SIGNALING TECHNOLOGY SOLUTIONS

NORTH AMERICAN CATALOG

SIGNALING TECHNOLOGY

PROTECTING PEOPLE, MACHINES AND THE ENVIRONMENT

Pfannenberg

ELECTRO-TECHNOLOGY FOR INDUSTRY

AUDIBLE ALARMS | VISUAL ALARMS | COMBINED SIGNALING | SIGNAL TOWERS / STACK LIGHTS

Your Safety is Our Business

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Pfannenberg's 3D-Coverage:
A Holistic Approach to Safety

Our mission is to help provide protection for man, machine, and the environment. For many years we have developed technically superior signaling devices and now we have created an approach for system designers to follow to ensure that safety goals are met with correctly sized devices at the project development stage.

This Pfannenberg innovation is “3D-Coverage”. This approach looks at the space or area needing to be covered, the standards or codes that must be met, and the detailed performance characteristics of visual and audible signaling devices needed to ensure the safety of personnel within the space. With this, Pfannenberg is the first company to offer a reliable statement about product performance.

Customers and system specifiers will greatly benefit from Pfannenberg’s 3D-Coverage, which creates transparency for signaling product performance and results in more efficient solutions. Now, with both technically advanced products and an all-inclusive approach for establishing performance criteria, planners can easily compare signaling devices to ensure truly capable performance.

This new North American signaling catalog has been redesigned and updated to assist with product selection as well as highlighting the many industries in which our extensive experience has been utilized.

With worldwide reach, Pfannenberg is well positioned to offer consultation, rapid product delivery, and after sale services to ensure the success of your next safety requirement.

From ordinary to complex, our extensive legacy of successful signaling deployments has given us the experience to address your every need. Please contact us to find out how much we can do for you.

In keeping with our motto "Sharing Competence", our expert staff is at your service to help you find the best possible solutions for your requirements – now and in the future.

What can we do for you?

Andreas Pfannenberg, CEO

SHARING COMPETENCE

Pfannenberg 3D COVERAGE

Pfannenberg Signaling - Effective Signaling Optimized for Expansive, Noisy Environments

"Merely considering alarm specs like decibels or lumens is not enough to guarantee the required response by personnel. To be effective in alerting personnel one must also scientifically take into account the 3 Dimensions". Unheard, unseen or confusing alarms can have serious consequences in some situations. Specifications on paper do not always reflect how a signal will perform in the actual location. If safety or fast response are critical, then using the Pfannenberg 3D Audit will guide you in selecting a most effective signaling to capture the attention of personnel, and which conveys critical information on the nature of the alarm.

The Spatial Dimension – Determining the actual effective coverage volume for audible and visual signaling devices.
The Personnel Dimension – Takes into account the location of the personnel with regards to the safety of being notified by a signaling device. This would include restrictions due to ear and eye protection.
The Special Conditions Dimension – These are the unique factors in the surrounding environment that could affect personnel's hearing or seeing an alarm, or the life of the alarm's operation.

The Personnel Dimension

Takes into account the location of the personnel with regards to the safety of being notified by a signaling device. This would include restrictions due to ear and eye protection.

The Special Conditions Dimension

These are the unique factors in the surrounding environment that could affect personnel's hearing or seeing an alarm, or the life of the alarm's operation.

The Spatial Dimension

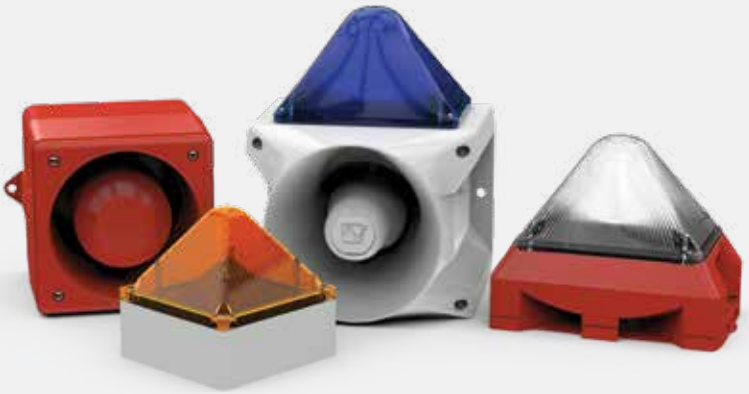
Determining the actual effective coverage volume for audible and visual signaling devices.

Industry Leading 10 Year Warranty

Quality, Performance & Durability When You Need it Most!

"The Pfannenberg 10-year Warranty is our proof of delivering a reliable and durable product that can perform effectively in harsh environments for a long life. All units in the DS, PATROL, PYRA and Quadro product family's carry a factory-backed 10 year warranty".

See how tough & durable Pfannenberg's products are:
https://hubs.ly/H0fLps00



Designing with 3D-Coverage Avoids Incorrect System Sizing

3D-Coverage Ensures Guidelines are Implemented More Efficiently

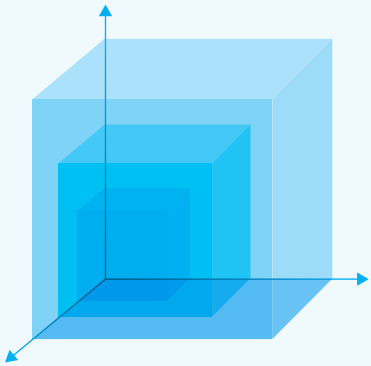
Standards such as EN 54-23 require that the ambient conditions within a space covered by a signal are taken into account. They specify the output level of signaling devices but do not account for their technical performance surrounding signal transmission – leading to a risk of incorrect sizing. Planning with the aid of 3D-Coverage eliminates this risk. It provides a precise indication of the number of signaling devices required and allows the system to be specified in an efficient, cost-effective manner.

3D-Coverage is More Reliable Than Marketing Data

Performance data supplied on technical data sheets often results in naïve assumptions about the actual performance of a product. When combined with inadequate consideration of factors such as the ambient noise levels, the danger of insufficient signaling perception is increased. 3D-Coverage takes these factors into account and ensures that audible and visual signals can be heard and seen.

Device Performance Within a Defined Space is Immediately Apparent

3D-Coverage Performance Data, A x B x C



PA X 20-15

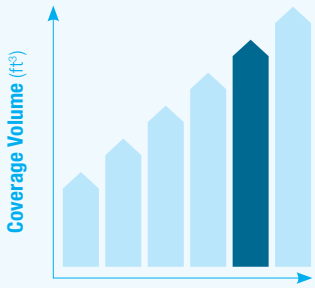
AUDIBLE	
80 dB(A)	321.5 x 282.1 x 282.1 ft
85 dB(A)	180.4 x 157.4 x 157.4 ft
90 dB(A)	101.7 x 88.5 x 88.5 ft

PA X 20-15

VISUAL	
Indicate	413.3 x 324.8 x 223 ft
Warn	183.7 x 144.3 x 98.4 ft
Alarm	91.8 x 72.1 x 49.2 ft

Coverage area for DIN tone with required sound levels of 80, 85 and 90 dB(A) and clear lens on strobe light in accordance with EN 54-23 requirements for “Indicate”, “Warn” and “Alarm”.

Signaling Effectiveness



The diagram shows the amount of coverage by a single Pfannenberg audible/visual signaling device.

3D-Coverage in the Catalog

The following pages contain the guaranteed coverage volume of each signaling device under different environmental situations. For the audible signaling devices, the performance in a given space assumes the use of the DIN tone at a required sound level of 80, 85 and 90 dB(A). For the visual signaling devices, the performance is given for indicate, warn and alarm (EN 54-23) applications. An additional classification symbol allows an at-a-glance comparison with the performance of other Pfannenberg signaling devices.

PSS – The Perfect Planning Aid

For planning with individual values, Pfannenberg Sizing Software (PSS) is a user-friendly online tool which provides an instant, informed recommendation for the optimum signaling devices and their positioning. It enables you to avoid expensive over-specification and risky under-specification at the planning stage or when reviewing the configuration.
Visit www.pfannenbergusa.com/pss to access our PSS software.

For additional technical data, drawings and templates. www.pfannenbergusa.com

Understanding Signaling Coverage -

The effective coverage area for each device varies with requirements for alarm, warning, or indication.

Whether using an audible, visual or combined device, the purpose of the signal is extremely important to consider. For each signaling device, the largest effective coverage area is achieved for "Indication" type events, whereas the smallest is achieved for requirements intended to "Alarm" people. Below are examples of how to effectively signal personnel of "Alarm", "Indication" and "Warning" type events.

INDICATE

Indication Requirements

Used to inform machinery operators of certain functioning conditions, or nearby personnel of the status of a situation which is generally low priority. The illumination requirement is typically limited to a localized area.

- Status of a machine, process, or test procedure.
- Lack of raw material / material supply is nearing depletion.
- Quality defect, pass/fail information.
- Process has ended, standby position.
- Notification and display of errors.

WARN

Warning Requirements

Used to alert personnel of nearby danger or a process or condition is in need of attention. These are medium priority situations.

- Moving vehicle or machine – get out of the way.
- Dangerous situation – proceed with caution, safe guards have been removed.
- Status is critical, ready for handling – action required.
- Attention is necessary.
- Process out of tolerance – corrective action needed.
- Health hazard – stay clear.
- Caution – a status change is being executed.

ALARM

Alarm Requirements

Used when immediate evacuation is needed for emergency situations. These are high priority situations.

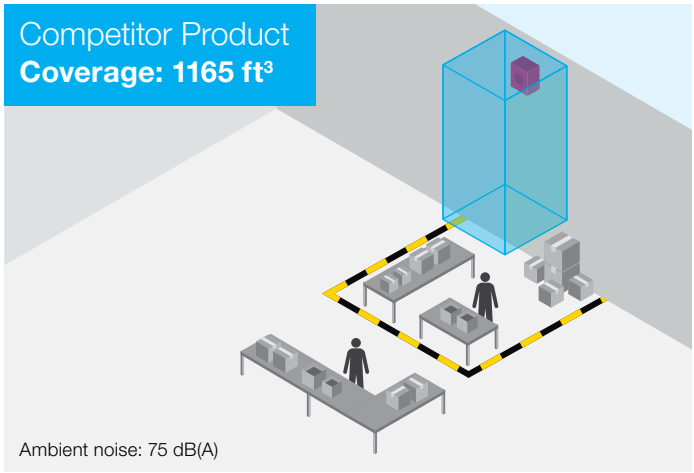
- Evacuate immediately – fire or gas leak detected.
- Acute health risk – toxic substances identified.
- Process is abnormal or out of control – immediate action needed.
- Maximum tolerance exceeded – immediate attention required.

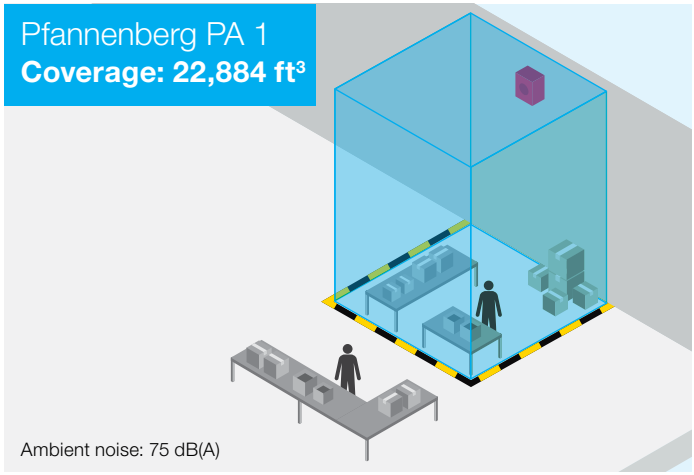
3D-Coverage **Performance Comparison**

What is specified on paper **is not** an indication of performance in a defined space.

Taking two sounders, each with 100 dB (A) specified nominal output with a requirement to meet **10 dB(A)** offset over the ambient noise in accordance with DIN VDE 0833. Alarm tone evaluated is the DIN emergency signal (DIN 33403-3). **Result:** Despite an identical specified nominal performance of 100 dB(A), there are significant differences in the coverage volume (A x B x C). With ambient noise at 75 dB(A), the Pfannenberg PA 1 sounder achieves a value more than 19 times greater than that of the competitor's product.

Pfannenberg PA 1 Sounder vs Competitor





Performance Class	Ambient Noise	Offset	Required Sound Level	A	B	C	Pfannenberg 3D COVERAGE
Competitor Product 100 dB(A)	70 dB(A)	10 dB(A)	80 dB(A)	21.9 ft	17.7 ft	17.7 ft	**6,886 ft³**
	75 dB(A)	10 dB(A)	85 dB(A)	12.1 ft	9.8 ft	9.8 ft*	**1,165 ft³**
	80 dB(A)	10 dB(A)	90 dB(A)	6.8 ft	5.5 ft	5.5 ft*	**211 ft³**
Pfannenberg PA 1 100 dB(A)	70 dB(A)	10 dB(A)	80 dB(A)	52.4 ft	45.9 ft	52.4 ft	**126,567 ft³**
	75 dB(A)	10 dB(A)	85 dB(A)	29.5 ft	26.2 ft	29.5 ft	**22,884 ft³**
	80 dB(A)	10 dB(A)	90 dB(A)	16.4 ft	14.7 ft	16.4 ft	**3,990 ft³**

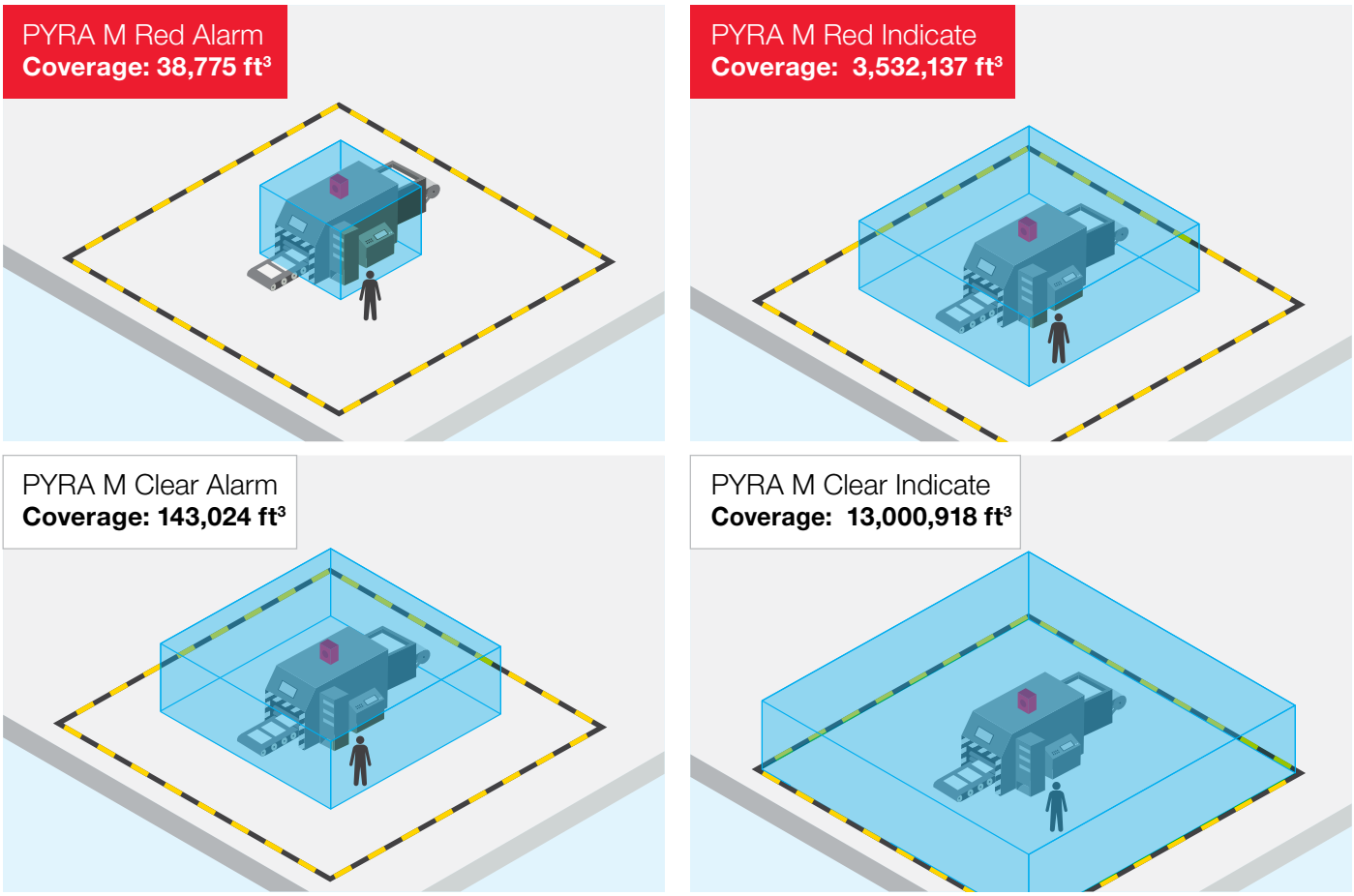
For additional technical data, drawings and templates. www.pfannenbergusa.com

True Performance Revealed

Understanding light efficiency based on how alarm light is perceived.

