General Duty DC Surge Protector for Photovoltaic

DS50PV

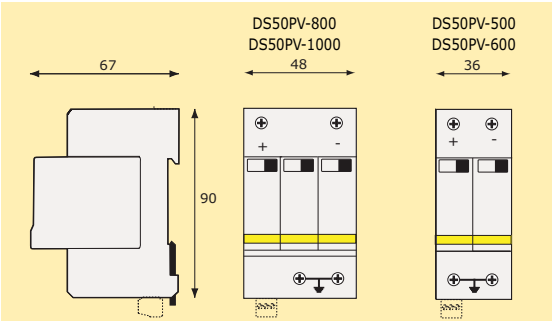
DS50PV is a DC Surge Protection Device (SPD) for medium risk DC power applications. The DS50PV provides protection against the direct and indirect effects of lightning.

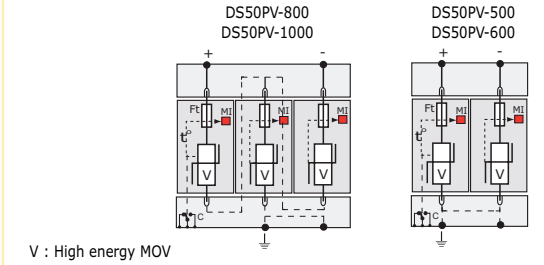
The DS50PV is a dual pole module protecting both positive and negative to ground and is available for DC power system voltages of 500, 600, 800 and 1000 Vdc. It is installed in parallel with the power system and is mounted on a din rail for application directly inside an Inverter or DC combiner box.
The DS50PV 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 are available with optional remote signalization (DS50PVS-xxx).

Available Options

- Polycarbonate Enclosure, NEMA 4X
  Part# CDS50PV-xxx
- 40A Fused Disconnect
  Part# CDS50PV-xxx-40

Dimensions and Diagram (in mm)





V : High energy MOV
Ft : Thermal fuse
t° : Thermal disconnection mechanism
C : Contact for remote signal (Option DS50PVS)

Characteristics

CITEL part number		DS50PV-500	DS50PV-600	DS50PV-800	DS50PV-1000
Network voltage		500 Vdc	600 Vdc	800 Vdc	1000 Vdc
Protection mode		MC [1]	MC [1]	MC [1]	MC [1]
Max. Operating Voltage	(Uc)	530 Vdc	680 Vdc	840 Vdc	1060 Vdc
Operating current Leakage current at Uc	(Ic)	< 0.1 mA	< 0.1 mA	< 0.1 mA	< 0.1 mA
IEC/UL Nominal discharge current (In) *15 x 8/20 µs impulses*		20 kA	20 kA	20 kA	20 kA
Maximum discharge current *tenue max. 8/20 µs*	(Imax)	40 kA	40 kA	40 kA	40 kA
Follow current	(If)	none	none	none	none
Protection level (at In)	(Up)	1.8 kV	2.5 kV	3 kV	3.6 kV
Residual voltage at 10kA		1.2 kV	2.2 kV	2.8 kV	3.4 kV
Residual voltage at 5 kA		1 kV	1.8 kV	2.4 kV	3 kV
Thermal Disconnector		internal			
Dimensions		see diagram			
Connection		by screw terminals : #4 AWG MAX			
Disconnection indicator		1 mechanical indicator by pole			
Remote signaling		Option DS50PVS - output on changeover contact			
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 Edition	USA	Type 4, Type 2 Location			

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

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