


SGS1 Series

Surge Protective Device

Technical data

Standard	Confirming to IEC61643-1
Protection	Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage
Ambient temperature	-5°C to +45°C
Number of poles	1P, 2P, 3P, 4P
Electric ratings	230/400V, AC50/60Hz
Response time	Less than 25ms
On-Off indicating window	Green normal function Red functionless, immediate replacement required
Pollution grade	II
Installation class	I, II, III
Type of terminal	Pin type
Terminal capacity	Solid wire cross-section is 1-6mm ² Stranded wire cross-section is 0.75-4mm ²
Installation	Mounting on 35mm DIN rail
Width	17.5mm per pole
Ground system	"TT, TN-S, TN-C-S" are applicable to the ground system of the protector



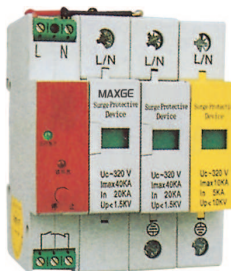
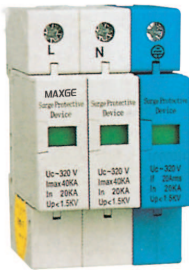
SGS1 Surge Protective Device	Type	Number of Poles	Max.Cont. operating voltage Uc(V)	Max.discharge current Imax (8/20) per pole(kA)	Nominal discharge current In (8/20) per pole (kA)	Voltage protection level up(kV)	Applicable grounding system
	SGS1-D/1-140-5	1	140	5	10	<0.8	Under AC110V and DC
	SGS1-D/1-275-5	1	275	5	10	<1.2	TN-C, IT, TN-S
	SGS1-D/1-320-5	1	320	5	10	<1.5	TN-C, IT, TN-S
	SGS1-D/1-385-5	1	385	5	10	<1.8	TT
	SGS1-D/1-420-5	1	420	5	10	<2.0	TT
	SGS1-D/2-140-5	2	140	5	10	<0.8	Under AC110V and DC
	SGS1-D/2-275-5	2	275	5	10	<1.2	TN-C, IT, TN-S
	SGS1-D/2-320-5	2	320	5	10	<1.5	TN-C, IT, TN-S
	SGS1-D/2-385-5	2	385	5	10	<1.8	TT
	SGS1-D/2-420-5	2	420	5	10	<2.0	TT
	SGS1-D/2Q-385-5	3	385	5	10	<2.0	
	SGS1-D/3N-275-5	3	275	5	10	<1.2	"3+1" Compagne
	SGS1-D/3N-320-5	3	320	5	10	<1.5	"3+1" Compagne
	SGS1-D/4-275-5	4	275	5	10	<1.2	TN-C, IT, TN-S
	SGS1-D/4-320-5	4	320	5	10	<1.5	TN-C, IT, TN-S
	SGS1-D/4-385-5	4	385	5	10	<1.8	TT
	SGS1-D/4-420-5	4	420	5	10	<2.0	TT

SGS1 Surge Protective Device

Type	Number of Poles	Max.Cont. operating voltage Uc(V)	Max. discharge current Imax (8/20) per pole(kA)	Nominal discharge current In (8/20) per pole (kA)	Voltage protection level up(kV)	Applicable grounding system
SGS1-C/1-140-15	1	140	15	40	<0.8	Under AC110V and DC
SGS1-C/1-275-20	1	275	20	40	<1.2	TN-C, IT, TN-S
SGS1-C/1-320-20	1	320	20	40	<1.5	TN-C, IT, TN-S
SGS1-C/1-385-20	1	385	20	40	<1.8	TT
SGS1-C/1-420-20	1	420	20	40	<2.0	TT
SGS1-C/1-550-20	1	550	20	40	<2.8	AC380V
SGS1-C/2-140-15	2	140	15	10	<0.8	Under AC110V and DC
SGS1-C/2-275-20	2	275	20	40	<1.2	TN-C, IT, TN-S
SGS1-C/2-320-20	2	320	20	40	<1.5	TN-C, IT, TN-S
SGS1-C/2-385-20	2	385	20	40	<1.8	TT
SGS1-C/2-420-20	2	420	20	40	<2.0	TT
SGS1-C/2Q-320-20	3	320	20	40	<1.5	TN-C, IT, TN-S
SGS1-C/2Q-385-20	3	385	20	40	<2.0	TN-C, IT, TN-S
SGS1-C/3N-320-20	3	320	20	40	<1.5	"3+1" Compage
SGS1-C/3N-385-20	3	385	20	40	<1.8	"3+1" Compage
SGS1-C/3N-420-20	3	420	20	40	<2.0	"3+1" Compage
SGS1-C/3-320-20	3	320	20	40	<1.5	TN-C, TN-C-S, TN-S
SGS1-C/3-385-20	3	385	20	40	<1.8	TN-C, TN-C-S, TN-S
SGS1-C/3-420-20	3	420	20	40	<2.0	TN-C, TN-C-S, TN-S
SGS1-C/4-275-20	4	275	20	40	<1.2	TN-C, TN-C-S, TN-S
SGS1-C/4-320-20	4	320	20	40	<1.5	TN-C, TN-C-S, TN-S
SGS1-C/4-385-20	4	385	20	40	<1.8	TT
SGS1-C/4-420-20	4	420	20	40	<2.0	TT