Whether signaling for alarm, warning, or indication, the technology used to generate light, the radiation characteristics of lens and optics, and lens color are all important characteristics to consider when designing a system to achieve an effective, perceivable signal. The required coverage volume of visual signaling devices varies by local code and application. With 3D-Coverage, it becomes easier to determine effective coverage when overall performance is evaluated with respect to the requirements.

Red Flashing Light vs Clear Flashing Light in Alarm and Indication Applications

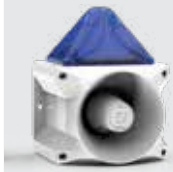


Result: The nominal light intensity of 39 cd and 118 cd result in significant differences in the size of the coverage volume. With a "clear" lens the signal is perceived much more readily. The Xenon technology of Pfannenberg's flashing lights delivers considerably better performance and efficiency than LED technology.

			ALARM		INDICATE	
Flashing light	**Intensity**	**Lens Color**	**Area** A x B x C	Pfannenberg 3D COVERAGE	**Area** A x B x C	Pfannenberg 3D COVERAGE
PYRA M-10	39 cd	**red**	36.7 x 23 x 46 ft	**38,775 ft³**	165.3 x 103.3 x 206.6 ft	**3,532,137 ft³**
PYRA M-10	118 cd	**clear**	59 x 32.8 x 73.8 ft	**143,024 ft³**	265.7 x 147.6 x 331.3 ft	**13,000,918 ft³**

Signaling Lens Colors Explained

Specific processes require the operator to understand what is happening at all times so that they are able to act efficiently. The color designation of Pfannenberg products can help inform the operator when the following conditions are occurring. Depending on whether it is an indication, warning or alarm situation, you may choose to have your specific product blink, flash or be continuous.

COLOR	MEANING	SITUATION	ACTION TO BE TAKEN	APPLICATION EXAMPLES
Red	Danger/ Emergency	**Warning or Alarm Situation:** • Dangerous Situation • Failure Situation	**Immediate response to deal with a dangerous situation:** • Operating emergency stop • Opening safety valve • Starting cooling pump	• Pressure/temperature out of safe limits • Voltage drop • Breakdown of a main unit • Stoppage of necessary machines, service system • Deep freezer temperature too high • Over-travelling of a stop position of a hoist
Yellow / Amber	Caution/Warning	**Indicate or Warning Situation:** • Out of order • Faulty situation • Permanent or temporary risk	Monitoring to prevent any further risk to the situation	• Pressure/temperature different from normal level • Tripping of a protecting device or of auxiliary unit • Conveyor overloaded • Over-travelling of a limit switch • Position change of a valve or conveyor belt • Deep-freezer on super freezing
Green	Safe	**Indicate Situation:** • Indication of safe situation • Safe to proceed • Way clear	None taken, running properly	• Authorization to proceed • Indication of normal working limits
 Blue	Mandatory	**Warning or Alarm Situation:** • Indication of a condition that requires action	Mandatory	• Instruction to the operator to enter preselected values
Clear	User Defined	**Indicate, Warning or Alarm Situation:** General information, may be used whenever doubt exists about which color to use.	User Defined	• General information such as confirmation of a command, indication of measured values

Derived from IEC 60073.

SIGNALING **SOLUTIONS**

Safety and efficiency – these are the areas for which Pfannenberg signaling devices offer ideal solutions. With innovative designs, robust construction, and a legacy of fulfilling demanding requirements, Pfannenberg has the experience and know-how to help with your next industrial signaling application.

Pfannenberg
ELECTRO-TECHNOLOGY FOR INDUSTRY

AUDIBLE SIGNALING PRODUCTS

Rugged, Modern Signaling Devices for Improved Safety and Efficiency

Horns and sirens, also known as "sounders", are tone generators that output an audible signal when a voltage is applied to their input power terminals. Sounders are self-generating – meaning that the tones are pre-programmed into their circuitry and the sound is simply emitted when power is supplied.

Sounders are widely used for generating evacuation alarms in the event of fire, toxic gas leak, or chemical spill. Other applications for sounders include machinery start-up alarms, back-up warning systems, process upset signals, heavy equipment movement, moving roof systems, crane movement, and movement of doors, gates, and barriers.

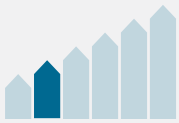
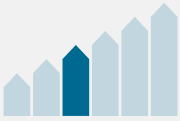
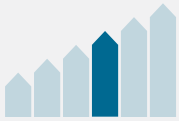
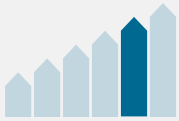
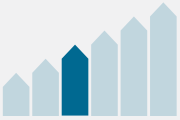
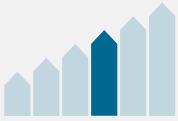
Sounders typically generate a variety of tones that can be user-selected. Some units are capable of delivering multiple tone stages. For example, one tone stage may signal evacuation, while a secondary tone stage may signal "all clear" or OK to return.

Examples:

Indication: PA 1
Warning: PA 5, DS 5
Alarm: PA 10, DS 10, PA 20

DS SOUNDER

Audible Signaling Notification Devices at a Glance

TYPE	3D-COVERAGE LEVEL	MAX SOUND PRESSURE LEVEL [1]	PROTECTION SYSTEM	DIMENSIONS (W x H x D) inches	APPROVALS / STANDARDS						PAGE
					GL	MED	EAC	UL	EN 54-3	VdS	
SOUNDERS											
PA 1		105 dB(A)	IP 66 IK08	4.3 x 3.3 x 3.1	● [2]	● [2]	●	●	●	●	16-17
PA 5		107 dB(A)	IP 66 IK08	6.4 x 5.3 x 5.2	● [2]	● [2]	●	●	●	●	
PA 10		117 dB(A)	IP 66 IK08	8.4 x 6.7 x 6.1	● [2]	● [2]	●	●	●	●	
PA 20[1]		122 dB(A)	IP 66 IK08	8.4 x 6.7 x 7.1	● [2]	● [2]	●	●	●	●	
DS 5		107 dB(A)	IP 66 IP 67	5.2 x 5.2 x 5.6	● [2]		●	● [2]	●	●	18-19
DS 10		114 dB(A)	IP 66 IP 67	5.2 x 5.2 x 5.6	● [2]		●	● [2]	●	●	

1 Sound pressure levels approaching 120 dB(A) and higher can lead to hearing damage. Caution must be exercised to ensure that personnel are not within the vicinity of such elevated sound pressure levels. High output sounders are intended for use in outdoor applications or in large manufacturing spaces where hearing protection may be in use. Unless specified otherwise, sound pressure level is measured at a 1 m distance.

2 Option

● available

DS SOUNDER SERIES

Pfannenberg DS Series sounders are made of Die-Cast Aluminum housing making them one of the most robust sounding devices on the market. When utilizing the "SIL" version, the DS sounder can be implemented in Safety Instrumented Systems (SIS) up to SIL 2/PLd.

PATROL PA SERIES | PATROL SERIES SOUNDERS

105-122 dB (A)

Captive Fastener
Installation and assembly is simplified and screws cannot get lost.

Shape-moulded Gasket
Stays in-place and cannot get lost.

Plug and Socket Connections
Upper and lower parts combine positively to simplify installation. When separated, electrical hazards are eliminated for handling.

Selectable Audible Notification
Choice of 80 unique alarm tones with four stages of tone control for distinctive signalling of specific events.

Impact Resistant Housing
Achieves IK08 impact rating to endure harsh environments.

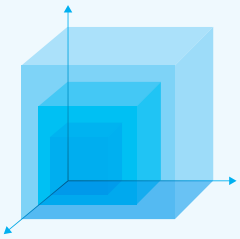
IP 66 Enclosure Rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

Electromagnetic Sound Capsule Technology
Acoustic signal includes a share of low frequency side bands for excellent sound penetration of walls and doors for highly effective alarming.

Intelligent Installation
Electrical wiring is conducted in the base box to avoid clumsy 3-hand assembly. Wires are safely routed where the potential for pinching and errors are eliminated.

10 YEARS WARRANTY

3D-Coverage performance data (width / height / depth)



Coverage area with DIN tone and required sound levels of 80, 85 and 90 dB(A). To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PA 1

Ambient Noise Level	
80 dB(A)	52.4 x 45.2 x 52.4 ft
85 dB(A)	29.5 x 25.6 x 29.5 ft
90 dB(A)	16.7 x 14.4 x 16.7 ft

PA 5

Ambient Noise Level	
80 dB(A)	46.2 x 59.3 x 46.2 ft
85 dB(A)	26 x 33.4 x 26 ft
90 dB(A)	14.4 x 18.7 x 14.4 ft

PA 10

Ambient Noise Level	
80 dB(A)	173.2 x 240.4 x 173.2 ft
85 dB(A)	97.4 x 135.1 x 97.4 ft
90 dB(A)	54.7 x 76.1 x 54.8 ft

PA 20

Ambient Noise Level	
80 dB(A)	280.8 x 320.5 x 280.8 ft
85 dB(A)	157.8 x 180.4 x 157.8 ft
90 dB(A)	88.9 x 101.3 x 88.9 ft

For additional technical data, drawings and templates. www.pfannenbergusa.com

PATROL: Alarm Sounders (Plastic Housing - UL certified - Type 4/4X - IP 66)

Description	Part Number	Operating Voltage Range*	Nominal Current Consumption	Nominal Sound Output (SPL)	Frequency
PA 1 Surface Mount w/Red Housing	23310150000	95 - 127 VAC	6 - 80 mA	105 dB	50 / 60 Hz
PA 1 Surface Mount w/Grey Housing	23310150055	95 - 127 VAC	6 - 80 mA	105 dB	50 / 60 Hz
PA 1 LV Surface Mount w/Red Housing	23310630000	10 - 57 VDC	6 - 80 mA	105 dB	NA
PA 1 LV Surface Mount w/Grey Housing	23310630055	10 - 57 VDC	6 - 80 mA	105 dB	NA
PA 1-PM Surface Mount w/GreyHousing	23310630900	10 - 57 VDC	6 - 80 mA	105 dB	NA
PA 5 Surface Mount w/Grey Housing	23350150055	95 - 127 VAC	8 - 30 mA	107 dB	50 / 60 Hz
PA 10 Surface Mount w/Grey Housing	23360640055	95 - 265 VAC	20 - 115 mA	117 dB	50 / 60 Hz
PA 20 Surface Mount w/Red Housing	23370630000	10 - 60 VDC	120 - 880 mA	122 dB	NA
	23370640000	95 - 265 VAC	75 - 330 mA @230 V	122 dB	50 / 60 Hz
PA 20 Surface Mount w/Grey Housing	23370630055	10 - 60 VDC	120 - 880 mA	122 dB	NA
	23370640055	95 - 265 VAC	75 - 330 mA @230 V	122 dB	50 / 60 Hz

Additional Data	PA 1	PA 5	PA 10	PA 20
Alarm Tones	80 / 4 tones are externally selectable			
Sound Level Reduction	max. -16 dB via potentiometer		max. -12 dB via potentiometer	
Operating Temperature	-40 °C ... +55 °C (-40 °F ... +131 °F)			
Protecting system according to EN 60529	IP 66			
Dimensions (width x height x depth)	4.31 x 3.38 x 3.17 in	6.43 x 5.31 x 5.19 in	8.42 x 6.7 x 6.14 in	8.42 x 6.7 x 7.12 in
Other Available **HOUSING COLORS**	PC / ABS, RAL 3000 | PC / ABS, RAL 7035			
*Other Available **VOLTAGES**	10 - 60 VDC, 95 - 265 VAC			

STANDARD ON PATROL SOUNDER

c UL us LISTED

External Tone Selection Control

+131 °F / –40 °F Operating Temperature

Acoustic Penetration

IK08 Impact-proof Housing

10 Years Warranty

AVAILABLE OPTIONS

German Lloyd 30457-83-HH

Marine Grade

Surface Gasket Panel Mount

Tamper-proof Sealing

PA 1
105 dB (A)

PA 5
107 dB (A)

PA 10
117 dB (A)

PA 20
122 dB (A)

DS SOUNDER SERIES

107-114 dB (A)

Die-Cast Aluminum Housing
Resistant to UV light, seawater, and many chemicals. Sturdy construction resists vandalism to ensure a high degree of functional safety.

Selectable Audible Notification
Choice of 32 unique alarm tones with three stages of tone control for distinctive signaling of specific events.

Choice of Output Levels
Versions for 105 dB(A) and 110 dB(A) sound pressure levels to suit a variety of signal coverage needs.

Metal Mounting Lugs
Ensures a safe and secure installation onto many types of surfaces.

Electromagnetic Sound Capsule Technology
Acoustic signal includes a share of low frequency side bands for excellent sound penetration of walls and doors for highly effective alarming.

Stainless Feed Through
Included to ensure a high degree of electrical connection integrity.

SIL Conforming Versions
Versions for safety instrumented systems up to SIL 2 / PLd. Integrated self-monitoring function satisfies the requirement for routine system checks and eliminates the need for redundant devices.

ATEX Certified for Zones 2 and 22 (optional)
Optional versions satisfy requirements for device category 3G and 3D in hazardous areas.

