

Type 2 AC power Surge Protector

DS10



DS13S-400

DS10 Type 2 AC Surge Protectors are used mainly for primary protection of single and 3-Phase networks at the main electrical panel. They provide common-mode (between L and PE) or common and differential mode (L/PE and L/N) when associated with DS40G. They are available in one-phase, single-phase, three-phase, and three-phase+neutral versions.

The DS10 impulse discharge capability classifies this SPD as secondary Type 2 or Type 3, useful downstream a Type 2 SPD (e.g. DS40) to protect a remote or sensitive equipment.

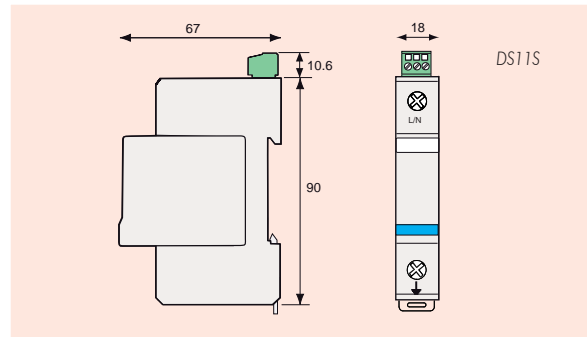
This SPD is based on high energy Varistor equipped with thermal disconnecter and failure indicator, to comply with standards. Version with a remote signalling for disconnection indication is also available (DS1*S).

The DS10 is available for a large range of AC voltages.

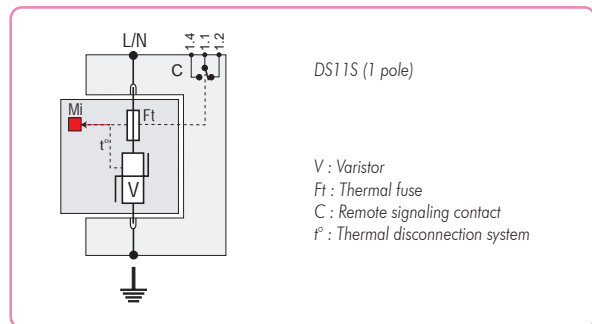
The DS10 is DIN rail compatible and is built with plug-in modules (DSM10-xxx) and a fixed base, which allows an easy and fast maintenance.

- **Type 2 (or 3) Surge Protector**
- **Discharge current : I_n : 5 kA/ I_{max} : 10 kA**
- **Pluggable module by phase**
- **Remote signaling in option**
- **IEC 61643-1 and EN 61643-11 compliance**

Dimensions (in mm)



Electrical diagram



Characteristics

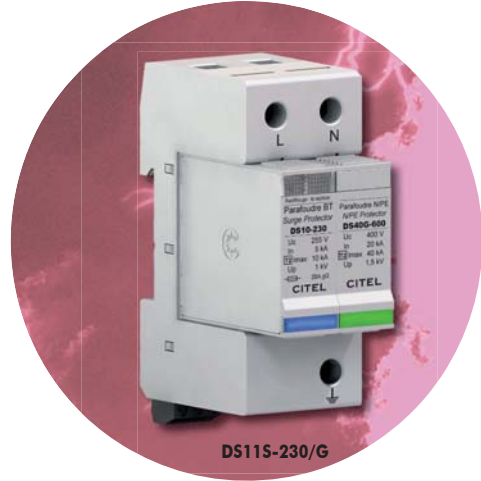
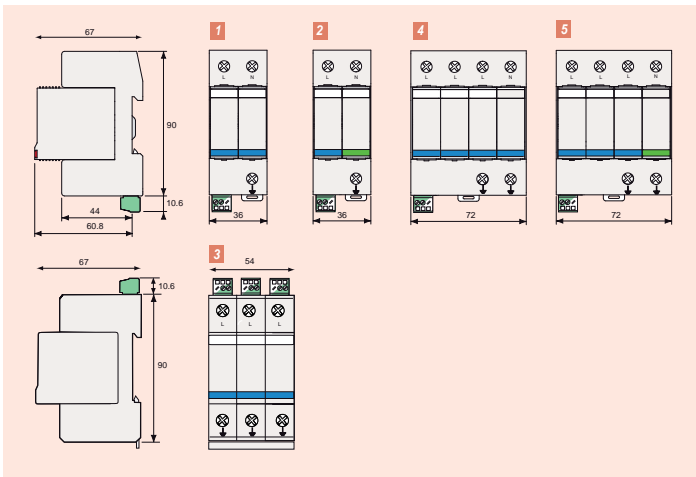
CITEL part number	DS11-400	DS11-230	DS11-120
Single phase network	230/400V	230/400V	120/208V
Neutral configuration	TT-IT	TN	TN
Max. operating voltage U _c	400 Vac	255 Vac	150 Vac
Temporary overvoltage withstand U _T	400 Vac	255 Vac	150 Vac
Operating current I _c	< 1 mA	< 1 mA	< 1 mA
<i>Leakage current at U_c</i>			
Follow current I _f	none	none	none
Nominal discharge current I _n	5 kA	5 kA	5 kA
<i>15 x 8/20 μs impulses</i>			
Maximum discharge current I _{max}	10 kA	10 kA	10 kA
<i>max. withstand 8/20 μs</i>			
Protection level (at I _n) U _p	1.3 kV	0.9 kV	0.6 kV
Combination waveform test U _{oc}	10 kV	10 kV	10 kV
<i>Class III test</i>			
Admissible short-circuit current	25000 A	25000 A	25000 A
Associated disconnection devices			
Thermal disconnecter	internal		
Fuses	Fuses type gG - 20 A max. (see Note 1)		
Installation ground fault breaker	Type «S» or delayed		
Mechanical characteristics			
Dimensions	See diagram		
Connection	by screw terminals : 4-25 mm ² / by bus		
Disconnection indicator	1 mechanical indicator by pole		
Remote signaling of disconnection	Option DS10S - output on changeover contact		
Mounting	symmetrical rail 35 mm		
Operating temperature	-40/+85 °C		
Protection class	IP20		
Housing material	Thermoplastic UL94-V0		
Standards compliance			
NF EN 61643-11	France	Parafoudre Basse Tension - Essais Classe II et III	
IEC 61643-1	International	Low Voltage SPD - Test Class II and III	
EN 61643-11	Europe	Low Voltage SPD - Test Class II and III	
UL1449 ed.2	USA	Low Voltage TVSS	

