

Blue label UL 1449 4th Edition, IEC 61643-11 Class II 1-pole UL Type 4 surge arrester for Type 2 power voltage applications

BSPM1A75D100LV, BSPM1A150D200LV
Class II Arrester According IEC 61643-11 and
ÖVE-SN 60 Part 4 (additional DC application).

⚠ 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

Fusing and conductor sizes

F1	48-440Vac 60-420Vdc	600Vac 500-600Vdc	Fusing*		Conductor mm ² (AWG)	
	AC: F1 ≥125A DC: F1 ≥ 80A	AC: F1 ≥100A DC: F1 ≥ 80A	F1/A	F2/A	S1	S2
F2	AC: F2 ≤125A DC: F2 ≤ 80A	AC: F2 ≤100A DC: F2 ≤ 80A	25	X	4 (10)	6 (8)
			35	X	4 (10)	6 (8)
			40	X	4 (10)	6 (8)
A	AC: F1 ≤125A DC: F1 ≤ 80A	AC: F1 ≤100A DC: F1 ≤ 80A	50	X	6 (8)	6 (8)
			63	X	10 (6)	10 (6)
			80	X	10 (6)	10 (6)
			100	X	16 (4)	16 (4)
			125	X	16 (4)	16 (4)

* F2 = 100A @ 600Vac, 80A @ 500-600Vdc

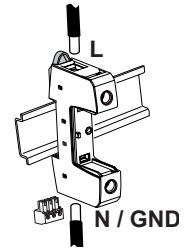
Conductors and busbars

min. □ L, N ↓	1.5mm ²	
max. □ L, N ↓	25mm ²	35mm ²
⚠	16mm ² Cu	$\geq 15.5mm$

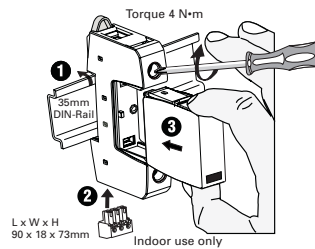
System voltage U _n (50/60Hz)	75Vac	100Vdc	150Vac	200Vdc
U _n Tol.: 0V...U _c	60Vac	—	120Vac	—
Discharge current	I _N	10kA	10kA	15kA
	I _{max}	40kA	25kA	40kA
	I _{SCCR}	50kA	5kA	50kA
I _{FE}	<0.5mA	—	<0.5mA	—
Voltage protection rating VPR	<0.4kV		<0.7kV	
Max. fuse				
Types	W/O remote	BSPM1A75D100LV		BSPM1A150D200LV
	W/ remote	BSPM1A75D100LVR		BSPM1A150D200LVR
Replace Mods.	BPMA75D100LV		BPMA150D200LV	
Agency information	†	-	†	-
Operating environment	-40°C to +80°C, 5% to 95% RH			
Ports / IP rating	1 / IP20 (built-in)			
L x W x H	90mm L x 18mm W x 73mm H			

† UL, cUL, CSA and KEMA.

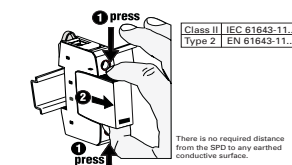
Line connections



Mounting

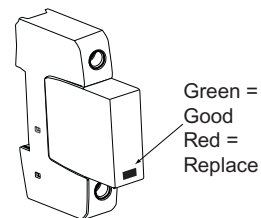


System installation

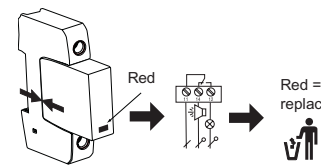
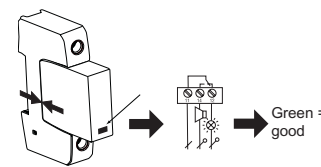


Module replacement

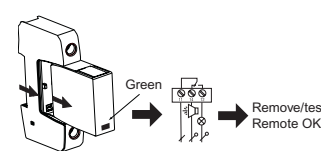
Visual indication status



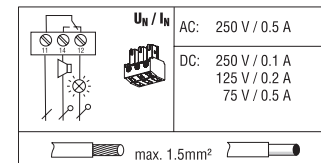
Remote contact signaling (module installed)



Testing remote signaling (module removed)

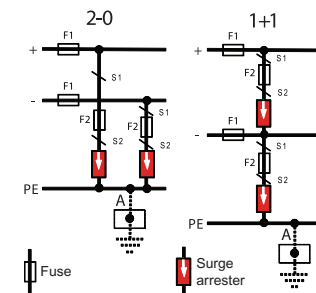


Remote contact signaling

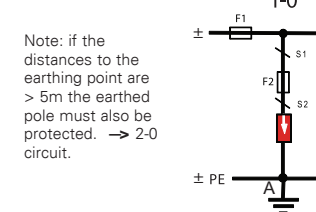


Wiring

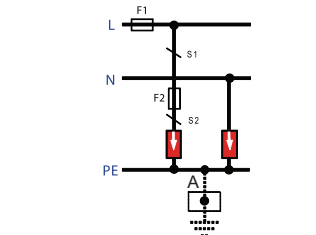
Isolated DC systems



Earthed DC systems (1-0)

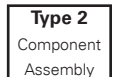


TN AC Connection (2-0)



Warranty

See document 3A1502 at
Eaton.com/bussmannseries for
details of limited warranty.