IP 66/67 Enclosure Rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

STANDARD ON DS SOUNDERS

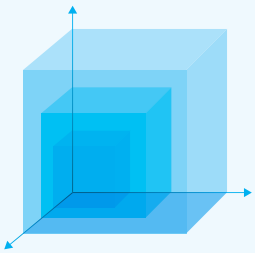
- Volume Control (LSR)
- +131 °F / –40 °F — Operating Temperature
- EN 54-3 — Fire Detection Regulation
- IP 66 / IP 67 — Ingress Protection
- 10 Years — Warranty
- c UL us LISTED — DS 5 | DS 10
- EAC

AVAILABLE OPTIONS

- External Tone Selection Control (TAS)
- German Lloyd GL 30457-83-HH DS 5 | DS 10 DS 5 | DS 10 3G/3D
- SIL PL — DS 5-SIL | DS 10-SIL

10 YEARS WARRANTY

3D-Coverage performance data (width / height / depth)



DS 5 DS 5-SIL DS 5 3G/3D ATEX		DS 10 DS 10-SIL DS 10 3G/3D ATEX	
80 dB(A)	75.7 x 90.2 x 75.7 ft	80 dB(A)	109.5 x 143.3 x 109.5 ft
85 dB(A)	42.6 x 50.8 x 42.6 ft	85 dB(A)	61.6 x 80.3 x 61.6 ft
90 dB(A)	24 x 28.8 x 24 ft	90 dB(A)	34.7 x 45.2 x 34.7 ft

Coverage area with DIN tone and required sound levels of 80, 85 and 90 dB(A). To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

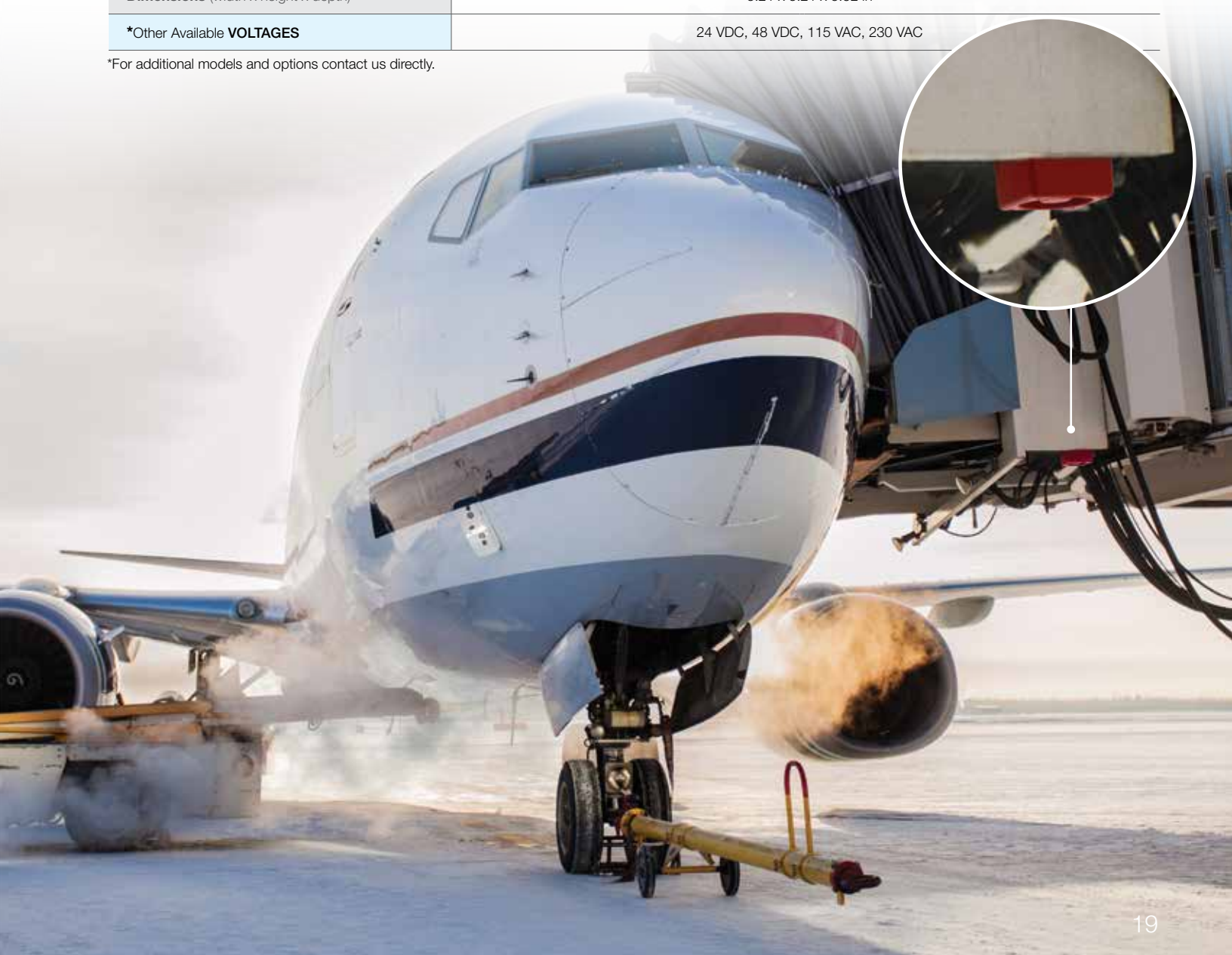
For additional technical data, drawings and templates. www.pfannenbergusa.com

DS: Alarm Sounders (Red-painted, Cast Aluminum Housing - IP 66, IP 67) Each sounder has a 31-tone menu.

Description	Part Number	Operating Voltage Range*	Nominal Current Consumption	Nominal Sound Output (SPL)	Frequency
DS 5-TAS-LSR UL Volume Control-LSR, External Tone Selection Control-TAS Red Housing	23106800522	24 VDC	.28 mA	107 dB	NA
DS 10 Red Housing	23111800000	24 VDC	.42 mA	114 dB	NA

Additional Data	DS 5-TAS-LSR UL	DS 10
Alarm Tones	32 tone selectable / 4 tones are externally selectable (TAS only)	
Max Sound Pressure Level	107 dB(A)	114 dB(A)
Sound Level Reduction	DS 5: -20 dB via potentiometer (optional)	
Operating Temperature	-40 °C... +55 °C (-40 °F ... +131 °F)	
Storage Temperature	-40 °C ... +70 °C (-40 °F ... +158 °F)	
Protecting System According to EN 60529	IP 66 / IP 67	
Housing Material	Die-cast Aluminum GD-Al Si12 Cu	
Housing Color	Epoxy resin paint RAL 3000, flame red	
Cable Bushing	2x M20 (1x chrome-plated brass cable fitting, 1x chrome-plated brass blanking plug)	
Dimensions (width x height x depth)	5.21 x 5.21 x 5.62 in	
***Other Available **VOLTAGES**	24 VDC, 48 VDC, 115 VAC, 230 VAC	

*For additional models and options contact us directly.



VISUAL SIGNALING PRODUCTS

Rugged, Modern Signaling Devices for Improved Safety and Efficiency

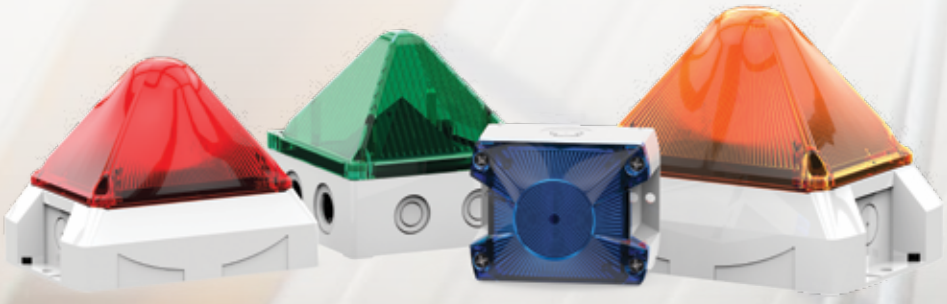
Industrial Flashing Strobe Beacons utilize glass tubes filled with xenon gas to produce a bright flash of light when energized. The technology is also used for strobe lights and flash photography.

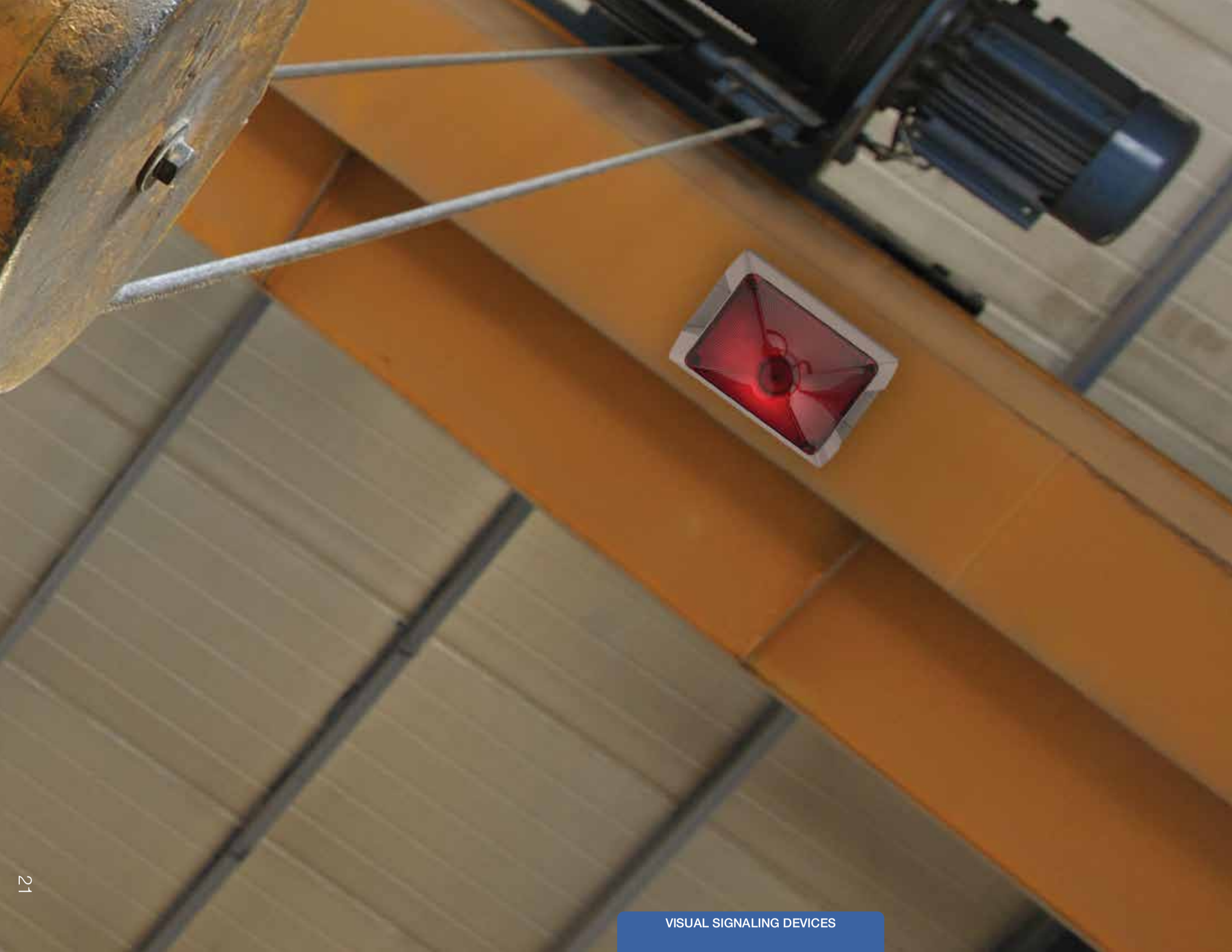
A typical flash rate is once per second – but this can vary by device. Units with multiple flash capability offer a variety of flash sequences and rates.

Flashing beacons offer the highest degree of signaling effect and are widely used for evacuation alarms for fires, toxic gas leaks, and chemical spills; as well as for warning of moving machinery and structures such as lifting equipment, service vehicles, safety barriers, gates, and doors.

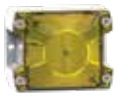
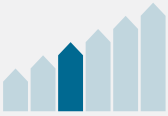
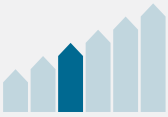
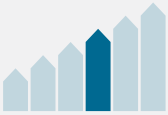
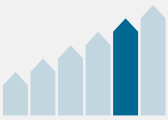
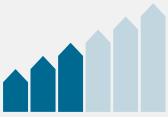
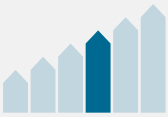
Examples:

Indication: Quadro LED HI, PY X-S-05
Warning: QUADRO LED HI, PY X-M-05, PY X-M-10
Alarm: PY X-L-15





Visual Signaling Devices at a Glance

TYPE	3D-COVERAGE LEVEL [1]	LIGHT INTENSITY	PROTECTION SYSTEM	DIMENSIONS (W x H x D) inches	APPROVALS / STANDARDS					PAGE
					GL	EAC	UL	EN 54-3	VdS	
FLASHING LIGHTS										
PY X-S-05 		50 cd	IP 66 IK08	4.3 x 3.3 x 3.1	● [2]	●	●			24-25
PY X-M-05		56 cd	IP 66 IK08	6.5 x 4.8 x 4.4		●	●	●	●	
PY X-M-10		149 cd	IP 66 IK08	6.5 x 4.8 x 4.4		●	●	●	●	
PY X-L-15		190 cd	IP 66 IK08	8.3 x 5.6 x 6.1		●	●	●		
STEADY ON / BLINKING / FLASHING LED LIGHTS										
PY L-S	** 	76 cd	IP 66	6.5 x 4.9 x 4.5		●	●			26-27
QUADRO-LED-HI		75 cd	IP 66 IP 67 IK08	5.1 x 5.1 x 5.1		●				28-29

**1 bar for steady on, 2 for blinking, 3 for flashing [1] with a clear lens ● available [2] option

Effective, Optimized Signaling for Each Unique Situation

Effective Signaling means that Pfannenberg 3D Audit methodology of the physical space dimensions, personnel locations, and acoustical/visual characteristics will increase the likelihood that signals will be heard and/or seen. Optimized Signaling means that companies can select unique visual cues that differentiate critical alerts, and also enable standardization of signals within and among facilities.

PYRA Xenon Strobe Lights shown left are used as a warning status for the security gate to open and close. The 4X/IP66 rating along with the Industry Leading Pfannenberg 10 years Warranty make it a great choice for extremely harsh environments. Adjustability of the flashing rate make it a great option to ensure the likelihood that the signal is seen.

PYRA PY X SERIES | FLASHING LIGHTS

5-15 Joules, 60 flashes per minute

Captive Fasteners
Installation and assembly is simplified and screws cannot get lost.

Plug and Socket Connections
Upper and lower parts combine positively to simplify installation. When separated, electrical hazards are eliminated.

Shape Moulded Gasket
Stays in place and cannot get lost.

Intelligent Installation
Electrical wiring is conducted in the base box to avoid clumsy 3-hand assembly. Wires are safely routed where the potential for pinching and errors are eliminated.

High Quality Components
Longevity is assured with 70 % light emission even after 8 million flashes.

Impact Resistant Housing and Lens
Achieves IK08 impact rating to endure harsh environments.

-40 °F to -131 °F Temperature Range
Suitable for use in thermal conditions encountered in factories and all corners of the world.

Flexible Mounting Options
Integrated hole template adapts to many common electrical workboxes worldwide. Installs upright on enclosures, downward from ceiling, or vertically on walls.

IP 66 Enclosure Rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

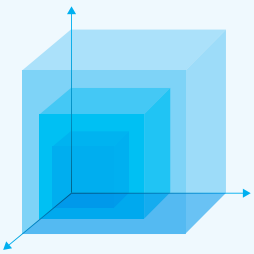
EN 54-23 Certified
Applicable for fire alert.