Note 1: Rating in compliance with nominal discharge current. In order to increase service continuity, higher rating can be used (up to 40 A). For further information, please consult product instructions.

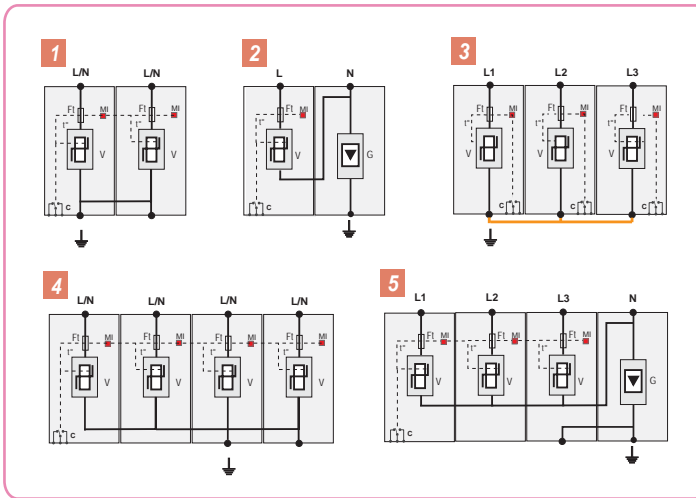
Type 2 AC power Multipolar Surge Protector

DS12
DS13
DS14

Dimensions and Diagram



DS11S-230/G



The DS10 surge protectors are designed to be used in multipolar configuration to protect single-phase, 3-phase or 3-phase+neutral AC networks. They are sometimes associated to dedicated N/PE surge protector based on gas tube technology (DS40G).

2 possible configurations :

Common mode : CT1 configuration

DS10 surge protectors are connected between line(s), Neutral and protective wire (PE).

Common and Differential mode : CT2 configuration

DS10 surge protectors are connected between line(s) and Neutral to provide differential mode protection. A specific surge protector DS40G is connected between Neutral and Protective wire (PE) for common mode protection. This configuration provides higher efficiency.

Part number	Network	AC system	Protection mode		Imax total	Up L/PE	Up L/N	Diagram
			common	differential				
DS14-230/G	230/400 V 3-phase+N	TT-TN	●	●	40 kA	1.5 kV	0.9 kV	5
DS14-120/G	120/208 V 3-phase+N	TT-TN	●	●	40 kA	1.5 kV	0.6 kV	
DS14-400	230/400 V 3-phase+N	IT	●		40 kA	1.3 kV	-	4
DS14-230	230/400 V 3-phase+N	TN	●		40 kA	0.9 kV	-	
DS14-120	120/208 V 3-phase+N	TT-TN	●		40 kA	0.6 kV	-	3
DS13-400	400 V 3-phase	IT-TT	●		30 kA	1.3 kV	-	
DS13-230	400 V 3-phase	TNC	●		30 kA	0.9 kV	-	
DS13-120	208 V 3-phase	TNC	●		30 kA	0.6 kV	-	2
DS12-230/G	230 V Single phase	TT-TN	●	●	20 kA	1.5 kV	0.9 kV	
DS12-120/G	120 V Single phase	TN	●	●	20 kA	1.5 kV	0.6 kV	1
DS12-400	230V Single phase	IT	●		20 kA	1.3 kV	-	
DS12-230	230V Single phase	TN	●		20 kA	0.9 kV	-	
DS12-120	120 V Single phase	TN	●		20 kA	0.6 kV	-	