

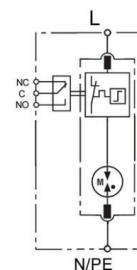
**Single Pole SPD**■ **ESG Technology****G50/...-S**

- Non-pluggable T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location.
- High lightning current discharge capacity up to I<sub>imp</sub> 50kA 10/350μs
- Degradation indication & optional remote signal contact
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4<sup>th</sup>, IEEE C62.41, CSA C22.2



| Model                                                        |                  | G50/150-S                                                           | G50/175-S   | G50/275-S   | G50/320-S   | G50/385-S   | G50/420-S   |
|--------------------------------------------------------------|------------------|---------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Compliance                                                   |                  | EN/IEC 61643-11                                                     |             |             |             |             |             |
| Category IEC/EN                                              |                  | Class I+II /T1+2                                                    |             |             |             |             |             |
| Max. Continuous Operating Voltage (AC)                       | U <sub>c</sub>   | 150V                                                                | 175V        | 275V        | 320V        | 385V        | 420V        |
| Technology                                                   |                  | ESG technology<br>Thermal disconnect                                |             |             |             |             |             |
| Ports/Protection Mode                                        |                  | 1 / L-PE or L-N or N-PE                                             |             |             |             |             |             |
| Lightning Impulse Current (10/350μs)                         | I <sub>imp</sub> | 50kA                                                                |             |             |             |             |             |
| Nominal Discharge Current (8/20μs)                           | I <sub>n</sub>   | 50kA                                                                |             |             |             |             |             |
| Max. Discharge Current (8/20μs)                              | I <sub>max</sub> | 150kA                                                               |             |             |             |             |             |
| Voltage Protection Level                                     | U <sub>p</sub>   | ≤1.2kV                                                              | ≤1.2kV      | ≤1.5kV      | ≤1.6kV      | ≤1.8kV      | ≤2.0kV      |
| Temporary Overvoltage TOV<br>—Withstand Mode                 | U <sub>toV</sub> | 228V/120min                                                         | 228V/120min | 442V/120min | 442V/120min | 529V/120min | 585V/120min |
| Residual Current                                             | I <sub>PE</sub>  | No                                                                  |             |             |             |             |             |
| Follow Current Interrupt Rating                              | I <sub>fi</sub>  | 25kA                                                                |             |             |             |             |             |
| Short-Circuit Current Rating per IEC 61643-11                | I <sub>sc</sub>  | 25kA                                                                |             |             |             |             |             |
| Response Time                                                | t <sub>A</sub>   | ≤100ns                                                              |             |             |             |             |             |
| Backup Fuse (only required if not already provided in mains) |                  | 500A gL/gG                                                          |             |             |             |             |             |
| Environment                                                  |                  | Temperature Range: - 40°C ~ +85°C; Humidity: ≤95%; Altitude: ≤2000m |             |             |             |             |             |
| Cross-Section of Connection Wire                             |                  | Single-strand 35mm <sup>2</sup> ; multi-strand 25mm <sup>2</sup>    |             |             |             |             |             |
| Mounting                                                     |                  | 35mm DIN-rail in accordance with EN 50022/DIN46277-3                |             |             |             |             |             |
| Enclosure Material                                           |                  | thermoplastic; extinguishing degree UL94 V-0                        |             |             |             |             |             |
| Degree of Protection                                         |                  | IP20                                                                |             |             |             |             |             |
| Installation Width                                           |                  | 2 modules, DIN 43880                                                |             |             |             |             |             |
| Failure Indication /Status                                   |                  | RED- Failure                                                        |             |             |             |             |             |
| Remote Alarm Contact                                         |                  | Yes                                                                 |             |             |             |             |             |
| Approvals, certification                                     |                  | CE                                                                  |             |             |             |             |             |
| Additional Data for Remote Alarm Contacts                    |                  |                                                                     |             |             |             |             |             |
| Remote Alarm Contact Type                                    |                  | Isolated Form C                                                     |             |             |             |             |             |
| Switching Capability U <sub>r</sub> /I <sub>n</sub>          |                  | AC: 250V/0.5A; DC: 250V/0.1A; 125V/0.2A; 75V/0.5A                   |             |             |             |             |             |
| Max. Size of Connecting Wire                                 |                  | Max. 1.5mm <sup>2</sup> (or # 16AWG)                                |             |             |             |             |             |

Note: Please see Page 13 for prewired multi-pole combination.