SGS1 Surge Protective Device



Type	Number of Poles	Max.Cont. operating voltage Uc(V)	Max.discharge current I _{max} (8/20) per pole(kA)	Nominal discharge current I _n (8/20) per pole (kA)	Voltage protection level up(kV)	Applicable grounding system
SGS1-B/3-320-30	3	320	30	60	<2.0	TN-C, TN-C-S, TN-S
SGS1-B/4-320-30	4	320	30	60	<2.0	TN-C, TN-C-S, TN-S
SGS1-B/3-385-30	3	385	30	60	<2.5	TT
SGS1-B/4-385-30	4	385	30	60	<2.5	TT
Type	Number of Poles	Max.Cont. operating voltage Uc(V)	Max.discharge current I _{max} (8/20) per pole(kA)	Nominal discharge current I _n (8/20) per pole (kA)	Voltage protection level up(kV)	Applicable grounding system
SGS1-D/2+1	3	320	5	10	<1.5	Voltage limit TT
SGS1-C/2+1	3	320	15	40	<1.5	Voltage limit TT
SGS1-D/3+1	4	320	5	10	<1.5	Voltage limit TT
SGS1-C/3+1	4	320	15	40	<1.5	Voltage limit TT
SGS1-C/3+1G	4	320	15	40	<1.5	Voltage limit TT
SGS1-B/3+1G	4	320	30	60	<1.8	Voltage limit TT
Type	Number of Poles	Max.Cont. operating voltage Uc(V)	Max.discharge current I _{max} (8/20) per pole(kA)	Nominal discharge current I _n (8/20) per pole (kA)	Voltage protection level up(kV)	Applicable grounding system
SGS1-D/2+1	3	255	20	40	<1.5	Voltage switch TT
SGS1-C/2+1	3	255	40	12	<2.0	Voltage switch TT
SGS1-D/3+1	4	255	20	40	<1.5	Voltage switch TT
SGS1-C/3+1	4	255	40	12	<2.0	Voltage switch TT
SGS1-C/3+1G	4	255	100	60	<2.5	Voltage switch TT
SGS1-B/3+1G	4	255	100	60	<2.5	Voltage switch TT

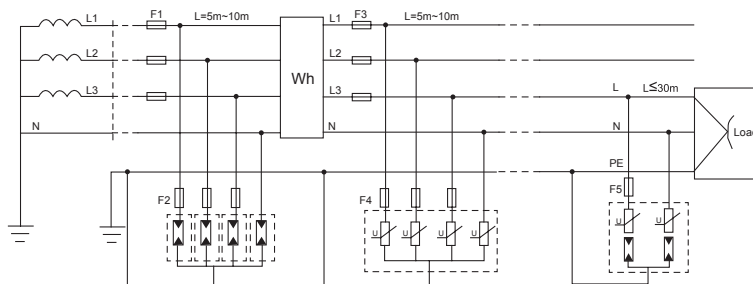
1. Technical data

Technic SG data DFG	Type	SGS1-D/	SGS1-D/	SGS1-D/	SGS1-D/	SGS1-D/	SGS1-C/	SGS1-C/	SGS1-C/	SGS1-C/	SGS1-C/	SGS1-C/	SGS1-B/	SGS1-B/	
		[]-140-5	[]-275-5	[]-320-5	[]-385-5	[]-420-5	[]-140-15	[]-275-20	[]-320-20	[]-385-20	[]-420-20	[]-550-20	[]-320-30	[]-385-30	
Max.continuous operationSG vol.(Uc)		140V	275V	320V	385V	420V	140V	275V	320V	385V	420V	550V	320V	385V	
Level of vol. protection(U _p <)		0.8kV	1.2kV	1.5kV	1.8kV	2.0kV	0.8kV	1.2kV	1.5kV	1.8kV	2.0kV	2.5kV	2.0kV	2.5kV	
NominSG discharge current I _n (8/20us)kA		5	5	5	5	5	15	20	20	20	20	20	30	30	
Max discharge current I _{max} (8/20us)kA		10	10	10	10	10	40	40	40	40	40	40	60	60	
ns		< 25					< 25					< 25			
Pole width(mm)							18								
Colour		yellow					gray					red			
Protection degree		IP20					IP20					IP20			
MetirSG of cover		PBT					PBT					PBT			
Circuit current		10~16A					25~32A					25~32A			
Wiring	L, N	2.5~35mm ²					2.5~35mm ²					2.5~35mm ²			
	PE	4.0~35mm ²					4.0~35mm ²					4.0~35mm ²			

2. How to select surge protectors

- The voltage should be $\leq U_c$;
- $U_p <$ maximum impulse withstands;
- Different protectors should be selected according to various grounding system and protection mode.

3. Allocation of surge protectors under TT system



SGS1-B series surge protector
 Lightning protection area the boundary between LPZ0 & LPZ1
 Protection category:B
 Over-voltage mounting category:III
 Rated impulse withstand voltage:4000V
 Parameters of discharge:U_{imp} and I_n
 Master power distribution cabinet

SGS1-C series surge protector
 Lightning protection area the boundary between LPZ1 & LPZ2
 Protection category:C
 Over-voltage mounting category:II
 Rated impulse withstand voltage:2500V
 Parameters of discharge:I_{max} and I_n
 Branch power distribution cabinet

SGS1-D series surge protector
 Lightning protection area the boundary between LPZ2 & LPZ3
 Protection category:D
 Over-voltage mounting category:I
 Rated impulse withstand voltage:1500V
 Parameters of discharge:U_{oc} and I_{sc}
 Terminal of power distribution

4. Overall and Mounting Dimensions

