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BoltShield™ Surge Protective Devices

BSPD series for panelboards

www.siemens.ca/powerdistribution

Surge Protective Devices (SPDs) provide the best protection from both externally and internally generated surges when located as close to the building distribution system as possible. For cost and space reasons many buildings only include one SPD located at the main incoming panel and do not cascade SPDs throughout the building as recommended by IEEE. The new Siemens BSPD series of SPDs are economical and easy to install in most panels throughout a building so that whole facility protection can be obtained.

Features

- UL 1449 SPD Type 1*
- Monolithic distribution grade MOV
- Thermally protected MOV
- 100kA surge current protection per phase
- 20kA I-nominal ratings
- 200kA SCCRs
- 10 year standard warranty
- Form C dry contact, 240V AC, 1A max, 48V DC, 0.5A max
- Audible Alarm

Product specifications

| General specifications | |
|--------------------------------------|------------------|
| Maximum surge current rating range | 100 kA per phase |
| UL Type designation | SPD Type 1* |
| UL 1449 I-nominal rating | 20kA |
| UL 1449 short circuit current rating | 200kA |
| Repetitive impulse | 5,000 hits |
| Response time | <1 ns |

| Physical specifications | | |
|---------------------------|----------------------|----------------------------------|
| Humidity range | 0-95% non-condensing | |
| Operating frequency | 0-415Hz | |
| Operating temperature | -25°C to +60°C | |
| Dimensions in inches (mm) | 2 pole | 3 (79.5) x 2 (50.1) x 2.6 (71.5) |
| | 3 pole | 3 (79.5) x 3 (75.2) x 2.8 (71.5) |
| Weight | 2 pole | 0.64 lb (291 g) |
| | 3 pole | 1.0 lb (450 g) |
| Neutral/ground connection | #14 AWG (pre-wired) | |

| Diagnostic monitoring specifications | Design specifications |
|---|---|
| Green/red visual mechanical flag failure indicators | Monolithic distribution grade MOV |
| Flashing dual colour LED (green/red) status indicator | Integrated optimized thermal protection |
| Audible alarm w/ silence switch/button | Fits in footprint of BL/BQD, or xGB/3VA41** |
| Form C dry contact, 240V AC, 1A max, 48V DC, 0.5A max | Modes of protection (L-N or L-G, L-L) |

*Type 1 SPDs suitable for use in Type 2 applications.

** Each SPD comes with an adapter for xGB/3VA41 applications. Replacement adapterkit BSPDXGB1 is available, containing 2 and 3 pole adapters (1 each).

UL 1449 performance data and ordering information

| System voltage | L-N (L-G) | L-L | I _n | SCCR | MCOV | Catalog numbers | Siemens breaker form factor |
|-------------------|-----------|------|----------------|-------|------|-----------------|-----------------------------|
| 120/240V, 1Ø, 3W | 600V | 900 | 20kA | 200kA | 150V | BSPD2A100** | 2-P, BL/BQD or NGB/3VA41 |
| 240/120V, 3Ø, 4W | 600V/800V | 1200 | 20kA | 200kA | 150V | BSPD3B100 | 3-P, BL/BQD or NGB/3VA41 |
| 208Y/120V, 3Ø, 4W | 600V | 900 | 20kA | 200kA | 150V | BSPD3C100 | 3-P, BL/BQD or NGB/3VA41 |
| 240V, 3Ø, 3W | 800V | 1500 | 20kA | 200kA | 280V | BSPD3D100 | 3-P, BL/BQD or NGB/3VA41 |
| 480Y/277V, 3Ø, 4W | 1000V | 1800 | 20kA | 200kA | 320V | BSPD3E100 | 3-P, BL/BQD or NGB/3VA41 |
| 480V, 3Ø, 3W | 1800V | 3000 | 20kA | 200kA | 550V | BSPD3F100 | 3-P, BL/BQD or NGB/3VA41 |
| 600V, 3Ø, 3W | 2000V | 4000 | 20kA | 200kA | 700V | BSPD3G100 | 3-P, BL/BQD or NGB/3VA41 |
| 380Y/220V, 3Ø, 4W | 900V | 1800 | 20kA | 200kA | 320V | BSPD3K100 | 3-P, BL/BQD or NGB/3VA41 |
| 600Y/347V, 3Ø, 4W | 1200V | 2500 | 20kA | 200kA | 400V | BSPD3L100 | 3-P, BL/BQD or NGB/3VA41 |
| 400Y/230V, 3Ø, 4W | 900V | 1800 | 20kA | 200kA | 320V | BSPD3S100 | 3-P, BL/BQD or NGB/3VA41 |
| 415Y/240V, 3Ø, 4W | 900V | 1800 | 20kA | 200kA | 320V | BSPD3T100 | 3-P, BL/BQD or NGB/3VA41 |

