

# Surge Protection Made Simple™ for Wind Power Applications

## IEC Class I Coordinated Lightning Current Arresters with High Follow Current for 400-690 Volt, TNC, TNS & IT Systems



### Description

The Cooper Bussmann® IEC Class I 400 and 690 Volt, one-pole lightning current arresters feature local, *easyID*™ visual indication and optional remote contact signaling.

440V and 760V maximum continuous operating voltage arresters protect installations against surges and direct lightning strikes.

### System & Application

TNC 400V/690V: 3x BSPS1400WE(R)

TNS 400/690V: 4x BSPS1400WE(R)

IT 690V: 3x BSPS1690WER

### Remote Signaling Contact

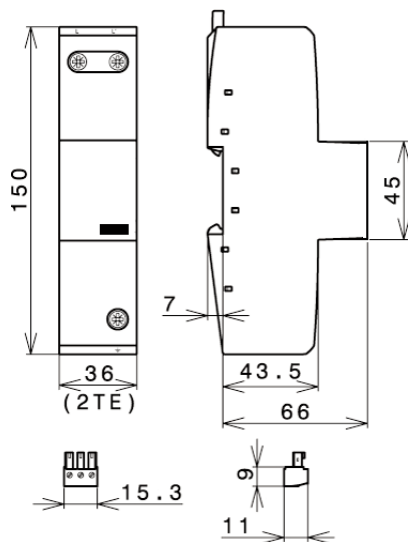
The three-pole terminal remote signaling contact versions have a floating changeover contact for use as a break or make contact, according to circuit concept.



