

Surge Protective Device

SP Series (Box type)

Product description

The SP series surge protective device is applied to the alternating current 50/60Hz, 220V/380V power system and provides the protection from the surge overvoltage of an electric system. Moreover, the protection module, disconnectable device (fuse), and fastened power and ground wires are organized into the all-in-one steel cabinet with convenient installation and stability.

If the protective device is normal, the display becomes green. The display becomes red after operation (abnormal or after an accident).



Product rating

- Single phase 2W+G (SPL)

SPD Type			SPL (AC 110/220V)	SPL (AC 220V)	
			SPL3-20S	SPL2-40S	SPL2-80S
Class			Class III	Class II	
Rated system [Pole]			2W+G	2W+G	
Rated voltage, Un		AC [V]	110, 220	220	
Max. continuous operating voltage, Uc		AC [V]	275	385	
Voltage protection level, Up		[kV]	1.5	2.5	3.0
Operation voltage, Uoc		[kV/kA]	20/10	-	-
Nominal discharge current, In (8/20μs)		[kA, per mode]	-	20	40
Maximum discharge current, Imax (8/20μs)		[kA, per mode]	-	40	80
Response time, tA [ns]			< 5 ns	< 5 ns	
Operating temperature range [°C]			-40 ~ +70℃	-40 ~ +70℃	
Operating frequency [Hz]			50/60 Hz	50/60 Hz	
Mounting on			Screw	Screw	
Operation status indication			Normal operation: Green, Abnormal/After an accident: Red		
Protection degree			IP20	IP20	
Protection mode			L-N, N-PE (G), L-PE (G)	L-N, N-PE (G)	
Ground			TN	TN	
Certification			CE	KS, CE	



Product rating

- Three phase 3W+G (SPT) AC 220V

SPD Type			SPT (AC 220V)			
			SPT2-40S	SPT2-80S	SPT1-120S	SPT1-160S
Class			Class II		Class I, Class II	
Rated system [Pole]			3W+G			
Rated voltage, Un AC [V]			220			
Max. continuous operating voltage, Uc AC [V]			385			
Voltage protection level, Up [kV]			2.5	3.0	2.0	2.0
Nominal discharge current, In (8/20μs) [kA, per mode]			20	40	-	-
Maximum discharge current, Imax (8/20μs) [kA, per mode]			40	80	120	160
Lightning impulse current, Iimp (10/350μs) [kA, per mode]			-	-	6.5	6.5
Response time, tA [ns]			< 5 ns			
Operating temperature range [°C]			-40 ~ +70℃			
Operating frequency [Hz]			50/60 Hz			
Mounting on			Screw			
Operation status indication			Normal operation: Green, Abnormal/After an accident: Red			
Protection degree			IP20			
Protection mode			L-PE (G)			
Ground			TN			
Certification			KS, CE			

* SPT can not be used in Delta wiring grounding system

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Product rating

- Three phase 3W+G (SPT) AC 380V



SPD Type			SPT (AC 380V)			
			SPT2-40S	SPT2-80S	SPT1-120S	SPT1-160S
Class			Class II		Class I, Class II	
Rated system [Pole]			3W+G			
Rated voltage, Un AC [V]			380			
Max. continuous operating voltage, Uc AC [V]			385			
Voltage protection level, Up [kV]			2.5	3.0	2.0	2.0
Nominal discharge current, In (8/20μs) [kA, per mode]			20	40	-	-
Maximum discharge current, Imax (8/20μs) [kA, per mode]			40	80	120	160
Lightning impulse current, Iimp (10/350μs) [kA, per mode]			-	-	6.5	6.5
Response time, tA [ns]			< 5 ns			
Operating temperature range [°C]			-40 ~ +70℃			
Operating frequency [Hz]			50/60 Hz			
Mounting on			Screw			
Operation status indication			Normal operation: Green, Abnormal/After an accident: Red			
Protection degree			IP20			
Protection mode			L-PE (G)			
Ground			TN			
Certification			KS, CE			

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Product rating

- Three phase 3W+G (SPT) AC 440V



SPD Type			SPT (AC 440V)			
			SPT2-40S	SPT2-80S	SPT1-120S	SPT1-160S
Class			Class II		Class I, Class II	
Rated system [Pole]			3W+G			
Rated voltage, Un AC [V]			440			
Max. continuous operating voltage, Uc AC [V]			385			
Voltage protection level, Up [kV]			2.5	3.0	2.0	2.0
Nominal discharge current, In (8/20μs) [kA, per mode]			20	40	-	-
Maximum discharge current, Imax (8/20μs) [kA, per mode]			40	80	120	160
Lightning impulse current, Iimp (10/350μs) [kA, per mode]			-	-	6.5	6.5
Response time, tA [ns]			< 5 ns			
Operating temperature range [°C]			-40 ~ +70℃			
Operating frequency [Hz]			50/60 Hz			
Mounting on			Screw			
Operation status indication			Normal operation: Green, Abnormal/After an accident: Red			
Protection degree			IP20			
Protection mode			L-PE (G)			
Ground			TN			
Certification			KS, CE			

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Surge Protective Device

SP Series (Box type)