STANDARD ON PYRA STROBE

EAC	c UL us LISTED	EN 54-23	VdS	IP 66 IP 67	10 Years	IK08	+131 °F / –40 °F
		24 V DC 48 V DC	24 V DC 48 V DC	Ingress Protection	Warranty	Impact-proof Housing	Operating Temperature

10 YEARS WARRANTY

3D-Coverage performance data (width / height / depth)



	PY X-S-05	PY X-M-05 I PY X-M-05-SSM	PY X-M-10 I PY X-M-10-SSM
Indicate	150.5 x 128.6 x 167 ft	186 x 94.4 x 200.7 ft	265.7 x 147.6 x 333.6 ft
Warn	67 x 57 x 74.1 ft	82.6 x 42 x 89.2 ft	118.1 x 65.6 x 148.3 ft
Alarm	33.4 x 28.5 x 37 ft	41.3 x 21 x 44.6 ft	59 x 32.8 x 74.1 ft

Coverage area according to the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear lens. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

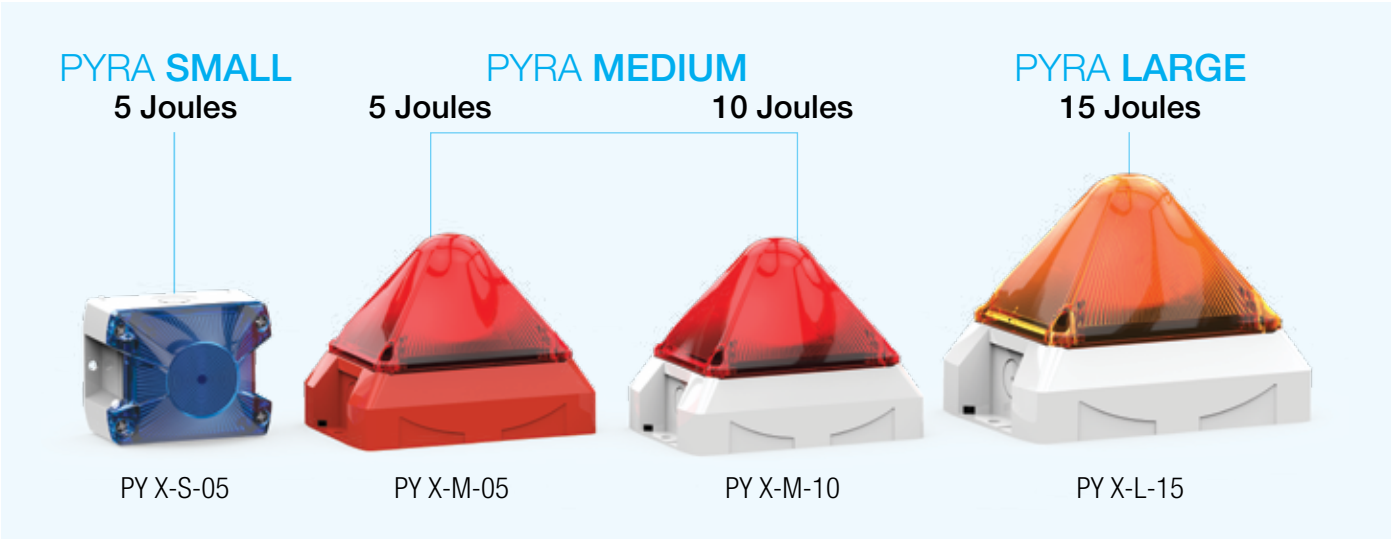
For additional technical data, drawings and templates. www.pfannenbergusa.com

PYRA: Flashing Strobe Alarm Lights (Xenon Flash Tube - Plastic Housing - IP 66)

Description	Part Number	Flash Energy	Operating Voltage Range*	Light Output [1]
PY X-S-05 Grey Housing and Blue Lens	21510157055	5 J	115 VAC	50 cd
PY X-S-05 Grey Housing and Yellow Lens	21510803055	5 J	24 VDC	50 cd
PY X-S-05 Grey Housing and Red Lens	21510155055	5 J	115 VAC	50 cd
PY X-M-05	*	5 J	*	*
PY X-M-10 Grey Housing and Amber Lens	21551154055	10 J	115 VAC	149 cd
PY X-L-15 Red Housing and Amber Lens	21561804000	15 J	24 VDC	190 cd
PY X-L-15 Grey Housing and Amber Lens	21561154055	15 J	115 VAC	190 cd

Additional Data	PY X-S-05		PY X-M-10	PY X-L-15
	115 VAC	24 VDC		
Nominal current consumption	100mA	800mA	240mA	
Light Source	Xenon flash tube			
Frequency	50 / 60 Hz			
Operating Temperature	-40 ... +55 °C (-40 ... +131 °F)			
Protecting System According to EN 60529	IP 66			
Service Life of Light Source	light emission still 70% after 8,000,000 flashes			
Dimensions (X x Y x Z)	4.31 x 3.37 x 3.17 in		6.53 x 4.88 x 4.48 in	5.66 x 8.5 x 6.77 in
***Other Available LENS COLORS**	polycarbonate (PC)			
***Other Available HOUSING COLORS**	PC / ABS, RAL 3000 | PC / ABS, RAL 7035			
***Other Available VOLTAGES**	12 VAC, 24 VAC, 24 VDC, 48 VDC, 230 VAC			

* For additional models and options contact us directly.
[1] With a clear lens



PYRA L-S SERIES | STEADY-ON / BLINKING / FLASHING COLOR CHANGING LED VISUAL ALARM

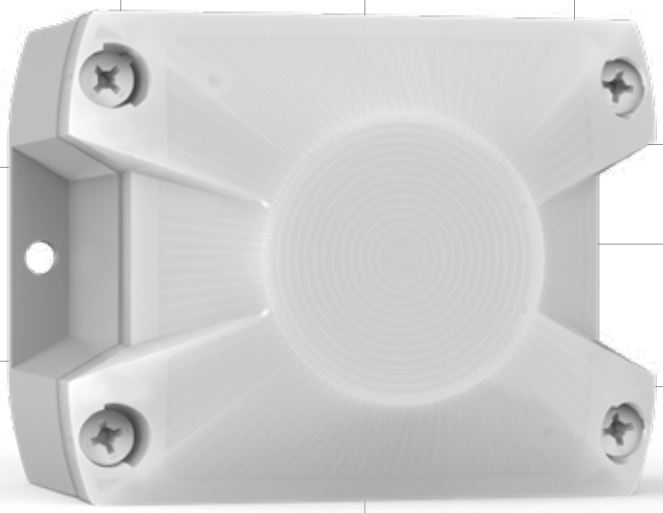
Adjustable Brightness up to 76 cd

Selectable Colors
PYRA® LED RGB allows you to choose the color you need. Stay flexible and keep your stock to a minimum.

Selectable Signaling Modes
- Continuous steady on light (permanent warning or indication)
- Blinking light (highly efficient for permanent warning)
- Flashing light (higher perceptibility in alarm conditions)

External color & mode control
Whether it is an operation, error indication or any other status – with PYRA® color changing or single color LED technology you can indicate several situations with just one light. Easily select and change colors and modes by remote control.

Selectable blink & flash frequencies
Adaptable to all your applications – select the frequency your gadget needs and increase perceptibility.



IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

Impact resistant housing and lens
Achieves IK08 impact rating to endure harsh environments.

Plug and socket connections
Upper and lower parts combine positively to simplify installation. When separated, electrical hazards are eliminated for handling.

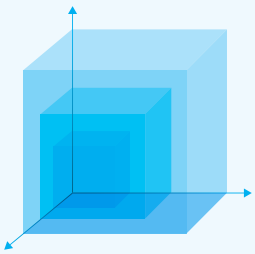
Captive fasteners
Installation and assembly is simplified and screws cannot get lost.

STANDARD ON PYRA L-S

RGB	IP 66	IK08	+55 °F / –40 °C		10 Years	EAC	UL	M12
multi color LED option	Ingress Protection	Impact-proof Housing	Quadro-LED-HI	Brightness Adjustable	Warranty		UL approval (pending)	connector (option)

10 YEARS WARRANTY

3D-Coverage Performance Data (width / height / depth)



PY L-S

Indicate	35.1 x 14.9 x 14.2 ft
Warn	15.6 x 6.6 x 6.4 ft
Alarm	7.8 x 3.3 x 3.2 ft

PY L-S RGB

Indicate	17.1 x 14 x 13.5 ft
Warn	7.6 x 6.2 x 6 ft
Alarm	3.8 x 3.1 x 3 ft

Coverage area according to the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear lens. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

For additional technical data, drawings and templates. www.pfannenbergusa.com

PYRA L-S SERIES

PYRA L-S: Compact Multifunctional LED Light (High-Impact Plastic Housing - IP 66)

Description	Part Number	Operating Voltage Range*	LED Color
PYRA L-S RGB DC Voltage, LED Light	21513818055	12 - 60 VDC	Color Changing Red/Green/ Blue/Yellow
PYRA L-S RGB AC Voltage, LED Light	21513648055	95 - 265 VAC & 120 VDC	Color Changing Red/Green/ Blue/Yellow
PYRA L-S Green DC Voltage, LED Light	21513816055	12 - 60 VDC	Green
PYRA L-S Green AC Voltage, LED Light	21513646055	95 - 265 VAC & 120 VDC	Green
PYRA L-S Yellow DC Voltage, LED Light	21513813055	12 - 60 VDC	Yellow
PYRA L-S Yellow AC Voltage, LED Light	21513643055	95 - 265 VAC & 120 VDC	Yellow
PYRA L-S Amber DC Voltage, LED Light	21513814055	12 - 60 VDC	Amber
PYRA L-S Amber AC Voltage, LED Light	21513644055	95 - 265 VAC & 120 VDC	Amber
PYRA L-S Red DC Voltage, LED Light	21513815055	12 - 60 VDC	Red
PYRA L-S Red AC Voltage, LED Light	21513645055	95 - 265 VAC & 120 VDC	Red
PYRA L-S Blue DC Voltage, LED Light	21513817055	12 - 60 VDC	Blue
PYRA L-S Blue AC Voltage, LED Light	21513647055	95 - 265 VAC & 120 VDC	Blue

Additional Data	PYRA L-S / PYRA L-S RGB			
Rated Voltage	115 / 230 V	120 V DC	24 V AC	12-48 V DC
	AC 50 | 60 Hz / DC	-	50 / 60 Hz	-
Operating Range	95-253 V	108-132 V	21.6-26.4 V	11-60 V
Current Consumption (@ 1Hz flash)	36 mA @ 230 V AC	75 mA @ 120 V DC	167 mA @ 24 V AC	120 mA @ 24 V DC
Operating Mode Internally & Externally Selectable (DC)	continuous light / blinking light / flashing light			
Light Alternation Frequency	Blinking light 1 Hz / 2 Hz | Flashing light 0.1 Hz / 0.5 Hz / 0.75 Hz / 1 Hz / 2 Hz			
Light Source	one high output LED			
Light Intensity (DIN 5037)	76 cd (reducible)			
Max. Viewing Distance[1]	662.73 ft			
Operating Temperature	-40 ... +55 °C (-40 ... +131 °F)			
Storage Temperature	-40 ... +70 °C (-40 ... +158 °F)			
Installation Position	any			
Protecting System According to EN 60529	IP 66 (EN 60529), NEMA TYPE 4&4x, IK 08 (EN 50102)			
Service Life of Light Source	>50,000 hrs			
Dimensions (X x Y x Z)	6.5 x 4.9 x 4.5			
*Other Available **LENS COLORS**	(RGB) polycarbonate (PC)			

*For additional models and options contact us directly. [1] With a clear lens

Note: When pairing 2 or more units together, utilize housing coupler kit #28112000003.

VISUAL SIGNALING DEVICES

QUADRO LED-HI SERIES | BLINKING, FLASHING OR CONTINUOUS LIGHTS

Adjustable Brightness up to 75 cd

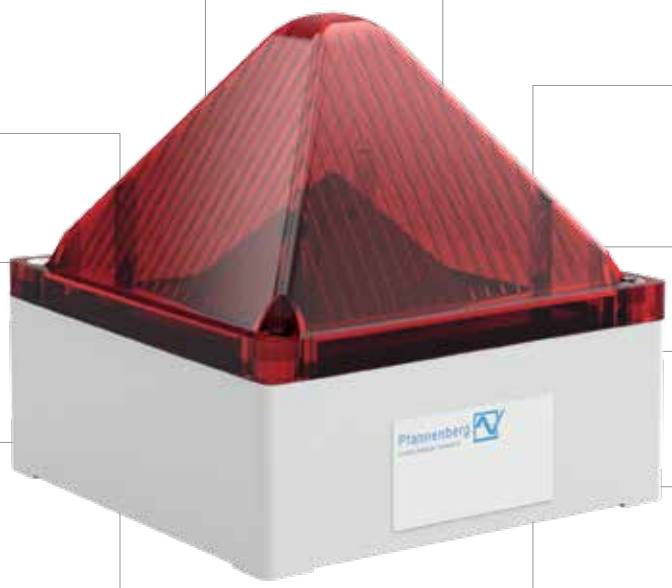
Advanced LED Technology
User-adjustable brightness up to 75 cd (LED-Hi) and a selection of several signaling modes:
- Continuous light
- Blinking light
- Flashing light

–40 °F to -131 °F Temperature Range
Suitable for use in thermal conditions encountered in factories and around the world.

IP 66/67 and IK08 Enclosure Rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

Inrush Current Regulator
Provides electrical protection for control devices such as switching components and relays.

Shape-Moulded Gasket
Stays in-place and cannot get lost.



Hazardous Area Approved (LED Flex-3G/3D)
Certified for use in Ex zone 2 (per EN 60079-10) and zone 22 (per EN 61241-10)

Positive Enclosure Sealing
Leak path risk is eliminated since the lens fastening screws are located outside the sealing gasket area.

Wide Range Power Supplies
11–60 V DC and 90–253 V AC and DC

Flexible Wiring Schemes
Multiple cable and conduit entries provide ease of installation in any orientation.

External Selectable Operating Mode (LED-HI DC)
Adapt continuous, blinking, and flashing modes to signalling requirements.

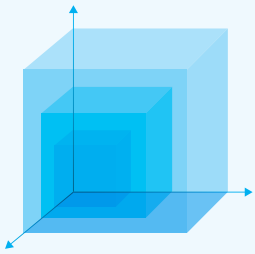
Redundant Electrical Contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.

STANDARD ON QUADRO LED HIGH

IP 66 IP 67	IK08	+131 °F –40 °C		10 Years	LED
Ingress Protection	Impact-proof Housing	Quadro-LED-HI	Brightness Adjustable (Quadro-LED-HI)	Warranty	

10 YEARS WARRANTY

3D-Coverage Performance Data (width / height / depth)



Quadro-LED-HI

Indicate	156.5 x 116.8 x 153.5 ft
Warn	69.5 x 51.8 x 68.2 ft
Alarm	34.7 x 26 x 34.1 ft

Quadro-LED Flex-3G/3D

Indicate	82.6 x 31.1 x 127 ft
Warn	36.7 x 13.7 x 56.4 ft
Alarm	18.3 x 6.8 x 28.2 ft

Coverage area according to the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear lens. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

Several Versions to Serve Specific Needs

Quadro-LED-HI	Quadro-LED Flex-3G/3D
Standard version with advanced, high-output, solid state LEDs, long service life, shock and vibration resistant.	Certified for Ex zone 2/22 hazardous area use. Adjustable operating modes of continuous, blinking, flashing and rotating (LED rotating sequence with no moving parts).

