

# 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

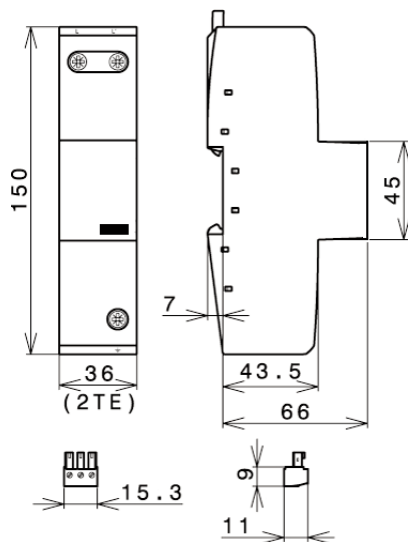
The three-pole terminal remote signaling contact versions have a floating changeover contact for use as a break or make contact, according to circuit concept.



BSPS1400WE(R)  
BSPS1690WER

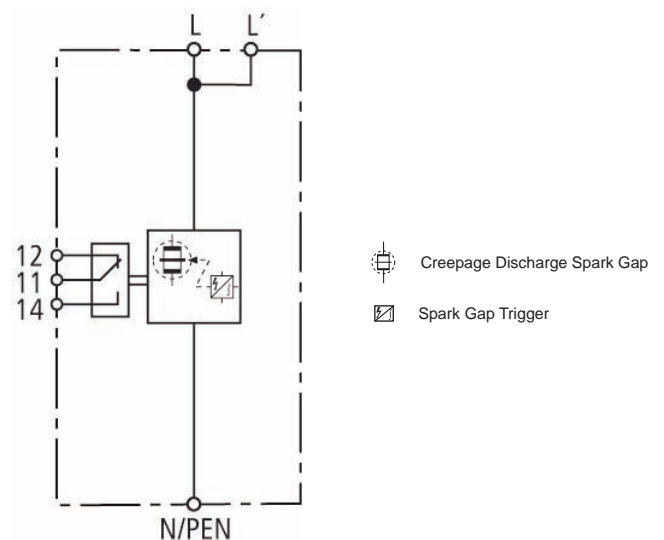


### Dimensions - mm



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)