



**Imax
40 kA**

Type 2 AC power Surge Protector DS40

A30



DS40 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 DS4xG (DS4x-xxx/G version). They are available in one-phase, single-phase, three-phase, and three-phase+neutral versions.

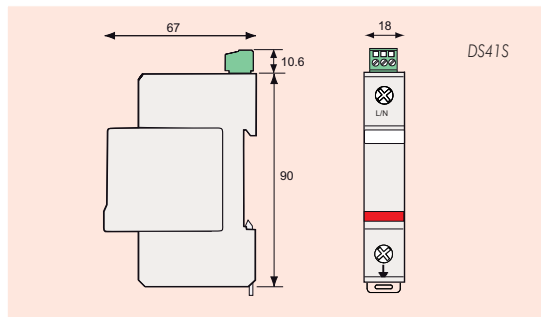
The DS40 impulse discharge capability classifies this SPD as regular Type 2, useful in case of medium lightning density areas. IEC60364 standard requests Type 2 SPD at the entrance of installation if the keraunic level $N_k > 25$.

This SPD is based on high energy varistor equipped with thermal disconnector and failure indicator, to comply with standards. Version with a remote signaling for disconnection indication is also available (DS4*S).

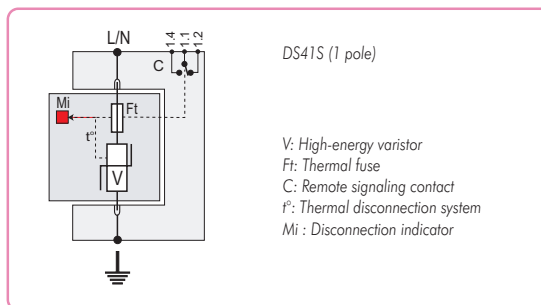
The DS40 is available for a large range of AC voltages. The DS40 is DIN rail compatible and is built with a plug-in module (DSM40-xxx) and a fixed base, which allows an easy and fast maintenance.

- Type 2 AC Surge Protector
- Discharge currents : I_n : 20 kA/ I_{max} : 40 kA
- Pluggable module for each phase
- Remote signaling option
- IEC 61643-1 and EN 61643-11 compliance

Dimensions (in mm)



Electrical diagram



Characteristics

CITEL part number	DS41-400	DS41-230	DS41-120
Network	230/400V	230/400V	120/208V
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
Leakage current at U_c			
Follow current	I_f none	none	none
Nominal discharge current	I_n 20 kA	20 kA	20 kA
15 x 8/20 μ s impulse			
Maximum discharge current	I_{max} 40 kA	40 kA	40 kA
max. withstand 8/20 μ s			
Protection level (at I_n)	U_p 1.8 kV	1.25 kV	0.9 kV
Residual voltage at 10 kA	1.5 kV	1.1 kV	0.7 kV
Residual voltage at 5 kA	1.3 kV	0.9 kV	0.6 kV
Admissible short-circuit current	25000 A	25000 A	25000 A
Associated disconnection devices			
Thermal disconnector	internal		
Fuses	Fuses type gG - 50 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		
Remote signaling of disconnection	Option DS40S - output on changeover contact		
Mounting	symmetrical rail 35 mm		
Operating temperature	-40/+85 °C		
Protection class	IP20		
Housing material	Thermoplastic UL94-V0		
Standards compliance			
EN 61643-11	Europe	Low Voltage SPD - Class II Test	
IEC 61643-1	International	Low Voltage SPD - Class II Test	
NF EN 61643-11	France	Parafoudre Basse Tension - Essais Classe II	
UL1449 ed.2	USA	Low Voltage TVSS	

