

SGS1 Series Surge Protective Device

Technical data

Standard	IEC61643-1
Protection	Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage
Ambient temperature(°C)	-40~+70
Number of poles	1P,2P,3P,4P
Maximum continuous Operating voltage Uc(V~)	275/320/385/440 V
Nominal discharge current In(8/20μs) (KA)	10/20/30/40/60 KA
Maximum discharge current I_{max}(8/20μs) (KA)	20/40/60/80/100 KA
Protection level Up(KV)	<1.3/1.4/1.5/1.6/1.7/1.8/2.2/2.5/3.0 KV
Response time t(ns)	<25
On-Off indicating window	Green: normal function Red: functionless, immediate replacement required
Type of terminal	Pin type
Installation	Mounting on 35mm DIN rail
Ground system	TT/TN



FGS1/1







FGS1/2



FGS1/3



FGS1/4

FGS1-B	Type	Poles	Uc(V~)	Discharge current		Up(KV)	Applicable grounding system
				Nominal(kA)	Max.(kA)		
 <p>FGS1-D/1</p>	FGS1-D/1-275-20	1	275	10	20	< 1.2	TT/TN
	FGS1-D/1-320-20	1	320	10	20	< 1.5	TT/TN
	FGS1-D/1-385-20	1	385	10	20	< 1.6	TT/TN
	FGS1-D/1-440-20	1	440	10	20	< 1.8	TT/TN
 <p>FGS1-D/2</p>	FGS1-D/2-275-20	2	275	10	20	< 1.2	TT/TN
	FGS1-D/2-320-20	2	320	10	20	< 1.5	TT/TN
	FGS1-D/2-385-20	2	385	10	20	< 1.6	TT/TN
	FGS1-D/2-440-20	2	440	10	20	< 1.8	TT/TN
 <p>FGS1-D/3</p>	FGS1-D/3-275-20	3	275	10	20	< 1.2	TT/TN
	FGS1-D/3-320-20	3	320	10	20	< 1.5	TT/TN
	FGS1-D/3-385-20	3	385	10	20	< 1.6	TT/TN
	FGS1-D/3-440-20	3	440	10	20	< 1.8	TT/TN
 <p>FGS1-D/4</p>	FGS1-D/4-275-20	4	275	10	20	< 1.2	TT/TN
	FGS1-D/4-320-20	4	320	10	20	< 1.5	TT/TN
	FGS1-D/4-385-20	4	385	10	20	< 1.6	TT/TN
	FGS1-D/4-440-20	4	440	10	20	< 1.8	TT/TN

FGS1-C



FGS1-C/1



FGS1-C/2



FGS1-C/3



FGS1-C/4

Type	Poles	Uc(V~)	Discharge current		Up(KV)	Applicable grounding system
			Nominal(kA)	Max.(kA)		
FGS1-C/1-275-20	1	275	20	40	< 1.6	TT/TN
FGS1-C/1-320-20	1	320	20	40	< 1.7	TT/TN
FGS1-C/1-385-20	1	385	20	40	< 1.8	TT/TN
FGS1-C/1-440-20	1	440	20	40	< 2.2	TT/TN
FGS1-C/2-275-20	2	275	20	40	< 1.6	TT/TN
FGS1-C/2-320-20	2	320	20	40	< 1.7	TT/TN
FGS1-C/2-385-20	2	385	20	40	< 1.8	TT/TN
FGS1-C/2-440-20	2	440	20	40	< 2.2	TT/TN
FGS1-C/3-275-20	3	275	20	40	< 1.6	TT/TN
FGS1-C/3-320-20	3	320	20	40	< 1.7	TT/TN
FGS1-C/3-385-20	3	385	20	40	< 1.8	TT/TN
FGS1-C/3-440-20	3	440	20	40	< 2.2	TT/TN
FGS1-C/4-275-20	4	275	20	40	< 1.6	TT/TN
FGS1-C/4-320-20	4	320	20	40	< 1.7	TT/TN
FGS1-C/4-385-20	4	385	20	40	< 1.8	TT/TN
FGS1-C/4-440-20	4	440	20	40	< 2.2	TT/TN