1. Application of the Bussmann series BSP UL SPDs

The modular Bussmann series BSP UL Surge Protective Devices (SPDs) sets new standards of safety and user-friendliness. They are intended for protecting against overvoltage surges generated by remote lightning strikes or localized switching surges in up to 600V class applications.

Typical installation locations include the main service entrance, distribution panels, sub-distribution panels, branch circuit panels or directly associated with a panel for specific electrical equipment such as PLC, drives or other sensitive equipment.

Integrated mechanical coding between the modules and base ensures against installing an incorrect replacement module. Modules can be easily replaced without tools by simply depressing the release buttons. The

protection modules are firmly fixed to the base part of the device. Neither vibration nor the electromagnetic forces of discharge can loosen the protection modules.

The dual Thermo Dynamic Control monitoring in each module is based on the intensity of the discharge current and the surface temperature of the heavy-duty varistor. The visual indicators show the state of each module at a glance. Green if the module is good and Red if the module has reached the end of its operating life and needs replacement. Remote signaling of module status is possible with an optional three-pole terminal (not field configurable; must be ordered with SPD). A floating changeover contact can be used as a make or break contact according to the monitoring circuit design.

2. Safety instructions

The BSP UL SPD is to be installed only by qualified personnel in compliance with all local and National Electrical Code requirements. Consideration must be made for proper system protection coordination with other SPDs. Contact our Application Engineers for additional information or assistance.

Always de-energize the system and follow prescribed safety procedures while installing and connecting the SPD. SPD ratings must be compliant with the application and must not be installed in a more severe environment that subjects the SPD to higher voltages, currents or energy levels than allowed for in its technical specifications. The SPD is designed for indoor applications.

If installed in a harsh environment, the SPD must be placed in a suitably rated NEMA enclosure. Opening or tampering with the protection modules may damage the effective operation of the SPD and will void the warranty.

3. General installation instructions

Consult Articles 250 and 285 of the NEC® and IEEE Green Book, Standard 142. Also consider the requirements of the Canadian Electrical Code, if applicable.

UL installations

The Bussmann series BSP UL low voltage blue series is designed to be installed without additional fuses per UL 1449 3rd Edition. It is suitable for use on a circuit with maximum SCCR and Nominal Voltage according to Technical Data. This device features an internal protection system that will disconnect the surge protective module at the end of its useful life, but will maintain power-to-load, now unprotected from an overvoltage condition. If this situation is undesirable for the application, the plug-in module must be replaced.

System voltage

Make sure that the SPD is correctly rated for the application. The maximum continuous operating voltage (MCOV) must not be exceeded.

Mounting

The SPD should be installed as close as possible to the device it is protecting. Good installation practice is to keep conductor length as short and straight as possible. The SPDs mount on a 35mm DIN-rail that should be securely mounted to the back of the panel's interior using ¼ inch bolts every 8 inches (200mm). The SPDs can be mounted onto the DIN rail by sliding in from either open end, or directly on by compressing the spring-loaded clamping device. The SPD's location shall permit sufficient clearance for conductor power and signaling connections.

Conductor connections

Phase connections to the SPD and Ground side connections from the SPD to the ground bus must use the wire size

indicated in the technical specifications. Insulation should be stripped back ½ inch as shown. All conductor terminal screws shall be tightened to 45 Lb-In (5 N•m). If the SPDs are installed with conductor lengths from the main bonding jumper (usually service entrance) longer than six feet (two meters), then an additional SPD must be installed between neutral and ground.

Grounding

For proper operation, the SPD must be connected to a low impedance ground. Good installation practice is to make sure the SPD grounding conductors are as short and straight as possible using the specified wire size. Use a local equipotential bonding bar if possible. Contact our Application Engineers for additional information or assistance.

Remote contact signaling

If using the optional remote contact signaling, torque terminals to 1.7 Lb-In (0.2 N•m). Contacts are rated at 250Vac/0.5A or 250Vdc/0.1A, 125Vdc/0.2A, 75Vdc/0.5A.

Problem diagnostics

If there should be any problem please contact your local Bussmann products representative.

NOTES ON FUSING

- No additional fusing is needed for UL installations that DO NOT require an SCCR rating.
- If an SCCR rating is needed on a UL installation, do not use this control voltage blue label UL-SPD. Use an appropriate unit from the high SCCR black label UL-SPD product range. For details on available high SCCR units, visit www.cooperbussmann.com/Surge.
- If uncertain about the correct unit to install for your application, contact our Application Engineering Team M-F, 7:00 a.m.-5:00 p.m. central time at 636-527-1270, e-mail fusetech@eaton.com, or fax 636-527-1607.