

SFD1 - Single Phase Surge Filters



Compact DIN Surge Filter

Novaris DIN mount Surge Filter are suitable for installation in circuits up to 32A. The SFD range has been engineered to protect sensitive loads.

Compact design

Their compact design makes them an ideal choice for space restricted applications.

All Mode Protection

Protection is provided for all combinations of lines (L-N, L-PE, N-PE) ensuring the maximum level of protection is achieved at all times.

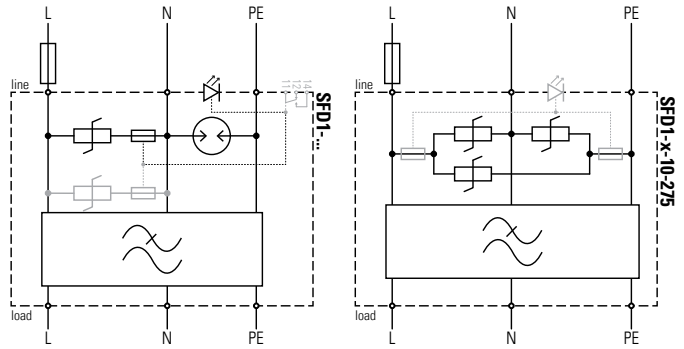
Safe Metal Enclosure

Novaris surge protection products are housed in safe, all metal enclosures. In the event of a prolonged overvoltage they will not catch fire or explode.

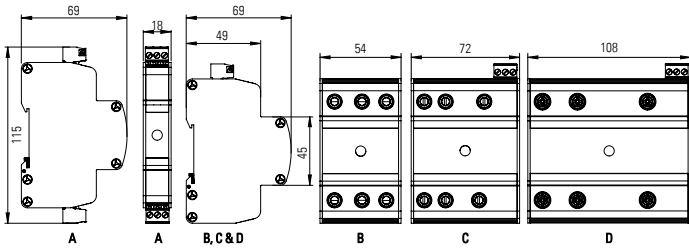
Three stages of protection

Novaris surge filters have 2 stages of varistor protection separated by a low pass LC filter. This 3 stage combination reduces the effects of high frequency noise and transients to provide the highest level of protection to sensitive loads.

Diagram / Installation



Dimensions



Ordering Information

	Low exposure		Medium exposure		Options		
	Single Phase	Three Phase	Single Phase	Three Phase	SFD Version	SPDT alarm contact	Polycarbonate enclosure
Max Load Current							
6A	SFD1-6-10-275	SFD3-10-50-275-A	SFD1-20-100-275	SFM-Series	SFD1-6-10-275	-	-P
10 A	SFD1-10-50-275	SFD3-10-50-275-A	SFD1-20-100-275	SFM-Series	SFD1-10-50-275	-A	-P
20 A	SFD1-20-50-275	SFD3-20-50-275-A	SFD1-20-100-275	SFM-Series	SFD1-20-50-275	-A	-P
32 A	SFD1-32-50-275	SFD3-32-50-275-A	SFD1-32-100-275	SFM-Series	SFD1-32-50-275	-A	-P

Product Specifications

Model	SFD1-6-10-275	SFD1-10-50-275	SFD1-20-50-275	SFD1-20-100-275	SFD1-32-50-275	SFD1-32-100-275
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Electrical Specifications

Connection type	Series	Series	Series	Series	Series	Series
Modes of protection	L-N, L-PE, N-PE	L-N, L-PE, N-PE	L-N, L-PE, N-PE	L-N, L-PE, N-PE	L-N, L-PE, N-PE	L-N, L-PE, N-PE
Phases	1	1	1	1	1	1
Nominal voltage	U_o 230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC
Short circuit withstand level	I_{SCCR} 10 kA	25 kA	25 kA	25 kA	25 kA	25 kA
Maximum backup fuse (gL/gG)	6 A	10 A	20 A	20 A	32 A	32 A

