

Connecting Cables

Connect the base and suppressor as shown in the installation diagram. Connect the terminals within the base to the load side of 63A (max) isolation/protection breakers either within the panel or separately housed.

Recommended Wire Gauge

Minimum 16mm²

Terminals accept 35mm² max.

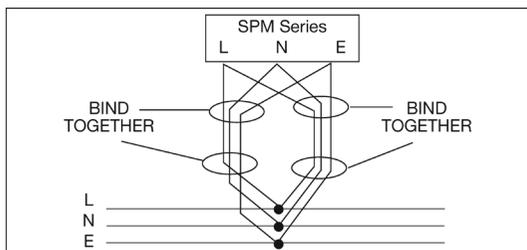
Standards

BS6651:1999 Annex C

EN 61643-11: 2002 - SPD Class II

Length of Connecting Cables

The longer the connecting cables between the SPM Series and power panel, the higher the residual transient voltage developed. Each 250mm cable length increases clamping voltage by approximately 25v per 1000A surge current discharged. 250mm (10") recommended. Where applicable bind the phase, neutral and earth conductors tightly, over the entire run from the SPM Series to the service panel to reduce inductive effect. Always use the shortest length of connecting cable possible. Connecting cable can be run as parallel pairs of smaller c.s.a cables. When pairing conductors they should be bundled as before but separated and routed as pairs although terminated at the same points.



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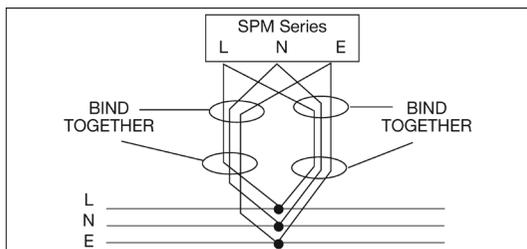
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Maintenance

At intervals not exceeding a year or following lightning activity check:

1. Status indicators.
2. Conditions of connecting cables and terminals.
3. Tightness of module.

Module Replacement

Warning: Before replacing modules if live terminals have not been safely isolated, ensure that the AC supply has been disconnected.

Firmly grip either side of the module requiring replacement and pull outwards.

Warning: Replace the defective module with a module having the same colour label and voltage rating.

Installation of the replacement module is the reverse of the above procedure.

Final step, check that all the cable connections are secure and screws are tightened (if supply is isolated).

Note: No customer serviceable parts inside. Opening module will void warranty.

The information contained in these instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, PD Devices has no control over the field conditions which influence product installation. It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. PD Devices' only obligations are those in PD Devices' standard Conditions of Sale for this product and in no case will PD Devices be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products.

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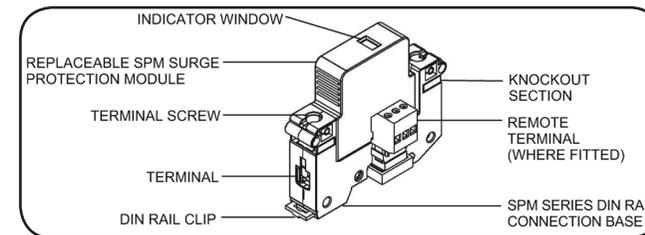
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Plug-In Surge Protection Modules and Bases

SPM Series



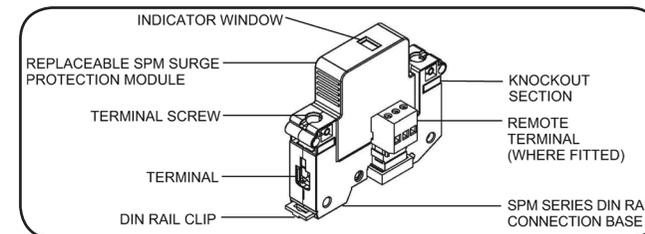
Transient Voltage Surge Suppressor

Installation Instructions



Plug-In Surge Protection Modules and Bases

SPM Series



Transient Voltage Surge Suppressor

Installation Instructions



Description and Operation

The SPM series is a modular DIN rail mounted (standard top hat) surge protection device, ideally suited for incoming mains supplies*, comprising 2 parts - connecting base and plug in protection module.

*Designed to protect mains power connections only. The base once mounted offers a convenient and permanent means of connecting cables to a single or three phase system, with the ease of fitting/retrofitting surge protection modules. Status indication is standard on all modules, and a remote indication feature via a normally open or normally closed volt free contact is available for central monitoring or alarm applications. The SPM protectors are connected in parallel ("shunt") across the mains supply lines to be protected, and therefore do not carry the continuous supply current but only that associated with suppressing the transient over voltage.

Installation

SPM SERIES MOUNTING BASE

IMPORTANT The mounting base of the SPM series should only be installed by an electrician or other suitably qualified personnel. Ensure power to proposed supply is switched off before any installation work is undertaken. This equipment must be used within the stated supply voltage limits, and in accordance with the installation recommendations and local regulations. It is recommended that SPM series surge protectors are installed on the load side of a MCCB - type C or a fuse disconnector 63A max, to provide isolation for maintenance if required and for protection in high load circuits. Spare ways on supply panel can be used for this purpose.