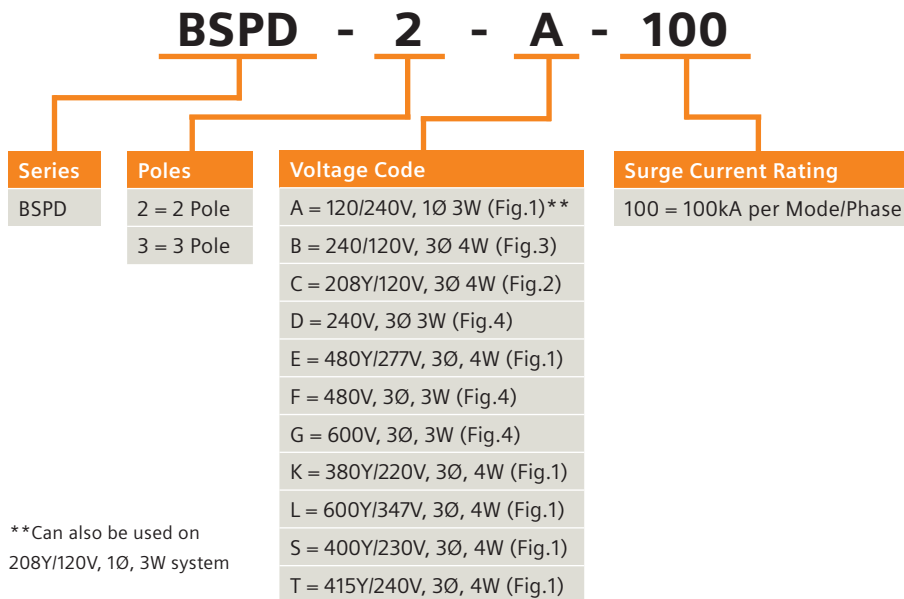
**Can also be used on 208Y/120V, 1Ø, 3W System.

Standards compliance and certifications

UL 1449 4th Edition, cUL, UL1283, UL 96A Compliant, ANSI/IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, NEC Article 285

ISO 9001:2014 Quality Management System, 100% Quality Tested prior to shipping

Catalog number logic



Benefits of installing multiple BSPDs

Adding multiple BSPDs in a single panelboard can increase modes of protection and a surge capacity. See the BoltShield brochure for more details and review an example chart below:

| Number of BSPDs | Connection | Modes of protection | Surge current capacity per mode | Surge current capacity per phase |
|-----------------|------------------------|---------------------|---------------------------------|----------------------------------|
| 1 | Neutral | 3 | 100kA | 100kA |
| 2 | Neutral + Ground | 6 | 100kA | 200kA |
| 2 | Neutral(2) | 3 | 200kA | 200kA |
| 3 | Neutral(2) + Ground(1) | 6 | 200kA(L-N) + 100kA (L-G) | 300kA |
| 3 | Ground(3) | 3 | 300kA | 300kA |
| 4 | Neutral(2) + Ground(2) | 6 | 200kA | 400kA |

