



Prosurge SP series DIN-rail SPD is a Type 1CA SPD according to UL1449 4th, designed for low-voltage power supply system surge protection, especially for point of entry (Category C, D, ANSI/IEEE C62.41) and sub-circuit (Category B, ANSI/IEEE C62.41) protection.

### Rating:

- **MCOV (Vac): 150V~690V**
- **Surge capacity (8/20µs): 50kA**
- **Short circuit current rating (SCCR): 200kArms - tested without external CB or fuse**

### Features:

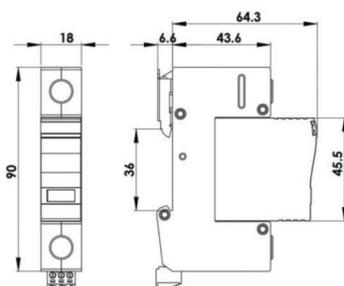
- UL recognized Type 1CA SPD (ANSI/UL1449 4th), Type 2CA SPD (CSA-C22.2) - UL File No. E319871, KEMA-tested Type2 (class II) to IEC61643-11
- Low voltage protection level.
- DIN-rail mounting configuration.
- Degradation failure indication and optional remote signal contact.
- Pluggable module for easy replacement
- Meet both standards of UL 1449-4th and IEC 61643-11:2011
- Global patented thermal disconnecter design with arc extinguishing device, fail-safe & self-protected, quick thermal response and perfect circuit cutoff function. No additional over-current protection devices required.



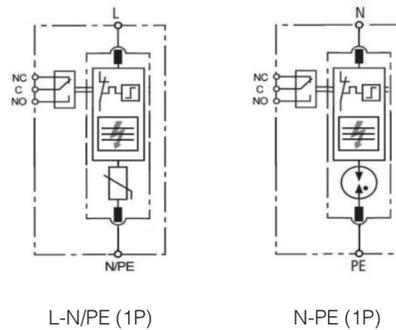
Single-phase  
Two-wire  
System

| Part No. |           | Pole | Max. Discharge Current, I <sub>max</sub> (8/20µs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20µs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|----------|-----------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca | Type 2ca  |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP150-S  | SP150C-S  | 1    | 50   | 20  | 120                   | 150   | 150 | -   | 0.7                                 | 0.7 | -   | 200                 |
| SP180-S  | SP180C-S  | 1    | 50   | 20  | 127                   | 180   | 180 | -   | 1.0                                 | 1.0 | -   | 200                 |
| SP275A-S | SP275AC-S | 1    | 50   | 20  | 240                   | 275   | 275 | -   | 1.0                                 | 1.0 | -   | 200                 |
| SP320-S  | SP320C-S  | 1    | 50   | 20  | 277                   | 320   | 320 | -   | 1.2                                 | 1.2 | -   | 200                 |
| SP385-S  | SP385C-S  | 1    | 50   | 20  | 277                   | 385   | 385 | -   | 1.5                                 | 1.5 | -   | 200                 |
| SP420-S  | SP420C-S  | 1    | 50   | 20  | 347                   | 420   | 420 | -   | 1.5                                 | 1.5 | -   | 200                 |
| SP550-S  | SP550C-S  | 1    | 50   | 20  | 480                   | 550   | 550 | -   | 1.8                                 | 1.8 | -   | 200                 |
| SP690-S  | SP690C-S  | 1    | 40   | 20  | 600                   | 690   | 690 | -   | 2.5                                 | 2.5 | -   | 200                 |
| SP150T-S | SP150TC-S | 1    | 50   | 20  | Neutral               | -   | -   | 150 | -                                   | -   | 0.9 | 200                 |
| SP255T-S | SP255TC-S | 1    | 50   | 20  | Neutral               | -   | -   | 255 | -                                   | -   | 0.9 | 200                 |

- Dimension drawing



- Basic circuit diagram



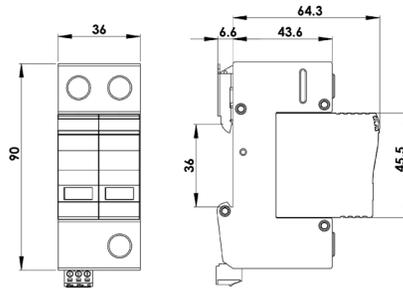


| Part No.    |              | Pole | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|-------------|--------------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca    | Type 2ca     |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP180/2P-S* | SP180C/2P-S* | 2    | 50   | 20  | 120                   | 180   | 180 | -   | 1.0                                 | 1.0 | -   | 200                 |
| SP320/2P-S* | SP320C/2P-S* | 2    | 50   | 20  | 240                   | 320   | 320 | -   | 1.2                                 | 1.2 | -   | 200                 |

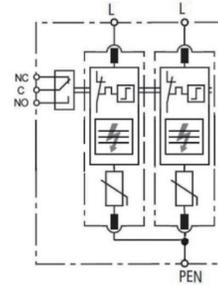
\* This model is especially used for split phase application for L-G protection mode.

