

## Surge Protection Made Simple™ for LV Control Applications

### UL Type 4 BSP LV Control Series for 24Vac/dc to 230Vac/dc LV Systems



#### Description

The Bussmann UL Type 4 component assembly for use in Type 3 applications 24Vac/dc, 48Vac/dc, 60Vac/dc, 120Vac/dc and 230Vac/dc, two-pole, modular surge arresters feature local, *easyID™* visual indication and optional remote contact signaling. The unique module locking system fixes the protection module to the base part. 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.

#### LV Control System Arresters

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

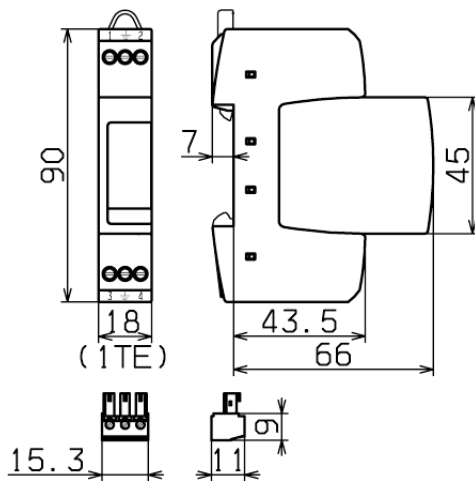
- Surge arrester according to UL 1449 3<sup>rd</sup> Edition, Type 4 Component Assembly for use in Type 3 applications helps meet UL 508A requirements
- Proven MOV and GDT hybrid technology for reliable surge protection
- "Thermo Dynamic Control" SPD monitoring device ensures high reliability against surge events
- Module locking system with module release button make module replacement easy without tools
- Optional remote signaling of all protection modules make status monitoring easy and accurate in any monitoring scheme
- Vibration and shock tested according to EN 60068-2 to withstand harsh environments

#### Optional Remote Signaling Contact

The remote signaling contact versions have a floating changeover contact for use as a break or make contact for easy adoption in any monitoring application.

\* UL 1449 3<sup>rd</sup> Edition not applicable to DC voltages.

#### Dimensions - mm



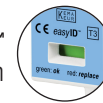
Shown with optional remote contact signaling



BSPH2A24D24LV  
BSPH2A48D48LV  
BSPH2A60D60LV  
BSPH2A150D150LV  
BSPH2A230D230LV



**easyID™**  
Visual Status Indication

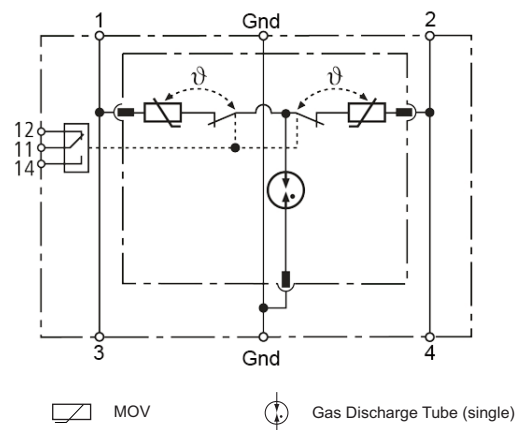


Remote Signal Contact Available



## Non SCCR BSP LV Control Series

#### Circuit Diagrams



BSPHA24D24LV, BSPHA48D48LV, BSPHA60D60LV  
BSPHA150D150LV, BSPHA230D230LV\*

Shown with optional remote contact signaling

\* For remote signaling contact, add "R" suffix to the part number.  
E.g., BSPHA230D230LVR

Ordering Information					
System Voltage	24Vac/dc	48Vac/dc	60Vac/dc	120Vac/dc	230Vac/dc
Max. Continuous operating AC voltage (MCOV) [V <sub>C</sub> ]	30Vac/dc	60Vac/dc	75Vac/dc	150Vac/dc	255Vac/dc
Catalog Numbers:	Without Remote Signaling	BSPH2A24D24LV	BSPH2A48D48LV	BSPH2A60D60LV	BSPH2A150D150LV
(Base + Modules)	With Remote Signaling	BSPH2A24D24LVR	BSPH2A48D48LVR	BSPH2A60D60LVR	BSPH2A150D150LVR
Replacement Modules		BPHA24D24LV	BPHA48D48LV	BPHA60D60LV	BPHA150D150LV
		BPHA230D230LV			
Specifications					
Nominal AC voltage [V <sub>0</sub> ]	24V	48V	60V	120V	230V
Max. continuous operating AC voltage [V <sub>C</sub> ]	30V	60V	75V	150V	255V
Max. continuous operating DC voltage [V <sub>C</sub> ]	30V	60V	75V	150V	255V
Nominal load current AC [I <sub>N</sub> ]	25A	25A	25A	25A	25A
Nominal discharge current (8/20 μs) [I <sub>n</sub> ]	1kA	1kA	2kA	2kA	3kA
Total discharge current (8/20 μs) [L+N-Gnd] [I <sub>total</sub> ]	2kA	2kA	4kA	4kA	5kA
Combined impulse [U <sub>OC</sub> ]	2kV	2kV	4kV	4kV	6kV
Combined impulse [L+N-Gnd] [U <sub>OC</sub> total]	4kV	4kV	8kV	8kV	10kV
Voltage protection level [L-N] [V <sub>PR</sub> ]	≤ 180V	≤ 350V	≤ 400V	≤ 640V	≤ 1250V
Voltage protection level [L/N-Gnd] [V <sub>PR</sub> ]	≤ 630V	≤ 730V	≤ 730V	≤ 800V	≤ 1500V
Temporary overvoltage (TOV) [L-N]	--	--	--	--	335V / 5 sec.
Temporary overvoltage (TOV) [L/N-Gnd]	--	--	--	--	400V / 5 sec.
Temporary overvoltage (TOV) [L+N-Gnd]	--	--	--	--	1200V + V <sub>0</sub> / 20
TOV characteristics [L-N]	--	--	--	--	Withstand
TOV characteristics [L/N-Gnd]	--	--	--	--	Withstand
TOV characteristics [L+N-Gnd]	--	--	--	--	Failure
SPD according to EN 61643-11	Type 3				
SPD according to IEC 61643-1	Class III				
Response time [L-N] [t <sub>A</sub> ]	≤ 25 ns				
Response time [L/N-Gnd] [t <sub>A</sub> ]	≤ 100 ns				
Operating temperature range [T <sub>U</sub> ]	-40°C to +80°C				
Operating state/fault indication	Green (good) / Red (replace)				
Number of ports	1				
Cross-sectional area (min.)	0.5mm <sup>2</sup> /18AWG solid/flexible				
Cross-sectional area (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				
Capacity	1 Mod., DIN 43880				
Agency Information*	UL / cUL, CSA, KEMA				
Product Warranty	Five Years**				
Remote Contact Signaling					
Remote Contact Signaling Type	Changeover Contact				
AC Switching Capacity (Volts/Amps)	250V/0.5A				
DC Switching Capacity (Volts/Amps)	250V/0.1A; 125V/0.2A; 75V/0.5A				
Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals	60/75°C Max. 1.5mm <sup>2</sup> /14AWG Solid/Flexible				
Ordering Information	Order from Catalog Numbers Above				

\* Standards information not applicable to DC ratings.

\*\* See Cooper Bussmann SPD Limited Warranty Statement (3A1502) for details at [www.cooperbussmann.com/surge](http://www.cooperbussmann.com/surge).

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