Product rating

- Three phase 4W +G (SPY) 127S



SPD Type			SPY (AC 127/220V)				
			SPY2-40S	SPY2-80S	SPY1-120S	SPY1-160S	SPY1-200S *
Class			Class II		Class I, Class II		
Rated system [Pole]			4W+G				
Rated voltage, Un AC [V]			127/220				
Max. continuous operating voltage, Uc AC [V]			385				
Voltage protection level, Up [kV]			2.5	3.0	2.0	2.0	2.0
Nominal discharge current, In (8/20μs) [kA, per mode]			20	40	-	-	-
Maximum discharge current, I _{max} (8/20μs) [kA, per mode]			40	80	120	160	200
Lightning impulse current, I _{imp} (10/350μs) [kA, per mode]			-	-	6.5	6.5	12.5
Response time, t _A [ns]			< 5 ns				
Operating temperature range [°C]			-40 ~ +70℃				
Operating frequency [Hz]			50/60 Hz				
Mounting on			Screw				
Operation status indication			Normal operation: Green, Abnormal/After an accident: Red				
Protection degree			IP20				
Protection mode			L-N, N-PE (G)				
Ground			TN				
Certification			KS, CE				

* The wiring direction of SPY1-200S is located on the side. (Refer to external dimension)

Product rating

- Three phase 4W+G (SPY) 220S



SPD Type	SPY (AC 220/380V)				
	SPY2-40S	SPY2-80S	SPY1-120S	SPY1-160S	SPY1-200S *
Class	Class II		Class I, Class II		
Rated system [Pole]	4W+G				
Rated voltage, Un AC [V]	220/380				
Max. continuous operating voltage, Uc AC [V]	385				
Voltage protection level, Up [kV]	2.5	3.0	2.0	2.0	2.0
Nominal discharge current, In (8/20μs) [kA, per mode]	20	40	-	-	-
Maximum discharge current, Imax (8/20μs) [kA, per mode]	40	80	120	160	200
Lightning impulse current, Iimp (10/350μs) [kA, per mode]	-	-	6.5	6.5	12.5
Response time, tA [ns]	< 5 ns				
Operating temperature range [°C]	-40 ~ +70℃				
Operating frequency [Hz]	50/60 Hz				
Mounting on	Screw				
Operation status indication	Normal operation: Green, Abnormal/After an accident: Red				
Protection degree	IP20				
Protection mode	L-N, N-PE (G)				
Ground	TN				
Certification	KS, CE				

* The wiring direction of SPY1-200S is located on the side. (Refer to external dimension)

Product rating

- limp 12.5kA Class I SPD



SPD Type		SPL1-13/50S	SPT1-13S	SPY1-13/50S
Class		Class I		
Rated system	[Pole]	2W+G	3W+G	4W+G
Rated voltage, Un	AC [V]	220	380	380/220
Max. continuous operating voltage, Uc	AC [V]	320		
Voltage protection level, Up	[kV]	L-N : 1.2, N-PE : 1.8	L-N : 1.2, N-PE : 1.8	L-N : 1.2, N-PE : 1.8
Nominal discharge current, In (8/20 μ s)	[kA, per mode]	-	-	-
Maximum discharge current, I _{max} (8/20 μ s)	[kA, per mode]	-	-	-
Lightning impulse current, I _{imp} (10/350 μ s)	[kA, per mode]	12.5/50	12.5	12.5/50
Response time, t _A	[ns]	< 5 ns		
Operating temperature range	[°C]	-40 ~ +70°C		
Operating frequency	[Hz]	50/60 Hz		
Mounting on		Screw		
Operation status indication		Normal operation: Green, Abnormal/After an accident: Red		
Protection degree		IP20		
Protection mode		L-N, N-PE (G)	L-PE (G)	L-N, N-PE (G)
Ground		TN/TT/IT		
Certification		KS, CE		

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Product rating

- limp 25kA Class I SPD



SPD Type		SPL1-25/50S	SPT1-25S	SPY1-25/100S
Class		Class I		
Rated system	[Pole]	2W+G	3W+G	4W+G
Rated voltage, Un	AC [V]	220	380	380/220
Max. continuous operating voltage, Uc	AC [V]	320		
Voltage protection level, Up	[kV]	L-N : 1.3, N-PE : 2.0	L-N : 1.3, N-PE : 2.0	L-N : 1.3, N-PE : 2.0
Nominal discharge current, In (8/20 μ s)	[kA, per mode]	-	-	-
Maximum discharge current, I _{max} (8/20 μ s)	[kA, per mode]	-	-	-
Lightning impulse current, I _{imp} (10/350 μ s)	[kA, per mode]	25/50	25	25/100
Response time, t _A	[ns]	< 5 ns		
Operating temperature range	[°C]	-40 ~ +70°C		
Operating frequency	[Hz]	50/60 Hz		
Mounting on		Screw		
Operation status indication		Normal operation: Green, Abnormal/After an accident: Red		
Protection degree		IP20		
Protection mode		N-PE (G)	L-PE (G)	L-N, N-PE (G)
Ground		TN/TT/IT		
Certification		KS, CE		

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