■ **Dimension Drawing**■ **Basic Circuit Diagram**

T1

T2

T3

## Single Pole SPD

■ NPE Module

G.../255NPE



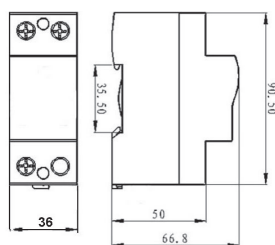
- T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location
- High lightning current discharge capacity up to  $I_{imp}$  100kA 10/350
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4<sup>th</sup>, IEEE C62.41, CSA C22.2



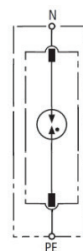
| Model                                        |           | G100/255NPE                                                                      | G50/255NPE | G25/255NPE |
|----------------------------------------------|-----------|----------------------------------------------------------------------------------|------------|------------|
| Compliance                                   |           | EN/IEC 61643-11                                                                  |            |            |
| Category IEC/EN                              |           | Class I+II /T1+2                                                                 |            |            |
| Max. Continuous Operating Voltage (AC)       | $U_c$     | 255V                                                                             |            |            |
| Technology                                   |           | ESG technology                                                                   |            |            |
| Ports/Protection Mode                        |           | 1 / N-PE                                                                         |            |            |
| Lightning Impulse Current (10/350 $\mu$ s)   | $I_{imp}$ | 100kA                                                                            | 50kA       | 25kA       |
| Nominal Discharge Current (8/20 $\mu$ s)     | $I_n$     | 100kA                                                                            | 50kA       | 25kA       |
| Max. Discharge Current (8/20 $\mu$ s)        | $I_{max}$ | 200kA                                                                            | 150kA      | 100kA      |
| Voltage Protection Level (1.2/50 $\mu$ s)    | $U_p$     | $\leq 1.5kV$                                                                     |            |            |
| Temporary Overvoltage TOV<br>—Withstand Mode | $U_{tov}$ | 1200V/200ms                                                                      |            |            |
| Residual Current                             | $I_{PE}$  | No                                                                               |            |            |
| Follow Current Interrupt Rating              | $I_{fi}$  | 200A@255Vac                                                                      |            |            |
| Response Time                                | $t_A$     | $\leq 100ns$                                                                     |            |            |
| Environment                                  |           | Temperature Range: -40°C ~ +85°C; Humidity: $\leq 95\%$ ; Altitude: $\leq 2000m$ |            |            |
| Cross-Section of Connection Wire             |           | Single-strand 35mm <sup>2</sup> ; multi-strand 25mm <sup>2</sup>                 |            |            |
| Mounting                                     |           | 35mm DIN-rail in accordance with EN 50022/DIN46277-3                             |            |            |
| Enclosure Material                           |           | thermoplastic; extinguishing degree UL94 V-0                                     |            |            |
| Degree of Protection                         |           | IP20                                                                             |            |            |
| Installation Width                           |           | 2 modules, DIN 43880                                                             |            |            |
| Approvals, certification                     |           | CE                                                                               |            |            |

Note: Please see Page 13 for prewired multi-pole combination.

