

## SDD - DINsafe Surge Diverter



### Distribution Board Surge Protection

Use DIN compliant SDD Surge Diverter for distribution boards or for point of entry protection in small industrial and domestic applications. Two layers of surge protection devices greatly improve the performance and reliability of the surge protection system.

### All Mode Protection

Protection is provided for all combinations of lines ensuring the maximum level of protection is achieved at all times.

### Thermal Sensing

Sustained overvoltages can cause components to overheat and degrade. Thermal sensing warns of this condition without disconnecting the protection.

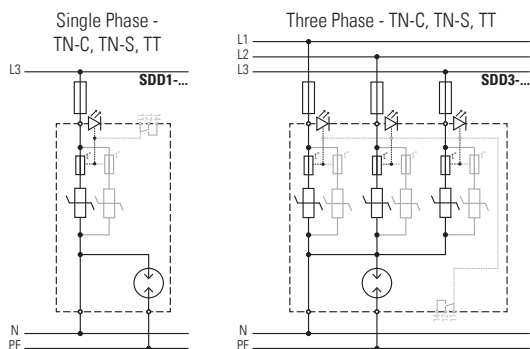
### LED Status Active Display

The LED display indicates phase status and normal operation when all LEDs are lit. An extinguished LED indicates a component failure or thermal overload, also initiating the optional external alarm.

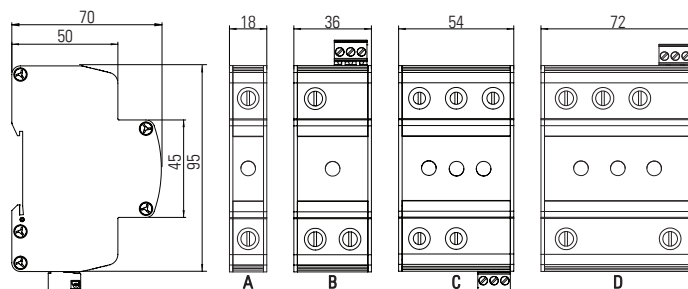
### Safe Metal Enclosure

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

### Diagram / Installation



### Dimensions



### Ordering Information

	Low exposure		Medium exposure		High Exposure	
	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
<b>Device Location</b>						
Domestic Main Switchboard	SDD1-50-275 / 320	SDD3-50-275 / 320	SDD1-100-275 / 320	SDD3-100-275 / 320	—	—
Distribution Board	SDD1-20-275 / 320	SDD3-20-275 / 320	SDD1-50-275 / 320	SDD3-50-275 / 320	SDD1-100-275 / 320	SDD3-100-275 / 320
<b>Options</b>	SDD1-20-275 / 320	SDD3-20-275 / 320	SDD1-50-275 / 320	SDD3-50-275 / 320	SDD1-100-275 / 320	SDD3-100-275 / 320
SPDT alarm contact	—	—	-A	-A	-A	-A
Polycarbonate enclosure	-P	-P	-P	-P	-P	-P

## Product Specifications

Model	SDD1-20-275 /320	SDD3-20-275 /320	SDD1-50-275 /320	SDD3-50-275 /320	SDD1-100-275/320	SDD3-100-275/320
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### Electrical Specifications

Connection type		Shunt	Shunt	Shunt	Shunt	Shunt	Shunt
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	3	1	3	1	3
Nominal voltage	$U_o$	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC
Short circuit withstand level	$I_{SCCR}$	25 kA	25 kA	25 kA	25 kA	25 kA	25 kA
Maximum backup fuse (gL/gG)		16 A	16 A	32 A	32 A	63 A	63 A

### L-N

Maximum continuous voltage	$U_c$	275 VAC	275 VAC	275 VAC	275 VAC	275 VAC	275 VAC
Maximum load current	$I_L$	–	–	–	–	–	–
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$	20 kA	20 kA	50 kA	50 kA	100 kA	100 kA
Lightning impulse current (10/350 $\mu$ s)	$I_{imp}$	–	–	3.25 kA	3.25 kA	6.5 kA	6.5 kA
Nominal discharge current (8/20 $\mu$ s)	$I_n$	10 kA	10 kA	20 kA	20 kA	40 kA	40 kA
Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$	< 800 V	< 800 V	< 800 V	< 800 V	< 800 V	< 800 V
Voltage protection level @ $I_n$	$U_p$	< 1200 V	< 1200 V	< 1400 V	< 1400 V	< 1800 V	< 1800 V
Response time	$t_A$	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns
Temporary overvoltage (TOV)	$U_T$	337 V / 5 s (Withstand) & 442 V / 120 min (Safe Failure)					

### N-PE

Maximum continuous voltage	$U_c$	255 VAC	255 VAC	255 VAC	255 VAC	255 VAC	255 VAC
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$	25 kA	25 kA	25 kA	25 kA	60 kA	60 kA
Lightning impulse current (10/350 $\mu$ s)	$I_{imp}$	–	–	–	–	–	–
Nominal discharge current (8/20 $\mu$ s)	$I_n$	10 kA	10 kA	10 kA	10 kA	50 kA	50 kA
Voltage protection level @ 1 kV/ $\mu$ s	$U_p$	< 1200 V	< 1200 V	< 1200 V	< 1200 V	< 700 V	< 700 V
Voltage protection level @ $I_n$	$U_p$	< 1500 V	< 1500 V	< 1500 V	< 1500 V	< 1300 V	< 1300 V
Response time	$t_A$	< 100 ns	< 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	$I_n$	100 A	100 A	100 A	100 A	100 A	100 A
Earth leakage current	$I_{PE}$	< 10 $\mu$ A	< 10 $\mu$ A	< 10 $\mu$ A	< 10 $\mu$ A	< 10 $\mu$ A	< 10 $\mu$ A

### Indication

Display		LED status per phase	LED status per phase
External alarm		–	Active alarm optional
Display / Alarm function		Power fail safe, thermal overload	Power fail safe, thermal overload, SPDT voltage free contact
Alarm isolation		–	4 kV

### Mechanical Specifications

Operating temperature		-40 to +70 °C	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C
Humidity Range		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>	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>	0.5 – 2.5 mm <sup>2</sup>
Terminal screw torque – power		2.0 Nm	2.0 Nm	2.0 Nm	2.0 Nm	2.0 Nm	2.0 Nm
Terminal screw torque – alarm		–	–	0.5 Nm	0.5 Nm	0.5 Nm	0.5 Nm
Environmental / Location		IP 20 / Indoor	IP 20 / Indoor	IP 20 / Indoor	IP 20 / Indoor	IP 20 / Indoor	IP 20 / Indoor
Dimensional Drawing		A	C	A (B with alarm)	C	B	D
Device width		18 mm	54 mm	18 mm (36 mm/alarm)	54 mm	36 mm	72 mm
Mounting		TS35 DIN rail	TS35 DIN rail	TS35 DIN rail	TS35 DIN rail	TS35 DIN rail	TS35 DIN rail
Enclosure / Colour		Metal / Black	Metal / Black	Metal / Black	Metal / Black	Metal / Black	Metal / Black

### Standards

IEC 61643-11:2011		SPD connected to low-voltage power systems - Type 2					
AS/NZS 1768:2007		A.C. power system SPD - Cat C, B					
UL 1449 3 <sup>rd</sup> edition		Low voltage SPD - Type 2					
IEEE 62.41.2:2002		Low voltage SPD - Cat B					