

Driving Up Safety In Car Parks

The underground car park at the prestigious new St. George Wharf apartment block in London is protected by an Alarmline linear heat detection system. It will eventually span 1.5 km alongside the Thames, making it Europe's longest enclosed car park!

St. George Wharf is just one example of the global trend towards specifying Alarmline for enclosed car parks in airports, hotels, hospitals, shopping centres, railway stations, and residential apartment blocks. Fire safety consultants are increasingly recognising that Alarmline is ideally suited to the unique environmental conditions in car parks that severely restrict the use of other detection devices such as conventional smoke detectors.

Early Detection

Recent years have witnessed a dramatic rise in the fire risk posed in car parks due to changes in vehicle design. The combustible materials used in modern passenger vehicles result in fires that burn more intensely and generate much higher temperatures than ever before. The radiant heat produced can lead to fires spreading from one vehicle to another, flames venting through openings to adjacent storeys, and to the ignition of nearby buildings.

That's why early detection of fire conditions is today deemed essential in all enclosed over/underground and single/multi-storey car parks. Alarmline achieves this by detecting significant rises in temperature in localised "hot spots" as well as over the entire length of a heat-sensitive cable installed on the car park ceiling. The small bend radius of the cable means it can be



shaped to fit exactly the right positions on the ceiling to provide total area coverage.

The cable consists of four conductors with Negative Temperature Coefficient (NTC) insulation surrounded by a black nylon-based sheath. A change in temperature produces a change in resistance in the insulation. This is monitored by an Alarmline LHD4



Control Unit, which outputs an alarm signal to a fire control panel when the temperature alarm set point is exceeded.

The LHD4 can be connected to a conventionally zoned system or fully integrated with an intelligent analogue addressable fire alarm system. It can also be integrated into any existing or proposed central fire alarm or sprinkler extinguishing system.

Economical

Alarmline is simpler and more cost-effective to install than smoke detectors. It is installed at regular intervals across the underside of the ceiling using specialist clips to ensure a clear air flow around the heat-sensitive cable. The maximum spacing between parallel runs is typically 5 metres and should be no more than 9.1 metres (30 feet) in accordance with Factory Mutual recommendations. The cable can also be directed vertically from ceiling height to floor level using the car park roof support beams.

Reduced False Alarms

High air turbulence in car parks combined with exhaust fumes from vehicles can cause unwanted false alarms with conventional smoke detectors. This problem is made worse by the increased use of diesel engines that produce clouds of fine soot particles that can contaminate smoke detectors. Alarmline solves these problems because it is completely unaffected by air movements.

Long-Life

Alarmline is resistant to the aggressive hydrocarbon chemicals in car fumes. It is suitable for use over a wide range of temperatures to suit different climatic conditions, and optional extrusions and metal braiding provide additional mechanical and chemical protection if required.

Tamper-Proof

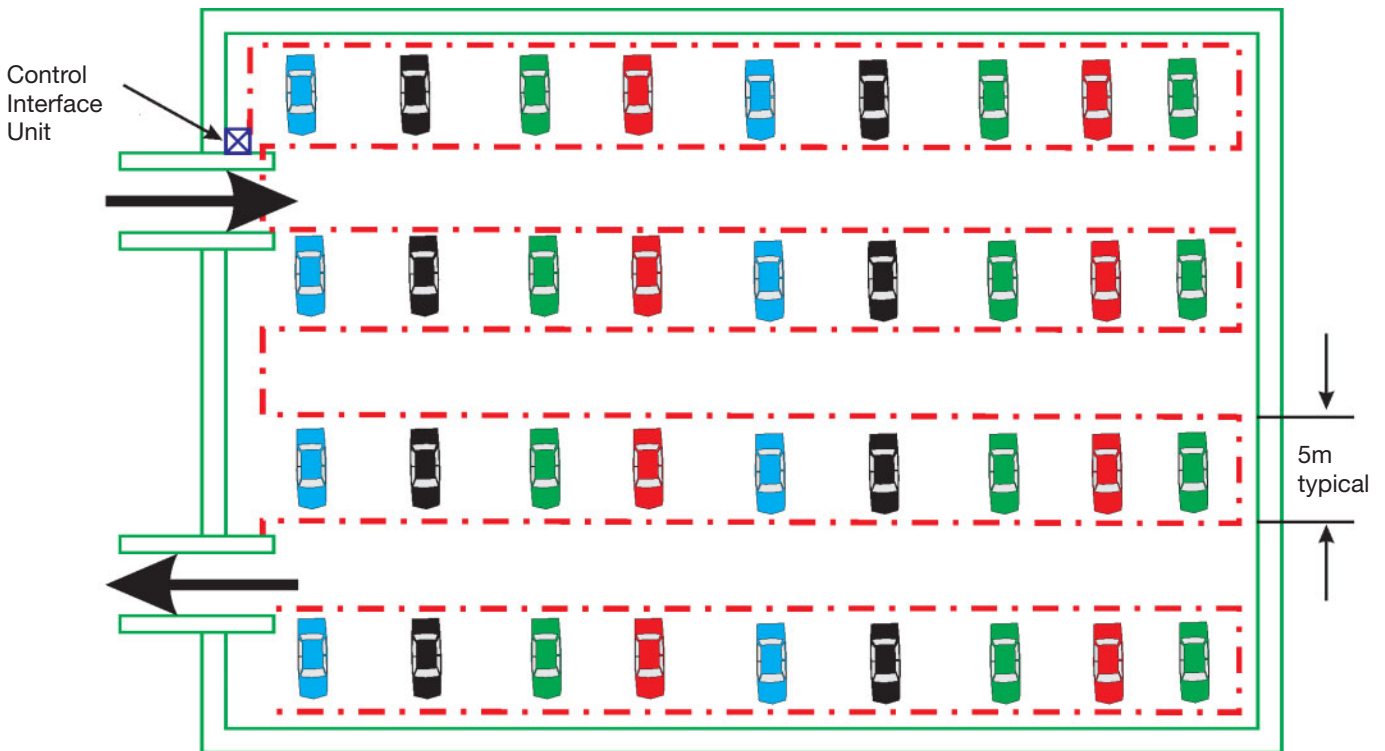
Vandalism is on the increase in public car parks. Alarmline installations use discreet black cable that invites less attention than high profile smoke detectors.

Waterproof

Underground car parks are prone to flooding from heavy rainfall or nearby rivers, and also to high humidity in summer if they are covered with vegetation. While high moisture levels can disrupt the operation of smoke detectors, Alarmline is completely unaffected.

Low Maintenance

Alarmline requires minimal maintenance. This is a major advantage in car parks where vehicle movements restrict access for maintenance engineers. The cable is continuously monitored for open and short circuit fault conditions. In the event of mechanical damage an open circuit fault condition is signalled. After detection of a fire condition it is recoverable and will revert to the standby state once the heat source has been removed, provided the cable is not totally destroyed. Only sectionalised replacement is necessary without the requirement for specialist tooling or training.



Kidde Fire Protection operates a continuous programme of product development. The right is therefore reserved to modify any specifications without prior notice and Kidde Fire Protection should be contacted to ensure that the current issues of all technical data sheets are used.

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