Wiring configurations

Split

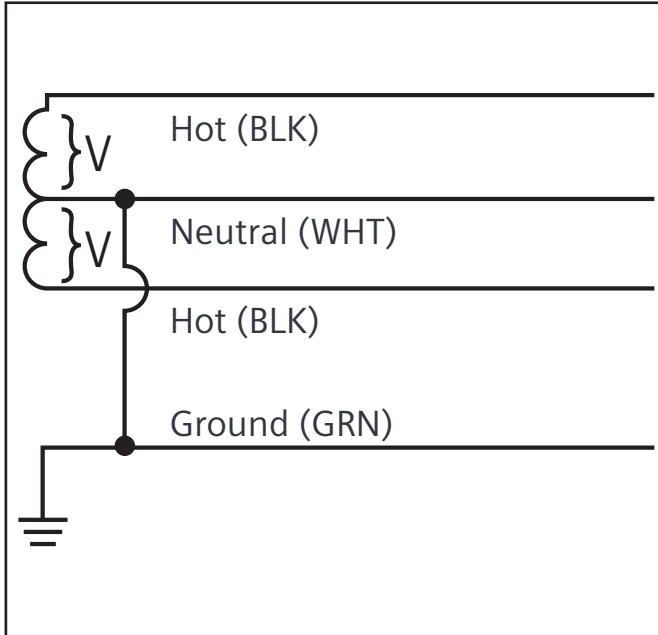


Figure 1

2 Hots, 1 Neu, 1 Grnd

WYE

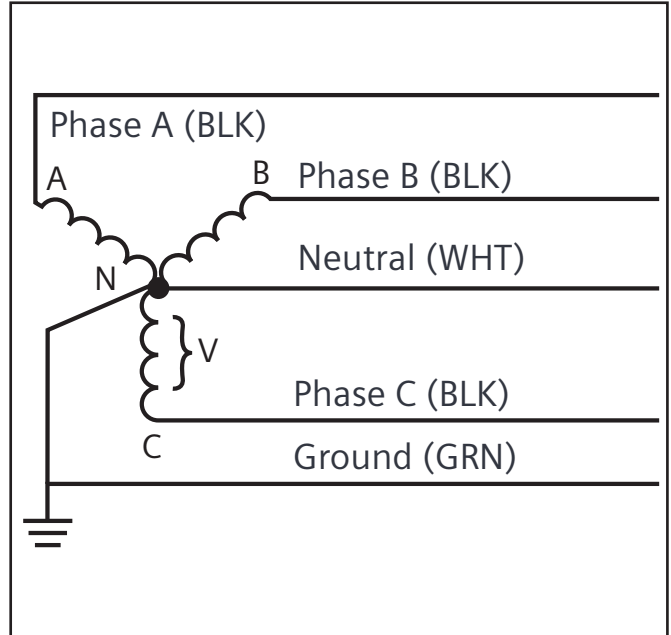


Figure 2

3 Hots, 1 Neu, 1 Grnd

Hi-Leg Delta (B High)

