Novaris

MULTIMOV Surge Diverters Installation Instructions

IMPORTANT: Please read these instructions carefully. Whilst straightforward, the installation of these devices is critical to their performance. Installation must be performed by a suitably qualified person in accordance with applicable wiring standards.

1. Introduction

1.1 These installation instructions apply to the Novaris MULTIMOV range of surge diverters.

Cat No: SDx-xxx / x

	1 2 3	
1	Number of Phases	1, 3
2	Surge Rating	80, 120, 160, 200
3	Options	/N N-E Protection, non MEN
		/E Metal Enslosure
		/P Polycarbonate Enclosure

1.2 These products are surge diverters, generally installed at main switchboards and distribution boards.

They provide all-mode protection, which is essential for installations where the neutral conductor is not earthed. This includes main switchboards in non-MEN systems and distribution boards in all systems. Single mode protectors should not be used in these locations.

Figure 1: SD3-40N & SD1-40N

2. Before Installation

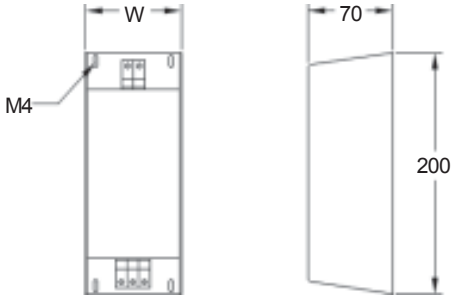
2.1 Ensure that the supply voltage is within the working range of the unit:

Single phase: 200 → 280 VAC RMS line-to-neutral

Three phase: 346 → 485 VAC RMS line-to-line

2.2 Ensure that the voltage between neutral and earth is less than 10 VAC RMS. If it is not, the installation is unsafe.

2.3 Turn the power off before beginning the installation.



Cat No.	Width, W (mm)
SD1-40N	60
SD1-80N	80
SD3-40N	80
SD3-80N	105

Figure 3: Dimensions of SDx-xxN

3. Installation

3.1 Wiring: Surge diverters are connected in parallel (Figure 4).

Both neutral and earth must be connected.

All connections must be correct. For example, if the line and neutral connections are accidentally switched the surge diverter will be damaged.

3.2 Point of Connection: The unit should be connected on the load side of the incoming isolator as shown in Figure 5, or on the first outgoing way (the outgoing way nearest to the incoming isolator) as shown in Figure 6.

Units should be installed on the **line side of earth leakage circuit breakers** (Figure 5). Failure to do so may encourage nuisance tripping.

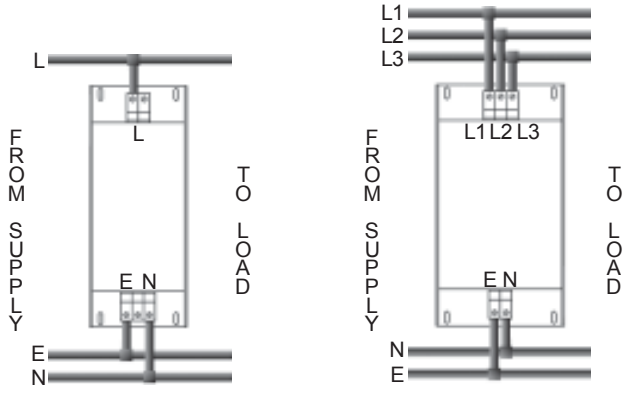


Figure 4: Wiring for single phase & three phase installations

3.3 Mounting: The unit should be positioned such that connecting leads can be made as short as possible. This means mounting the unit as close to the point of connection as possible. It may also mean that the unit is installed upside down or on its side.

If the unit is to be positioned external to the switchboard it should be mounted in an enclosure (Figure 6). Suitable polycarbonate enclosures are available from Novaris Technologies.

MULTIMOV surge diverters can be either panel mounted by the existing M4 screw slots or DIN rail mounted using their integral clips.

