

# RS-422 & RS-485 High Energy Surge Protector

## Model 422HESP

The Model 422HESP is designed to help protect against lightning strikes, power surges, and other types of voltage disturbances. Five RS-422/485 signals on terminal blocks are supported with a clamping voltage of approximately 6.8 volts. The 422HESP 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 422HESP offers two terminal posts and two metal mounting brackets which provide a good ground connection for the user. The 422HESP 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

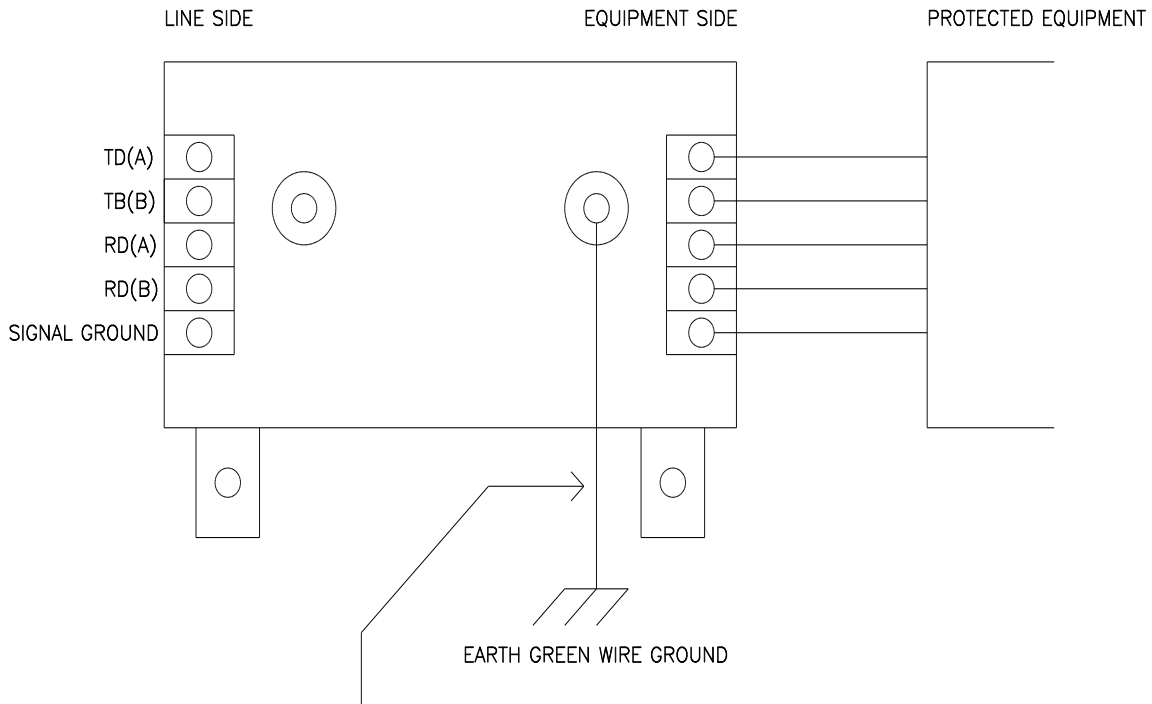
1. The 422HESP should be located as close as possible to the equipment being protected.
2. A good ground connection must be made between the 422HESP and earth ground. This can be done with the two terminal posts on the top of the unit or the two mounting brackets.
3. The earth ground connection should 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. 6.45V, Max 7.14 V
- \* Clamping Time: Less than  $5 \times 10^{-9}$  seconds
- \* Connectors: 5 Position Terminal Blocks
- \* Dimensions: Approximately 11.4 x 8.4 x 4.6 cm (4.5"L X 3.3"W X 1.8"H)
- \* Weight: Approximately .19 kg (6.7 ounces)

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 Numbers:	422HESP
Description:	RS-422/485 High Energy Surge Protector
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN 50082-1 (IEC 801-2, IEC 801-3, IEC 801-4) EN 50081-1 (EN 55022, IEC 1000-4-2) EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) ENV 50204 EN 55024
	
Robert M. Paratore, Director of Engineering	
	





10 GAUGE COPPER WIRE AT 3 FEET LONG.  
OR BRAIDED CABLE MADE SPECIFICALLY  
FOR GROUNDING PURPOSES.

**MODEL 422HESP**

