

MULTIMOV All Mode Surge Diverter



Main Switchboard (MSB) Surge Protection

Use MULTIMOV all mode high energy surge diverters for point of entry protection at main switchboards, especially where N-PE protection is required.

Features and benefits

All Mode Protection

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

Redundant Segments

MULTIMOV surge diverters feature a parallel redundant arrangement of high energy metal oxide varistors (MOVs), thus promoting long life and exceptional surge handling capacity. In the event of a varistor failure the remaining segments continue to provide protection.

Surge Current Fusing

Surge current fuses allow components to absorb maximum energy but in the event of a component failure the fuse will open to isolate the damaged component.

Thermal Sensing

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

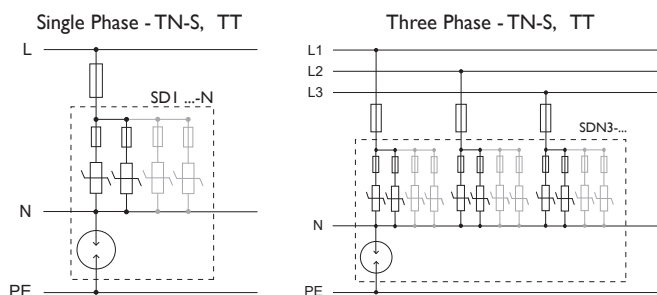
LED Status Active Display

The LED display indicates segment status and indicates normal operation when all LEDs are brightly lit. A dim LED phase segment indicates the failure of an external backup fuse and this will initiate the external alarm. An extinguished LED indicates a component failure or thermal overload, also initiating the external alarm.

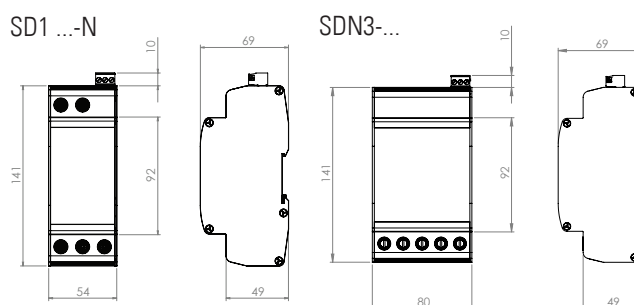
Safe Metal Enclosure

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.

Installation



Dimensions



Ordering Information

Lightning Protection Level (LPL)	IV: Low exposure		II, III: Medium exposure		I: High exposure	
	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase
Network Type						
Main Switchboard TN-S and TT	SD1-100-275-N	SDN3-100-275	SD1-150-275-N	SDN3-150-275	SD1-200-275-N	SDN3-200-275
Options						
Polycarbonate enclosure	-P	-P	-P	-P	-P	-P
Metal enclosure	-M	-M	-M	-M	-M	-M

