GUIDANCE ON ARC FAULT DETECTION

COMING SOON

TYPE B & C AFR DEVICES

Proteus offer a range of combined Arc Fault Detection (AFD) and Residual Current Circuit Breaker with Overload (RCBO) devices in both Type B and C curve with 30mA earth leakage. The 2 module device is designed to fit single and three phase distribution boards without the need to modify the bus bar fixing.

**CURRENT RATING (A)** | **KA RATING** | **TYPE B CAT. NO.** | **TYPE C CAT. NO.**
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6 | 6 | AFR06B | AFR06C
10 | 6 | AFR10B | AFR10C
16 | 6 | AFR16B | AFR16C
20 | 6 | AFR20B | AFR20C
25 | 6 | AFR25B | AFR25C
32 | 6 | AFR32B | AFR32C
40 | 4.5 | AFR40B | AFR40C

**WHAT'S NEW**

Proteus offer a range of combined Arc Fault Detection (AFD) and Residual Current Circuit Breaker with Overload (RCBO) devices in both Type B and C curve with 30mA earth leakage. The 2 module device is designed to fit single and three phase distribution boards without the need to modify the bus bar fixing.

**NEW REG:**

**Regulation 421.1.7**

Arc fault detection devices conforming to BS EN 62606 are recommended as a means of providing additional protection against fire caused by arc faults in AC final circuits.

If used, an AFDD **shall** be placed at the origin of the circuit to be protected.

Note: Examples of where such devices can be used include:
- Premises with sleeping accommodation
- Locations with a risk of fire due to the nature of processed or stored materials, i.e. BE2 locations (e.g. barns, wood working shops, stores of combustible materials)
- Locations with combustible construction materials, i.e. CA2 locations (e.g. wooden buildings)
- Fire propagating structures, i.e. CB2 locations
- Locations with endangering of irreplaceable goods

**Regulation 532.6**

Where specified, arc fault detection devices **shall** be installed

(i) At the origin of the circuit intended to be protected, and

(ii) In AC single-phase circuits not exceeding 230V.

AFDDs shall comply with BS EN 62606. Coordination of AFDDs with overcurrent protective devices, if necessary, shall take account of the manufacturer’s instructions.

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An arc-fault occurs when loose or corroded connections make intermittent contact and causes sparking or arcing between the connections. This translates into heat, which will break down the insulations of the wire and potentially trigger for an electrical fire. Such arc’s can range in power and vary a great deal in strength and duration. Potential causes of arc faults could include:

**WHAT IS AN ARC FAULT?**

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**WHAT IS AN AFDD?**

Arc Fault Detection Devices use digital electronics to analyse the waveform of an A.C. circuit to detect arc faults. The device continuously monitors the circuit for different variations including the duration of an arc and the waveform. Once the device detects an irregular fault the device trips and disconnects the circuit, reducing the chance of it over heating and potentially causing an electrical fire.

**WHAT IS AN AFR?**

The Proteus AFR is an arc fault detection device combined with short circuit, overload and earth leakage detection.

With the introduction of the 18th Edition Wiring Regulations and a greater emphasis on additional protection against fire, Proteus Switchgear has introduced a range of combined Arc Fault Detection Devices (AFDDs) with integral Short Circuit, Overload and Earth Leakage protection (RCBOs) offering complete circuit protection.

**ACCIDENTAL DWELLING FIRES**

7,727 accidental fires were recorded in ‘electrical distribution’ April 16 - Mar 17 in England alone.

**SOURCE OF IGNITION**

Of these, 5,574 had wiring, cables and plugs recorded as the source of ignition

There were also 3,442 domestic appliance fires, with 9,603 fires attributed to faulty appliances and leads