



*Model: HESP4DR*  
DIN Rail Data Line Surge Suppressor CE

### Introduction

The Model HESP4DR is designed to help protect against lightning strikes, power surges, and other types of voltage disturbances to components on a DIN rail. Five RS-422/485 signals on terminal blocks are supported with a clamping voltage of approximately 6.8 volts. The HESP4DR 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 HESP4DR has a #10 grounding screw, which provides a solid ground connection for the user. This design 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 HESP4DR should be located as close as possible to the equipment being protected.
2. A good ground connection must be made between the HESP4DR and earth ground. This can be done with the #10 grounding screw.
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 of 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 building's 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:	Two 6-position terminal blocks
•Temperature:	-40 to +80°C (-40 to +176°F)
•Humidity:	0-95% non-condensing
•Dimensions:	Approximately 35.5 x 78.8 x 105.3 mm (1.4 x 3.1 x 4.2 in)
•Weight:	Approximately .22 kg (.5 oz)

#### 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:	HESP4DR
Description:	DIN Rail Surge Suppressor
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 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) ENV 50204

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