**Split-phase  
Two-wire+  
Ground System**

- Dimension drawing



- Basic circuit diagram

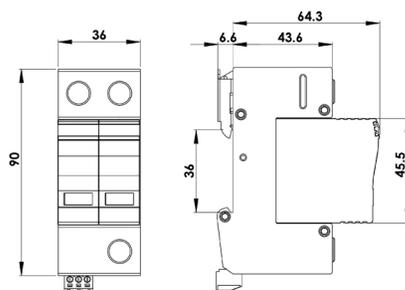


| Part No.     |               | Pole | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|--------------|---------------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca     | Type 2ca      |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP180/2P-S   | SP180C/2P-S   | 2    | 50   | 20  | 127                   | -   | 180 | 180 | -                                   | 1.0 | 1.0 | 200                 |
| SP180/PN-S*  | SP180C/PN-S*  | 2    | 50   | 20  |                       | 180   | -   | 150 | 1.0                                 | -   | 0.9 | 200                 |
| SP275A/2P-S  | SP275AC/2P-S  | 2    | 50   | 20  | 240                   | -   | 275 | 275 | -                                   | 1.0 | 1.0 | 200                 |
| SP275A/PN-S* | SP275AC/PN-S* | 2    | 50   | 20  |                       | 275   | -   | 255 | 1.0                                 | -   | 0.9 | 200                 |
| SP320/2P-S   | SP320C/2P-S   | 2    | 50   | 20  | 277                   | -   | 320 | 320 | -                                   | 1.2 | 1.2 | 200                 |
| SP420/2P-S   | SP420C/2P-S   | 2    | 50   | 20  | 347                   | -   | 420 | 420 | -                                   | 1.5 | 1.5 | 200                 |

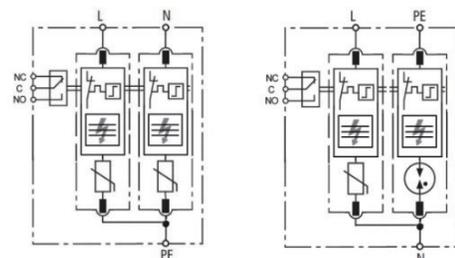
\* PN : GDT Module for N-PE pole

**Single-phase  
Two-wire+  
Ground System**

- Dimension drawing



- Basic circuit diagram



2+0 (2P)

1+1 (2P)

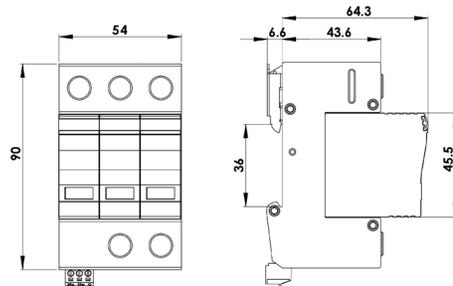


| Part No.    |              | Pole | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|-------------|--------------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca    | Type 2ca     |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP180/3P-S* | SP180C/3P-S* | 3    | 50   | 20  | 120                   | -   | 180 | 180 | -                                   | 1.0 | 1.0 | 200                 |
| SP320/3P-S* | SP320C/3P-S* | 3    | 50   | 20  | 240                   | -   | 320 | 320 | -                                   | 1.2 | 1.2 | 200                 |

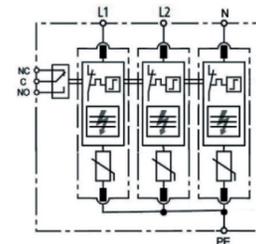
\* This model is especially used for split phase application for L1 to G, L2-G and N to G protection mode.

**Split-phase  
Three-wire+  
Ground System**

- Dimension drawing

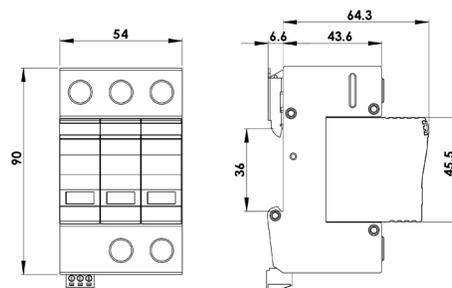


- Basic circuit diagram

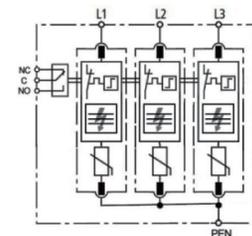


| Part No.    |              | Pole | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|-------------|--------------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca    | Type 2ca     |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP150/3P-S  | SP150C/3P-S  | 3    | 50   | 20  | 120                   | -   | 150 | -   | -                                   | 0.7 | -   | 200                 |
| SP275A/3P-S | SP275AC/3P-S | 3    | 50   | 20  | 240                   | -   | 275 | -   | -                                   | 1.0 | -   | 200                 |
| SP320/3P-S  | SP320C/3P-S  | 3    | 50   | 20  | 277                   | -   | 320 | -   | -                                   | 1.2 | -   | 200                 |
| SP420/3P-S  | SP420C/3P-S  | 3    | 50   | 20  | 347                   | -   | 420 | -   | -                                   | 1.5 | -   | 200                 |
| SP550/3P-S  | SP550C/3P-S  | 3    | 50   | 20  | 480                   | -   | 550 | -   | -                                   | 1.8 | -   | 200                 |
| SP690/3P-S  | SP690C/3P-S  | 3    | 50   | 20  | 600                   | -   | 690 | -   | -                                   | 2.5 | -   | 200                 |