Other Available Models (upon request)

Quadro-LED Flex-3G/3D
115 V / 230 VAC

For additional technical data, drawings and templates. www.pfannenbergusa.com

QUADRO LED-HI SERIES

Quadro-LED HI: High Intensity, LED Indicating Lights (High-Impact Plastic Housing - IP 66, 67)

Description	Part Number	Nominal Current Consumption (@ 1Hz flash)	Operating Voltage Range*	Light Output [1]
QUADRO LED HI Traffic Style Assembly, DC Voltage, Amber Lens	21108634000	165 mA	11 - 60 VDC	75 cd
QUADRO LED HI Traffic Style Assembly, DC Voltage, Red Lens	21108635000	165 mA	11 - 60 VDC	75 cd
QUADRO LED HI Traffic Style Assembly, DC Voltage, Clear Lens	21108631000	165 mA	11 - 60 VDC	75 cd
QUADRO LED HI Traffic Style Assembly, AC Voltage, Amber Lens	21108644000	50 mA	90 - 253 VAC	75 cd
QUADRO LED HI Traffic Style Assembly, AC Voltage, Red Lens	21108645000	50 mA	90 - 253 VAC	75 cd
QUADRO LED HI Traffic Style Assembly, AC Voltage, Green Lens	21108646000	50 mA	90 - 253 VAC	75 cd

Additional Data	QUADRO-LED-HI
Light Source	LED - FOR HIGH OUTPUT INTENSITY
Max. Viewing Distance[1]	988 ft
Light Level Reduction	6 - 100%
Operating Temperature	-40 ... +55 °C (-40 ... +131 °F)
Protecting System According to EN 60529	IP 66 | IP 67
Impact resistance as per EN 50102	IK08
Service Life of Light Source	>50,000 hrs
Dimensions (X x Y x Z)	5.11 x 5.11 x 5.11 in
*Other Available **LENS COLORS**	polycarbonate (PC)

*For additional models and options contact us directly. [1] With a clear lens

Note: When pairing 2 or more units together, utilize housing coupler kit #28112000003.

Fixed Gas Detection Alarm

Unheard, unseen or confusing alarms can have serious consequences and specifications on paper do not always reflect how a signal/alarm will perform in the actual location. Pfannenberg PATROL Series Combination Strobe/sounders are ideal for warning personnel of an evacuation when there is presence of hazardous gasses. The PA X 10 shown above with a blue lens, alarms personnel of extremely high amounts of Ammonia and that evacuation is necessary. Ideal to use with NH3, CO2, R22, CH4, CL2 gas monitoring systems.

COMBINED VISUAL-AUDIBLE SIGNALING PRODUCTS

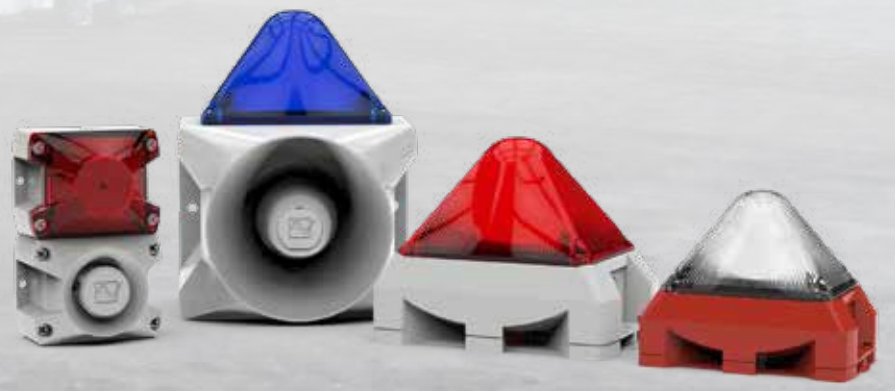
In many industrial areas the of use for signaling devices is associated with adverse environmental conditions. In loud surroundings a flashing light can be of great assistance. Likewise, in bright surroundings audible signals can be a great aid to visual signals.

Flashing sounders offer an enhanced level of signaling by combining visual and audible alarms. Such devices are particularly well suited for environments with high ambient noise levels or when the use of hearing protection may hamper a sounder's effectiveness. Pfannenberg's Flashing Sounders are designed as integrated flashing sounders, rather than combining a sounder with a bolted-on flashing light.

The lens cover is large, highly visible, and available in a variety of colors. The xenon strobe flash tube contains no filament to break and is secured by a steel clamp to further protect it from abuse. Users can choose from a wide selection of acoustic tones which are electronically self-generated – and since there are no moving parts, the device's reliability is enhanced for critical applications. The housing is manufactured from a UV-resistant and flame-retardant polycarbonate/ABS blend and is offered in red or grey to meet application requirements and building decor.

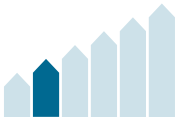
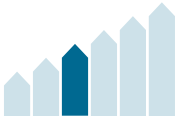
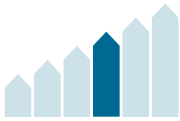
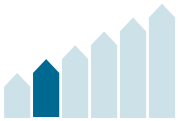
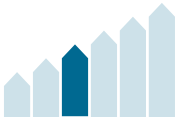
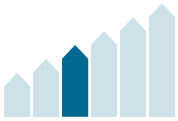
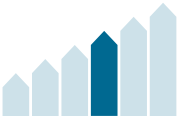
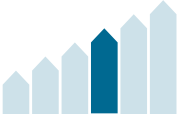
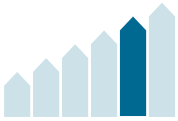
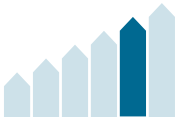
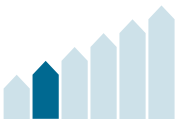
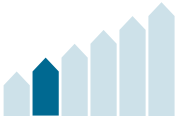
Examples:

Indication: PA X 1-05, PY X-MA-05
Warning: PA X 5-10, PA X 10-10, PY X-MA-10
Alarm: PA X 10-15, PA X-20-15



PA X 20-15
FLASHING SOUNDER

Combined Visual-Audible Signaling Devices at a Glance

TYPE	3D-COVERAGE LEVEL	SOUND PRESSURE LEVEL / LIGHT POWER	PROTECTION SYSTEM	DIMENSIONS (W x H x D) inches	APPROVALS/STANDARDS							PAGE
					GL	MED	EAC	UL	EN 54-3	EN 54-23	VdS	
PY X-MA-05		101 dB(A) 5 J	IP 66 IK08	6.5 x 5.2 x 4.4			●	●				36-37
PY X-MA-10		101 dB(A) 10 J	IP 66 IK08	6.5 x 5.2 x 4.4			●	●				
PY X-LA-15		103 dB(A) 15 J	IP 66 IK08	8.5 x 6.7 x 5.6			●	●				
PA X 1-05		105 dB(A) 5 J	IP 66 IK08	4.3 x 6.7 x 3.1	●[2]	●[2]	●	●	●	●	●	34-35
PA X 5-05		107 dB(A) 5 J	IP 66 IK08	6.4 x 8.4 x 5.1	●[2]	●[2]	●	●				
PA X 5-10		107 dB(A) 10 J	IP 66 IK08	6.4 x 8.4 x 5.1	●[2]	●[2]	●	●				
PA X 10-10		117 dB(A) 10 J	IP 66 IK08	8.4 x 10.6 x 6.1	●[2]	●[2]	●	●				
PA X 10-15		117 dB(A) 15 J	IP 66 IK08	8.4 x 10.6 x 6.1	●[2]	●[2]	●	●				
PA X 20-10		122 dB(A) 10 J	IP 66 IK08	8.4 x 10.6 x 7.1	●[2]	●[2]	●	●				
PA X 20-15		122 dB(A) 15 J	IP 66 IK08	8.4 x 10.6 x 7.1	●[2]	●[2]	●	●				
PA L 1		105 dB(A) 76 cd	IP 66 IK08	4.3 x 6.7 x 3.1			●	●				40-41
PY L-S-TL		105 dB(A) 76 cd	IP 66 IK08	4.3 x 6.7 x 3.1			●	●				42-43

Sound pressure levels approaching 120 dB(A) and higher can lead to hearing damage. Caution must be exercised to ensure that personnel are not within the vicinity of such elevated sound pressure levels. High output sounders are intended for use in outdoor applications or in large manufacturing spaces where hearing protection may be in use. Unless specified otherwise, sound pressure level is measured at a 1 m distance.

● available
[2] option

Products at a Glance -
PA X Flashing Sounders

Captive Fasteners
Installation and assembly is simplified and screws cannot get lost.

Flash Tube
Xenon strobe generates highly visible light without sensitive filaments and is inherently resistant to shock and vibration.

Selectable Audible Notification
Choice of 80 unique alarm tones with four stages of tone control for distinctive signaling of specific events.

Plug and Socket Connections
Upper and lower sections combine positively to simplify installation. When separated, electrical hazards are eliminated for handling.

Shape-Moulded Gasket
Stays in-place and cannot get lost.

10 YEARS WARRANTY

High Quality Components
Longevity is assured with 70 % light emission even after 8 million flashes.

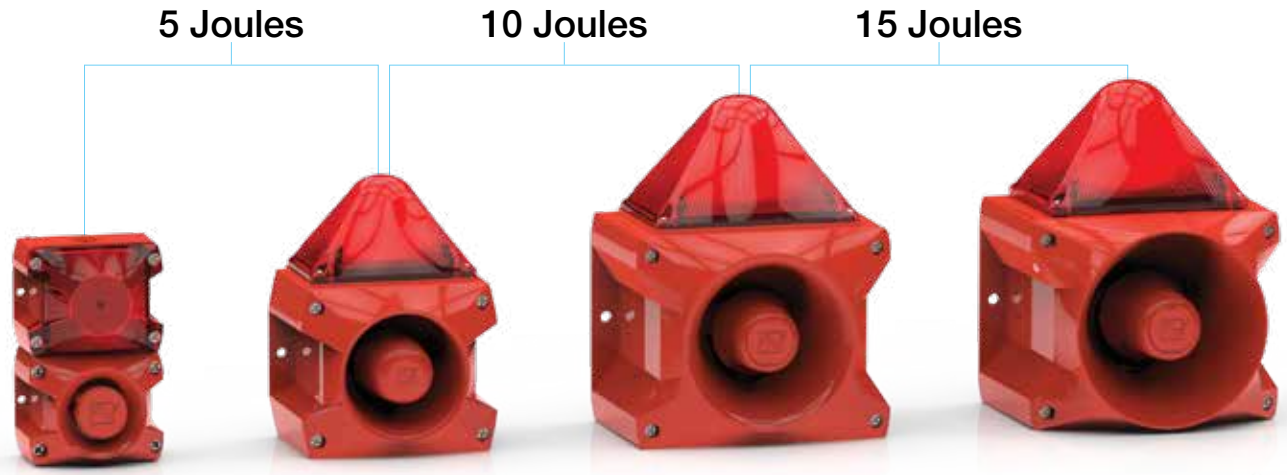
Intelligent Installation
Electrical wiring is conducted in the base box to avoid clumsy 3-hand assembly. Wires are safely routed where the potential for pinching and errors are eliminated.

Electromagnetic Sound Capsule Technology
Acoustic signal includes a share of low frequency side bands for excellent sound penetration of walls and doors for highly effective alarming.

Flexible Mounting Options
Integrated hole template adapts to many common electrical workboxes worldwide. Installs upright on enclosures, downward from ceiling, or vertically on walls.

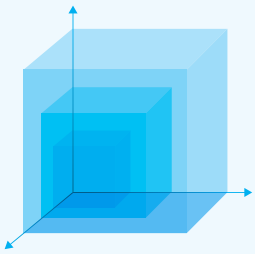
10 YEARS WARRANTY

For additional technical data, drawings and templates. www.pfannenbergusa.com



(Max sound pressure level)

3D-Coverage Performance Data (width / height / depth)



Coverage area with DIN tone and required sound levels of 80, 85 and 90 dB(A) and also to be used for the applications "Indicate", "Warn" and "Alarm" (EN 54-23) **with clear lens**. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PA X 1-05

AUDIBLE	80 dB(A)	52.5 x 45.2 x 52.5 ft
	85 dB(A)	29.5 x 25.6 x 29.5 ft
	90 dB(A)	16.7 x 14.4 x 16.7 ft
VISUAL	Indicate	60.7 x 103.3 x 162.4 ft
	Warn	27 x 46 x 72.1 ft
	Alarm	13.4 x 23 x 36 ft

PA X 5-05

AUDIBLE	80 dB(A)	46.2 x 59.3 x 46.2 ft
	85 dB(A)	26 x 33.4 x 26 ft
	90 dB(A)	14.4 x 18.7 x 14.4 ft
VISUAL	Indicate	144.6 x 122.7 x 221.4 ft
	Warn	64.3 x 54.4 x 98.4 ft
	Alarm	32.1 x 27.2 x 49.2 ft

PA X 10-10

AUDIBLE	80 dB(A)	173.2 x 240.4 x 173.2 ft
	85 dB(A)	97.4 x 135.1 x 97.4 ft
	90 dB(A)	54.8 x 76.1 x 54.8 ft
VISUAL	Indicate	223 x 202.4 x 392.7 ft
	Warn	99 x 89.8 x 174.5 ft
	Alarm	49.5 x 45 x 87.2 ft

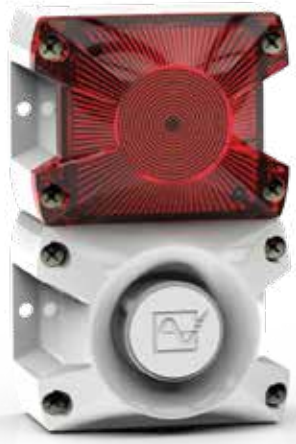
PA X 20-15

AUDIBLE	80 dB(A)	280.8 x 320.5 x 280.8 ft
	85 dB(A)	157.8 x 180.4 x 157.8 ft
	90 dB(A)	89 x 101.3 x 89 ft
VISUAL	Indicate	277.5 x 245 x 474 ft
	Warn	123.3 x 109 x 210.6 ft
	Alarm	61.6 x 54.4 x 105.3 ft

PATROL PA X SERIES | FLASHING SOUNDERS

5-15 Joules (50-265 cd) | 102-122 dB (A)

10 YEARS WARRANTY



PA X 1-05
5 Joules (50 cd)
105 dB (A)

PA X 5-05
5 Joules (56 cd)
107 dB (A)

PA X 10-10
10 Joules (149 cd)
117 dB (A)

PA X 20-15
15 Joules (265 cd)
122 dB (A)

STANDARD ON PATROL FLASHING SOUNDERS

c UL us LISTED — GL 30457-83-HH

External Tone Selection Control

+131 °F / –40 °F — Operating Temperature

Acoustic Penetration

IK08 — Impact-proof Housing

10 Years — Warranty

AVAILABLE OPTIONS

German Lloyd

Marine Grade

Surface Gasket — Panel Mount

Tamper-proof Sealing

For additional technical data, drawings and templates. www.pfannenbergusa.com

PATROL: Flashing Alarm Sounders - Plastic Housing - UL certified - Type 4/4X - IP 66

