

## 6651C Surge Protector



Single Phase 206-7459

Three Phase 206-7465

The 6651C unit is a Type 2 surge protector (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 6651C 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. Every unit has two stages of protection, the status of which are 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 6651C thereby carries only the current associated with the transient being discharged.

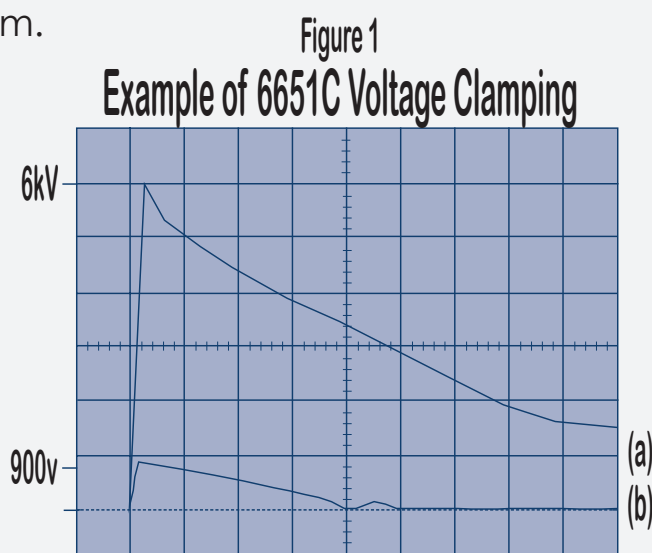
By connecting the 6651C ahead of a RCD the incidence of nuisance tripping may be reduced. The unit is suitable for direct connection to a line rated up to 60 Amps but can be connected via 60 Amp series fuses (BS HD 60269-2:2010, BS 88-2:2010) for lines up to 100 Amps (If MCBs are used in place of fuses they should be of type C). Since the 6651C 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 6651C 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 6651C 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 6651C'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.

### Let Through Voltage

The let-through voltage of the 6651C, 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 6651C unit includes internal fuses to ensure that suppression components are adequately protected in the event of violent electrical discharge.

Specification	Single Phase	Three Phase
	 <b>206-7459</b> 	 <b>206-7465</b> 
<b>Voltage rating (Nominal)</b>	230V rms	400V rms
<b>Maximum Operating voltage</b>	300V rms	L-N 300 V rms L-L 500 V rms
<b>Maximum current rating</b>	Unlimited (Parallel Connection)	Unlimited (Parallel Connection)
<b>Maximum surge current handling (8/20 <math>\mu</math>s)</b>	10 kA	10 kA
<b>Response time</b>	<10 ns	<10 ns
<b>Power consumption</b>	Negligible	Negligible
<b>Leakage current</b>	0.15 mA	0.40 mA
<b>Cable Supplied (0.5 m)</b>	3 Core 2.5mm <sup>2</sup>	5 Core 2.5mm <sup>2</sup>
<b>Operating temperature</b>	-40° to +70° Celcius	-40° to +70° Celcius
<b>Indicator Lights</b>	Green - Full Protection Red & Green - Reduced Protection Red - No Protection	Green - Full Protection Red & Green - Reduced Protection Red - No Protection
<b>Case</b>	Powder Coated Mild Steel	Powder Coated Mild Steel
<b>IP Rating</b>	54	54
<b>Type according to BS EN 61643-11</b>	2	2
<b>Dimensions (in mm)</b>		
<b>L</b>	182	182
<b>W</b>	81	81
<b>D</b>	61	61
<b>Weight (in grams)</b>	900	1100
<b>Manufacturers Part Code</b>	RS-6651C/1	RS-6651C/3
<b>RS Part Code</b>	206-7459	206-7465