- Dimension drawing



- Basic circuit diagram



3+0 (3P)

**Three-phase  
Delta & Wye  
Three-wire+  
Ground System**

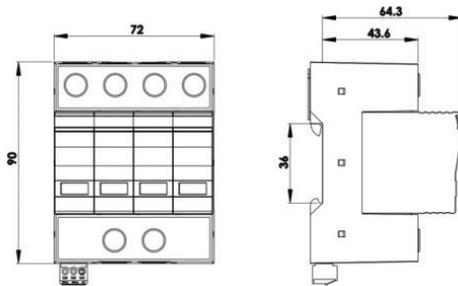


**Three-phase Wye (star) Four-wire+ Ground System**

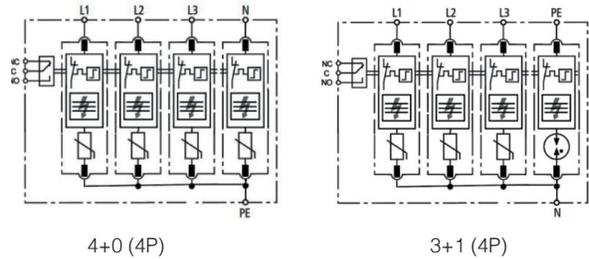
| Part No.      |                | Pole | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Nominal Voltage (VAC) | Max. Continuous Operating Voltage, MCOV (VAC) |     |     | Voltage Protection Rating, VPR (kV) |     |     | SCCR Rating (kArms) |
|---------------|----------------|------|--|---|-----------------------|---|-----|-----|-------------------------------------|-----|-----|---------------------|
| Type 1ca      | Type 2ca       |      |  |   |                       | L-N   | L-G | N-G | L-N                                 | L-G | N-G |                     |
| SP150/4P-S    | SP150C/4P-S    | 4    | 50   | 20  | 220Y127V              | -   | 150 | 150 | -                                   | 0.7 | 0.7 | 200                 |
| SP150/3PN-S*  | SP150C/3PN-S*  |      |  |   |                       | 150   | -   | 150 | 0.7                                 | -   | 0.9 |                     |
| SP275A/4P-S   | SP275AC/4P-S   | 4    | 50   | 20  | 415Y240V              | -   | 275 | 275 | -                                   | 1.0 | 1.0 | 200                 |
| SP275A/3PN-S* | SP275AC/3PN-S* |      |  |   |                       | 275   | -   | 255 | 1.0                                 | -   | 0.9 |                     |
| SP320/4P-S    | SP320C/4P-S    | 4    | 50   | 20  | 480Y277V              | -   | 320 | 320 | -                                   | 1.2 | 1.2 | 200                 |
| SP420/4P-S    | SP420C/4P-S    |      |  |   |                       | -   | 420 | 420 | -                                   | 1.5 | 1.5 |                     |

\* PN : GDT Module for N-PE pole

- Dimension drawing



- Basic circuit diagram



**Accessory for SP series**  
**Plug-in protection module**



| Part No  |          | Module Type | Max. Discharge Current, I <sub>max</sub> (8/20μs) (kA) | Nominal Discharge Current, I <sub>n</sub> (8/20μs) (kA) | Max. Continuous Operating Voltage, MCOV (VAC) | Voltage Protection Rating, VPR (kV) | SCCR Rating (kArms) |
|----------|----------|-------------|--|---|---|-------------------------------------|---------------------|
| Type 1ca | Type 2ca |             |  |   |   |                                     |                     |
| MSP150   | MSP150C  | MOV         | 50   | 20  | 150   | 0.7                                 | 200                 |
| MSP180   | MSP180C  | MOV         | 50   | 20  | 180   | 1.0                                 | 200                 |
| MSP275A  | MSP275AC | MOV         | 50   | 20  | 275   | 1.0                                 | 200                 |
| MSP320   | MSP320C  | MOV         | 50   | 20  | 320   | 1.2                                 | 200                 |
| MSP385   | MSP385C  | MOV         | 50   | 20  | 385   | 1.5                                 | 200                 |
| MSP420   | MSP420C  | MOV         | 50   | 20  | 420   | 1.5                                 | 200                 |
| MSP550   | MSP550C  | MOV         | 50   | 20  | 550   | 1.8                                 | 200                 |
| MSP690   | MSP690C  | MOV         | 40   | 20  | 690   | 2.5                                 | 200                 |
| MSP150T  | MSP150TC | GDT         | 50   | 20  | 150   | 0.9                                 | 200                 |
| MSP255T  | MSP255TC | GDT         | 50   | 20  | 255   | 0.9                                 | 200                 |