Product Specifications

Model		SD1-100-275-N	SDN3-100-275	SD1-150-275-N	SDN3-150-275	SD1-200-275-N	SDN3-200-275
Electrical Specifications							
IEC 61643-11 Classification		Type 1 + 2	Type 1 + 2	Type 1 + 2	Type 1 + 2	Type 1 + 2	Type 1 + 2
AS/NZS 1768 Classification		Cat C, B	Cat C, B	Cat C, B	Cat C, B	Cat C, B	Cat C, B
Connection type		Shunt	Shunt	Shunt	Shunt	Shunt	Shunt
Modes of protection		L-N, N-PE	L-N, N-PE	L-N, N-PE	L-N, N-PE	L-N, N-PE	L-N, N-PE
Phases		1	3	1	3	1	3
Nominal voltage	U_o	230VAC	230VAC	230VAC	230VAC	230VAC	230VAC
Short circuit withstand level	I_{SCCR}	25kA	25kA	25kA	25kA	50kA	50kA
Maximum backup fuse (gG)		63A	63A	80A	80A	100A	100A
L-N							
Maximum continuous voltage	U_c	275VAC	275VAC	275VAC	275VAC	275VAC	275VAC
Maximum load current	I_L	–	–	–	–	–	–
Maximum voltage Drop (% of U0)	ΔU	–	–	–	–	–	–
3dB Frequency at 50Ω		–	–	–	–	–	–
Maximum discharge current (8/20μs)	I_{max}	100kA	100kA	150kA	150kA	200kA	200kA
Lightning impulse current (10/350μs)	I_{imp}	6.25kA	6.25kA	9.35kA	9.3kA	12.5kA	12.5kA
Nominal discharge current (8/20μs)	I_n	40kA	40kA	60kA	60kA	80kA	80kA
Voltage protection level @ 3kA	U_p	< 800V	< 800V	< 750V	< 750V	< 700V	< 700V
Voltage protection level @ I_n	U_p	< 1500V	< 1500V	< 1600V	< 1600V	< 1700V	< 1700V
Load side surge withstand (nominal)		–	–	–	–	–	–
Response time	t_A	< 25ns	< 25ns	< 25ns	< 25ns	< 25ns	< 25ns
Temporary overvoltage (TOV)	U_T	355V / 5 sec (Withstand)					
N-PE							
Maximum continuous voltage	U_c	255VAC	255VAC	255VAC	255VAC	255VAC	255VAC
Maximum discharge current (8/20μs)	I_{max}	80kA	80kA	150kA	150kA	150kA	150kA
Lightning impulse current (10/350μs)	I_{imp}	16kA	16kA	30kA	30kA	30kA	30kA
Nominal discharge current (8/20μs)	I_n	60kA	60kA	100kA	100kA	100kA	100kA
Voltage protection level @ 1kV/us	U_p	< 1200V	< 1200V	< 1200V	< 1200V	< 1200V	< 1200V
Response time	t_A	< 100ns	< 100ns	< 100ns	< 100ns	< 100ns	< 100ns
Temporary overvoltage (TOV)	U_T	1200V / 0,2 sec	1200V / 0,2 sec	1200V / 0,2 sec	1200V / 0,2 sec	1200V / 0,2 sec	1200V / 0,2 sec
Follow current interrupt rating	I_{fi}	100A	100A	100A	100A	100A	100A
Earth leakage current		< 10μA	< 10μA	< 10μA	< 10μA	< 10μA	< 10μA
Indication							
Display		Display % active	LED status per MOV	Display % active	LED status per MOV	Display % active	LED status per MOV
Phase fuse monitoring		Blank Display	Phase LED dimming	Blank Display	Phase LED dimming	Blank Display	Phase LED dimming
External alarm		Active alarm standard					
Display / Alarm function		Power fail safe, thermal overload, SPDT voltage free contact					
Alarm isolation		4kV					
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		1.5 – 16mm ²	1.5 – 16mm ²	1.5 – 16mm ²	1.5 – 16mm ²	1.5 – 16mm ²	1.5 – 16mm ²
Terminal capacity – alarms		0.5 – 2.5mm ²	0.5 – 2.5mm ²	0.5 – 2.5mm ²	0.5 – 2.5mm ²	0.5 – 2.5mm ²	0.5 – 2.5mm ²
Terminal screw torque – power		2.0Nm	2.0Nm	2.0Nm	2.0Nm	2.0Nm	2.0Nm
Terminal screw torque – alarm		0.5Nm	0.5Nm	0.5Nm	0.5Nm	0.5Nm	0.5Nm
Environmental / Location		IP 20 / Indoors	IP 20 / Indoors	IP 20 / Indoors	IP 20 / Indoors	IP 20 / Indoors	IP 20 / Indoors
Mounting		TS35 DIN rail / Panel mount					
Enclosure / Colour		Metal / Black					
Dimensions							
Width		54mm	80mm	54mm	80mm	54mm	80mm
Height		140mm	140mm	140mm	140mm	140mm	140mm
Depth		68mm	68mm	68mm	68mm	68mm	68mm
Shipping							
Weight		490g	650g	500g	725g	510g	800g
Customs Tariff		85363030	85363030	85363030	85363030	85363030	85363030

Safety

The overloading of Metal Oxide Varistors may result in package rupture and expulsion of hot material (ref. EPCOS MOV handbook). For this reason a varistor should be physically shielded from adjacent components eg. by a suitable metal case. MULTIMOV surge diverters are enclosed in all metal enclosures and circuit components are not wholly encapsulated.

Novaris has a policy of continuing product development, therefore specifications are subject to change without notice.
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