

ELS1 Series Surge Protective Device

Application

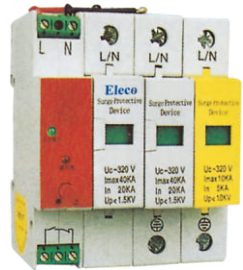
Standard	Confirming to IEC61643-1
Protection	Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage
Ambient temperature	-5°C to +45°C
Number of poles	1P, 2P, 3P, 4P
Electric ratings	230/400V, AC50/60Hz
Response time	Less than 25ms
On-Off indicating window	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

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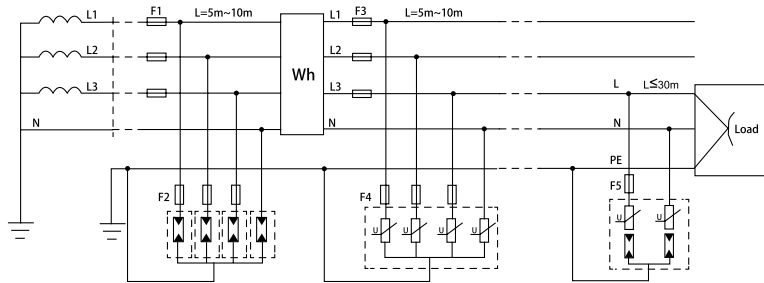
Type	Poles	Uc (V)	In (kA)	Imax (kA)	Up (kV)	Applicable grounding system
ELS1-D/1-140-5	1	140	5	10	< 0.8	Under AC110V and DC
ELS1-D/1-275-5	1	275	5	10	< 1.2	TN-C, IT, TN-S
ELS1-D/1-320-5	1	320	5	10	< 1.5	TN-C, IT, TN-S
ELS1-D/1-385-5	1	385	5	10	< 1.8	TT
ELS1-D/1-420-5	1	420	5	10	< 2.0	TT
ELS1-D/2-140-5	2	140	5	10	< 0.8	Under AC110V and DC
ELS1-D/2-275-5	2	275	5	10	< 1.2	TN-C, IT, TN-S
ELS1-D/2-320-5	2	320	5	10	< 1.5	TN-C, IT, TN-S
ELS1-D/2-385-5	2	385	5	10	< 1.8	TT
ELS1-D/2-420-5	2	420	5	10	< 2.0	TT
ELS1-D/2Q-385-5	3	385	5	10	< 2.0	
ELS1-D/3N-275-5	3	275	5	10	< 1.2	"3+1" Compagne
ELS1-D/3N-320-5	3	320	5	10	< 1.5	"3+1" Compagne
ELS1-D/4-275-5	4	275	5	10	< 1.2	TN-C, IT, TN-S
ELS1-D/4-320-5	4	320	5	10	< 1.5	TN-C, IT, TN-S
ELS1-D/4-385-5	4	385	5	10	< 1.8	TT
ELS1-D/4-420-5	4	420	5	10	< 2.0	TT

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	ELS1-C/1-140-15	1	140	15	40	< 0.8	Under AC110V and DC
	ELS1-C/1-275-20	1	275	20	40	< 1.2	TN-C, IT, TN-S
	ELS1-C/1-320-20	1	320	20	40	< 1.5	TN-C, IT, TN-S
	ELS1-C/1-385-20	1	385	20	40	< 1.8	TT
	ELS1-C/1-420-20	1	420	20	40	< 2.0	TT
	ELS1-C/1-550-20	1	550	20	40	< 2.8	AC380V
	ELS1-C/2-140-15	2	140	15	10	< 0.8	Under AC110V and DC
	ELS1-C/2-275-20	2	275	20	40	< 1.2	TN-C, IT, TN-S
	ELS1-C/2-320-20	2	320	20	40	< 1.5	TN-C, IT, TN-S
	ELS1-C/2-385-20	2	385	20	40	< 1.8	TT
	ELS1-C/2-420-20	2	420	20	40	< 2.0	TT
	ELS1-C/2Q-320-20	3	320	20	40	< 1.5	TN-C, IT, TN-S
	ELS1-C/2Q-385-20	3	385	20	40	< 2.0	TN-C, IT, TN-S
	ELS1-C/3N-320-20	3	320	20	40	< 1.5	"3+1" Compage
	ELS1-C/3N-385-20	3	385	20	40	< 1.8	"3+1" Compage
	ELS1-C/3N-420-20	3	420	20	40	< 2.0	"3+1" Compage
	ELS1-C/3-320-20	3	320	20	40	< 1.5	TN-C, TN-C-S, TN-S
	ELS1-C/3-385-20	3	385	20	40	< 1.8	TN-C, TN-C-S, TN-S
	ELS1-C/3-420-20	3	420	20	40	< 2.0	TN-C, TN-C-S, TN-S
	EL1-C/4-275-20	4	275	20	40	< 1.2	TN-C, TN-C-S, TN-S
	ELS1-C/4-320-20	4	320	20	40	< 1.5	TN-C, TN-C-S, TN-S
	ELS1-C/4-385-20	4	385	20	40	< 1.8	TT
	ELS1-C/4-420-20	4	420	20	40	< 2.0	TT

