DC Power Surge Protector for Photovoltaic Applications

Imax 40kA

DS50PVS-500, DS50PVS-600, DS50PVS-800, DS50PVS-1000

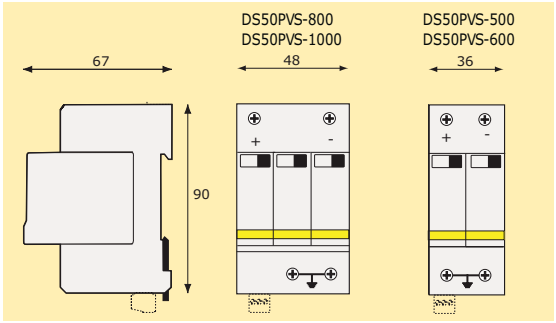
DS50PVS-800

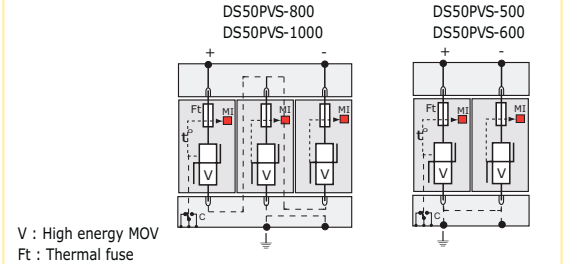
DS50PVS is a DC Surge Protection Device (SPD) for medium risk DC power applications. The DS50PVS provides protection against the direct and indirect effects of lightning.

The DS50PVS is a dual pole module protecting both positive and negative to ground and is available for DC power system voltages of 500, 600, 800 and 1000 Vdc. It is installed in parallel with the power system and is mounted on a din rail for application directly inside an Inverter or DC combiner box.

The DS50PVS incorporates a proven Metal Oxide Varistor (MOV) protection circuit and specific DC thermal fuses that allows for high surge current handling 40kA 8/20us and reliable disconnection. These units have visual fault indicators, replaceable protection modules and remote signalization.

Dimensions and Diagram (in mm)



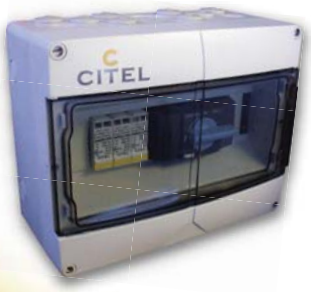


V : High energy MOV
Ft : Thermal fuse
t° : Thermal disconnection mechanism
C : Contact for remote signal
Mi : Disconnection indicator

Characteristics

CITEL part number		DS50PVS-500	DS50PVS-600	DS50PVS-800	DS50PVS-1000
Network voltage	(Un) dc	500 Vdc	600 Vdc	800 Vdc	1000 Vdc
Protection mode		MC/MD[1]	MC/MD[1]	MC/MD[1]	MC/MD[1]
Max. Operating Voltage	(Uc) dc	530 Vdc	680 Vdc	840 Vdc	1060 Vdc
IEC/UL Nominal discharge current *15 x 8/20 µs impulses*	(In)	20 kA	20 kA	20 kA	20 kA
Maximum discharge current *Max. 10/350 µs*	(Iimp)	–	–	–	–
Max. Lightning current by pole *Max. 8/20 µs*	(Imax)	40 kA	40 kA	40 kA	40 kA
Protection level (at In)	(Up)	<1.8 kV	<2.5 kV	<3.0 kV	<3.6 kV
Residual voltage at 5 kA		<1 kV	<1.8 kV	<2.4 kV	<3.0 kV
Operating current *Leakage Current at Uc*	(Ic)	<0.1mA	<0.1mA	<0.1mA	<0.1mA
Follow current	(If)	none			
Thermal Disconnector		Internal			
Dimensions		see diagram			
Connection		by screw terminal : 4# AWG MAX			
Disconnection indicator		1 mechanical indicator by pole			
Remote signaling		250V/0.5 (AC) - 125V/3A (DC)			
Mounting		symmetrical rail 35 mm			
Operating temperature		-40/+85 °C			
Protection class		IP20			
Housing material		Thermoplastic UL94-V0			
Standards compliance					
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 & -/PE) and MC/MD = Common Mode (+/PE & -/PE) and Differential Mode (+/-)



Available Options

- Polycarbonate Enclosure, NEMA 4X
  Part# CDS50PVS-xxx
- 40A Fused Disconnect
  Part# CDS50PVS-xxx-40

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