BSPS1400WE(R)  
BSPS1690WER

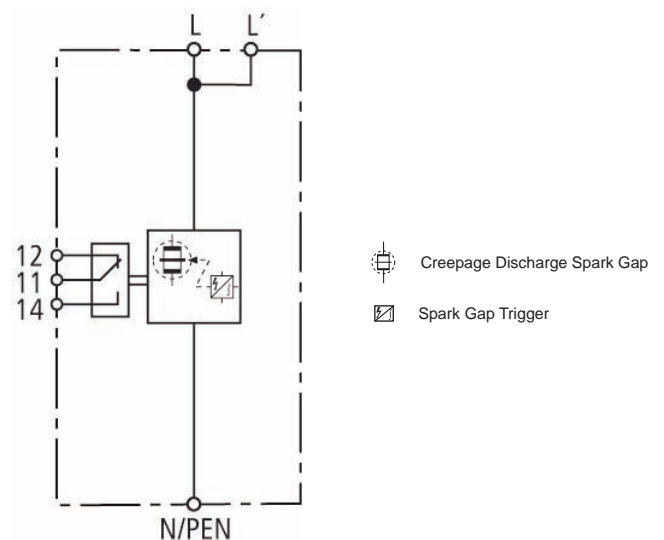


### Dimensions - mm



Shown with optional remote contact signaling

### Circuit Diagrams - Shown with optional remote contact signaling



BSPS1400WE(R)  
BSPS1690WER

Ordering Information		
System Voltage/Poles	400V/1	690V/1
Max Continuous Operating AC Voltage (MCOV) [U <sub>C</sub> ]	440V	760V
Catalogue Numbers	Without Remote Signaling	BSPS1400WE
	With Remote Signaling	BSPS1400WER
Specifications		
Line System Type	TNC, TNS, IT	TNC, TNS, IT
Lightning Impulse Current (10/350μs) [I <sub>imp</sub> ]	35kA	25kA
Specific Energy [W/R]	306.25kJ/ohms	156.25kJ/ohms
Nominal Discharge Current (8/20μs) [I <sub>n</sub> ]	35kA	25kA
Voltage Protection Level [U <sub>p</sub> ]	≤2.5kV	≤4kV
Follow Current Extinguishing Capability AC [I <sub>fi</sub> ]	50kA <sub>rms</sub>	25kA <sub>rms</sub>
Follow Current Limitation/Selectivity	no tripping of 32A gL/gG fuse up to 50kA <sub>rms</sub> (prosp.)	no tripping of 32A gL/gG fuse up to 25kA <sub>rms</sub> (prosp.)
Response Time [t <sub>A</sub> ]	≤100ns	≤100ns
Max. backup fuse (L) up to I <sub>K</sub> = 25kA <sub>rms</sub> (t <sub>a</sub> ≤ 5s)	--	250A gL/gG
Max. Backup Fuse (L) up to I <sub>K</sub> > 25kA <sub>rms</sub>	--	100A gL/gG
Max. Backup Fuse (L) up to I <sub>K</sub> = 50kA <sub>rms</sub> (t <sub>a</sub> ≤ 0.2 s)	500A gL/gG	--
Max. Backup Fuse (L) up to I <sub>K</sub> = 50kA <sub>rms</sub> (t <sub>a</sub> ≤ 5 s)	250A gL/gG	--
Max. Backup Fuse (L) for I <sub>K</sub> > 50kA <sub>rms</sub>	160A gL/gG	--
Max. Backup Fuse (L-L)	125A gL/gG	125A gL/gG
Short-Circuit Withstand Capability for Max. Mains-Side Overcurrent Protection	50kA <sub>rms</sub>	25kA <sub>rms</sub>
Temporary Overvoltage (TOV) [U <sub>T</sub> ]	690V / 5sec	1000V / 5 sec
Cross-Sectional Area (L, L', $\frac{L}{2}$ ) [min.]	--	100mm <sup>2</sup> solid/flexible
Cross-Sectional Area (L, L', N/PEN) [min.]	100mm <sup>2</sup> solid/flexible	--
Cross-Sectional Area (L, N/PEN) [max.]	50mm <sup>2</sup> /1AWG stranded/35mm <sup>2</sup> /2AWG flexible	--
Cross-Sectional Area (L, $\frac{L}{2}$ ) [max.]	--	50mm <sup>2</sup> /1AWG stranded/35mm <sup>2</sup> /2AWG flexible
Cross-Sectional Area (L) [max.]	50mm <sup>2</sup> /1AWG stranded/35mm <sup>2</sup> /4AWG flexible	50mm <sup>2</sup> /1AWG stranded/35mm <sup>2</sup> /4AWG flexible
SPD According to EN 61643-11	Type 1	
SPD According to IEC 61643-1	Class I	
TOV Characteristics	Withstand	
Operating Temperature Range (parallel connection) [T <sub>UP</sub> ]	-40°C to +80°C	
Operating Temperature Range (series connection) [T <sub>US</sub> ]	-40°C to +60°C	
Operating State/Fault Indication	Green (good) / Red (replace)	
Number of Ports	1	
Mounting	35mm DIN rail per EN 60715	
Enclosure Material	Thermoplastic, UL94V0	
Place of Installation	Indoor	
Degree of Protection	IP20	
Capacity	2 Mods., DIN 43880	
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 Catalogue Number Above	

Recommended Cooper Bussmann NH DIN Size Back Up Fuse Links	
Size	NH Fuse Part Number
000	100NHG000B-690 (max L) up to I <sub>K</sub> > 25kA <sub>rms</sub>
00	125NHG00B-690 (max L-L)
01	160NHG01B-690 (max L) for I <sub>K</sub> > 50kA <sub>rms</sub>
02	250NHG02B-690 (max L) up to I <sub>K</sub> = 25kA <sub>rms</sub> (t <sub>a</sub> ≤ 5 s)
02	250NHG02B-690 (max L) up to I <sub>K</sub> = 50kA <sub>rms</sub> (t <sub>a</sub> ≤ 5 s)
3	500NHG3B-690 (max L) up to I <sub>K</sub> = 50kA <sub>rms</sub> (t <sub>a</sub> ≤ 0.2 s)

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