## ■ Dimension Drawing



## ■ Basic Circuit Diagram



## Prewired Multi-pole SPD

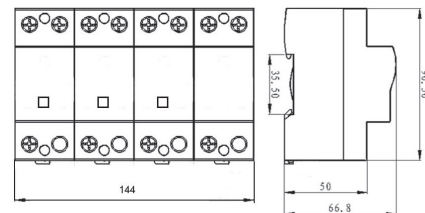
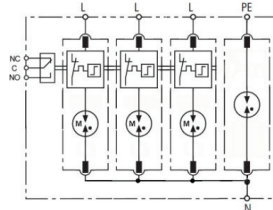
| Part No.         | Pole | Combination                 | Power System      | Max. Operating Voltage U <sub>c</sub> | Lightning Impulse Current (10/350µs) I <sub>imp</sub> | Voltage Protection Level U <sub>p</sub> | Diagram |
|------------------|------|-----------------------------|-------------------|---------------------------------------|-------------------------------------------------------|-----------------------------------------|---------|
| G50/150-S/2P     | 2    | 2 x G50/150-S               | Single phase 2W+G | 150Vac                                | 50kA                                                  | L/N-G: 1.2kV                            | 4       |
| G50/175-S/2P     | 2    | 2 x G50/175-S               | Single phase 2W+G | 175Vac                                | 50kA                                                  | L/N-G: 1.2kV                            | 4       |
| G50/275-S/2P     | 2    | 2 x G50/275-S               | Single phase 2W+G | 275Vac                                | 50kA                                                  | L/N-G: 1.5kV                            | 4       |
| G50/320-S/2P     | 2    | 2 x G50/320-S               | Single phase 2W+G | 320Vac                                | 50kA                                                  | L/N-G: 1.6kV                            | 4       |
| G50/385-S/2P     | 2    | 2 x G50/385-S               | Single phase 2W+G | 385Vac                                | 50kA                                                  | L/N-G: 1.8kV                            | 4       |
| G50/420-S/2P     | 2    | 2 x G50/420-S               | Single phase 2W+G | 420Vac                                | 50kA                                                  | L/N-G: 2.0kV                            | 4       |
| G50/150-S/PN50   | 2    | G50/150-S + G50/255NPE      | Single phase 2W+G | 150Vac                                | 50kA                                                  | L-N: 1.2kV, N-PE: 1.5kV                 | 3       |
| G50/175-S/PN50   | 2    | G50/175-S + G50/255NPE      | Single phase 2W+G | 175Vac                                | 50kA                                                  | L-N: 1.2kV, N-PE: 1.5kV                 | 3       |
| G50/275-S/PN50   | 2    | G50/275-S + G50/255NPE      | Single phase 2W+G | 275Vac                                | 50kA                                                  | L-N: 1.5kV, N-PE: 1.5kV                 | 3       |
| G50/320-S/PN50   | 2    | G50/320-S + G50/255NPE      | Single phase 2W+G | 320Vac                                | 50kA                                                  | L-N: 1.6kV, N-PE: 1.5kV                 | 3       |
| G50/385-S/PN50   | 2    | G50/385-S + G50/255NPE      | Single phase 2W+G | 385Vac                                | 50kA                                                  | L-N: 1.8kV, N-PE: 1.5kV                 | 3       |
| G50/420-S/PN50   | 2    | G50/420-S + G50/255NPE      | Single phase 2W+G | 420Vac                                | 50kA                                                  | L-N: 2.0kV, N-PE: 1.5kV                 | 3       |
| G50/150-S/3P     | 3    | 3 x G50/150-S               | Three phase 3W+G  | 150Vac                                | 50kA                                                  | L-G: 1.2kV                              | 2       |
| G50/175-S/3P     | 3    | 3 x G50/175-S               | Three phase 3W+G  | 175Vac                                | 50kA                                                  | L-G: 1.2kV                              | 2       |
| G50/275-S/3P     | 3    | 3 x G50/275-S               | Three phase 3W+G  | 275Vac                                | 50kA                                                  | L-G: 1.5kV                              | 2       |
| G50/320-S/3P     | 3    | 3 x G50/320-S               | Three phase 3W+G  | 320Vac                                | 50kA                                                  | L-G: 1.6kV                              | 2       |
| G50/385-S/3P     | 3    | 3 x G50/385-S               | Three phase 3W+G  | 385Vac                                | 50kA                                                  | L-G: 1.8kV                              | 2       |
| G50/420-S/3P     | 3    | 3 x G50/420-S               | Three phase 3W+G  | 420Vac                                | 50kA                                                  | L-G: 2.0kV                              | 2       |
| G50/150-S/3PN100 | 4    | 3 x G50/150-S + G100/255NPE | Three phase 4W+G  | 150Vac                                | 50kA / 100kA(NPE)                                     | L-N: 1.2kV, N-PE: 1.5kV                 | 1       |
| G50/175-S/3PN100 | 4    | 3 x G50/175-S + G100/255NPE | Three phase 4W+G  | 175Vac                                | 50kA / 100kA(NPE)                                     | L-N: 1.2kV, N-PE: 1.5kV                 | 1       |
| G50/275-S/3PN100 | 4    | 3 x G50/275-S + G100/255NPE | Three phase 4W+G  | 275Vac                                | 50kA / 100kA(NPE)                                     | L-N: 1.5kV, N-PE: 1.5kV                 | 1       |
| G50/320-S/3PN100 | 4    | 3 x G50/320-S + G100/255NPE | Three phase 4W+G  | 320Vac                                | 50kA / 100kA(NPE)                                     | L-N: 1.6kV, N-PE: 1.5kV                 | 1       |
| G50/385-S/3PN100 | 4    | 3 x G50/385-S + G100/255NPE | Three phase 4W+G  | 385Vac                                | 50kA / 100kA(NPE)                                     | L-N: 1.8kV, N-PE: 1.5kV                 | 1       |
| G50/420-S/3PN100 | 4    | 3 x G50/420-S + G100/255NPE | Three phase 4W+G  | 420Vac                                | 50kA / 100kA(NPE)                                     | L-N: 2.0kV, N-PE: 1.5kV                 | 1       |

Diagram

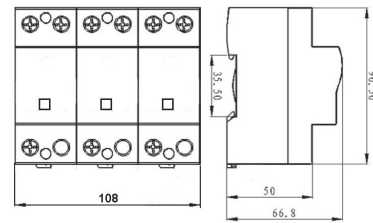
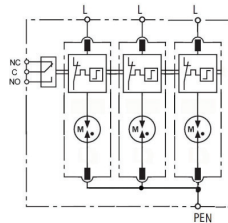
Basic Circuit Diagram

Dimension Drawing

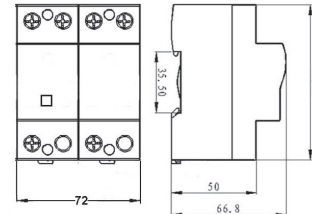
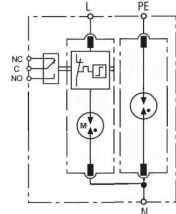
### 1) 3+1



### 2) 3+0



### 3) 1+1



### 4) 2+0

