



Imax  
40kA

## DC Power Surge Protector for Photovoltaic Applications

### DS50VGPVS-500, DS50VGPVS-1000



DS50VGPVS-500

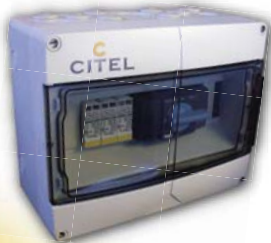


DS50VGPVS is a DC Surge Protection Device (SPD) for medium risk DC power applications up to 1200Vdc. The DS50VGPVS provides protection against the direct and indirect effects of lightning and has a unique no leakage current design.

CITEL's patented hybrid Metal Oxide Varistor (MOV)/Gas-filled Spark Gap (GSG) protection circuit will dramatically increase the life expectancy of the surge protector and leave no footprint within the DC power system.

The DS50VGPVS is a multi-pole monoblock base protecting both positive and negative to ground. It is installed in parallel with the power system and is mounted on a din rail for convenient application directly inside an Inverter or DC combiner box.

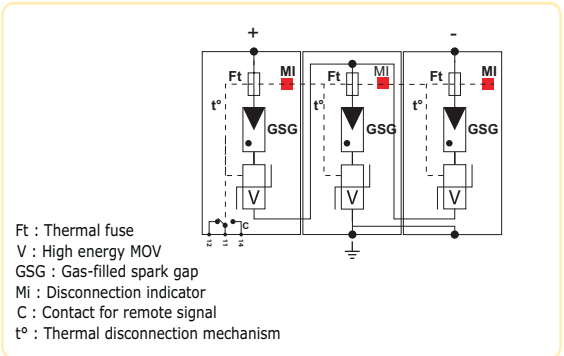
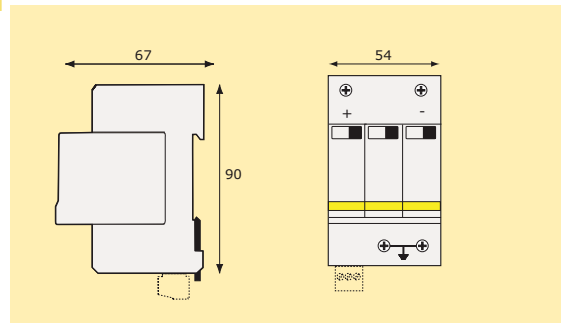
The DS50VGPVS incorporates replaceable protection modules with specific DC thermal fuses that allow for high surge current handling (40kA 8/20us), reliable disconnection and produce no follow on current. These units have visual fault indicators and are available with remote signalization (DS50VGPVS-xxx) for real-time status indication.



#### Available Options

- Polycarbonate Enclosure, NEMA 4X  
Part# CDS50VGPVS-xxx
- 40A Fused Disconnect  
Part# CDS50VGPVS-xxx-40

#### Dimensions and Diagram (in mm)



#### Characteristics

| CITEL part number  | DS50VGPVS-500                  | DS50VGPVS-1000                              |
|--|--------------------------------|---|
| Network voltage (Un) dc  | 500 Vdc                        | 1000 Vdc                                    |
| Protection mode  | MC/MD <sup>1</sup>             | MC/MD <sup>1</sup>                          |
| Max. Operating Voltage (Uc) dc                                 | 600 Vdc                        | 1200 Vdc                                    |
| IEC/UL Nominal discharge current (In)<br>15 x 8/20 μs impulses | 20 kA                          | 20 kA                                       |
| Maximum discharge current (Iimp)<br>Max. 10/350 μs             | —                              | —   |
| Max. Lightning current by pole (Imax)<br>Max. 8/20 μs          | 40 kA                          | 40 kA                                       |
| Protection level (at In) (Up)                                  | <2.5 kV                        | <3.6 kV                                     |
| Residual voltage at 5 kA                                       | <1.8 kV                        | <2.6 kV                                     |
| Operating current (Ic)<br>Leakage Current at Uc                | none                           | <b>Very Important</b>                       |
| Follow current (If)  | none                           |   |
| Thermal Disconnect   | Internal                       |   |
| Dimensions   | see diagram                    |   |
| Connection   | by screw terminal : #4 AWG MAX |   |
| Disconnection indicator  | 1 mechanical indicator         |   |
| Remote signaling   | 250/0.5 (AC) - 125V/3A (DC)    |   |
| Mounting   | symmetrical rail 35 mm         |   |
| Operating temperature  | -50/+85 °C                     |   |
| Protection class   | IP20                           |   |
| Housing material   | Thermoplastic UL94-V0          |   |
| <b>Standards compliance</b>                                    |                                |   |
| NF EN 61643-11   | France                         | Parafoudre Basse Tension - Essais Classe II |
| IEC 61643-1  | Intl                           | Low Voltage SPD - Test Class II             |
| CSA C22.2  | Canada                         | Class 90941 32                              |
| UL1449 3rd Ed. for PV  | USA                            | Type 4, Type 2 Location                     |
| DIN EN 61643-11  | Ger                            | Surge Arrestor Type 2                       |

Note 1 MC =Common Mode (+/PE or -/PE) and MC/MD = Common Mode and Differential Mode (+/-)