



WHITE PAPER:
THE VALUE OF WIRELESS
ALARMS AND MONITORING
SYSTEMS ON EMERGENCY
EQUIPMENT

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THE VALUE OF WIRELESS ALARMS AND MONITORING SYSTEMS ON EMERGENCY EQUIPMENT

Federal safety regulations set forth by the Occupational Safety and Health Administration (OSHA) and The American National Standards Institute (ANSI) make the importance of safety equipment in potentially dangerous working environments clear. However, the stringent guidelines for emergency showers and eyewashes don't extend to the inclusion of mandatory alarm and electronic monitoring systems on this equipment. This oversight can create unsafe working conditions in even the most well equipped facilities. Not only is this dangerous, it's also a potential liability.

MEETING THE STANDARD – BUT JUST BARELY

From university laboratories to industrial facilities, safety shower and eyewash stations are ready to perform in the event of an emergency. But while the standards are explicit when it comes to the design, certification, installation, testing and maintenance of emergency equipment, the importance of accompanying alarm and monitoring systems is overlooked. In fact, it's possible for a facility to technically meet OSHA and ANSI standards without either – and that's a problem.

THE IMPORTANCE OF ACCOMPANYING ALARM AND MONITORING SYSTEMS IS OVERLOOKED.

Implementing best practices with the addition of both alarm and wireless monitoring systems is the best way for workplaces to exceed normal expectations by creating superior emergency response procedures. Not only will this help ensure employee safety, it can make it easier for facilities to stay in compliance with OSHA and ANSI standards.

FUNCTION FIRST

Alarm and wireless monitoring systems are exactly what you'd imagine. An alarm system is intended to notify the management and personnel of a facility when and where safety equipment is being used. Electronic monitoring systems are specifically designed to automate inspections, log data, document test results, record when and where and for how long specific equipment is used, and then store this information in a database or on a remote server for instant access.

While it would seem that both alarm and monitoring systems offer convenience and further enhance the safety and reliability of emergency equipment, they are few and far between. But why?

MAKING NECESSARY SYSTEMS OPTIONAL

Unfortunately, the supplementation of existing emergency equipment with alarm and monitoring systems isn't explicitly mandated. While OSHA strongly recommends that both safety showers and eyewashes should be equipped with alarm systems, it isn't a requirement. And that means 9 out of 10 stations in most facilities don't have one.

The language in federal mandates is equally vague when it comes to the importance of electronically monitoring emergency equipment. Many equipment manufacturers don't offer monitoring. This means that facility operators have no details as to when, where and even if any of their safety systems have been in use, making it nearly impossible to determine whether equipment is being used appropriately. And while ANSI standards mandate that emergency showers and eyewashes should be activated monthly and completely inspected once annually, the actual testing results are rarely recorded in a central database. This can result in failure to meet minimum compliance standards, opening facilities to potential legal liability.

THE SUPPLEMENTATION OF EXISTING EMERGENCY EQUIPMENT WITH ALARM AND MONITORING SYSTEMS IS NOT EXPLICITLY MANDATED... *Many equipment manufacturers don't offer monitoring. This means that facility operators have no details as to when, where and even if any of their safety systems have been in use, making it nearly impossible to determine whether equipment is being used appropriately.*

Equally dangerous is the lack of an accompanying alarm system on emergency equipment. A typical alarm system on an emergency shower or eyewash has flashing lights and an audible alarm, both of which are designed to alert management immediately that specific safety equipment is in use. When an emergency strikes, an alarm system is the fastest, most effective way of ensuring a quick response to the injured employee, which is often necessary to minimize injuries. Without alarms, injured workers may be on their own – a scenario that can quickly make a bad situation far worse.

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THE VALUE OF WIRELESS ALARMS AND MONITORING SYSTEMS ON EMERGENCY EQUIPMENT

A WIRELESS SOLUTION

In many cases, the lack of alarm and electrical monitoring systems boils down to old facilities with dated equipment that would be too difficult and expensive to retrofit with hard-wired systems. Wireless Switches by Honeywell are a cost-effective solution to these problems. These wireless systems easily install and are easy to maintain on a variety of safety equipment, including safety shower and eyewash stations. They can help facilities reduce maintenance costs and help them stay in compliance with federal safety regulations while preventing or reducing workplace injuries.

Unlike hard-wired systems, which are typically difficult and costly to install, Limitless™ Wireless Switches require no wiring or electrical connectors. A pair of over-the-counter batteries is sufficient to power the system's switches for an entire year. The entire wireless system runs on a 2.4 GHz ISM band that consumes minimal power for better battery life. And this band has a low susceptibility to rain, sleet, snow, moisture and dust – an important consideration in many facilities.

The wireless systems will maintain a strong RF signal as long as the wireless switch is within 1,000 feet of the wireless receiver module, with an unobstructed line of sight between them. Signal strength can also be improved with higher-gain antennas.

Another advantage of Limitless™ Wireless Switches is in their installation. In most wired systems, the water valves in the safety stations are electronically connected to a type of alarm or buzzer in central dispatch areas. This alerts appropriate personnel when a specific piece of emergency equipment is activated. But because the alarm is activated when water flows through a pipe, the alarm can be disabled if the water source is cut off, which could happen if pipes freeze.

WIRELESS SWITCHES BY HONEYWELL ADVANTAGE: *systems are not activated by water flow, so if the water source is cut off, the alarm still functions.*

Limitless™ Wireless Switches are installed on the mechanical linkage of shower pull-chains. Regardless of what happens with water in the pipes, the wireless system will still raise the alarm to indicate the specific safety station that has been activated.

Honeywell offers two types of wireless receiver modules to coordinate with the existing control system in a given facility. Depending on existing features, either a hard-wired digital signal or an Ethernet IP signal can be used to

activate the alarm. A 16-bit PAN ID, 16-bit address and 128-bit AES security key virtually eliminates any risk of cross-talk or hacking.

AN EASY IMPROVEMENT TO EXISTING EMERGENCY EQUIPMENT

A wireless alarm and monitoring system like Honeywell Limitless™ Wireless Switches is a fast, simple way to improve existing safety equipment. From initiating an emergency response as soon as safety equipment is engaged to maintaining detailed records of when stations are used, tested, and maintained, these wireless systems can create safer, more responsive working environments.

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