

Surge Protection Made Simple™ for IEC Applications

IEC Class I Combined Lightning, Current and Surge Arresters for 230/400 Volt, 4-Pole TNS & TT Systems



Description

The Cooper Bussmann® IEC Class I 230 volt, four-pole, modular combined lightning, current and 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.

230 Volt models are offered with MCOV ratings of 255 volts.

TNS System Arresters

The features of these four-pole devices are for use in TNS 230/400 volt systems ("4-0" circuit) against surges.

TT System Arrester

Provides a current arresting means between neutral conductor and protective conductor in TT 230/400 volt systems ("3+1" circuit) against surges.

Remote Signaling Contact

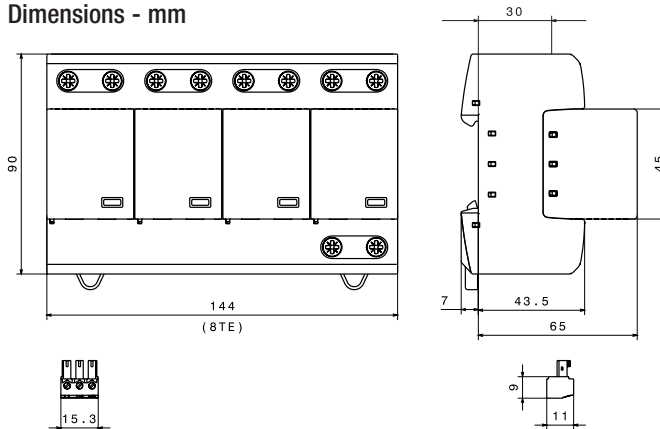
The three-pole terminal remote signaling contact versions have a floating changeover contact for use as a break or make contact, according to circuit concept.



BSPS4255TNS(R)
BSPS4255TT(R)

