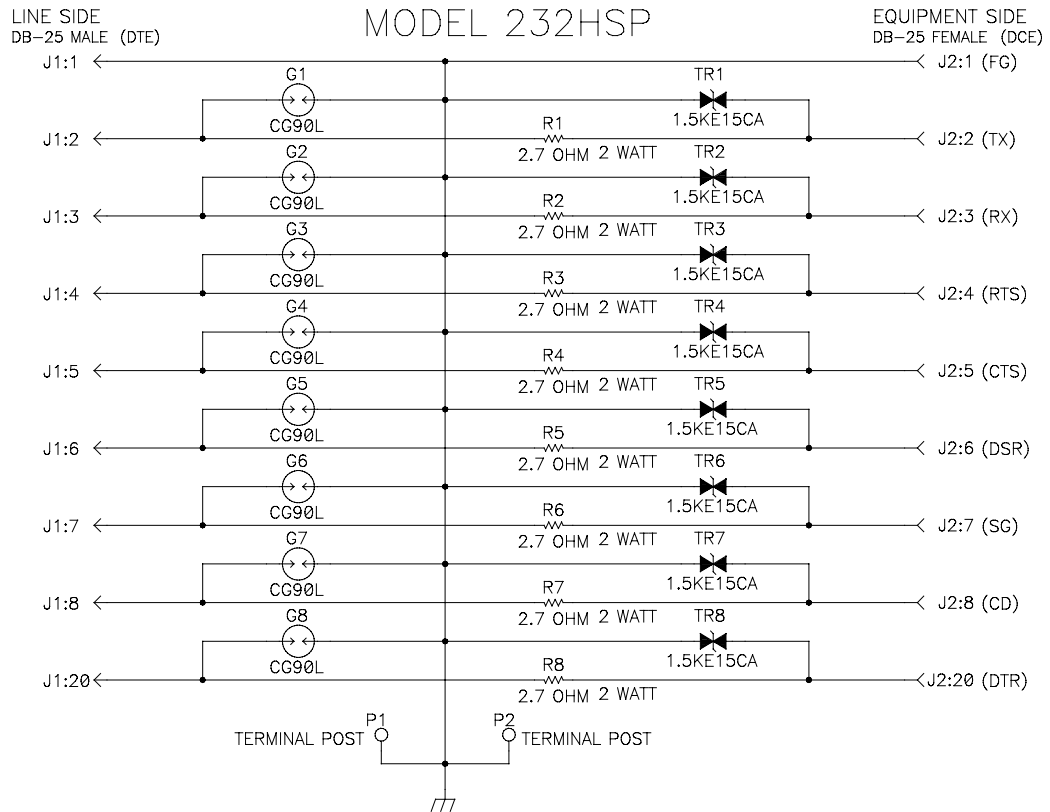
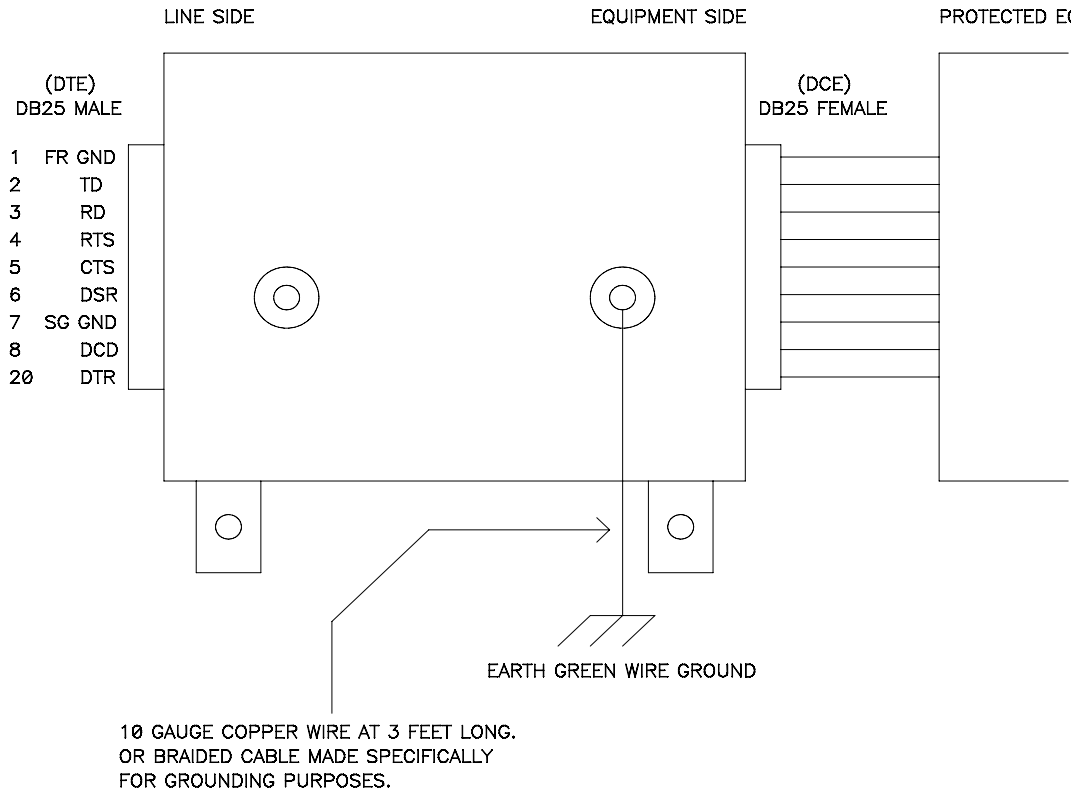
**Specifications**

Clamping Voltage, stage one:	Min. 72 VDC, Max. 108 VDC
Series Resistance, stage two:	2.7 Ohms
Clamping Voltage, stage three:	Min. 14.3V, Max 15.8 V
Clamping Time:	Less than 5 x10 <sup>-9</sup> seconds
Connectors:	Line side: DB-25P male connector Equipment side: DB-25S female connector
Dimensions:	Approximately 5.3L X 4.4W X 1.9H in (13.5 x 11.2 x 4.8 cm)
Weight:	Approximately 11.8 Ounces (.3 kg)

DECLARATION OF CONFORMITY	
Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	P.O. Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Number:	232HSP
Description:	RS-232 High Energy Surge Protector
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN 50082-1 EN 61000 (-4-2, -4-3, -4-4, -4-6)
William H. Franklin III, Director of Engineering	

International Headquarters:  
**B&B Electronics Mfg. Co.** 707 Dayton Road P.O. Box 1040 Ottawa, IL 61350 USA  
 815-433-5100 Fax 433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

**B&B Electronics Ltd** Westlink Commercial Park Oranmore Co. Galway Ireland  
 +353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-europe.com](mailto:support@bb-europe.com)  
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International Headquarters:

**B & B Electronics Mfg. Co.** 707 Dayton Road P.O. Box 1040 Ottawa, IL 61350 USA  
815-433-5100 Fax 433-5104 [www.bb-elec.com](http://www.bb-elec.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-elec.com](mailto:support@bb-elec.com)

**B & B Electronics Ltd** Westlink Commercial Park Oranmore Co. Galway Ireland

+353 91 792444 Fax +353 91 792445 [www.bb-europe.com](http://www.bb-europe.com) [orders@bb-elec.com](mailto:orders@bb-elec.com) [support@bb-europe.com](mailto:support@bb-europe.com)

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