

## Two-pole UL Type 4 surge arresters for control voltage applications



Remote contact signaling

easyID™ local visual status indication

### Control voltage system arresters

The features of these two-pole devices are for use in coordination with other upstream SPDs in UL 508A Applications\*.

- Surge arrester according to UL 1449 4<sup>th</sup> Edition, Type 4 Component Assembly for Type 3 applications helps meet UL 508A requirements
- Proven MOV and GDT hybrid technology for reliable surge protection
- Module locking system with module release button make module replacement easy without tools
- Remote signaling of all protection modules make status monitoring easy and accurate in any monitoring scheme
- No upstream overcurrent protection necessary to make installation easier and more economical
- Vibration and shock tested according to EN 60068-2 to withstand harsh environments

### Remote contact signaling

The three-pole terminal remote contact signaling has a floating changeover contact for use as a break or make contact, according to circuit concept.

### Specifications:

#### System volts

- 24Vac/dc to 120Vac/dc (See ordering information table)

#### System types

- AC and DC control voltage systems up to 120Vac/dc

#### Agency information

- CE
- CSA
- KEMA
- UL/cUL
- RoHS complaint

#### Mounting

- 35mm DIN-Rail

#### Warranty

- Five years

\* UL 1449 4<sup>th</sup> Edition not applicable to DC voltages.

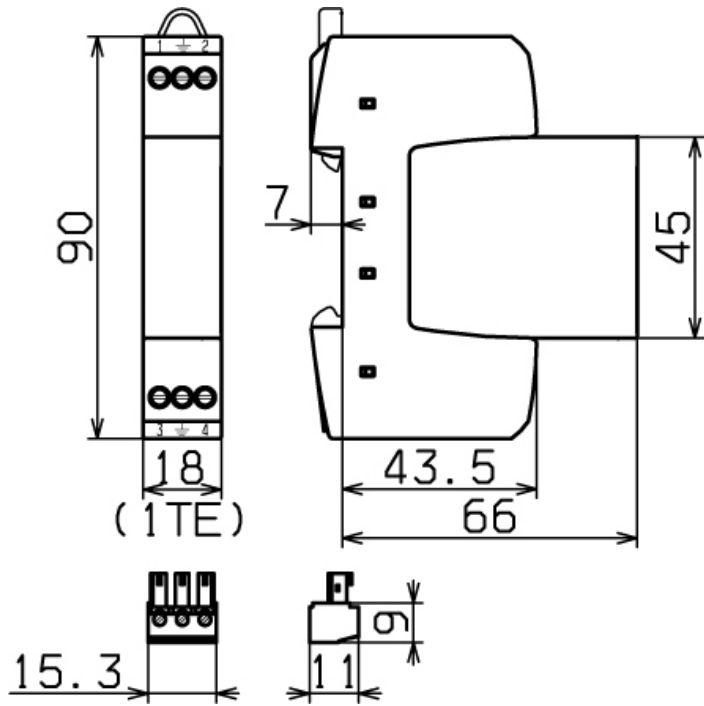
### Catalog symbols:

- BSPH2A\_D\_LV
- BSPH2A\_D\_LVR

### Description:

Eaton's Bussmann™ series two-pole UL Type 4 surge component acceptance surge arresters are for Type 3 applications. These modular surge arresters feature local *easyID*™ visual status indication along with remote contact signaling. The unique module locking system fixes the protection module to the base. Modules can be easily replaced without tools by simply depressing the release buttons. Integrated mechanical coding between the base and protection module ensures against installing an incorrect replacement module.