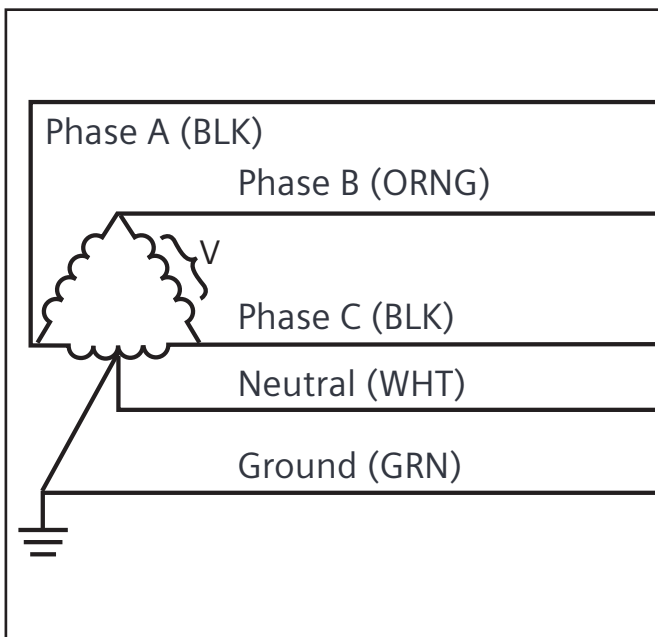


Figure 3

3 Hots (B High), 1 Neu, 1 Grnd

Delta & HRG WYE

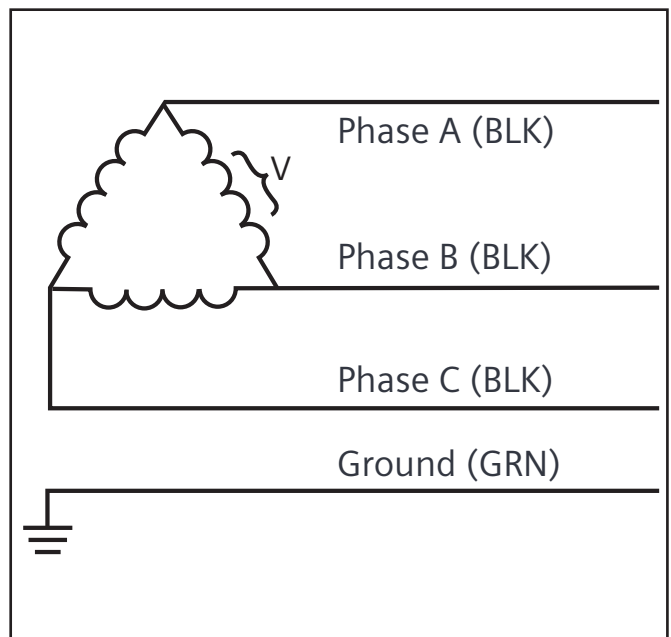
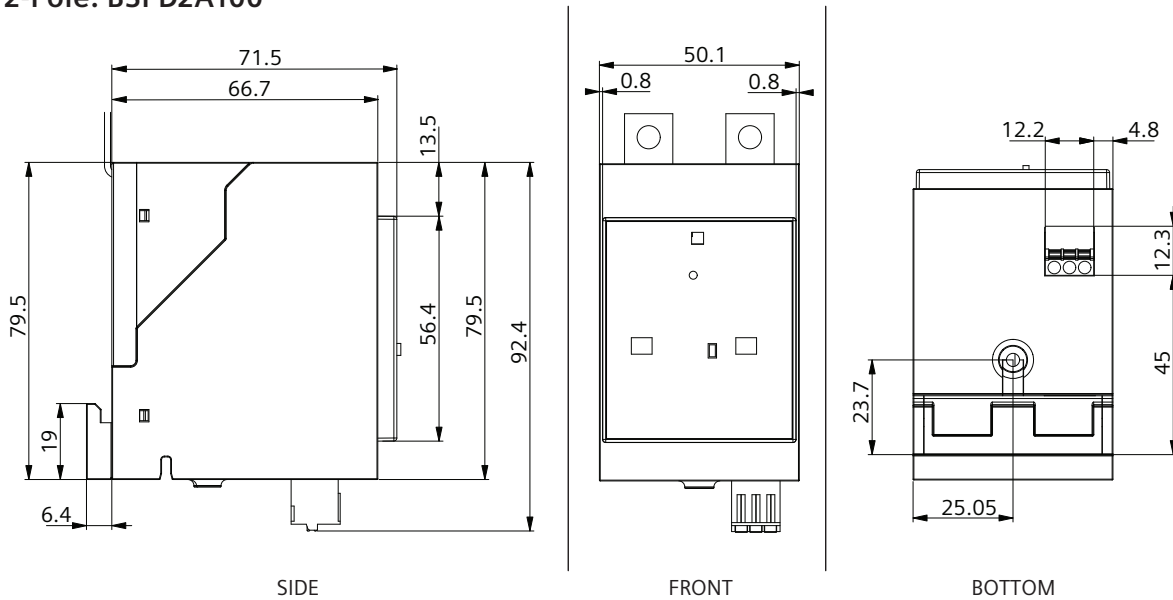


Figure 4

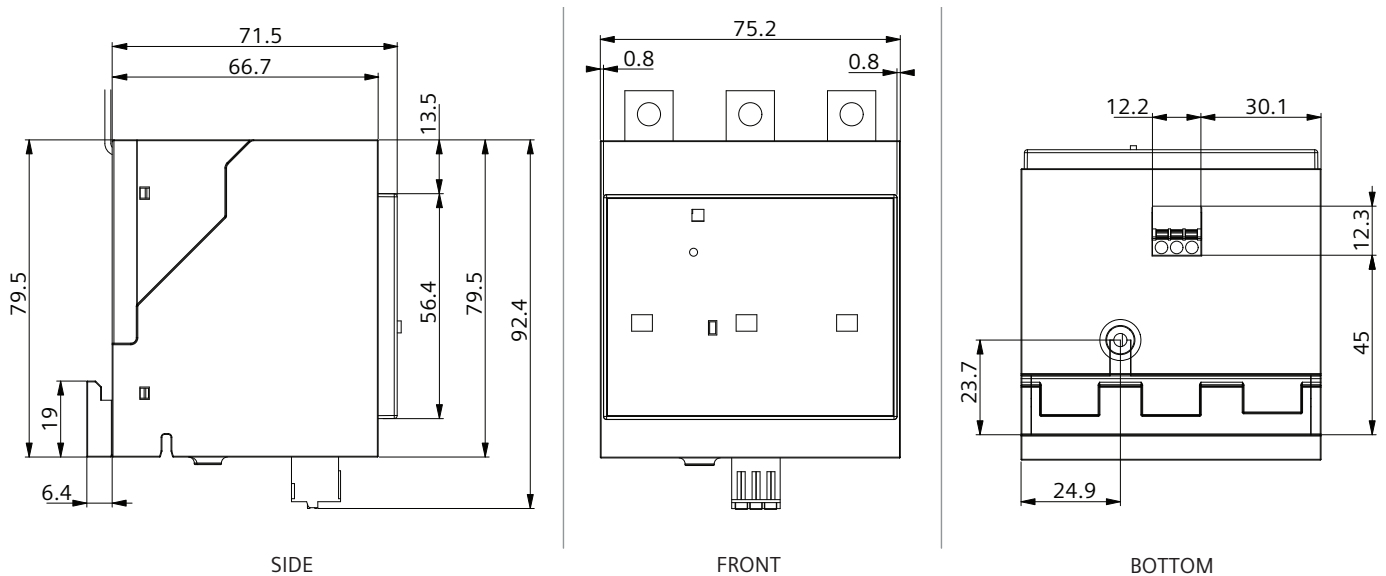
3 Hots, 1 Grnd

Product diagrams (in millimeters)

2-Pole: BSPD2A100



3-Pole: BSPD3x100



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