Description	Part Number	Flash Energy	Light Output	Nominal Sound Output (SPL)	Nominal Current Consumption	Voltage*
PA X 1-05 Grey Housing & Red Lens	23311805055	5 J	50 cd	105 dB	315-365 mA	18-30 VDC
	23311155055	5 J	50 cd	105 dB	110-130 mA	90-135 VAC
PA X 1-05 Grey Housing & Amber Lens	23311804055	5 J	50 cd	105 dB	315-365 mA	18-30 VDC
PA X 1-05 Grey Housing & Blue Lens	23311807055	5 J	50 cd	105 dB	315-365 mA	18-30 VDC
PA X 1-05 Grey Housing & Red Lens	23311805055	5 J	50 cd	105 dB	315-365 mA	18-30 VDC
PA X 5-05 Grey Housing & Yellow Lens	23351803055	5 J	56 cd	107 dB	315-365 mA	18-30 VDC
PA X 5-05 Grey Housing & Red Lens	23351805055	5 J	56 cd	107 dB	315-365 mA	18-30 VDC
PA X 5-10	*	10 J	149 cd	107 dB	*	*
PA X 10-10 Grey Housing & Amber Lens	23361154055	10 J	149 cd	117 dB	260-345 mA	90-135 VAC
PA X 10-10 Red Housing & Red Lens	23361155000	10 J	149 cd	117 dB	260-345 mA	90-135 VAC
PA X 10-10 Grey Housing & Red Lens	23361155055	10 J	149 cd	117 dB	260-345 mA	90-135 VAC
PA X 10-10 Grey Housing & Blue Lens	23361157055	10 J	149 cd	117 dB	260-345 mA	90-135 VAC
	23361807055	10 J	149 cd	117 dB	665-935 mA	18-30 VDC
PA X 10-10 Grey Housing & Amber Lens	23361804055	10 J	149 cd	117 dB	665-935 mA	18-30 VDC
PA X 10-15	*	15 J	265 cd	117 dB	*	*
PA X 20-10	*	10 J	149 cd	122 dB	*	*
PA X 20-15 Grey Housing & Clear Lens	23372151055	15 J	265 cd	122 dB	340-560 mA	90-135 VAC
PA X 20-15 Grey Housing & Red Lens	23372155055	15 J	265 cd	122 dB	340-560 mA	90-135 VAC
	23372805055	15 J	265 cd	122 dB	845-1430 mA	18-30 VDC
PA X 20-15 Red Housing & Red Lens	23372805000	15 J	265 cd	122 dB	845-1430 mA	18-30 VDC
	23372105000	15 J	265 cd	122 dB	845-1430 mA	230 VAC

Additional Data	PA X 1-05	PA X 5-05	PA X 10-10	PA X 20-15
Alarm Tones	80 / 4 tones are externally selectable			
Sound Level Reduction	max. -16 dB via potentiometer		max. -12 dB via potentiometer	
Operating Temperature	-40 ... +55 °C (-40 °F ... +131 °F)			
Max. Viewing Distance	PA X 1 - 538 ft, PA X 5 - 568 ft, PA X 10 - 928 ft, PA X 20 - 1,237 ft			
Protecting system according to EN 60529	IP 66			
Dimensions (width x height x depth)	4.31 x 6.78 x 3.17 inches	6.43 x 8.46 x 5.19 inches	8.42 x 10.62 x 6.14 inches	8.42 x 10.62 x 7.12 inches
***Other Available LENS COLORS**				
***Other Available HOUSING COLORS**	PC / ABS, RAL 3000 | PC / ABS, RAL 7035			
***Other Available VOLTAGES**	12 VDC, 24 VDC, 48 VDC, 115 VAC, 230 VAC			

*For additional models and options contact us directly. [1] With a clear lens

COMBINED VISUAL-AUDIBLE SIGNALING DEVICES

PYRA PY X SERIES | FLASHING LIGHT SOUNDERS

5-15 Joules flash / 101-103 dB

Powerful Flashing Light with Sounder
Choice of 5 - 15 Joule flash energy with a 100 - 103 dB(A) sounder in an attractive design.

Flexible Mounting Options
Integrated hole template adapts to many common electrical workboxes worldwide. Installs upright on enclosures, downward from ceiling, or vertically on walls.

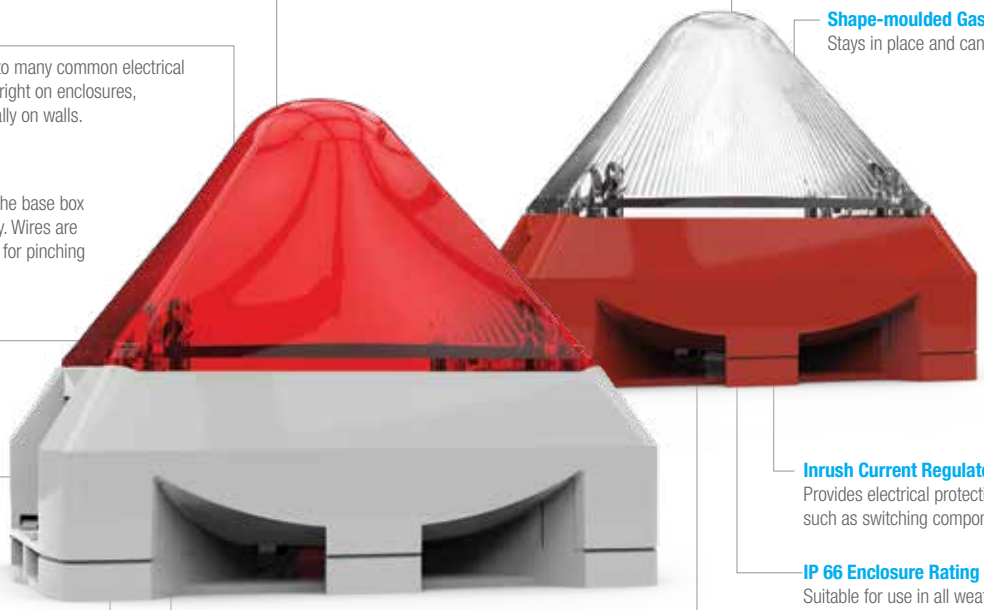
Intelligent Installation
Electrical wiring is conducted in the base box to avoid clumsy 3-hand assembly. Wires are safely routed where the potential for pinching and errors are eliminated.

Selectable Output Signals
On-board selection of 4 different light flash rates and 8 different acoustic alarm tones.

Captive Fasteners
Installation and assembly is simplified and screws cannot get lost.

Independent Signaling
Visual and acoustic signal outputs can be controlled separately.

Impact Resistant Housing and Lens
IK08 impact rating to endure harsh environments.



EN 54-23 Certified
Satisfies EU requirements for fire alarm safety.

Shape-moulded Gasket
Stays in place and cannot get lost.

Inrush Current Regulator
Provides electrical protection for control devices such as switching components and relays.

IP 66 Enclosure Rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

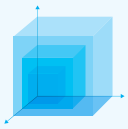
Circuit Loading Stability
24 V AC/DC versions incorporate constant current regulators for stable and efficient system operation.

STANDARD ON PYRA FLASHING SOUNDER

UL	EAC	I lim t	EN 54-23	VdS	10 Years	IK08	IP 66	+131 °F / –40 °F
			24 V DC 48 V DC	24 V DC 48 V DC	Warranty	Impact-proof Housing	Ingress Protection	Operating Temperature

10 YEARS WARRANTY

3D-Coverage Performance Data (width / height / depth)



		PY X-MA-05	PY X-MA-10	PY X-LA-15
AUDIBLE	80 db(A)	28.5 x 15.7 x 28.5 ft	28.5 x 15.7 x 28.5 ft	30.1 x 16.7 x 30.1 ft
AUDIBLE	85 db(A)	16 x 8.8 x 16 ft	16 x 8.8 x 16 ft	17.3 x 9.5 x 17.3 ft
AUDIBLE	90 db(A)	9.1 x 5 x 9.1 ft	9.1 x 4.9 x 9.1 ft	9.8 x 5.5 x 9.8 ft
VISUAL	Indicate	186 x 94.4 x 200.7 ft	265.7 x 147.6 x 333.6 ft	354.3 x 230.3 x 369 ft
VISUAL	Warn	82.6 x 42 x 89.2 ft	118.1 x 65.6 x 148.2 ft	157.4 x 102.3 x 164 ft
VISUAL	Alarm	41.3 x 21 x 44.6 ft	59 x 32.8 x 74.1 ft	78.7 x 51.1 x 78.7 ft

Coverage area with DIN tone and required sound levels of 80, 85 and 90 dB(A) and also to be used for the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear lens. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

For additional technical data, drawings and templates. www.pfannenbergusa.com

PYRA: Flashing Strobe Light with Sounder (Plastic Housing - IP 66)

Description	Part Number	Flash Energy	Light Output	Nominal Sound Output (SPL)	Nominal Current Consumption	Voltage*
PY X MA-05	*	5 J	50 cd	101 dB	*	*
PY X MA-10 Grey Housing & Amber Lens	21555814055	10 J	149 cd	101 dB	540 mA @ 24 V	10-60 VDC
PY X LA-15 Grey Housing & Amber Lens	21565154055	15 J	190 cd	103 dB	150 mA	115 VAC
PY X LA-15 Grey Housing & Clear Lens	21565151055	15 J	190 cd	103 dB	150 mA	115 VAC
PY X LA-15 Grey Housing & Red Lens	21565155055	15 J	190 cd	103 dB	150 mA	115 VAC

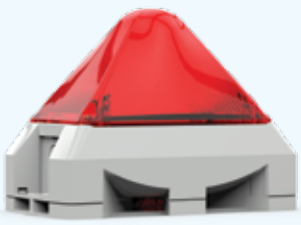
Additional Data	PY X-MA-10	PY X-LA-15
Alarm Tones	8 tones	
Sound Level Reduction	max. -50 dB via potentiometer	
Sound Pressure Level	102 dB (A)	103 dB (A)
Operating Temperature	-40 ... +55 °C (-40 °F ... +131 °C)	
Protecting System According to EN 60529	IP 66	
Flash Energy & Flash Rate	10 J @ 0.1 / 0.5 / 0.75 / 1 Hz	15 J @ 0.1 / 0.5 / 0.75 / 1 Hz
Light Intensity (DIN 5037)[1]	149 cd	190 cd
Max. Viewing Distance[1]	928 ft	1,050 ft
Impact Resistance as per EN 50102	IK08	
Service Light of Light Source	light emission still 70% after 8,000,000 flashes	
Dimensions (width x height x depth)	6.53 x 5.28 x 4.48 inches	8.5 x 6.77 x 5.66 inches
***Other Available LENS COLORS**		
***Other Available HOUSING COLORS**	PC / ABS, RAL 3000	PC / ABS, RAL 7035
***Other Available VOLTAGES**	12 VDC, 24 VDC, 48 VDC, 115 AC, 230 AC	

*For additional models and options contact us directly. [1] With a clear lens

PYRA **MEDIUM**

PYRA **LARGE**

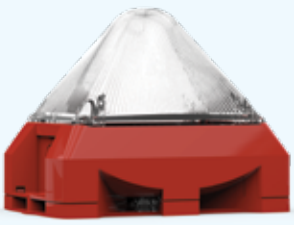
5 Joules



PY X-MA-05

101 dB

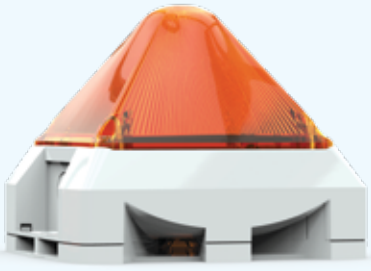
10 Joules



PY X-MA-10

101 dB

15 Joules



PY X-LA-15

103 dB

PYRA PA L 1 SERIES | LED LIGHT & SOUNDER COMBINATION

76 cd / Max. 105 dB

Selectable Colors
PYRA® LED RGB allows you to choose the color you need. Stay flexible and keep your stock to a minimum.

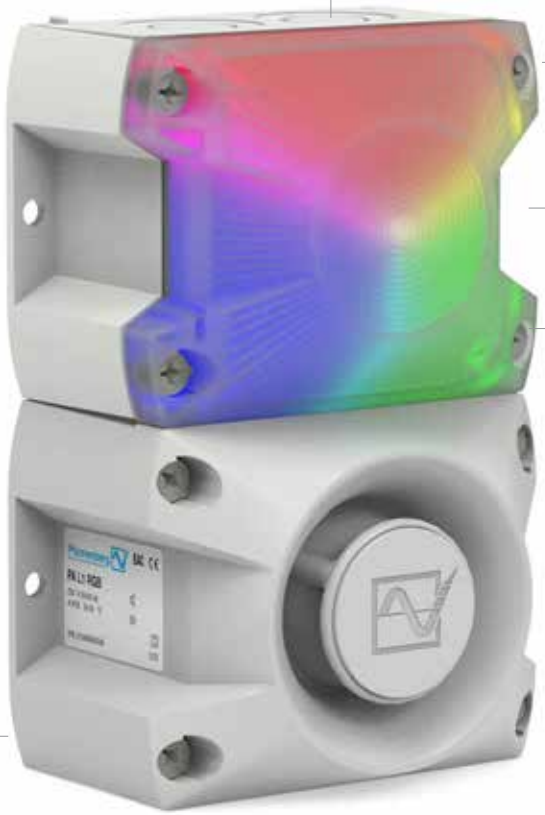
Selectable Signaling Modes
- Continuous steady on light (permanent warning or indication)
- Blinking light (highly efficient for permanent warning)
- Flashing light (higher perceptibility in alarm conditions)

External color & mode control
Whether it is an operation, error indication or any other status – with PYRA® color changing or single color LED technology you can indicate several situations with just one light. Easily select and change colors and modes by remote control.

Selectable blink & flash frequencies
Adaptable to all your applications – select the frequency your gadget needs and increase perceptibility.

IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

Impact resistant housing and lens
Achieves IK08 impact rating to endure harsh environments.



Plug and socket connections
Upper and lower parts combine positively to simplify installation. When separated, electrical hazards are eliminated for handling.

Captive fasteners
Installation and assembly is simplified and screws cannot get lost.

Safe and easy to install
Various beneficial attributes as e.g. locking elements outside of the sealing or anti-twist protection of the housing parts make an incorrect installation virtually impossible.

Rapid Mounting
PA L 1 has several advantageous characteristics like e.g. captive and in its position fixed locking elements. Therefore it is more than simple to mount and keep the assembly time to a minimum.

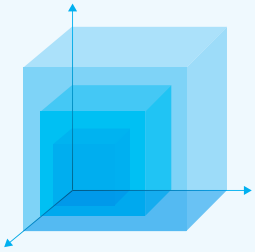
Budget Friendly
Due to an extremely high efficiency and good penetration of acoustical obstacles you can significantly reduce the number of devices.