3.4 Isolation: For distribution boards greater than 63A and all main switchboards, the unit must be isolated by a circuit breaker or HRC fuse (Figure 6). Isolation is not essential for distribution boards that are protected by a circuit breaker or fuse of 63A or less at the main switchboard (Figure 5).

AS1768-1991 Location	Area 1 Cat A	Area 2 Cat B	Area 3 Cat C	Area 4 Cat C
HRC fuse rating	20A	20A	63A	100A
CB rating	20A	20A	32A	63A

Table 1: HRC fuse and CB recommendations

3.5 Connecting Leads: The terminals of the surge diverters have a capacity of 16mm^2. Multistranded conductor of at least 6mm^2 should be used. Ensure that the leads are capable of handling the rated current of the installation or HRC fuse or circuit breaker where present.

For optimum performance the inductance of connections must be minimised. Leads should be kept together (in a cable for example) for as much of their length as possible. **All lead lengths must be kept as short as possible.**

3.6 External Alarm: All MULTIMOV surge diveters are fitted with external alarms (voltage free changeover contacts) for remote monitoring of unit status. The terminals have a capacity of 2.5mm^2 and are configured as follows (refer to Figure 7):

NC = Normally Closed: Closed under fault conditions or when power is off, otherwise open

NO = Normally Open: Open under fault conditions or when power is off, otherwise closed

C = Common

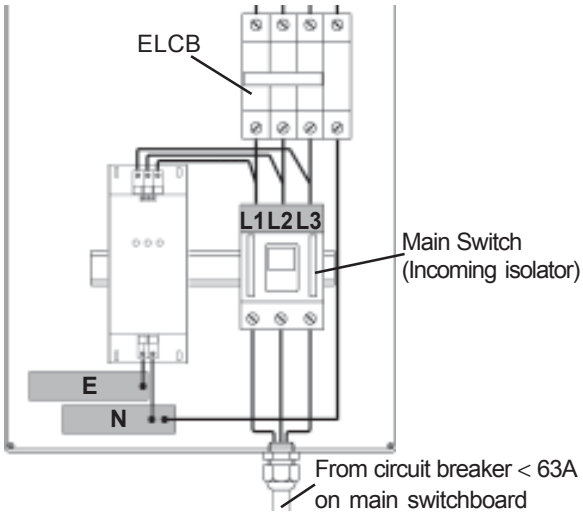


Figure 5: Installation at a distribution board

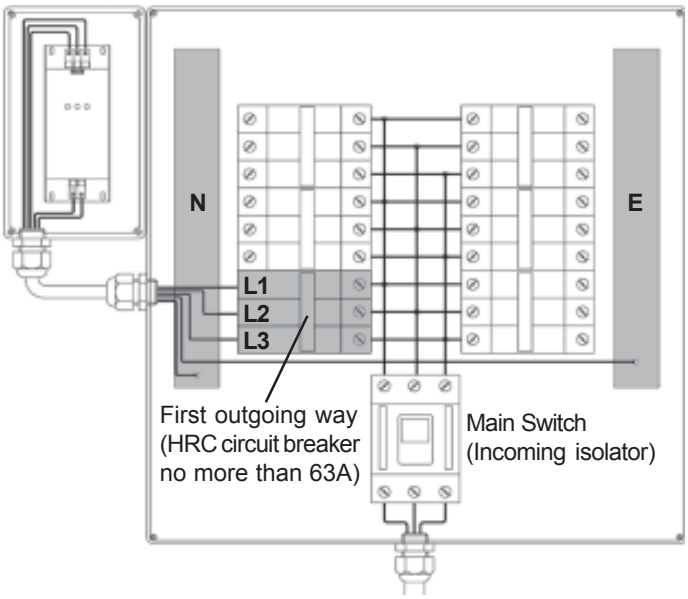


Figure 6: Installation at a main switchboard

Figure 7: Alarm contacts:
(a) when power is on and unit is okay
(b) under fault conditions OR when power is off

4. After Installation

4.1 Check the installation by switching the power on and observing the indicating LEDs on the unit. If the installation has been successful, all LEDs will be lit.

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