L-N

Maximum continuous voltage	U_c 275 VAC	275 VAC	275 VAC	275 VAC	275 VAC	275 VAC
Maximum load current	I_L 6 A	10 A	20 A	20 A	32 A	32 A
Maximum voltage Drop (% of U_o)	ΔU < 1%	< 1%	< 1%	< 1%	< 1%	< 1%
3 dB Frequency at 50 Ω	9.4 kHz	2600 Hz	800 Hz	800 Hz	380 Hz	380 Hz
Maximum discharge current (8/20 μ s)	I_{max} 10 kA	50 kA	50 kA	100 kA	50 kA	100 kA
Lightning impulse current (10/350 μ s)	I_{imp} –	3 kA	3 kA	6.25 kA	3 kA	6.25 kA
Nominal discharge current (8/20 μ s)	I_n 4 kA	20 kA	20 kA	40 kA	20 kA	40 kA
Voltage protection level @ 3 kA 8/20 μ s	U_p < 700 V	< 600 V	< 600 V	< 600 V	< 600 V	< 600 V
Voltage protection level @ I_n	U_p < 900 V	< 1000V	< 1000V	< 1100 V	< 1000V	< 1100V
Load side surge withstand (nominal)	6 kA	10 kA	10 kA	10 kA	10 kA	10 kA
Response time	t_A Instantaneous	Instantaneous	Instantaneous	Instantaneous	Instantaneous	Instantaneous
Temporary overvoltage (TOV)	U_T	440V / 5 sec				

N-PE

Maximum continuous voltage	U_c 275 VAC	255 VAC	255 VAC	255 VAC	255 VAC	255 VAC
Maximum discharge current (8/20 μ s)	I_{max} 10 kA	25 kA	60 kA	60 kA	60 kA	60 kA
Lightning impulse current (10/350 μ s)	I_{imp} –	2 kA	15 kA	15 kA	15 kA	15 kA
Nominal discharge current (8/20 μ s)	I_n 4 kA	10 kA	50 kA	50 kA	50 kA	50 kA
Voltage protection level @ 1 kV/ μ s	U_p < 500V	< 700 V	< 700 V	< 700 V	< 700 V	< 700 V
Voltage protection level @ I_n	U_p < 900 V	< 1000 V	< 1300 V	< 1300 V	< 1300 V	< 1300 V
Response time	t_A Instantaneous	< 100 ns	< 100 ns	< 100 ns	< 100 ns	< 100 ns
Temporary overvoltage (TOV)	U_T 1200 V / 0.2 s	1200 V / 0.2 s	1200 V / 0.2 s	1200 V / 0.2 s	1200 V / 0.2 s	1200 V / 0.2 s
Follow current interrupt rating	I_f –	20 A	100 A	100 A	100 A	100 A
Earth leakage current	< 500 μ A	< 10 μ A	< 10 μ A	< 10 μ A	< 10 μ A	< 10 μ A

Indication

Display	LED status					
External alarm	–	Optional				
Display / Alarm function	–	segment / thermal failure, SPD voltage free contact				
Alarm isolation	–	4 kV				

Mechanical Specifications

Operating temperature	-40 to +70 °C					
Humidity Range	5 to 95% non-condensing					
Terminal capacity – power	0.5 – 2.5 mm ²	2.5 – 16 mm ²				
Terminal capacity – alarms	–	0.5 – 2.5 mm ²				
Terminal screw torque – power	0.5 Nm	2.0 Nm				
Terminal screw torque – alarm	–	0.5 Nm				
Environmental / Location	IP 20 / Indoor					
Dimensional Drawing	A	B / C with alarm	C	C	D	D
Device width	18 mm	54 mm	72 mm	72 mm	108 mm	108 mm
Mounting	TS35 DIN rail / Panel mount					
Enclosure / Colour	Metal / Black					

Standards

IEC 61643-11:2011	SPD connected to low-voltage power systems - Type 2+3					
AS/NZS 1768:2007	A.C. power system SPD - Cat C1, B, A					
UL 1449 3 rd edition	Low voltage SPD - Type 3 (< 10 m from device)					
IEEE 62.41.2:2002	Low voltage SPD - Cat C (< 10 m from device)					

Shipping

Weight	350 g	440 g	605 g	625 g	730 g	750 g
Customs Tariff	85354010	85354010	85354010	85354010	85354010	85354010