



⚠ DANGER

Hazardous Voltage

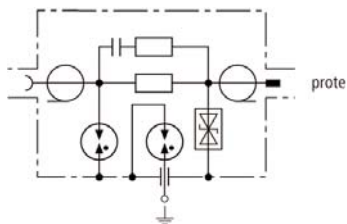
Will cause severe injury or death.

Working on or near energized circuits poses a serious risk of electrical shock. De-energize all circuits before installing or servicing this equipment and follow all prescribed safety procedures.

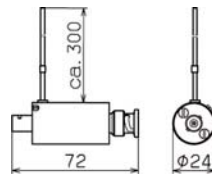
Technical Data

Catalog number	BSPD5BNCSI
Nominal voltage	5Vdc
MCOV	8Vdc
Discharge current (8/20)	nom. 2.5kA (A/shield) 10kA (shield/PG)
	max. 5kA (A/shield) 20kA (shield/PG)
Voltage protection level – residual voltage at I_{sn}	≤ 25V (A/shield) at 1kV/μs (A/shield) ≤ 13V
Line or shield / PG	≤ 600V
Response time	≤ 1 ns (A/shield) ≤ 100 ns (shield/PG)
Bandwidth (50Ω system)	300MHz
For data transmission rates up to	16Mbit/s
Series impedance/line	10Ω
Return loss (matched to 50Ω)	≤ 20dB (to 40 MHz)
Insertion loss (50Ω system)	≤ 1dB (to 40 MHz) ≤ 3 dB (to 300 MHz)
Connections: input / output	BNC
Shield grounding	Indirectly via built-in spark gap and external 18AWG (0.75mm ²) grounding conductor, 12" (0.3m long)
Dimensions	∅ 1" (24mm) dia. x 3" (74mm) long

Circuit Diagram



Dimensions



Installation

1. Application - The type BSPD5BNCSI overvoltage in-line protector is connected directly into the cable of the system/equipment to be protected using the connectors at both ends. The overvoltage protection circuit has a valve characteristic, i.e., the BSPD5BNCSI is installed so that the output indicated on the equipment label (→ protected) faces towards the equipment to be protected in the cable run.

The input and output are not to be reversed. The protector is to be installed as close as possible to the equipment to be protected.

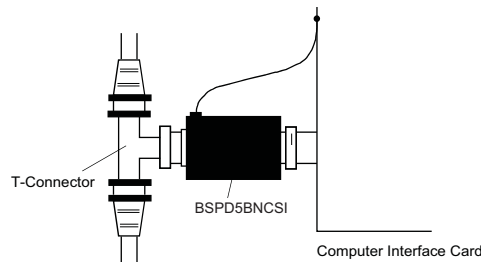
2. Safety Instructions - The overvoltage protector is only to be installed by a trained electrician in accordance with the DIN VDE Regulations. Its use is only permitted under the conditions stated and shown in these installation instructions. The overvoltage protector and the equipment connected to it can be destroyed by loads exceeding the stated values, e.g. due to a direct lightning strike. The overvoltage protector is to be checked by the electrician for external damage prior to installation and is not to be installed if damage or any other defect is detected in this check.

Warning: Never open the equipment! Opening or otherwise tampering with the equipment can destroy the protection circuit and invalidates the warranty.

3. Grounding - The ground path should be as short as possible. The protector can be grounded as follows:

3.1 Direct ground - The housing of the BSPD5BNCSI is directly connected to the coaxial cable shield. This enables the shield to be directly grounded by grounding the housing using a pipe clamp. The ground conductor fed out of the housing is not used in this case.

Installation Example



Safety Instructions

This Surge Protective Device (SPD) for coaxial connection may only be installed by qualified electrical personnel. All applicable national and local electrical standards and safety regulations must be observed. The SPD must be checked for external damage prior to installation.

If any damage or other defects are detected, do not install the device.

The installation and application of this SPD is only permitted within the limits shown and stated in these installation instructions.

3.2 Indirect ground - This measure uses the insulated ground conductor fed out of the BSPM5BNCSI housing. The coaxial cable shield can then be operated without a ground (e.g., to avoid hum loops). The ground conductor of the device is to be connected to the protected equipment chassis/ground. Note for this application that the equipment to be protected must have a dielectric strength of at least 1.5kV between the electronic circuitry and ground. The ground conductor must not under any circumstances be extended if this protection is to be maintained.

4. Maintenance - The overvoltage protector requires no maintenance for a long period of time provided the above installation conditions are complied with and the nominal data are not exceeded. A check is therefore only necessary in connection with routine maintenance on the system.

UL Requirements

1. This surge protective device (SPD) is intended for ordinary indoor use on communication loop circuits that are isolated from the Public Switched Telephone Network.
2. The SPD shall be secured using the methods described in this instruction.
3. Proper grounding continuity shall be determined.
4. Please install the protector in accordance with the applicable requirements of the National Electrical Code®, Article 800 or other applicable local codes.
5. The maximum circuit current for UL 497 B applications is limited to 100mA.

Tabulation Strike Voltage in Accordance with UL 497 (Protectors for Data Communication and Fire Alarm Circuits)			
Strike Voltage 100V / sec			
Shield-to-Ground		Line-to-Shield	
70V min	110V max	9V min	15V max
Strike Voltage 100V / μsec			
Shield-to-Ground		Line-to-Shield	
70V min	600V max	9V min	18V max



Warranty

See document 3A1502 at www.cooperbussmann.com/surge for details of limited warranty.



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