

Merseyside Fire & Rescue Service Automatic Fire Alarms Protocol

Double Knock System Definition

Merseyside Fire and Rescue Service (MF&RS) introduced a new protocol for responding to Automatic Fire Alarms (AFAs) which went live at 07:30 hours on 1st November 2012. This new protocol sets out criteria in respect of those alarm calls to which MF&RS will no longer continue to send a full emergency response. This criterion exempts Double Knock systems that meet the definition detailed below:

There are many varied interpretations for 'Double Knock' systems across the fire safety industry, for the purposes of exemption under the new protocol for responding to AFAs, **MF&RS will only recognise 'Double Knock' systems that it have been inspected by a Fire Protection Officer and confirmed as meeting the criterion in this document.**

MF&RS considers a 'double-knock' fire alarm system as one where a signal is not sent to the fire service from the AFA until there have been two notifications received by the system, for example:

- One detector activating sounds a local alarm only; followed by,
- A second device (for example a detector / fixed installation / call point) activating which then routes a fire signal through to the Fire Alarm Monitoring Organisation (FAMO) or generates an immediate 999 call.

In setting these criteria MFRS make reference to the following sections of BS 5839 pt 1:

Where speed of response is important in an environment in which false alarms might result from the type of fire detection that is desirable, multi-sensor fire detectors or a system incorporating coincidence detection can enable early detection of fire without an unacceptable rate of false alarms.

In some systems there may be significant potential for reduction of false alarms by the use of coincidence detection.

A form of filtering involves the use of a staff alarm arrangement (see 5839 Clause 19). This permits an investigation period following activation of an automatic fire detector, prior to operation of fire alarm sounders. Staff alarms that incorporate such an investigation period are now quite common in large, complex and well-managed buildings that are protected by a high number of smoke detectors. The staff alarm arrangement may apply at all times or only at certain times of the day, such as normal working hours; in this case, the system is also a time-related system.

It is common for a staff alarm to be changed automatically to an audible alarm if a second automatic fire detector operates. This is commonly referred to as coincidence operation. A staff alarm signal should automatically change to an audible fire warning in at least the relevant alarm zone after a pre-set period, unless manual intervention to stop the associated timer occurs at the control equipment. The period should be agreed with all relevant enforcing authorities, including MF&RS, but should be sufficient to enable staff to investigate the initial alarm signal; the period should not normally exceed six minutes.

Double Knock System Flow Chart

