

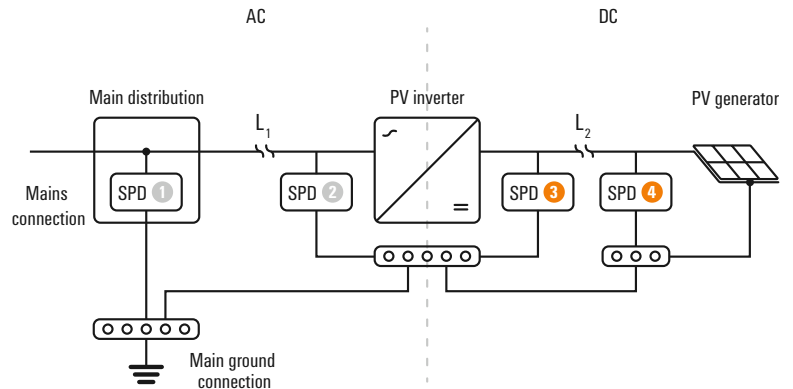
Surge protection for photovoltaic systems

Choosing AC and DC protection in compliance with standards

Determining the surge protection required by applicable standards

Answer the questions in the table below from left to right to determine what surge protection is required for your installation on the AC and DC side. The figure shows the general PV system architecture:

1 In the main distribution, 2 on or in the inverter (AC side), 3 on or in the inverter (DC side), 4 on the generator field.



Question 1: Outdoor lightning protection system present?	Question 2: Separation distance observed?	Question 3: Line length L_1 less than 10 m?	Question 4: Line length L_2 less than 10 m?	Installation locations (AC)		Installation locations (DC)	
				SPD 1	SPD 2*	SPD 3	SPD 4
no	-	no	no	Type II AC	Type II AC	Type II PV	Type II PV
no	-	no	yes	Type II AC	Type II AC	Type II PV	-
no	-	yes	no	Type II AC	-	Type II PV	Type II PV
no	-	yes	yes	Type II AC	-	Type II PV	-
yes	yes	no	no	Type I AC	Type II AC	Type II PV	Type II PV
yes	yes	no	yes	Type I AC	Type II AC	Type II PV	-
yes	yes	yes	no	Type I AC	-	Type II PV	Type II PV
yes	yes	yes	yes	Type I AC	-	Type II PV	-
yes	no	no	no	Type I AC	Type I AC	Type I PV	Type I PV
yes	no	no	yes	Type I AC	Type I AC	Type I PV	-
yes	no	yes	no	Type I AC	-	Type I PV	Type I PV
yes	no	yes	yes	Type I AC	-	Type I PV	-

*If the inverter and the main distribution board are connected to the same earthing bar with a cable length of less than or equal to 0.5 m each, no SPD is required at installation location "2".



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Choose the right one!

VARITECTOR PU PV

AC protection for 230 V grids 1 2

Description	Type	Version	Max. continuous voltage U_c	Discharge current I_{imp}/I_{max}	Order No.
VPU AC I 3+1 275V/25 LCF S 2PE	I + II	Without remote contact	275 V	25 kA/65 kA	2726760000
VPU AC I 3+1 R 275V/25 LCF S 2PE	I + II	With remote contact	275 V	25 kA/65 kA	2726770000
VPU AC I 3+1 300/12.5 LH	I + II	Without remote contact	300 V	12,5 kA/50 kA	2983580000
VPU AC I 3+1 R 300/12.5 LH	I + II	With remote contact	300 V	12,5 kA/50 kA	2983590000
VPU AC I 3+MOV R 950/12.5	I + II	With remote contact	950 V	12,5 kA/50 kA	2845570000
VPU AC II 3+1 300/50	II + III	Without remote contact	300 V	-/50 kA	2591080000
VPU AC II 3+1 R 300/50	II + III	With remote contact	300 V	-/50 kA	2591090000



DC protection in 600 V applications 3 4

Description	Type	Version	Max. continuous voltage U_c	Discharge current I_{imp}/I_{max}	Order No.
VPU PV I+II 3 600 E	I + II	Without remote contact	600 V	6,25 kA/40 kA	2857030000
VPU PV I+II 3 R 600 E	I + II	With remote contact	600 V	6,25 kA/40 kA	2857040000
VPU PV II 3 600	II	Without remote contact	600 V	-/50 kA	2857060000
VPU PV II 3 R 600	II	With remote contact	600 V	-/50 kA	2857070000
VPU PV II 3 600 MB (Monobloc)	II	Without remote contact	600 V	-/40 kA	3034780000
VPU PV II 3 R 600 MB (Monobloc)	II	With remote contact	600 V	-/40 kA	3034790000



DC protection in 1,000 V applications 3 4

Description	Type	Version	Max. continuous voltage U_c	Discharge current I_{imp}/I_{max}	Order No.
VPU PV I+II 3 1000	I + II	Without remote contact	1100 V	6,25 kA/40 kA	2530610000
VPU PV I+II 3 R 1000	I + II	With remote contact	1100 V	6,25 kA/40 kA	2530620000
VPU PV II 3 1000	II	Without remote contact	1100 V	-/40 kA	2530550000
VPU PV II 3 R 1000	II	With remote contact	1100 V	-/40 kA	2530180000
VPU PV II 3 1000 MB (Monobloc)	II	Without remote contact	1.000 V	-/40 kA	3034850000
VPU PV II 3 R 1000 MB (Monobloc)	II	With remote contact	1.000 V	-/40 kA	3035150000



DC protection in 1,000 V applications 5-pole 3 4

Description	Type	Version	Max. continuous voltage U_c	Discharge current I_{imp}/I_{max}	Order No.
VPU PV I+II 5 1000	I + II	Without remote contact	1100 V	5kA/40 kA	2856440000
VPU PV I+II 5 R 1000	I + II	With remote contact	1100 V	5kA/40 kA	2856490000
VPU PV II 5 1000	II	Without remote contact	1100 V	-/40 kA	2856500000
VPU PV II 5 R 1000	II	With remote contact	1100 V	-/40 kA	2857020000



DC protection in 1,500 V applications 3 4

Bezeichnung	Typ	Ausführung	Bemessungsspannung U_c	Ableitstrom I_{imp}/I_{max}	Best.-Nr.
VPU PV I+II 3 1500	I + II	Without remote contact	1500 V	5 kA /30 kA	2530580000
VPU PV I+II 3 R 1500	I + II	With remote contact	1500 V	5 kA /30 kA	2530590000
VPU PV II 3 1500	II	Without remote contact	1500 V	-/30 kA	2530640000
VPU PV II 3 R 1500	II	With remote contact	1500 V	-/30 kA	2530650000
VPU PV II 3 1500 MB (Monobloc)	II	Without remote contact	1500 V	-/40 kA	3035160000
VPU PV II 3 R 1500 MB (Monobloc)	II	With remote contact	1500 V	-/40 kA	3035170000



DC protection in 1,500 V applications 5-pole 3 4

Description	Type	Version	Max. continuous voltage U_c	Discharge current $I_{imp}/I_{max}/I_{total}$	Order No.
VPU PV I+II 5 1500	I + II	Without remote contact	1500 V	5kA/40 kA/10 kA	3012980000
VPU PV I+II 5 R 1500	I + II	With remote contact	1500 V	5kA/40 kA/10 kA	3012990000

