ZETTLER

The benefits of installing
MZX Technology into a Shopping mall

// Overview:

The Requirements for installing a suitable fire detection and alarm system within a Shopping mall should ensure the earliest possible warning of fire enabling all occupants to escape safely. A customised design to suit the building layout and covering high risk areas should form part of an overall fire engineering solution. Detection of fire within shops and malls is generally not difficult but areas such as atria can be challenging due to their height and construction.

Shopping centres can be extensive and cover many 000's of square metres. Systems generally have to be networked and share their information with other third party systems.

The **MZX** fire detection and alarm offers a wide range of systems that either connect directly or interface to the addressable digital loop, offering a broad spectrum of solutions to meet these challenges. Some of the systems key features are highlighted below.

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// Risk: Atria can be difficult areas where fire detection is concerned. Usually of glass construction allowing in sunlight and often the highest part of the shopping centre mall; making it difficult for access for servicing equipment.

Early detection of smoke in a mall is essential, therefore atria, being the highest point cannot be ignored. The problem then is, what can be installed that will not be affected by direct or reflected sunlight, will detect the presence of smoke early, and can be easily maintained.

// Solution:

The OSID (Open Area Smoke Imaging Detector) and Universal Fire and gas Detection Module, DDM800, combine to allow direct connection to the addressable loop ; of the unique dual light frequency (UV & IR) optical beam type smoke detector. The OSID is immune to sunlight, dust and insects. The coverage can be likened to that of a CCTV camera, as a range of imagers are available for wide medium and narrow angle coverage. The imager sees the transmitted beam, from up to 7 emitters, as an array of pixels which also gives the detector immunity from building movement of up to 8°. The OSID requires minimum maintenance as the emitters are maintenance free and the single imager needs only to be kept free from dust and dirt. Installation is simple and low cost, and there are tools available to make initial alignment quick and easy.
Whatever the size and shape of the atrium the OSID is ideal. The system is approved to EN54-12 and CE marked to the construction products directive.

// Risk: Delivering alert and evacuation messages in places such as shopping centres are meaningless, unless they can be understood. Sounders alone are not effective and the answer has to be in voice messaging and as most centres have a public address system requirement, extending that to deliver fire alarm and other warnings is a simple task.

// Solution:

All MZX Control Panels can be easily interfaced to an upgraded public address system, or voice alarm system. The Audix AD-8 is the smallest of the family of voice alarm systems comprising of 8 programmable and monitored loudspeaker zones each having the ability to transmit alert and evacuate messages. The system has an integral fireman's microphone fitted to the systems controller. The dual channel amplifier provides for dual circuits so as to provide full redundancy. Additional inputs are provided for music and general announcement via a second none emergency microphone. The Audix AD-8, like the larger systems within the range, interface to the MZX via a data bus which reduces the amount of interconnecting relays and wiring and improves programming times. Speakers are available in ceiling and wall mount versions, bidirectional and external models.
For the larger systems a design service provides a one stop shop, one integrated system from one supplier

// Risk: Shopping centres are often large sprawling two or three storey complexes with as many as 300 retail outlets, cinemas, food courts, hotels and leisure centres, and may cover an area in excess of 200,000 square metres.

Such a size of complex will undoubtedly require systems with a large network capacity which has a secure transmission protocol, flexibility in the topology, and which can easily interface with other third party management systems, such as BMS.

// Solution:

MZX technology offers a range of controllers from the compact MZX250 single loop, through the modular MZX2 panel which extends up to 8 loops. Controllers can be easily networked by adding the TLI800EN **network** card in up to 99 panels (99000 addresses), with panels interacting with each other where required. The network is true peer to peer and remains unaffected by a single node failure. Furthermore failure of any panel's main processor will not inhibit transmission of any fire alarm or fault signal from that panel across the network to a designated panel's zonal display. **The network is LPCB, EN54-2 and EN54-13 approved.** Additionally a windows based **graphics system** can be installed providing a layout of the buildings, with additional text, emergency file data, instructions to staff and other useful functions, ideal for the larger sites.**Third party interfaces** are standard with MZX technology and include the **MZX BACnet and MODbus (CCU3)** converters allowing the full networked system to be easily interfaced with third party systems such as the BMS.

// Risk: Working at height and in public areas increases the time taken to install, commission and service equipment or indeed to make changes to equipment at high level. Often special platforms are required in order to comply with health and safety requirements. Disruption is inevitable and access restricted, all of which can be off-putting to a would be shopper. Out of hours working whilst overcoming these difficulties, adds substantially to the lifetime costs of the system.

// Solution:

The 850 Engineering Management Tool is a powerful and flexible tool used during the installation, commissioning and servicing of MZX 850 series devices. The tool provides Infra-Red communication with the device, up to a distance of 15 metres, which is especially beneficial where height and access is a problem. It contains the system's configuration programme and can read and write to detectors and ancillary devices. The unit will display the detector's outputs, (temperature, CO and smoke obscuration levels), and has the ability to test both the device's led and control outputs. The tool can be used to change the devices settings and will record and store any changes made, providing a valid audit trail. Service data is also stored and offers a true record of all devices, detectors, ancillaries and sounders that have been tested during the visit. All data is stored onto a USB flash drive. **MZX technology continues to offer value throughout the lifetime of the system.**