STANDARD ON PA L 1

RGB	IP 66	IK08	+55 °F / –40 °C		10 Years	EAC	UL	M12
multi color LED option	Ingress Protection	Impact-proof Housing	Pyra PA L 1	Brightness Adjustable	Warranty		UL approval (pending)	connector (option)

10 YEARS WARRANTY

3D-Coverage Performance Data (width / height / depth)



	PA 1 (Sounder)	PA L 1	PA L 1 RGB
Indicate	52.4 x 45.2 x 52.4 ft	115.1 x 48.8 x 46.5 ft	56.1 x 46 x 44.2 ft
Warn	29.5 x 25.5 x 29.5 ft	51.1 x 21.6 x 20.9 ft	25 x 20.3 x 19.6 ft
Alarm	16.7 x 14.4 x 16.7 ft	25.5 x 10.8 x 10.4 ft	12.4 x 10.1 x 9.8 ft

Coverage area according to the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear and white lens (PA L 1 **RGB**). To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

For additional technical data, drawings and templates. www.pfannenbergusa.com

PA L 1: LED Light/Sounder Combination - Plastic Housing - UL certified - Type 4/4X - IP 66

Description	Part Number	Voltage	Nominal Sound Output (SPL)	Light Output	LED Color
PA L 1 RGB Grey Housing & RGB Lens	23313158055	115 V AC	105 dB	76 cd	Color Changing Red/Green/Blue/Yellow
	23313638055	12-48 VDC	105 dB	76 cd	Color Changing Red/Green/Blue/Yellow
PA L 1 RGB Red Housing & Red Lens	23313155000	115 V AC	105 dB	76 cd	Red
	23313635000	12-48 VDC	105 dB	76 cd	Red
PA L 1 RGB Grey Housing & Yellow Lens	23313153055	115 V AC	105 dB	76 cd	Yellow
	23313633055	12-48 VDC	105 dB	76 cd	Yellow
PA L 1 RGB Grey Housing & Amber Lens	23313154055	115 V AC	105 dB	76 cd	Amber
	23313634055	12-48 VDC	105 dB	76 cd	Amber
PA L 1 RGB Grey Housing & Red Lens	23313155055	115 V AC	105 dB	76 cd	Red
	23313634055	12-48 VDC	105 dB	76 cd	Red

Additional Data	PA L 1 RGB	
Rated Voltage	115 VAC	12-48 V DC
Current Consumption Light (max)	51 mA @ 115 V AC	120 mA @ 24 VDC
Current Consumption Sounder (max)	30 mA @ 115 V AC	70 mA @ 24 VDC
Operating Mode Internally & Externally Selectable (DC)	continuous light / blinking light / flashing light	
Light Source	one high output LED per single unit	
Light Intensity (DIN 5037)	76 cd (reducible)	
Max. Viewing Distance[1]	202 m	
Operating Temperature	-40 ... +55 °C (-40 ... +131 °F)	
Storage Temperature	-40 ... +70 °C (-40 ... +158 °F)	
Protecting System According to EN 60529	IP 66 (EN 60529), NEMA TYPE 4&4x, IK 08 (EN 50102)	
Service Life of Light Source	>50,000 hrs	
Dimensions (X x Y x Z)	4.31 x 6.78 x 3.17	
***Other Available LENS COLORS**	(RGB) polycarbonate (PC)	

*For additional models and options contact us directly. [1] With a clear lens

Note: When pairing 2 or more units together, utilize housing coupler kit #28112000003.

PYRA PY L-S-TL SERIES | COMPACT LED TRAFFIC LIGHTS

76 cd / Max. 105 dB

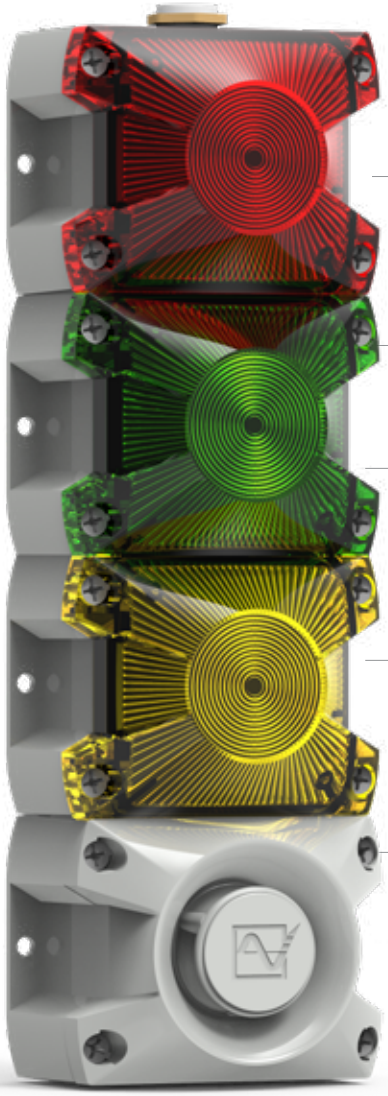
Selectable Signaling Modes
- Continuous steady on light (permanent warning or indication)
- Blinking light (highly efficient for permanent warning)
- Flashing light (higher perceptibility in alarm conditions)

Selectable Color
Base Color: Available in Grey
Lens Color: Available in Yellow, Red and Green

Selectable blink & flash frequencies
Adaptable to all your applications – select the frequency your gadget needs and increase perceptibility.

IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

Impact resistant housing and lens
Achieves IK08 impact rating to endure harsh environments.



Plug and socket connections
Upper and lower parts combine positively to simplify installation. When separated, electrical hazards are eliminated for handling.

Captive fasteners
Installation and assembly is simplified and screws cannot get lost.

Safe and easy to install
Various beneficial attributes as e.g. locking elements outside of the sealing or anti-twist protection of the housing parts make an incorrect installation virtually impossible.

Rapid Mounting
Several advantageous characteristics like e.g. captive and in its position fixed locking elements. Therefore it is more than simple to mount and keep the assembly time to a minimum.

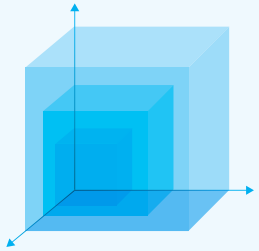
Budget Friendly
Due to extremely high efficiency LED Lights and good penetration of acoustical obstacles you can significantly reduce the number of devices.

STANDARD ON PY L-S-TL

IP 66	IK08	+55 °F / –40 °C		10 Years	EAC	UL	M12
Ingress Protection	Impact-proof Housing	Pyra PA L 1	Brightness Adjustable	Warranty		UL approval	connector (option)

10 YEARS WARRANTY

3D-Coverage Performance Data (width / height / depth)



PY L-S-TL

Indicate	115.1 x 48.8 x 46.5 ft
Warn	51.1 x 21.6 x 20.9 ft
Alarm	25.5 x 10.8 x 10.4 ft

PA 1 (Sounder)

Indicate	52.4 x 45.2 x 52.4 ft
Warn	29.5 x 25.5 x 29.5 ft
Alarm	16.7 x 14.4 x 16.7 ft

Coverage area according to the applications "Indicate", "Warn" and "Alarm" (EN 54-23) with clear lens. To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

For additional technical data, drawings and templates. www.pfannenbergusa.com

OPTION 1: PY L-S-TL - Fully assembled traffic lights with grey bases.

	115/230 V AC	120 DC	12-48 V DC
PY L-S-TL Red and Green Lens	21514642055	-	21514812055
PY L-S-TL Red, Yellow and Green Lens	21514643055	-	21514813055

OPTION 2: PY L-S-TLA - Individually assembled traffic lights with or without sounder.

STEP 1: Choose Your Base		Part Number
PY L-S-TLA 2-Stage Base		21514002055
PY L-S-TLA 3-Stage Base		21514003055
PY L-S-TLA 4-Stage Base		21514004055

STEP 2: Select Light and/or Sounder Inserts Note: Choose all with the same power supply.		115/230 V AC	120 DC	12-48 V DC
PY L-S-TLA Yellow Light Insert		21516643000		21516813000
PY L-S-TLA Red Light Insert		21516645000		21516815000
PY L-S-TLA Green Light Insert		21516646000		21516816000
PY L-S-TLA Sounder Insert		21517150055 (115 V) 21517100055 (230 V)	-	21517810055

Additional Data	PY L-S-TL		
Max. Sound Level	Option 2: 105 dB (A) @ 1m	**Storage Temperature**	-40 ... +70 °C (-40 ... +158 °F)
Volume Control	Option 2: max. -12 dB	**Protecting System According to EN 60529**	IP 66 (EN 60529), NEMA TYPE 4&4x, IK 08 (EN 50102)
Tones	Option 2: 80	**Service Life of Light Source**	>50,000 hrs
Light Source	one high output LED per single unit	**Cable Entry**	4-stage: 8x M20 pre-embossed, 2 and 3-stage: 6x M20 pre-embossed
Light Intensity (DIN 5037)	76 cd (reducible)	**Connecting Terminal**	0.14 - 2.5 mm² fine stranded
Max. Viewing Distance[1]	202 m	**Weight Per Stage**	Weight per stage 265 g per light / max. 405 g sounder
Operating Temperature	-40 ... +55 °C (-40 ... +131 °F)	**Dimensions (X x Y x Z)**	4.31 x 6.78 x 3.17

*For additional models and options contact us directly. [1] With a clear lens **Note:** When pairing 2 or more units together, utilize housing coupler kit #28112000003.

NEW INTENSE
BR50 STACKLIGHTS™

Visual Indication for Status, Alert & Alarm as Well as Audible Warning

Pfannenberg's New Intense **BR50 Stacklights™** are designed for the modern manufacturing workspace where brighter more intense visual signaling devices are a necessity.

They provide convenient visual indication for status, alert, and alarm as well as audible warning of machinery operating condition or process status. The easy-to-assemble component architecture supports up to five interchangeable modules. Choice of modules include bright LED and filament lamps for continuous or blinking operation, and hi-visibility flashing xenon tubes. The horn sounder module supports audible alarming to complement visual warnings that may go unnoticed.

Stack lights are generally installed onto electronic control cabinets, machinery frames, junction boxes, or walls. Several mounting options are available including direct-to-base, tube-and-bracket, and tube-and-stand (plinth). An optional wall-mount bracket supports the tube-and-stand mount for an attractive look.

Pfannenberg's New Intense Stacklights™ are the smart signaling choice for machinery status indication, checkout lane availability, automated process monitoring, upset condition alarming, and many other requirements.

See page 10 for explanation of lens colors.

Alarm: Alarm devices notify personnel of an Emergency Situation and evacuation of the building is necessary. These have the highest priority.

Warning: As a start-up signal for a machine. These types of devices warn about situations that could occur.

Indication: Operation display of a machine informs the operator by means of a signaling device. These types of devices inform personnel who are nearby. These devices are not used for the indication of dangerous situations.

BR50 STACKLIGHT™ | CONTINUOUS, FLASHING OR BLINKING LIGHT

Ø 54 mm | 5 W | 85 dB (A)

Pre-assembled or Build Your Own
Choose between fully assembled units or customize your stacklight.

Ultra Bright
The same design but 10,000% brighter.*

Signaling Mode Determinable by LED
Replaceable LEDs determine the signaling mode (continuous or blinking light). Standard modules are already equipped with continuous LED lights.

IP 54 / IP 65 Enclosure Rating
Standard indoor version is easily upgraded for use in outdoor applications and wash-down requirements with optional o-rings.

Simple Custom Configurations
Up to 5 modules can be stacked with 6 different lens colors. In addition to various LED light modules, Xenon flashing light modules or an audible module can also be installed. Configuration can be changed to suit new requirements.

Stable Structure
Mechanical and electronic components are uncoupled, resulting in a more stable structure that is less sensitive to vibration.

Versatile Mounting Options
Tubular stand or bracket with various tube lengths, or directly to enclosure.

Easy Assembly
Modular design and "twist and lock" motion permits quick and easy configuration and assembly.

Safety Feature: Function Monitored
Separate LED module for more safety in sensitive applications where a signal must be sent to an external safety system, operating station or control center in the event of a malfunction.

Safety Feature: Network Connection
Easy integration into an AS-Interface bus system is possible with a separate module.

Self-Monitoring Module
Integrated functional fault monitoring with redundant LED array and dry contact relay supports automatic switchover to secondary LEDs and remote fault notification.

AS-I BUS Module
Simple integration to the AS-i Interface BUS System for up to 4 stages or 62 master/slave connections.

Mounting Options:

Top Mount Stand w/Base Gasket

Top Mount Stand

Optional Side Mount Bracket

Stainless Steel Side Mount Bracket

Direct Mount Bracket

NPT Thread Adapter

STANDARD ON BR 50 STACKLIGHTS

IP 54	131 °F / –13 °F	IP65
Protection System	Operating Temperature	w/Specific Gaskets

Available Models:

Base and end module

Clear Light module

Yellow Light module

Amber Light module

Red Light module

Green Light module

Blue Light module

AS-i module

Sounder module

For additional technical data, drawings and templates. www.pfannenbergusa.com

New **Custom Stacklight Builder & Quote Tool!**

https://www.pfannenbergusa.com/signaling-technologies/signal-towers/

Pre-Configured Complete Stacklights

Description		115 V	24 V
Continuous Stack Light Green, Red		22115200001	22118200004
Continuous Stack Light Green, Yellow, Red		22115300001	22118300009
Continuous Stack Light Green, Red, Blue		22115300002	22118300010

Module with LED Bulb Integrated

Lens Color	Part Number	Voltage	Light Intensity	Nominal Current Consumption	Operating Range	Operating Temp.	Service Life
○	28250376012	24 V	5 cd	AC: 114 mA / DC: 116 mA	10-30V AC/DC	-25°... +55°C	>25,000 hr
●	28250376033		9 cd	AC: 171 mA / DC: 101 mA			
●	28250376042		3 cd	AC: 114 mA / DC: 116 mA			
●	28250376055		27 cd	AC: 121 mA / DC: 73 mA			
●	28250376066		15 cd	AC: 113 mA / DC: 105 mA			
●	28250376072		23 cd	AC: 114 mA / DC: 116 mA			
○	28250371612	115 V	5 cd	AC: 114 mA / DC: 116 mA	-25°... +55°C	-25°... +55°C	>25,000 hr
●	28250371633		9 cd	AC: 171 mA / DC: 101 mA			
●	28250371642		3 cd	AC: 114 mA / DC: 116 mA			
●	28250371655		27 cd	AC: 121 mA / DC: 73 mA			
●	28250371666		15 cd	AC: 113 mA / DC: 105 mA			
●	28250371672		23 cd	AC: 114 mA / DC: 116 mA			

Module without LED Bulb Integrated

Lens Color						
Part Number	28250040010	28250040030	28250040040	28250040050	28250040060	28250040070

Flashing Modules with Integrated Xenon Flash Tube

Lens Color	Part Number	Voltage	Flash Energy	Light Intensity	Nominal Current Consumption	Operating Range	Operating Temp.	Service Life
○	28250078010	24 V	1 J	5 cd	100 mA	AC: 10-27V DC: 10-35V	-25°... +55°C	70% light emission after 8,000,000 flashes
●	28250078030			9 cd				
●	28250078040			3 cd				
●	28250078050			27 cd				
●	28250078060			15 cd				
●	28250078070			23 cd				
○	28250071610	115 V		5 cd			-25°... +55°C	70% light emission after 8,000,000 flashes
●	28250071630			9 cd				
●	28250071640			3 cd				
●	28250071650			27 cd				
●	28250071660			15 cd				
●	28250071670			23 cd				
○	28250071010	230 V	0.6 J	5 cd	10.5 mA	-10%...+15%	-25°... +55°C	70% light emission after 8,000,000 flashes
●	28250071030			9 cd				
●	28250071040			3 cd				
●	28250071050			27 cd				
●	28250071060			15 cd				
●	28250071070			23 cd				