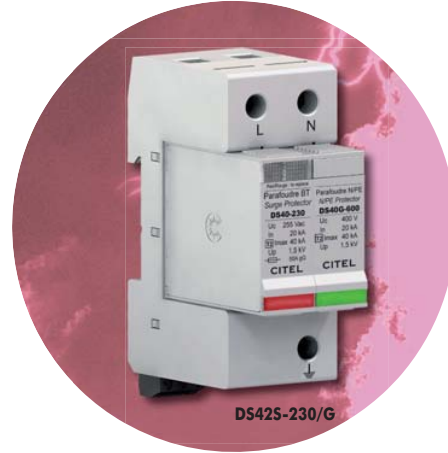
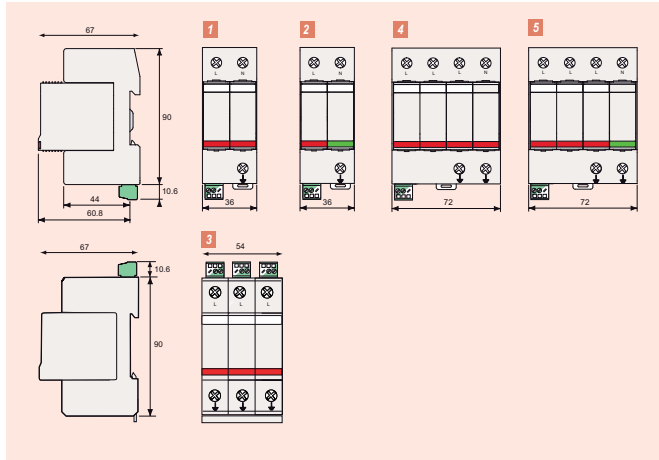
Note 1: Rating in compliance with nominal discharge current. In order to increase service continuity, higher rating can be used (up to 125 A). For further information, please consult product instructions.



Type 2 AC power Multipolar Surge Protector

DS42
DS43
DS44

Dimensions and Diagram



A31

The DS40 surge protectors are designed to be used in a multipolar configuration to protect single-phase, 3-phase or 3-phase+neutral AC networks. They are sometimes associated with dedicated N/PE surge protector based on gas tube technology (DS40G).

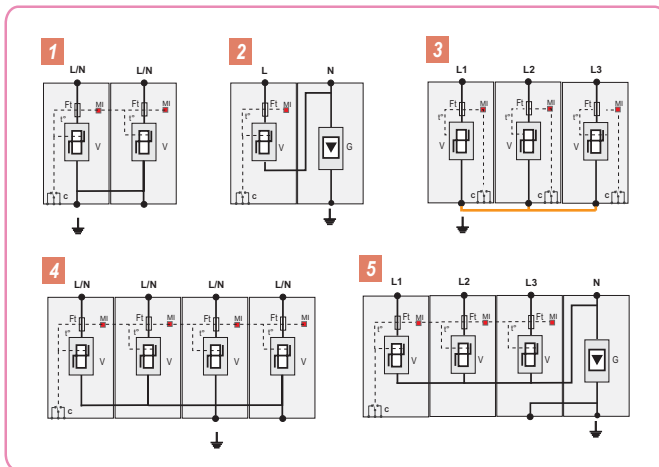
2 possible configurations :

Common mode : CT1 configuration

DS40 surge protectors are connected between line(s), Neutral and protective wire (PE).

Common and Differential mode : CT2 configuration

DS40 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 the highest efficiency.



Part Number	Network	AC system	Protection mode		I _{max} total	U _p L/PE	U _p L/N	Diagram
			common	differential				
DS44-230/G	230/400 V 3-phase+N	TT-TN	●	●	40 kA	1.5 kV	1.25 kV	5
DS44-120/G	120/208 V 3-phase+N	TT-TN	●	●	40 kA	1.5 kV	0.9 kV	
DS44-400	230/400 V 3-phase+N	IT	●		160 kA	1.8 kV	-	4
DS44-230	230/400 V 3-phase+N	TN	●		160 kA	1.25 kV	-	
DS44-120	120/208 V 3-phase+N	TN	●		160 kA	0.9 kV	-	3
DS43-400	400 V 3-phase	IT-TT-TNC	●		120 kA	1.8 kV	-	
DS43-230	400 V 3-phase	TNC	●		120 kA	1.25 kV	-	
DS43-120	208 V 3-phase	TNC	●		120 kA	0.9 kV	-	2
DS42-230/G	230 V Single phase	TT-TN	●	●	40 kA	1.5 kV	1.25 kV	
DS42-120/G	120 V Single phase	TN	●	●	40 kA	1.5 kV	0.9 kV	
DS42-400	230V Single phase	IT	●		80 kA	1.8 kV	-	
DS42-230	230V Single phase	TN	●		80 kA	1.25 kV	-	
DS42-120	120 V Single phase	TN	●		80 kA	0.9 kV	-	1

*) or DS4x-320x (e.g: DS44-320/G) in case of possible temporary voltages (bad quality AC voltage or supply by AC generator set).

