

MULTIMOV Surge Diverters



Main Switchboard (MSB) Surge Protection

Use MULTIMOV high energy surge diverters for point of entry protection at main switchboards. Models are available for all wiring systems worldwide.

Features and benefits

All Mode Protection

Models containing N-E protection (/N versions) feature 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.

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.

Percentage Active Display

A digital display confirms the device rating upon switch on then displays percentage active. The display indicates segments status and thermal overload.

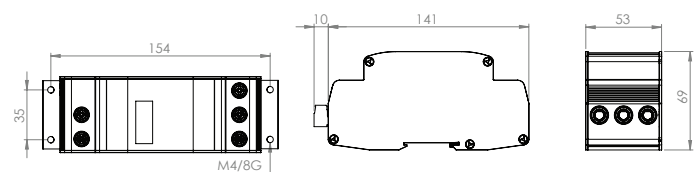
External Alarms

Models featuring external alarms have voltage free changeover contacts for remote status indication.

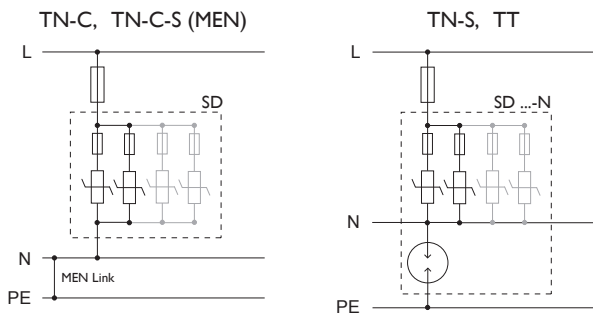
Safe Metal Enclosure

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.

Dimensions



Installation



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-C-S (MEN)	SD1-100-275	SD3-100-275	SD1-150-275	SD3-150-275	SD1-200-275	SD3-200-275
Main Switchboard TN-S and TT	SD1-100-275-N	SD3-100-275-N	SD1-150-275-N	SD3-150-275-N	SD1-200-275-N	SD3-200-275-N

Options

Polycarbonate enclosure	-P	-P	-P	-P	-P	-P
Metal enclosure	-M	-M	-M	-M	-M	-M

Product Specifications

Model		SD1-100-275	SD1-100-275-N	SD1-150-275	SD1-150-275-N	SD1-200-275	SD1-200-275-N
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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/NZS1768 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	L-N, N-PE	L-N	L-N, N-PE	L-N	L-N, N-PE
Phases		1	1	1	1	1	1
Nominal voltage	U_o	230VAC	230VAC	230VAC	230VAC	230VAC	230VAC
Short circuit withstand level	I_{SCCR}	25kA	25kA	25kA	25kA	25kA	25kA
Maximum backup fuse (gL/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 U_0)	ΔU	–	–	–	–	–	–
3dB Frequency at 50 Ω		–	–	–	–	–	–
Maximum discharge current (8/20 μ s)	I_{max}	100kA	100kA	150kA	150kA	200kA	200kA
Lightning impulse current (10/350 μ s)	I_{imp}	6.25kA	6.25kA	9.35kA	9.3kA	12.5kA	12.5kA
Nominal discharge current (8/20 μ s)	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	<1500V	<1500V	<1500V	<1500V
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
Maximum discharge current (8/20 μ s)	I_{max}	–	80kA	–	150kA	–	150kA
Lightning impulse current (10/350 μ s)	I_{imp}	–	16kA	–	30kA	–	30kA
Nominal discharge current (8/20 μ s)	I_n	–	60kA	–	100kA	–	100kA
Voltage protection level @ 1kV/us	U_p	–	<700V	–	<1200V	–	<1200V
Response time	t_A	–	< 100ns	–	< 100ns	–	< 100ns
Temporary overvoltage (TOV)	U_T	–	1200V / 0,2 sec	–	1200V / 0,2 sec	–	1200V / 0,2 sec
Follow current interrupt rating	I_{fi}	–	100A	–	100A	–	100A
Earth leakage current		–	<10 μ A	–	<10 μ A	–	<10 μ A

Indication

Display		Digital display of % active					
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	54mm	54mm	54mm	54mm	54mm
Height		140mm	140mm	140mm	140mm	140mm	140mm
Depth		68mm	68mm	68mm	68mm	68mm	68mm

Shipping

Weight		500g	500g	500g	500g	500g	500g
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.

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