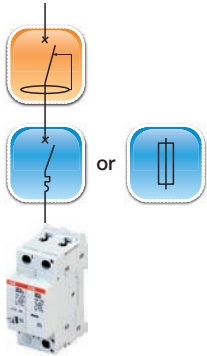


Surge and lightning protection solutions

Surge protective device disconnectors

Choice of backup protection

Surge protective device must have disconnectors which are internal and external. Internal is the so called thermal disconnection which helps to disconnect the SPD at the end of life (varistors technology). External is the backup protection which can be an MCB or a fuse dedicated to the SPD protection in case of short circuit due to very high surge transient current for example.



Designation	Function
Protection against indirect contact	Residual current devices (RCDs) assure a protection to people and installation. When installed with SPDs they must be of selective type "S" to avoid nuisance tripping. In ABB portfolio you can choose the F200 S type range for a safer installation.
Protection against fault currents	Miniature circuit breakers (MCBs) or fuses protect the installation against overload and short circuit. They can be associated with SPDs for the backup protection in agreement with coordination installation rules. You can either choose MCBs from the S200 or S800 series or fuses from the E90 range.
Thermal protection	The thermal disconnection is an internal disconnection which is there to bring a safer protection to the equipment. ABB is always developing new patents and has developed a thermal disconnection mechanism specifically dedicated to PV installation with the OVR PV range for a better and safer protection.

Type of Surge Protective Devices	System earthing	Circuit breaker maximum ratings * curve B or C				Fuses maximum ratings* (gL - gG)
		Prospective short circuit current at SPD location (I _p)				
		I _p ≤ 6 kA	I _p ≤ 10 kA	I _p ≤ 25 kA	I _p ≤ 50 kA	
Type 1						
OVR T1 I _{imp} 25 kA / I _{fi} ≤ 50 kA U _c 255 and 440 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	-	-	-	S803S - 125 S802S - 125 S804S - 125	E 933/125 - 125 A E 931N/125 - 125 A E 933N/125 - 125 A
Type 1+2						
OVR T1+2 I _{imp} 25 kA / I _{fi} ≤ 15 kA U _c 255 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	-	-	-	S803S - 125 S802S - 125 S804S - 125	E 933/125 - 125 A E 931N/125 - 125 A E 933N/125 - 125 A
OVR T1+2 I _{imp} 15 kA / I _{fi} ≤ 7 kA U _c 255 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	-	-	-	S803S - 125 S802S - 125 S804S - 125	E 933/125 - 125 A E 931N/125 - 125 A E 933N/125 - 125 A
OVR T1+2 I _{imp} 7 kA U _c 275 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 50	S203 M - 50	S203 P - 50	S803S - 50 S802S - 50 S804S - 50	E 933/50 - 50 A E 931N/50 - 50 A E 933N/50 - 50 A
OVR HL I _{imp} 15 kA U _c 440 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 50	S203 M - 50	S203 P - 50	S803S - 50 S802S - 50 S804S - 50	E 933/50 - 50 A E 931N/50 - 50 A E 933N/50 - 50 A
Type 2						
OVR T2 pluggable I _{max} 15 kA U _c 75 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 16 S201 - 16 NA S203 - 16 NA	S203 M - 16 S201 M - 16 NA S203 M - 16 NA	-	-	E 93/32 - 16 A E 91N/32 - 16 A E 93N/32 - 16 A
OVR T2 pluggable I _{max} 15, 40 and 70 kA U _c 275 and 440 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 50 S201 - 50 NA S203 - 50 NA	S203 M - 50 S201 M - 50 NA S203 M - 50 NA	S203 P - 50 S201 P - 50 NA S203 P - 50 NA	S803S - 50 S802S - 50 S804S - 50	E 933/50 - 50 A E 931N/50 - 50 A E 933N/50 - 50 A
OVR T2 non-pluggable I _{max} 20 and 40 kA U _c 150 V, 275 and 440 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 63 S201 - 63 NA S203 - 63 NA	S203 M - 63 S201 M - 63 NA S203 M - 63 NA	S203 P - 63 S201 P - 63 NA S203 P - 63 NA	S803S - 63 S802S - 63 S804S - 63	E 933/125 - 125 A E 931N/125 - 125 A E 933N/125 - 125 A
Type 3						
OVR T3 I _{max} 10 kA U _c 275 V	TNC TNS/TT 1Ph+N TNS/TT 3Ph+N	S203 - 10 S201 - 10 NA S203 - 10 NA	S203 M - 10 S201 M - 10 NA S203 M - 10 NA	-	-	E 93/32 - 25 A E 91N/32 - 25 A E 93N/32 - 25 A

* Maximum ratings, must be in accordance with the installation to follow coordination rules with main or upstream short circuit protection(s).

Service entrance SPDs	PE connection cable size
Type 1	16 mm ²
Type 2	4 mm ²