



With Addressable Notification, K-12 Fire Protection Can Deliver Added Benefits

When it comes to fire prevention, no facility is more worthy of our efforts than a school. It's a great responsibility to help protect our communities' children and the teachers and staff entrusted with their learning and development – not to mention the property paid for by taxpayers' dollars.

While the number of fires in K-12 buildings has dropped steadily over the last 30 years, an estimated 4,000 school building fires are reported by United States fire departments each year, causing an estimated 75 injuries and \$66.1 million in property loss.

The good news is that recent innovations in the field of fire prevention, combined with newer NFPA standards, can help to reduce those numbers even further. The better news is that many of those innovations deliver added benefits beyond better fire prevention.

These benefits include fewer nuisance alarms, improved communication and response to onsite threats (including active shooter incidents), reduced risk of vandalism, an enhanced ability to monitor facility temperatures in cold weather, easier management (including self-testing), fewer resources required for maintenance, and better protection against carbon monoxide.

A DIFFERENT CLASS OF FIRE PROTECTION

K-12 facilities are not like typical commercial buildings. The environments are often complex and sprawling, with classrooms, auditoriums, technical centers, and gymnasiums, as well as cooking facilities and science labs, and can be susceptible to nuisance alarms, vandalism and arson. Budget and resource constraints are also issues. These factors require engineers and architects to think about fire protection system designs in a different way.

ADDRESSING THE CHALLENGES...

Older readers will remember school environments filled with two kinds of devices: pull stations and bells. These older systems relied on human action to initiate alarms and the sound of the bell to signal an evacuation. These simpler technologies offered some protection, but had undesirable side effects, including frequent nuisance alarms, ample opportunities for vandalism, and an inability to provide specific instructions to building occupants in a real emergency.

Today, as communities and private institutions refurbish or replace aging facilities, many are taking advantage of opportunities to address these issues with modern



solutions. Recognizing application specific issues in the K-12 environment, both the International Business Code (IBC) and NFPA 101 offer solutions that differ from previous code cycles. One of these changes is the requirement for only one pull station at a constantly attended location allowing for others to be replaced with addressable detection devices that are more sensitive and reliable at detecting fire than humans – and that work around the clock. And of course, reducing the number of pull stations reduces the risk of someone initiating a false alarm.

But today's detection devices also do something a human can't do: detect carbon monoxide. Recent code updates by the NFPA have put an increasing emphasis on carbon monoxide detection, and addressable devices are available today that can combine heat, carbon monoxide, and smoke detection in a single unit for more comprehensive protection.

...AND REAPING THE EXTRA BENEFITS

Sensors can also be programmed to do more than fire detection. For example, they can monitor temperature in cold climates and send alerts when building temperatures drop below a threshold. This enables schools to address heating system problems before they become costly and disruptive.

As schools with more than 50 students are now required to have voice evacuation systems, many are replacing the traditional alarm bells and horns with sophisticated communications systems that enable building occupants to receive clear, explicit instructions in an emergency through built-in speakers in classrooms and hallways. This helps ensure safe, orderly evacuations. Digital message boards can be added to deliver the same instructions to the hearing impaired. And high-powered exterior addressable speakers can provide clear intelligibility for miles, alerting students in outdoor areas, stadiums, and playing fields.

Addressable voice notification allows for different messages to address building occupants in different areas. This can be of critical importance in specific emergencies, allowing school safety officials to provide detailed instructions to students and faculty to take appropriate action. In addition, you can consider the unique needs of students with auditory sensitivity, omitting unnecessary messages to those classrooms when other locations in the building receive daily messages.

While a mass notification system is designed for emergency use, it offers many added benefits. You can use it for other, non-emergency communications, such as daily announcements. In addition, it's better for your maintenance team because they have only one system to learn and manage.

ADDRESSABILITY IS KEY

Many of the extra benefits cited above are due to addressable technology. Addressable technology treats each device on the life safety network – sensors, notification appliances etc. – as an intelligent device. That means each device can be monitored, programmed, configured and tested individually. While addressable technology has historically been unique to initiating devices only, Autocall notification appliances now offer the benefits of addressable technology.

The enhanced programming capabilities of these new life safety systems allow for improved design scenarios. For example, let's say an initiating device senses smoke or carbon monoxide and notifies the control panel of the threat. The control unit then immediately signals the notification appliance in the threat area to sound the appropriate response. In designated areas, these could be low frequency sounders. Communication of threat and response is done through programming, allowing for reduced materials such as local sounder bases and unnecessary wire runs.

Addressable technology also makes repairs easier. If a device fails, the system identifies and alerts you to the source of the problem so you know exactly what's happening and can take steps to fix it quickly and accurately. That's especially helpful in a large, multiple-building campuses.

In addition, addressability allows for automated testing of notification appliances. These tests can be scheduled ahead of time to ensure the least possible disruption to school activities. You can test an entire campus in minutes with minimal class disruption. During testing, all notification appliances sound and flash, and any failures are reported to the control panel. These test results are stored in memory and can be printed, or downloaded. As a result, testing requires fewer resources and time from your busy staff.



BETTER FIRE PREVENTION IS ELEMENTARY

No matter what kind of school you operate, you want a facility that's safe and conducive to learning. Whether you're building a new school building or updating an existing facility, you have an opportunity to do more than simply provide basic fire prevention.

The full range of Autocall addressable fire detection products combine industry-leading performance with ease of installation and maintenance. With a little foresight, you can better protect lives and property, as well as sharply decrease nuisance alarms, improve communication, respond better to threats, and reduce opportunities for vandalism – all while conserving resources, simplifying testing and repairs, and making management easier.

Autocall panels and notification and detection devices can also make managing your fire system easier and more efficient. To learn more about Autocall, visit www.autocall.com.



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