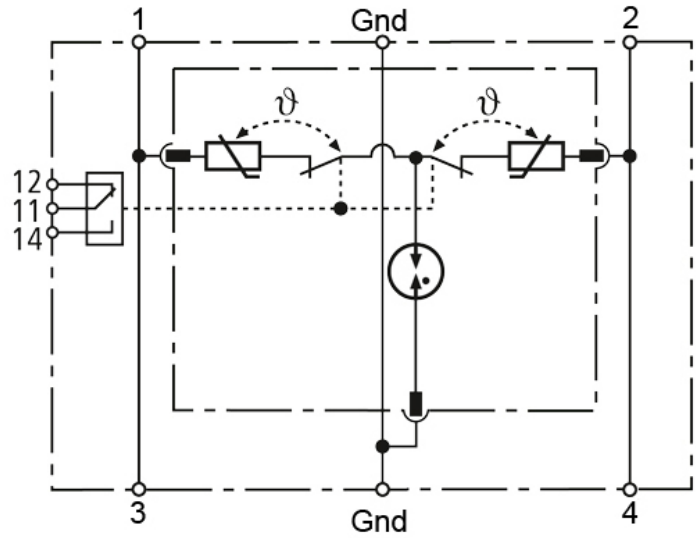
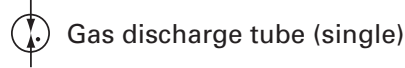
**Dimensions - mm:**



Shown with optional remote contact signaling.

**Module circuit diagram:**

Shown with optional remote contact signaling.



- BSPHA24D24LV
- BSPHA48D48LV
- BSPHA60D60LV
- BSPHA150D150LV
- BSPHA230D230LV

**Ordering information:**

System voltage (50-60Hz)		24Vac/dc	48Vac/dc	120Vac/dc
Max. Continuous Operating Voltage (MCOV) [ $V_c$ ] 50-60Hz		30Vac/dc	60Vac/dc	150Vac/dc
Catalog numbers (base + modules)		BSPH2A24D24LVR	BSPH2A48D48LVR	BSPH2A150D150LVR
Replacement modules		BPHA24D24LV	BPHA48D48LV	BPHA150D150LV
Specifications				
Nominal AC voltage [ $V_N$ ] (50-60Hz)		24V	48V	120V
Max. continuous operating voltage [ $V_c$ ]	AC (50-60Hz)	30V	60V	150V
	DC	30V	60V	150V
Nominal load current AC [ $I_L$ ]		25A	25A	25A
Nominal discharge current (8/20 $\mu$ s) [ $I_n$ ]		1kA	1kA	2kA
Total discharge current (8/20 $\mu$ s) L+N-Gnd [ $I_{total}$ ]		2kA	2kA	4kA
Combined impulse	$U_{oc}$	2kV	2kV	4kV
	L+N-Gnd [ $U_{oc total}$ ]	4kV	4kV	8kV
Voltage protection level [VPR]	L-N	$\leq 180V$	$\leq 350V$	$\leq 640V$
	L/N-Gnd	$\leq 630V$	$\leq 730V$	$\leq 800V$
Max lineside overcurrent protection	gG or B fuse	25A	25A	25A
	$I_{SCCR}$	6kA <sub>RMS</sub>	6kA <sub>RMS</sub>	6kA <sub>RMS</sub>
SPD according to		EN 61643-11 Type 3, IEC 61643-11 Class III		
Response time	L-N [ $t_A$ ]	$\leq 25$ ns		
	[L/N-Gnd] [ $t_A$ ]	$\leq 100$ ns		
Operating environment [ $T_U$ ]		-40°C to +80°C, 5% to 95% RH		
Operating state/fault indication		Green (good) / Red (replace)		
Number of ports		1		
Conductor cross-sectional area	Min.	0.5mm <sup>2</sup> / 18AWG solid / flexible		
	Max.	4mm <sup>2</sup> / 10AWG solid, 2.5mm <sup>2</sup> / 12AWG flexible		
For mounting on		35mm DIN-Rail per EN 60715		
Enclosure material		Thermoplastic, UL 94V0		
Location category		Indoor		
Degree of protection		IP20 (built-in)		
Capacity (DIN 43880)		1 Mod.		
Agency information*		UL / cUL, CSA, KEMA		
Product warranty		Five years**		
Remote contact signaling				
Remote contact signaling type		Changeover contact		
Switching capacity (volts/amps)	AC	250V / 0.5A		
	DC	250V / 0.1A, 125V / 0.2A, 75V / 0.5A		
Conductor ratings and cross-section area		60/75°C Max. 1.5mm <sup>2</sup> / 14AWG solid / flexible		
Ordering information		Order from catalog numbers above		

\* Agency information not applicable to DC ratings.

\*\*See Bussmann series SPD limited warranty statement (3A1502) for details at Eaton.com/bussmannseries.