Signaling Improves Manufacturing Efficiency and Personnel Safety

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Accidents. Process upsets. Production downtime. Fire or gas leaks. These and other unexpected scenarios could hamper manufacturing, endanger workers, and threaten facilities and equipment. To help keep production running and to protect workers and other assets, many companies are turning to modern signaling technology to more effectively alert personnel of trouble in the factory. Such "effective signaling" improves worker's reactions to problems and successfully alerts personnel to life threatening situations – leading to a safer and more efficient workplace.

Visual and acoustic signaling devices from Pfannenberg satisfy numerous alarm, warning and indication requirements, including machinery operating status; process upset notification; system start up warning; and building evacuation due to fire, toxic gas leak, chemical spill or intruder alert.

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Pfannenberg offers a broad range of modern audible and visual signaling devices. These include the PYRA series of flashing strobe lights and the PATROL series of sounders and flashing sounders. Both series have been engineered to provide high performance, ease of installation, and substantial features which set them apart from traditional signaling devices. In a nutshell, these units offer brighter strobe lights and louder horns for alarming of critical life safety situations. Additionally, the ability to pick from an on-board menu of 80 different alarm tones can improve the efficiency of how workers respond to problems on the production floor – yielding higher productivity and reduced downtime. Another advantage is the ability for one sounder to emit up to four different tones for four unique events – bringing versatility in alarm planning while reducing the number of individual signaling units needed to accomplish the same task. Moreover, with a high IP rating, injection molded construction, and wide temperature range, the units are capable of withstanding outdoor, wash-down, and corrosive environments.

Applications for Pfannenberg's modern signaling devices are widespread and include large machinery startup alarms for textile or paper machines and mining conveyors; overhead bridge cranes and other material handling equipment; gas leak alarms for water and wastewater treatment plants, cold storage facilities, and pharmaceutical plants; evacuation alarms for fire and life safety requirements in large, noisy industrial facilities; machinery operating status indication; moving equipment hazard warnings; and control panel process monitoring alarms.

Often alarms installed by a machine's manufacturer are too similar to those used on other machines, or are just not effective in a given environment. In these cases, the meaning of the alarm becomes lost and workers start to ignore the alarm. An alarm that is too loud is not only an irritant to the machine operator,

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but might also distract employees in surrounding departments. Conversely, an alarm that is too quiet becomes a safety concern when dealing with dangerous equipment. On the efficiency side, a company would not want employees to stop working because of an alarm signal that is not pertinent to those employees' work concerns. Or, worse yet, machine operators may become desensitized to alarms, and one of these alarms might pertain to their work area. This could cause problems both in terms of safety and efficiency. This is why Pfannenberg's approach to a solution is so valuable: it provides the right product for a given application to foster a safe and efficient environment.

Noisy environments in general can be a major safety issue. For instance, a mining operation might use a rock-crushing machine that subjects workers to noise levels at 85 decibels (dB) or more. In addition, workers are likely wearing hearing protection, which means that while noise levels are not eliminated, they are muffled or distorted. A simple buzzer would likely blend in with background noise. With the multiple tones provide by Pfannenberg's devices, end users can test the operation, try different tones, and determine which frequency works for the project and clearly stands out from background noise.

PATROL sounders offer a selection of 80 different tones, permitting the user to select a unique, identifiable signal for a specific alarm event. Additionally, with four stages of alarm, one unit can output up to four different tones to signify different events.

With four tone stages the sounder adds versatility to the signaling solution. For instance, a bridge crane application will use an audible alarm if the crane is moving up the track, moving down the track, dropping or raising a hook, or shuttling across the bridge and each task has a different tone. Depending on the installation, these alarms can be triggered by the motor relays to automatically activate the signal, leaving the operator free to concentrate on controlling the workload as opposed to sounding an alarm.

Pfannenberg's signaling technology can help companies comply with OSHA safety regulations, which state that audible signals should be at least six to ten decibels above ambient noise levels to be clearly heard. Additionally, those requiring to meet NFPA 72 fire code standards for manufacturing facilities will find benefit with the louder output dB ratings offered by industrial sounders. Such devices will permit fewer required units, thereby reducing installation cost for fire and life safety evacuation alarms.

PATROL flashing sounders combine high-intensity strobe lights to complement audible alarms with visual signals. This improves alarm effectiveness in noisy facilities, particularly where hearing protection is used.

Certain facilities, such as petrochemical and pharmaceutical plants, are looking for products that meet SIL (Safety Integrity Levels). Such devices become components in Safety Instrumented Systems (SIS), and in order to achieve the target SIL rating, all components of the SIS must realize the target SIL. Typical applications for SIL signaling devices include: machinery start-up alarms; mechanical or process failure alarms; safety system muting alarms; gas leak alarms; and chemical spills.

Pfannenberg has multiple models of audible and visual signaling devices that are designed specifically to meet SIL requirements. Sounders such as the DS 5-SIL and DS 10-SIL feature thirty-one tones and four tone stages, and are constructed with cast aluminum housings. An additional feature with SIL units is the self-monitoring function which provides a fault output relay contact, which displaces the need for redundant devices. With high IP ratings, these robust, multi-tone units are ideal for audible alarm and warning, even in harsh environments.

In addition to these products, Pfannenberg has a large roster of other horns, sounders, sirens and flashing strobe lights, and other equipment that can help provide the solution for a particular project. But the product is

only a part of the solution. They need to be properly selected and sized for the customer's application – and to accomplish this, Pfannenberg's representatives will come to a facility, demo in hand, and develop a signaling solution for a company's particular needs. At Pfannenberg, the best solution for a customer is always the end goal.

PYRA high-intensity flashing strobe lights provide visual alarms to aid in identifying specific trouble spots as well as providing effective alarm notification in noisy facilities, particularly where hearing protection is used.

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ABOUT PFANNENBERG INC.

Pfannenberg, Inc. is a global manufacturer of thermal management, liquid cooling solutions and signaling technologies. Pfannenberg's enclosure thermal management products help some of the largest companies worldwide stay cool and safe, protecting and keeping electronic equipment running to avoid costly downtime. In addition to our thermal management products Pfannenberg also manufactures visual and audible signaling devices for security, fire, building, industrial process, disaster warning, hazardous areas, light art and illumination. Pfannenberg is proud to provide solutions as a single source to its customers. Our business philosophy – Protecting man, machine and the environment.

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