

# SPA102

## Type 2/3 Class II/III

### Single Phase Surge Arrester



The **SPA102** is a Type 2/3 surge arrester (BS EN 61643-11), suitable for use at the boundary of Lightning Protection Zones 1-2 (BS EN 62305). The protector provides an economical means of preventing damage to electrical installations from induced voltage transients caused by switching or nearby lightning strikes.

The SPA102 unit provides three mode system protection from mainsborne voltage spikes and surges that can occur between phase and neutral, phase and earth, neutral and earth and additionally phase to phase for the three phase model.

This protection is achieved by using high energy elements which absorb or redirect incoming mainsborne transients. This unit has two stages of protection, the status of which is clearly indicated by lights incorporated in the front panel, thus ensuring continuity of protection by allowing time for replacement once the first stage has ceased to protect.

#### Installation

Designed to be quickly and easily installed either alongside the incoming electrical supply or sub-distribution panels, the unit is connected in parallel with the mains supply, thus eliminating complicated by-pass wiring associated with series suppressors. Connected in this manner the SPA102 thereby carries only the current associated with the transient being discharged.

By connecting the SPA102 ahead of a RCD the incidence of nuisance tripping may be reduced. The unit is suitable for direct connection to a line rated up to 60 Amps but can be connected via 60 Amp series fuses (BS HD 60269-2:2010, BS 88-2:2010) for lines up to 100 Amps (*If MCBs are used in place of fuses they should be of type C*).

Since the SPA102 should be installed as close as possible to the distribution panel the half metre cable supplied should be reduced in length if possible and as appropriate. The SPA102 unit may be installed at any angle to achieve minimum cable length, so the cable entry may be at the top, bottom, right or left of the housing.

#### Operation

The SPA102 will automatically reset after clamping surges up to the required 10kA level and the Green light(s) indicates that full protection is present. However, after clamping a number of 10kA surges the energy handling capability of the unit's first stage may be exceeded causing the SPA102's internal fuses to operate thus safely disconnecting this stage.

The red light(s) will then also be illuminated and, whilst the system will still be adequately protected, the unit should be replaced before a further large surge can remove the second protection stage. There is no protection present when only the Red light(s) is illuminated, but unprotected mains power will still be supplied to the system.

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Information subject to change without notice.

All of the above information, including drawings, illustrations and graphic designs, reflects our present understanding and is to the best of our knowledge and belief correct and reliable. Users, however, should independently evaluate the suitability of each product for the desired application.



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#### Let Through Voltage

The let-through voltage of the SPA102, including 0.5 metre of cable, is less than 900 volts in all modes when tested at 6kV 1.2/50µs o/c 3kA 8/20µs s/c

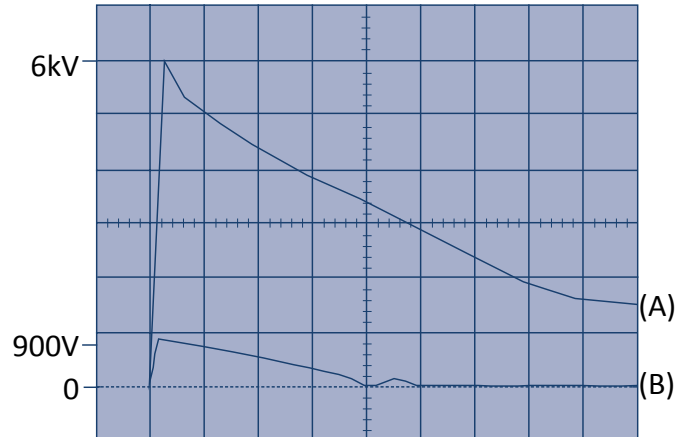
#### Maintenance

The unit requires no maintenance other than a routine examination of the status of the lights and replacement if required.

#### Safety

The SPA102 unit includes internal fuses to ensure that suppression components are adequately protected in the event of violent electrical discharge.

Example of SPA102 Voltage Clamping



Specifications	Single Phase
Voltage rating (Nominal)	230V rms
Maximum Operating voltage	300V rms
Maximum current rating	Unlimited (Parallel Connection)
Maximum surge current handling (8/20 µs)	10 kA
Response time	<10 ns
Power consumption	Negligible
Leakage current	0.15 mA
Cable Supplied (0.5 m)	3 Core
	2.5mm <sup>2</sup>
Operating temperature	-40° to +70° Celcius
Indicator Lights	Green - Full Protection
	Red & Green - Reduced Protection
	Red - No Protection
Case	Powder Coated Mild Steel
IP Rating	54
Type according to BS EN 61643-11	2
Dimensions (in mm)	
L:	182
W:	81
D:	61
Weight (in grams)	900
<b>Part Code</b>	<b>SPA102</b>

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