FGS1-B



FGS1-B/1



FGS1-B/2



FGS1-B/3



FGS1-B/4

Type	Poles	Uc(V~)	Discharge current		Up(KV)	Applicable grounding system
			Nominal(kA)	Max.(kA)		
FGS1-B/1-385-60	1	385	30	60	< 2.2	TT/TN
FGS1-B/1-440-60	1	440	30	60	< 2.5	TT/TN
FGS1-B/2-385-60	2	385	30	60	< 2.2	TT/TN
FGS1-B/2-440-60	2	440	30	60	< 2.5	TT/TN
FGS1-B/3-385-60	3	385	30	60	< 2.2	TT/TN
FGS1-B/3-440-60	3	440	30	60	< 2.5	TT/TN
FGS1-B/4-385-60	4	385	30	60	< 2.2	TT/TN
FGS1-B/4-440-60	4	440	30	60	< 2.5	TT/TN
FGS1-B/1-385-80	1	385	40	80	< 2.5	TT/TN
FGS1-B/1-440-100	1	385	60	100	< 2.5	TT/TN
FGS1-B/2-385-80	1	440	40	80	< 3.0	TT/TN
FGS1-B/2-440-100	1	440	60	100	< 3.0	TT/TN
FGS1-B/3-385-80	2	385	40	80	< 2.5	TT/TN
FGS1-B/3-440-100	2	385	60	100	< 2.5	TT/TN
FGS1-B/4-385-80	2	440	40	80	< 3.0	TT/TN
FGS1-B/4-440-100	2	440	60	100	< 3.0	TT/TN
FGS1-B/1-385-60	3	385	40	80	< 2.5	TT/TN
FGS1-B/1-440-100	3	385	60	100	< 2.5	TT/TN
FGS1-B/2-385-80	3	440	40	80	< 3.0	TT/TN
FGS1-B/2-440-100	3	440	60	100	< 3.0	TT/TN
FGS1-B/3-385-80	4	385	40	80	< 2.5	TT/TN
FGS1-B/3-440-100	4	385	60	100	< 2.5	TT/TN
FGS1-B/4-385-80	4	440	40	80	< 3.0	TT/TN
FGS1-B/4-440-100	4	440	60	100	< 3.0	TT/TN

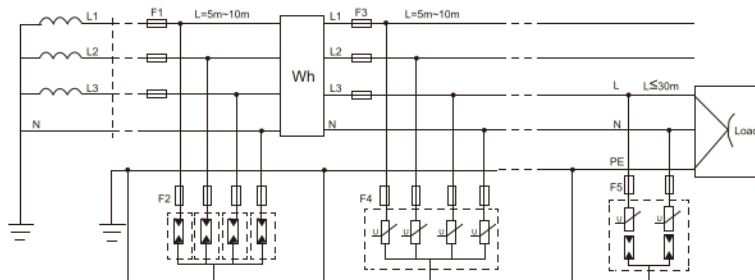
1. Technical data

Technical data	Type	FGS1-D				FGS1-C				FGS1-B		
		275-20	320-20	385-20	440-20	275-40	320-40	385-40	440-40	385-60	385-80	385-100
Max.continuous operating vol. Uc(V~)		275V	320V	385V	440V	275V	320V	385V	440V	385V	385V	385V
Level of vol.protection(Up<)		1.2kV	1.5kV	1.6kV	1.8kV	1.6kV	1.7kV	1.8kV	2.2kV	2.2kV	2.5kV	2.5kV
Nominal discharge curent In(8/20us)kA		10	10	10	10	20	20	20	20	30	40	60
Max. discharge current Imax(8/20us)kA		20	20	20	20	40	40	40	40	60	80	100
Response time t(ns)		<25				<25				<25		
Pole width(mm)		18				18				18		
Colour		Orange				Grey				Red		
Protection degree		IP20				IP20				IP20		
Material 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

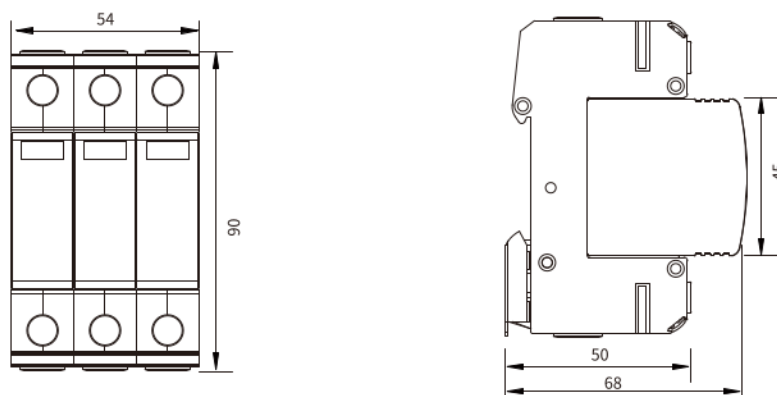


SGS1-B series surge protector
 Protection category: B
 Over-voltage mounting category: III
 Rated impulse withstand voltage: 4KV
 Parameters of discharge: U_{imp} and I_n
 Master power distribution cabinet

SGS1-C series surge protector
 Protection category: C
 Over-voltage mounting category: II
 Rated impulse withstand voltage: 2.5KV
 Parameters of discharge: I_{max} and I_n
 Branch power distribution cabinet

SGS1-D series surge protector
 Protection category: D
 Over-voltage mounting category: I
 Rated impulse withstand voltage: 1.5KV
 Parameters of discharge: U_{oc} and I_{sc}
 Terminal of power distribution

4. Overall and Mounting Dimensions



FGS1