Each module is internally fused for both thermal and over current protection and will discriminate with the supply MCCB or fuse rated at 63 Amps max. Connecting bases are supplied as single units or multiples, depending on the number of poles to be protected, and are fitted with terminals suitable for insulated cables 16mm² - 35mm². It should be noted that the two slots for the plug in module are different widths, the widest one being aligned with the top of the module in the direction of text so that reading of the module label is facilitated. However, the module is not polarised and therefore the base and the module can be mounted in any orientation.

If the bases are supplied with remote indication assemblies, they should be orientated to facilitate connection to the screw terminals provided. The connector provides volt-free terminals and can be connected N/O or N/C*. The status of these remote indicator connections change if any of the protection fuses operate.

*Remote status when all modules are plugged into the base.

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Connector legend is as follows:

C - Common. 1 - Normally closed. 2 - Normally open.

Note: Remote cabling should be run separately from the AC mains to avoid electrical 'pick-up'. Once clipped to the DIN rail the insulated connecting cables can be stripped back to the appropriate length as indicated on the side of the moulding, and the stripped end inserted into the terminal once the clamp screw has been loosened. Re-tighten the terminal screw to ensure a positive clamp.

Bases are supplied with knockout sections between the terminal screws to facilitate the fitting of a commoning bar, should modules be connected in parallel either as multiples per pole or as a common neutral or earth.

MODULES

Status indication is via a two colour moving flag showing through the window within the housing label; Green - Full Protection Red - No Protection
Part of this moving flag protrudes through the underside of the moulding in order to operate the remote indication micro switch. Do not apply force or try to move this plastic section as doing so could damage the unit and prevent the internal fuse from operating under fault conditions.

Surge protection modules are available in two different technologies: SAD - Silicon Avalanche Diode - 6kA max. MOV - Metal Oxide Varistor - 40kA max. All types are notated by the colour of the rating label so that they are easily identifiable should replacement become necessary. All modules are simply plugged into the base, noting the orientation of the pins, so allowing operation of the status indicating and remote monitoring feature. Neither of these two features is affected by the mounting orientation of the base/module. SPM Series replaceable surge protection modules are simply plugged into SPM base units. Provided the live terminals of the base unit have been adequately and safely isolated, modules and replacement modules can be fitted without the need to call on the services of an electrician. Ensure the module is fully pushed home.

Mounting

The SPM surge protection modules should be mounted as close to the panel or equipment to be protected as possible. The effectiveness of the protector will be reduced by the use of long connecting cables as the voltage across the unit will be increased due to the inductance of these cables. Refer to section on 'length of connecting cables'.

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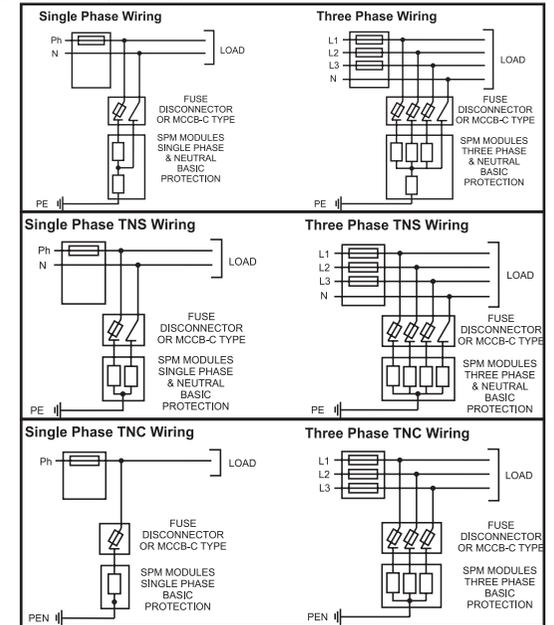
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Identification of the Network

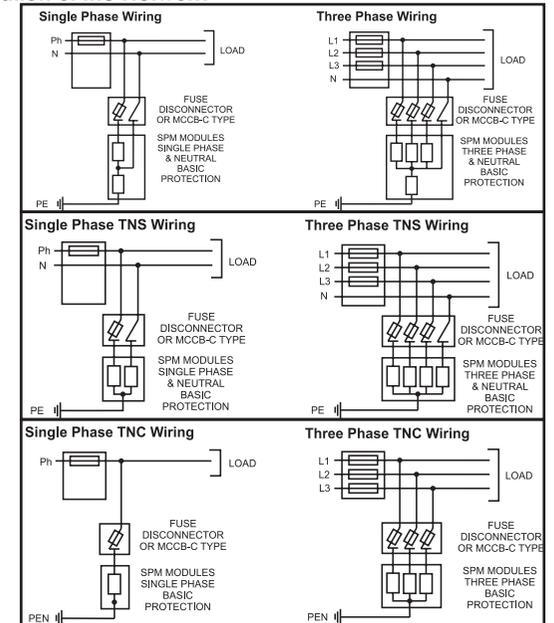


Additional information

- TNC wiring: the neutral conductor and the protective conductor merge into one (PEN) conductor.

- TNS wiring: the neutral conductor and the earth conductor are separated.

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