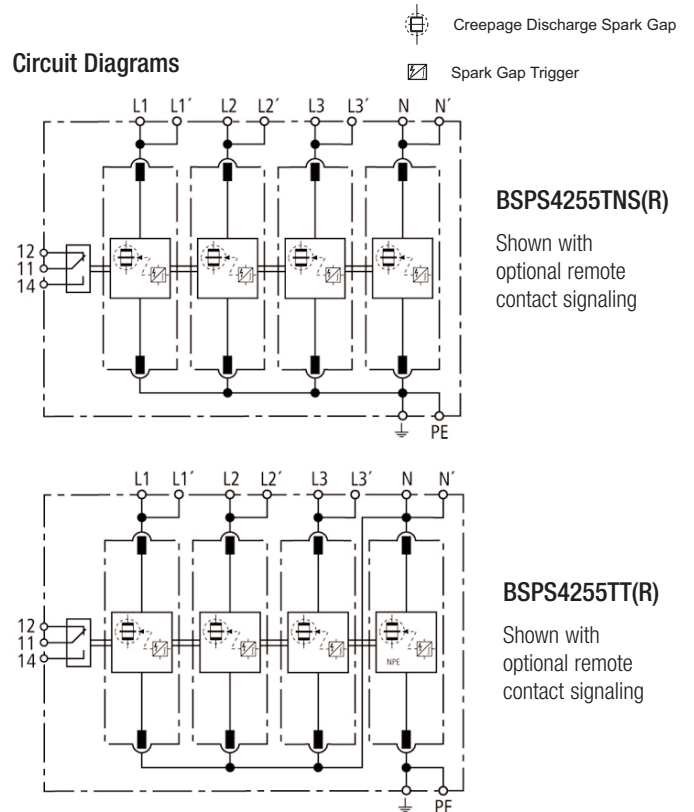


Dimensions - mm



Shown with optional remote contact signaling

Circuit Diagrams



| Ordering Information | | |
|--|---|---------------|
| System Voltage/Poles | 230/400V/4 | 230/400V/4 |
| Max. Continuous operating AC voltage (MCOV) [U _C] | 255V | 255V |
| Catalog Numbers: | Without Remote Signaling | BSPS4255TNS |
| | With Remote Signaling | BSPS4255TNSR |
| Replacement Modules (Spark Gap technology): | BPS255IEC | BPS255IEC |
| | - - | BPS100NPEIEC* |
| Specifications | | |
| SPD according to EN 61643-11/... IEC 61643-1 | Type 1/Class I | |
| Energy-coordinated protection effect with regard to the terminal equipment | Type 1 + Type 2 | |
| Energy-coordinated protection effect with regard to the terminal equipment (≤ 5m) | Type 1 + Type 2 + Type 3 | |
| Nominal AC voltage [U _N] | 230/400V | |
| Lightning impulse current (10/350 μs) [L1+L2+L3+N-PE] [I _{total}] | 100kA | |
| Specific energy [L1+L2+L3+N-PE] [W/R] | 2.50MJ/ohms | |
| Lightning impulse current (10/350 μs) [L, N-PE] [I _{imp}] | 25kA | |
| TNS system specific energy [L,N-PE] [W/R] | 156.25kJ/ohms | |
| TT system specific energy [L-N]/[N-PE] [W/R] | 156.25kJ/ohms/2.50kJ/ohms | |
| Nominal discharge current (8/20 μs) [I _n] | 25/100kA | |
| Voltage protection level [L-PE]/[N-PE] [U _p] | ≤ 1.5kV/≤ 1.5kV | |
| TNS system follow current extinguishing capability AC [I _{ff}] | 50kA rms | |
| TT system follow current extinguishing capability AC [I _{ff}] | 50kA rms/100A rms | |
| Follow current limitation/Selectivity | No tripping of a 20A gL/gG fuse up to 50kA rms (prosp.) | |
| Response time [t _A] | ≤ 100 ns | |
| Max. Backup fuse (L) up to I _k ≤ 50kA rms | 315A gL/gG | |
| Max. Backup fuse (L) for I _k > 50kA rms | 200A gL/gG | |
| Max. Backup fuse (L-L') | 125A gL/gG | |
| Temporary overvoltage (TOV) [L-N] [U _T] | 440V/5 sec. | |
| Temporary overvoltage (TOV) [N-PE] [U _T] | 1200V/200mS | |
| TOV characteristics | Withstand | |
| Operating temperature range [parallel]/[continuity] [T _U] | -40°C to +80°C/-40°C to +60°C | |
| Operating state/fault indication | green (good)/red (replace) | |
| Number of ports | 1 | |
| Cross-sectional area (L1, L1', L2, L2', L3, L3', N, N', PE, $\frac{\perp}{\perp}$) [min.] | 10mm ² solid/flexible | |
| Cross-sectional area (L1, L2, L3, N, PE) [max.] | 50mm ² /1AWG stranded-35mm ² /2AWG flexible | |
| Cross-sectional area (L1', L2', L3', N', $\frac{\perp}{\perp}$) [max.] | 35mm ² /2AWG stranded-25mm ² /4AWG flexible | |
| Mounting | 35mm DIN Rail per EN 60715 | |
| Enclosure material | Thermoplastic, UL 94V0 | |
| Location category | Indoor | |
| Degree of protection | IP20 | |
| Capacity | 8 mods., DIN 43880 | |
| Agency Information | KEMA | |
| Product Warranty | Five Years** | |
| Remote Contact Signaling | | |
| Remote Contact Signaling Type | Changeover Contact | |
| AC Switching Capacity (Volts/Amps) | 250V/0.1A | |
| 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 ² /14AWG Solid/Flexible | |
| Ordering Information | Order from Catalog Numbers Above | |

* N-PE Surge arrester for location between neutral conductor and protective conductor in TT systems.

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

| Recommended Cooper Bussmann NH DIN Size Back Up Fuses | | | |
|---|---------------------------------------|------|--|
| Size | NH Fuse Part Number | Size | NH Fuse Part Number |
| 00 | 125NHG00B (max L-L) | 02 | 125NHG02B (max L-L) |
| 0 | 125NHG0B (max L-L) | 02 | 200NHG02B (max L I _k >50kA) |
| 01 | 125NHG01B (max L-L) | 2 | 315NHG2B (max L ≤50kA) |
| 1 | 200NHG1B (max L I _k >50kA) | 03 | 315NHG03B (max L ≤50kA) |

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