ZETTLER

The benefits of installing
MZX Technology into a
Residential Care home

// Overview:

The Requirements for installing a suitable fire detection and alarm system within a Residential Care Home would be similar to those for a small hospital. The system would normally need to cover all escape routes and adjacent areas, where if fire broke out it could have an effect on those escape routes. Other high risk areas such as plant rooms, switch rooms and kitchens might also contain detectors. Most bedrooms should contain some form of fire detection as a likely scenario would be a fire starting in a bedroom from a discarded cigarette or an electrical appliance such as kettle.

The reliability of the system is paramount as its primary function is to protect life. Unlike most building whose occupants are of sound mind and body, this is not always the case in residential care premises and this should be taken into account when designing the system. Disruption can be stressful to residents and it is therefore vital that the chosen system provides effective cover, performs reliably, and gives the maximum possible warning in the event of fire, given the additional difficulties in evacuating residents to safety.

The MZX fire detection and alarm system is a complete system from a single manufacturer designed to provide optimum performance at all times. Some of the systems key features are highlighted below.

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// Risk:
Are standard optical smoke detectors sensitive enough to fires in this type of premise where in some cases the residents are old and frail to start with. Often and long before the smoke the first effect of fire is toxic gas.

Most of the furnishings in a residential home will be contain carbon. When these materials are involved in a slow smouldering fire Carbon Monoxide is released. The combustion gas is highly toxic, odourless and colourless and poses a major threat to a person sleeping. Long before there are any visible signs, toxic gas levels can reach dangerously high levels. In older and frailer people the threat to life is exacerbated.

// Solution:

By installing the **850PC mutisensor** in each bedroom, protection is afforded to the highest level from the emissions from a fire of Heat, Smoke and Carbon Monoxide. These three detection elements combine to provide a highly sensitive detector which although classed as an optical smoke detector increases its sensitivity in a fire where there is a presence of Carbon Monoxide. This enables the detector to operate in most cases much faster than a standard optical smoke detector enabling the occupant of the room to be rescued earlier and suffering less from the effects of smoke/toxic gas inhalation.

// Risk:
High level fire alarm sounders can initiate panic in older and less mobile people. In some cases operating alarm sounders at the specified level for a fire warning system, can do more harm than good.

There are times when vulnerable occupants within a building are at risk but sounding a high level warning will just cause distress. In such cases discreet alarms in staff areas or a mix of high and low level sounders throughout are required in order to provide an acceptable solution.

// Solution:

By specifying and installing an **MZX technology** system, sounders and beacons can be combined within a single unit in both the **Loop powered Symphony** range of wall mounted units and the **Minerva®MZX AV Sounder Beacon Base**. Sounders and beacons are addressed which means although installed on the same cables they can be programmed, when to operate and at what volume. Volume is set in software so some sounders can be set at lower levels than others, or even turned off leaving only the flashing beacon operating. This allows the designer to be flexible in his design whilst the installer and user do not incur extra costs for wiring of additional sounder circuits. All loop powered sounders incorporate integral short circuit isolators providing the maximum integrity.

// Risk:
What happens if the system is activated accidentally operating a manual call point, or some unusual occurrence close to a sensor, or someone smoking a cigarette under a sensor? This is still referred to as an unwanted alarm.

The incident, whilst not really being a malfunction can still cause the same amount of disruption as that of a genuine alarm. To avoid unnecessary disruption to residents, incidents will often be investigated before evacuation takes place. When taking this course of action speed is of the essence as delays will undoubtedly increase the risk to all occupants.

// Solution:

Any investigation needs to be carried out quickly and under strict controls ensuring that time limits are in place and if exceeded, the system will automatically sound a full evacuation alarm. MZX provides essential components to ensure a quick and accurate investigation of an alarm from a detector. Every MZX control panel has **an investigate delay programme** ensuring that a procedure is followed within those time constraints. **MZX technology will ensure that in the unlikely event of unwanted alarms, disruption is minimised.**

// Risk:
Fire Doors in a building such as a residential home are a vital part of the life safety aspect of any fire strategy.

Smoke can spread quickly to essential escape routes such as corridors and stairwells restricting access and denying occupants safe escape from the building; fire door monitoring is therefore important. Is the door capable of closing, are all parts of the necessary linkage from detector to release device connected, powered and free from fault. The simplest way of providing a link between the detector, trigger device, and the door is via a relay. The relay however is a simple device; it needs an instruction before it can operate. How sure can you be that it will work when called upon to do so?

// Solution:

By specifying and installing an MZX system, fire doors will be connected to a **TSM800 Door control module.** The TSM800 is designed especially for fire doors. It has a self-monitoring system that monitors communication with the control panel and detects the presence of the line voltage. It also monitors the essential secondary supply that feeds the door hold magnet. The system will detect isolations as well as faults ensuring that no part of this essential linkage is isolated without knowing. If a fault or isolation is detected the module will release the door to its closed position thereby ensuring that if a fire were to break out during this not normal status, the door is already closed ensuring exit routes are kept free from smoke at all times.

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