

# SFD3 - Three 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-E, N-E) ensuring the maximum level of protection is achieved at all times.

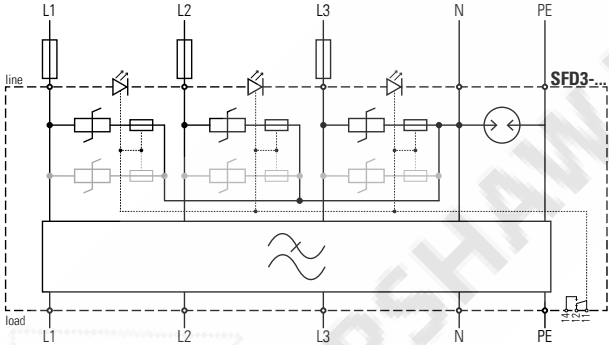
#### Safe Metal Enclosure

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.

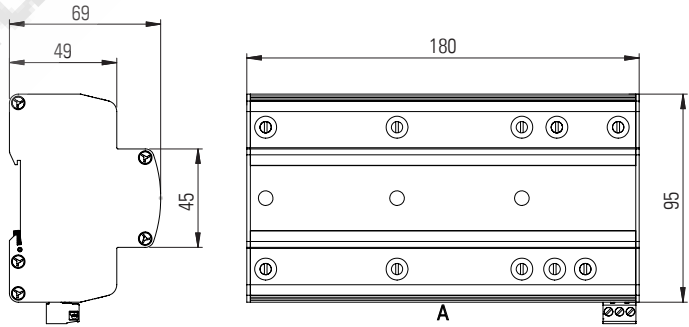
#### Three stages of protection

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
<b>Max Load Current</b>							
6A	SFD1-6-6.5-275	SFD3-10-50-275-A	SFD1-20-100-275	SFM-Series	-	-	-P
10 A	SFD1-10-50-275	SFD3-10-50-275-A	SFD1-20-100-275	SFM-Series	SFDx-10-50-275-A	Standard	-P
20 A	SFD1-20-50-275	SFD3-20-50-275-A	SFD1-20-100-275	SFM-Series	SFDx-20-50-275-A	Standard	-P
32 A	SFD1-32-50-275	SFD3-32-50-275-A	SFD1-32-100-275	SFM-Series	SFDx-32-50-275-A	Standard	-P

## Product Specifications

Model	SFD3-10-50-275-A	SFD3-20-50-275-A	SFD3-32-50-275-A
<b>Electrical Specifications</b>			
Connection type	Series	Series	Series
Modes of protection	L-N, L-PE, N-PE	L-N, L-PE, N-PE	L-N, L-PE, N-PE
Phases	3	3	3
Nominal voltage	$U_o$ 230 VAC	230 VAC	230 VAC
Short circuit withstand level	$I_{SCCR}$ 25 kA	25 kA	25 kA
Maximum backup fuse (gL/gG)	10 A	20 A	32 A
<b>L-N</b>			
Maximum continuous voltage	$U_c$ 275 VAC	275 VAC	275 VAC
Maximum load current	$I_L$ 10 A	20 A	32 A
Maximum voltage Drop (% of $U_o$ )	$\Delta U$ < 1%	< 1%	< 1%
3 dB Frequency at 50 $\Omega$	2600 kHz	800 Hz	380 Hz
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$ 50 kA	50 kA	50 kA
Lightning impulse current (10/350 $\mu$ s)	$I_{imp}$ 3 kA	3 kA	3 kA
Nominal discharge current (8/20 $\mu$ s)	$I_n$ 20 kA	20 kA	20 kA
Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$ < 600 V	< 600 V	< 650 V
Voltage protection level @ $I_n$	$U_p$ < 1000V	< 1000V	< 1100V
Load side surge withstand (nominal)	10 kA	10 kA	10 kA
Response time	$t_A$ Instantaneous	Instantaneous	Instantaneous
Temporary overvoltage (TOV)	$U_T$	440V / 5 sec	
<b>N-PE</b>			
Maximum continuous voltage	$U_c$ 255 VAC	255 VAC	255 VAC
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$ 60 kA	60 kA	60 kA
Lightning impulse current (10/350 $\mu$ s)	$I_{imp}$ 15 kA	15 kA	15 kA
Nominal discharge current (8/20 $\mu$ s)	$I_n$ 50 kA	50 kA	50 kA
Voltage protection level @ 1 kV/ $\mu$ s	$U_p$ < 700 V	< 700 V	< 700 V
Voltage protection level @ $I_n$	$U_p$ < 1300 V	< 1300 V	< 1300 V
Response time	$t_A$ < 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
Follow current interrupt rating	$I_{fi}$ 100 A	100 A	100 A
Earth leakage current	< 10 $\mu$ A	< 10 $\mu$ A	< 10 $\mu$ A
<b>Indication</b>			
Display	LED status per phase		
External alarm	Standard		
Display / Alarm function	segment / thermal failure, SPDT voltage free contact		
Alarm isolation	4 kV		
<b>Mechanical Specifications</b>			
Operating temperature	-40 to +70 $^{\circ}$ C	-40 to +70 $^{\circ}$ C	-40 to +70 $^{\circ}$ C
Humidity Range	5 to 95% non-condensing	5 to 95% non-condensing	5 to 95% non-condensing
Terminal capacity – power	2.5 – 16 mm <sup>2</sup>	2.5 – 16 mm <sup>2</sup>	2.5 – 16 mm <sup>2</sup>
Terminal capacity – alarms	0.5 – 2.5 mm <sup>2</sup>	0.5 – 2.5 mm <sup>2</sup>	0.5 – 2.5 mm <sup>2</sup>
Terminal screw torque – power	2.0 Nm	2.0 Nm	2.0 Nm
Terminal screw torque – alarm	0.5 Nm	0.5 Nm	0.5 Nm
Environmental / Location	IP 20 / Indoor	IP 20 / Indoor	IP 20 / Indoor
Dimensional Drawing	A	A	A
Device width	180 mm	180 mm	180 mm
Mounting	TS35 DIN rail / Panel mount		
Enclosure / Colour	Metal / Black		
<b>Standards</b>			
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 <sup>rd</sup> edition	Low voltage SPD - Type 3 (< 10 m from device)		
IEEE 62.41.2:2002	Low voltage SPD - Cat C (< 10 m from device)		
<b>Shipping</b>			
Weight	1.2 kg	1.3 kg	1.3 kg
Customs Tariff	85354010	85354010	85354010