ELS1 Surge Protective Device	Type	Poles	Uc (V)	In (kA)	Imax (kA)	Up (kV)	Applicable grounding system		
	ELS1-B/3-320-30	3	320	30	60	< 2.0	TN-C, TN-C-S, TN-S		
	ELS1-B/4-320-30	4	320	30	60	< 2.0	TN-C, TN-C-S, TN-S		
	ELS1-B/3-385-30	3	385	30	60	< 2.5	TT		
	ELS1-B/4-385-30	4	385	30	60	< 2.5	TT		
	Type	Poles	Uc (V)	In (kA)	Imax (kA)	Up (kV)	Applicable grounding system		
	ELS1-D/2+1	3	320	5	10	< 1.5	Voltage limit	TT	
	ELS1-C/2+1	3	320	15	40	< 1.5	Voltage limit	TT	
	ELS1-D/3+1	4	320	5	10	< 1.5	Voltage limit	TT	
	ELS1-C/3+1	4	320	15	40	< 1.5	Voltage limit	TT	
	ELS1-C/3+1G	4	320	15	40	< 1.5	Voltage limit	TT	
	ELS1-B/3+1G	4	320	30	60	< 1.8	Voltage limit	TT	
	ELS1-D/2+1	3	255	20	40	-	< 1.5	Voltage switch	TT
	ELS1-C/2+1	3	255	40	-	12	< 2.0	Voltage switch	TT
	ELS1-D/3+1	4	255	20	40	-	< 1.5	Voltage switch	TT
	ELS1-C/3+1	4	255	40	-	12	< 2.0	Voltage switch	TT
	ELS1-C/3+1G	4	255	100	-	60	< 2.5	Voltage switch	TT
	ELS1-B/3+1G	4	255	100	-	60	< 2.5	Voltage switch	TT

Type		ELS1-D/	ELS1-D/	ELS1-D/	ELS1-D/	ELS1-D/	ELS1-C/	ELS1-C/	ELS1-C/	ELS1-C/	ELS1-C/	ELS1-C/	ELS1-B/	ELS1-B/
Technic SG data		[-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 In(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
- a. The voltage should be $\leq U_c$;
 - b. $U_p <$ maximum impulse withstands;
 - c. Different protectors should be selected according to various grounding system and protection mode.
3. Allocation of surge protectors under TT system



ELS1-B series surge protector	ELS1-C series surge protector	ELS1-D series surge protector
Lightening protection area the boundary between LPZ0 & LPZ1	Lightening protection area the boundary between LPZ1 & LPZ2	Lightening protection area the boundary between LPZ2 & LPZ3
Protection category: B	Protection category: C	Protection category: D
Over-voltage mounting category: III	Over-voltage mounting category: II	Over-voltage mounting category: I
Rated impulse withstand voltage: 4000V	Rated impulse withstand voltage: 2500V	Rated impulse withstand voltage: 1500V
Parameters of discharge: U_{imp} and I_n	Parameters of discharge: I_{max} and I_n	Parameters of discharge: U_{oc} and I_{sc}
Master power distribution cabinet	Branch power distribution cabinet	Terminal of power distribution

4. Overall and Mounting Dimensions

