

There are still a lot of installers who are unaware fire isolator switch a legal requirement to ensure all new fire alarm systems in the UK are fitted with a mains isolator switch to addition meets the requirements of the BS5839 Part 1 standard.



Ideally the supply should not be protected by a residual current device unless necessary to comply with the requirements of BS 7671. If this is the case then it should not be capable of isolating the mains supply to the fire alarm systems.

For reasons of electrical safety the mains supply to the fire alarm panel via a separate circuit breaker taken from the load side of the building's main isolating device and should be hard wired, using suitable three core cable (no less than 0.75mm<sup>2</sup> and no more than 2.5mm<sup>2</sup> ) or a suitable three conductor system that meets the appropriate national wiring regulations.

The panel should be fed from an isolating switched double pole fused restricted by key operation spur, supplied directly from the local main distribution board and should be fused at 3A.

This circuit breaker can incorporate a switch if necessary but in either event should be labelled 'FIRE ALARMS – DO NOT SWITCH OFF' – this supply should only be for the sole purpose of the fire alarm system (this dose not include suppling other equipment like nurse call systems and access control alike) fire alarm fused spur uint the fire isolating device and should be inaccessible to unauthorised persons or be protected against unauthorised operation by persons without a special tool

## Inspection and Testing of Wiring

Prior to any equipment being connected, all installed cables should be subject to a 500V dc insulation test. These tests should show an insulation value of at least 2Mohm between conductors and between each conductor and screen or earth.

Earth continuity tests should be carried out on all mains supply circuits as well as an earth loop impedance in accordance with BS 7671.

The maximum impedance of each loop or radial circuit should be recorded to ensure it meets the manufacturers recommendations.

The fire alarm panel mains supply will need to be wired in fire rated cabling. Fire detection and fire alarm systems are covered by BS5839-1:2017. The fire alarm panel mains supply is considered to be part of the fire alarm system.

The mains supply must be **exclusive** to the fire panel.

As an alternative to a switched fused spur, isolating device may be used (see diagram)

The Fire isolator Switch provides a secure method of isolating the mains supply feeding a fire system control panel and is crucial for fire system maintenance. The supply can only be isolated by an authorised person, by means of a key lock switch and switching is restricted by key operation. The key is removable in both ON and OFF positions and without the key, a tool is needed to disconnect the power.

A neon indicator indicates mains present at the switched output. Bold red, durable casing ensures easy visual identification. The unit comes in a complete enclosure – a standard single gang format with preformed holes for mounting on a surface or 20mm conduit box.

BS 5839 Part 1 Fire detection and fire alarm systems for buildings – Part 1: Code of practice for design, installation, commissioning and maintenance of systems is a standard published by the British Standards Institution.

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BS 5839 Part 1 Fire detection and fire alarm systems for buildings – Part 1: Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises – is published by the BSI.

A new supply to a fire alarm panel is to be installed in commercial property that is being renovated. Is this a protected power circuit to an essential service.