



# Solar Photovoltaic (PV) Surge Protection



## DS50PV



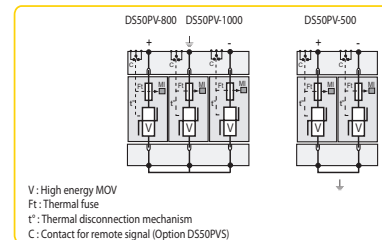
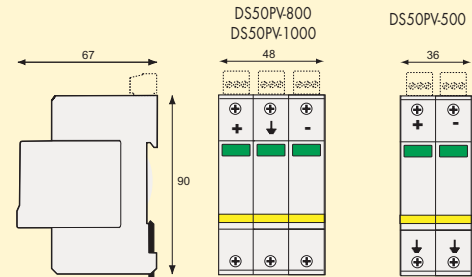
- Type 2 Surge Protector for Photovoltaic
- Discharge currents  $I_n$ : 20 kA /  $I_{max}$ : 40 kA
- Plug-in modules
- Remote signal option
- IEC 61643-1 compliance

DS50PV are Type 2 Surge Protectors are designed to protect against lightning surge voltages in photovoltaic power supply networks. These units must be installed in parallel on the DC networks to be protected and provide common and differential modes protection. The DS50PV is available for the main operating voltages in photovoltaic : 500, 800 and 1000 Vdc.

The use of Type 2 surge protector is recommended at both ends of the DC power supply line (solar panel side and inverter/converter side), especially if the line routing is external and long.

The electrical diagram of the DS50PV is based on high energy MOVs equipped with specific thermal disconnectors and related failure indicators. A remote signal feature is also available (DS50PVS-xxx) The DS50PV is made with plug-in modules to allow a fast and easy maintenance in case of failure (disconnection from the DC network).

### Dimensions



### Characteristics

CITEL part number	DS50PV-500	DS50PV-800	DS50PV-1000
Network	500 Vdc	600/800 Vdc	1000 Vdc
Protection mode	MC (1)	MC/MD	MC/MD
Max. operating voltage	$U_c$ 530 Vdc	840 Vdc	1060 Vdc
Follow current	$I_f$ none	none	none
Protection level (at $I_n$ )	$U_p$ 1.5 kV	3.4 kV	4 kV
Operating current	$I_c$ < 1 mA	< 1 mA	< 1 mA
Leakage current at $U_c$			
Nominal discharge current <i>15 x 8/20 <math>\mu</math>s impulses</i>	$I_n$ 20 kA	20 kA	20 kA
Maximum discharge current <i>tenu max. 8/20 <math>\mu</math>s</i>	$I_{max}$ 40 kA	40 kA	40kA
Residual voltage at 5 kA	1 k	2.4 kV	3 kV
Residual voltage at 10 kA	1.2 k	2.8 kV	3.4 kV
<b>Disconnecter</b>			
Thermal disconnector	internal		
<b>Mechanical characteristics</b>			
Dimensions	see diagram		
Connection	by screw terminals : 4-25 mm <sup>2</sup> / by bus		
Disconnection indicator	mechanical indicators 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	

: MC = Common Mode (+/PE ou -/PE) et MC/MD = Common Mode and Differential Mode (+/-)