For additional technical data, drawings and templates. www.pfannenbergusa.com

Continuous/Steady-on LED Bulbs (Bulb Only)

Lens Color	Part Number	Voltage	Light Intensity	Nominal Current Consumption	Operating Range	Operating Temp.	Service Life
○	28213000102	24 V	23 cd	AC: 114 mA / DC: 116 mA	10-30V AC/DC	-25°... +55°C	>25,000 hr
●	28213000099		28 cd	AC: 171 mA / DC: 101 mA			
●	28213000100		6 cd	AC: 121 mA / DC: 73 mA			
●	28213000101		22 cd	AC: 113 mA / DC: 105 mA			
○	28213000118	115 V					
●	28213000115						
●	28213000116						
●	28213000117						
○	28213000106	230 V	14 cd	AC: 121 mA / DC: 73 mA	220-240V AC		
●	28213000103		17 cd	AC: 113 mA / DC: 105 mA			
●	28213000104		4 cd	AC: 171 mA / DC: 101 mA			
●	28213000105		12 cd	AC: 114 mA / DC: 116 mA			

Blinking LED Bulbs (Bulb Only)

Lens Color	Part Number	Voltage	Light Intensity	Nominal Current Consumption	Operating Range	Operating Temp.	Service Life
○	28213000110	24 V	23 cd	AC: 57 mA / DC: 58 mA	10-30V AC/DC	-25°... +55°C	>25,000 hr
●	28213000107		28 cd	AC: 86 mA / DC: 51 mA			
●	28213000108		6 cd	AC: 61 mA / DC: 37 mA			
●	28213000109		22 cd	AC: 57 mA / DC: 53 mA			
○	28213000122	115 V					
●	28213000119						
●	28213000120						
●	28213000121						
○	28213000122	230 V	14 cd	11 mA	220-240V AC		
●	28213000111		17 cd	10 mA			
●	28213000112		4 cd	11 mA			
●	28213000113		12 cd	11 mA			

Audible / Sounder Module

Description		115 V	24 V
BR50 Sounder Module		28250081600	28250088000
PA 1-BR50 (Non-UL Listed)		28250301600	28250308000

Accessories

AS-I Module (230 VAC Only)		BR50-AS-i	28250148300
Mounting stand (Stainless steel) with Plinth	100 mm	BR50-S100	28250150010
	250 mm	BR50-S250	28250150020
	400 mm	BR50-S400	28250150040
Tube with Thread and Bracket (Stainless steel)	100 mm	BR50-T100	28250160010
	250 mm	BR50-T250	28250160020
	400 mm	BR50-T400	28250160040
NPT Thread Adapter		1/2" FNPT Thread Adapter	28882000000
Wall Bracket for Mounting Stand		BR50-W	28250200000
Direct Mounting kit (Gasket & Screws)		BR50-BG	28250210000
Module Gasket IP 65		BR50-MG	28250220000
Tube Gasket IP 65		BR50-TG	28250230000
Lamp Remover		BR50-LS	28250250000
Base Module and Cap		BR50-BC	28250010000

If blinking lights are needed, LED bulbs and modules need to be ordered separately. Please refer to Custom Stacklight Configurator for Function Monitored LEDs.

QUADRO LED HI LIGHT

IK08

Shock, Vibration and Impact Resistant Signaling Devices

Pfannenberg QUADRO LED HI are the best choice for warning personnel. For example, when a fork truck is in motion. The ability to flash and/or blink complies with OSHA Directive 1910.178. Easy mounting, flash configuring and being highly robust make it an easy choice for safety professionals.

GL Certified Signaling Devices

Conditions in rough mechanical environments like shock, vibration, and impact will require robust signaling devices that can endure the punishment. Mining conveyors, stamping machines, punch presses, gantry cranes, railway transportation, and wind turbines represent some of these areas. Pfannenberg offers rugged audible and visual alarm and notification equipment that can handle the world's toughest situations.

GL certified versions of our signaling devices incorporate additional protection to endure shock and vibration. This same certification includes shipboard marine use. Pfannenberg products are proudly found in maritime applications worldwide.

Signaling Devices with Impact Rating IK08

High strength plastics; saltwater grade cast aluminum; agency certifications; IK08 impact rating – these are the attributes familiar to Pfannenberg and required for devices to withstand the rigours of many industrial situations as well as harsh natural outdoor environments and events. Whether banged around on conveyors and cranes, crashed against by sea waves, or pummeled by hail and ice, Pfannenberg signaling products stand the test.

The goal of Pfannenberg has always been to endure. Investment in engineering, testing, materials, and certifications are the tools that help us achieve. With IK08, high levels of mechanical stress are endured, even without protective metal cages, because when safety matters, signaling must operate.

Impervious to UV Light, Heat and Cold

UV-Stable Devices for Long-term Outdoor Use

Whether installed outdoors on buildings, at sewage treatment facilities, within fuel depots, or on waterways, signaling devices that are outdoors are exposed to the damaging effects of the sun. UV light affects the durability of plastics and paint. Brittleness and cracking are the result. Pfannenberg prevents such damage through using UV stabilizers that are added to the paint and injection moulded plastics.

Additional devices available with cast aluminium construction also offer robust solutions to outdoor situations as well as providing outstanding protection from impact.

Survive Extremes Temperature Anywhere

Pfannenberg's signaling devices are designed for use in fluctuating and constant temperatures ranging from –40 °F to +131 °F.

Applications in steel or glass production, desert and tropical conditions, ski resorts, arctic climates, and cold storage facilities are dependably fulfilled by Pfannenberg signaling devices.

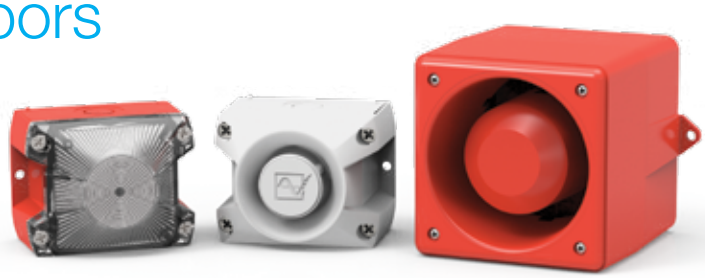
Left to right: PMF 2030 (available upon request), PATROL GL, DS GL, ABL GL (available upon request)

EXTREME CONDITIONS

UV RESISTANT

For additional technical data, drawings and templates. www.pfannenbergusa.com

Signaling Devices that Endure Dust, Water and Aggressive Vapors



Left to right: PYRA, PATROL MED, DS

IP 66

Dust and Waterproof: Signaling Devices With IP 66 Protection System and Above

Signaling devices must function in very difficult environmental conditions such as the construction and timber industries, the manufacture of glass, plastic and pharmaceuticals, and in many areas of the food industry. Wherever raw materials are broken up and a process creates dust, vapor or steam; or in work and production areas that are regularly cleaned with water, signaling devices must be protected from the ingress of foreign material.

Signaling devices with IP 66 protection system (and above) fulfill the most demanding requirements in these application areas. They are totally impervious to dust and also resist flooding and powerful jets of water. Their functionality in demanding indoor applications and in tough outdoor environments is exceptional.

Seawater and Corrosion Resistant: Signaling Devices for Near and Offshore Applications

Applications on board ships, in harbors or in near-shore wind farms place particular demands on the materials and construction of signaling devices. High-quality plastics and high IP protection ratings provide electronic components with optimum protection from aggressive, salty air and from contact with water. Versions with aluminium housing are reliably protected from corrosion by a seawater-resistant alloy with a low copper content.

Pfannenberg has a proud tradition of safety on the high seas protecting people, machines, and the environment. Even the world's largest cruise ship – The Harmony of the Seas, features Pfannenberg signaling devices.

Automotive Industry - Keeping the Entire Supply Chain Productive

As one of the largest industries, automotive encompasses a vast array of support activities. Raw material preparation, component fabrication such as tires, body metal stampings, and suspension forgings, the assembly process itself with motorized conveyors, automated painting and robotics, and a vast array of control equipment, to name several. With worldwide demand on the rise, the automotive industry supply chain strives to maximize uptime to help keep costs minimized.

Pfannenberg's support for the automotive industry runs deep – from protecting machinery and controls from damaging heat, personnel from motion, fire, and toxic hazards, to helping to keep processes from failing.

Versatile Signaling for the Plant Floor

Sounders with multiple tones and alarm stages provide feedback to operators about specific issues occurring in their production cell. Such "smart signals" permit quicker attentive reaction for resolving problems. Extremely bright flashing strobe lights can be perceived from any orientation to enable plant personnel to be immediately alerted of any issues. The bright Xenon visual signal covers very large areas across the plant floor. For safety in all industrial situations, Pfannenberg offers SIL/PL compliant devices as well as ATEX hazardous area use models.

DS Sounder

- Up to 110 dB(A) output sound pressure level.
- Die-cast aluminium housing.
- Multiple tone capability.
- Sealed construction.

DS SOUNDER STACKLIGHT™

Safe and Efficient Operation of Complex Machinery

Visual and audible signaling devices have many different roles in industrial manufacturing and quality assurance procedures. They indicate a wide range of different statuses and warn, alert and protect personel and machines from danger in SIL, Ex and function-monitored versions, sometimes operating in complex and sophisticated applications.

Metal Industry
The start-up of machines and presses, status displays on lifting and work platforms, malfunctions such as coolant or lubricant failure and the requirement to restock a feeder with parts – our products guarantee that a host of safety and production-relevant statuses throughout the manufacturing environment are signaled reliably. In doing this, they make a major contribution to cutting the number of accidents at work and to reducing line stoppage times.

Timber, Paper and Printing Industry
Where there is the potential for combustible dusts to ignite, our visual and audible ex signaling devices ensure that production runs safely, even up to the point of evacuation. Where there are greater demands on functional safety, with start-up warnings for example, our loop-enabled SIL devices are used. Our signal towers indicate smooth operation of high-volume printing facilities and sorting machines and in the event of a general fault signal, allow the section affected to be identified quickly.

X-ray and Laser Applications
Our lights with function monitoring are used where even the normal operation of machines can present a danger to people. Examples here are X-ray applications in industrial quality assurance and the use of class 3B and class 4 laser systems. The failsafe signaling devices prevent X-ray machines from being switched on again if a safety component is defective and ensure that the laser is switched off.

Gates and Barriers
The use of electrical gates and barriers in industrial, commercial and domestic areas can cause accidents for humans and vehicles if they are trapped, crushed or hit by them. In this case lamps are used which reliably indicate closing or opening statuses and warn of malfunctions and hazards.

Metal coining, stamping and breaks are very loud and require an alarm for start-up. Pfannenberg PYRA Series devices are ideal when visual signals are necessary to notify personel close by. As shown, they can also come standard with up to a 103 dB sounder.

Airport Safety and Efficiency

PYRA PY X FLASHING LIGHT & SOUNDER

Air traffic and the number of airline passengers are on the rise as is evident with the increase of mega-hubs in the Middle East and Asia. Wherever automation plays a large role in the efficient handling of flights, passengers, cargo, and luggage, Pfannenberg products keep operations running smoothly and passengers safe. Around the world planners, engineers, and architects of these complex systems benefit from Pfannenberg's expertise in these areas.

Safety to people is everyone's concern and wherever large numbers congregate, it becomes even greater. Safety is achieved in all areas of the airport facility with signaling solutions from Pfannenberg:

- Baggage carousel startup alarms
- Active shooter alert
- Fire and gas leak alarms
- Intruder alerts
- Tower and building obstruction warning
- Passenger guidance indication
- Jet bridge movement alarms
- Moving vehicle alarms

PYRA PY X PA X 1-05 PA1

For additional technical data, drawings and templates. www.pfannenbergusa.com

Overhead Crane Signaling

Whether in a large scale shipping yard or lifting ladles and coils in a steel mill, Pfannenberg Signaling devices can properly warn and indicate personnel of potentially dangerous moving equipment in the loudest and harshest environments.

The Change From In-Cab & Wired Remote to Wireless Crane Operation:
OSHA mandates that all wireless operated overhead and bridge cranes that are operated through a wireless remote must have audible and/or visual alarms incorporated on them which every person who is near the moving crane can be aware of its movements.

The Challenge of Loud Ambient Noise:
Shipping yards and steel mills present some of the loudest ambient noises in all of industry, and coupled with multiple layers of hearing protection can render even the loudest audible device useless. Pfannenberg Signaling takes into account the most important areas of where the device will be used and will recommend the correct products to provide the adequate safety level based on the size of the shop, amount of personnel present and the special ambient conditions.

The robust, high intensity audible/visual sounders meet the requirements of OSHA 1910:179 directive. Whether you're Indicating of a crane movement, overload condition or overheating of your VFD's, Pfannenberg Signaling can help Take the Guesswork out of Selecting the Most Effective Alarm/Signaling Product.

Metal Industry - Machine guarding and Hazard communication remain to be two of the top OSHA violations in 2018. The reliability of Pfannenberg Signaling products make it paramount to ensure personnel are notified of a machine start-up, restocking or safeguarding against injury. These devices are a major contributor towards cutting down the number of accidents and reducing stoppages in work.

PA X 20-15
FLASHING SOUNDER

Safety at Port and at Sea

Container and cargo ships, tankers, workboats, cruise ships, navy vessels, submarines, and other maritime vessels require keen attention to safety due to the perils of operating on dangerous waterways. Likewise at port facilities when cargo is loaded or unloaded, several risks are currently present which can compromise the safety of passengers and dockside personnel. Pfannenberg signaling solutions have contributed worldwide to the safety of maritime operations by protecting man, machine, and the environment.

Safety on Board

Pfannenberg signaling devices with high IP ratings and GL certified maritime approvals provide safety onboard ships and vessels for many requirements, including:

- Engine room fire.
- Combustible gas leak.
- Bilge pump failure.
- General safety alarms.
- Fire alarms in cabin areas.
- Trouble in the cargo hold.

Safety at the Harbor

- Crane operator feedback and bystander warning.
- Reach stacker movement.
- Spreader bar engagement.
- Traffic safety.
- High wind and capacity overload alarm.
- Accidents with hazardous chemicals.

MED CERTIFIED
Flashing Sounder
PA X 10-10

Water and Wastewater Treatment

Drinkable water, storm water, and sewage treatment systems all rely on a variety of control systems and equipment to ensure safe and reliable operation. Additionally, personnel must be kept safe around hazardous chemicals used in the treatment processes. Pfannenberg offers a number of key items to ensure the reliability of these operations and warn of any hazards that may be encountered.

Longevity for Pumping and Control Systems

Water treatment works utilize pumping systems for moving the liquid to the appropriate equipment or location. With thermal management systems from Pfannenberg, control equipment and variable frequency drive systems (VFDs) are maintained at optimal operating conditions to ensure that the service life of the equipment is not compromised and the liquid gets to where it needs to be. Additional drive or control systems on conveyors, dewatering presses, centrifuges and scrubbers are similarly protected.

Safety in the Treatment Facility

Pfannenberg's rugged signaling devices are ideal for use in the diverse indoor and outdoor areas of a treatment facility. Evacuation alarms for fires or potential leaks of hazardous chlorine or methane gas can be sized with effective alarm coverage to meet the needs of such plants with multiple rooms and buildings.

Where safety integrity systems are desired, such as with sludge handling areas and digesters, SIL compliant devices and units with hazardous, explosive area certifications are available.

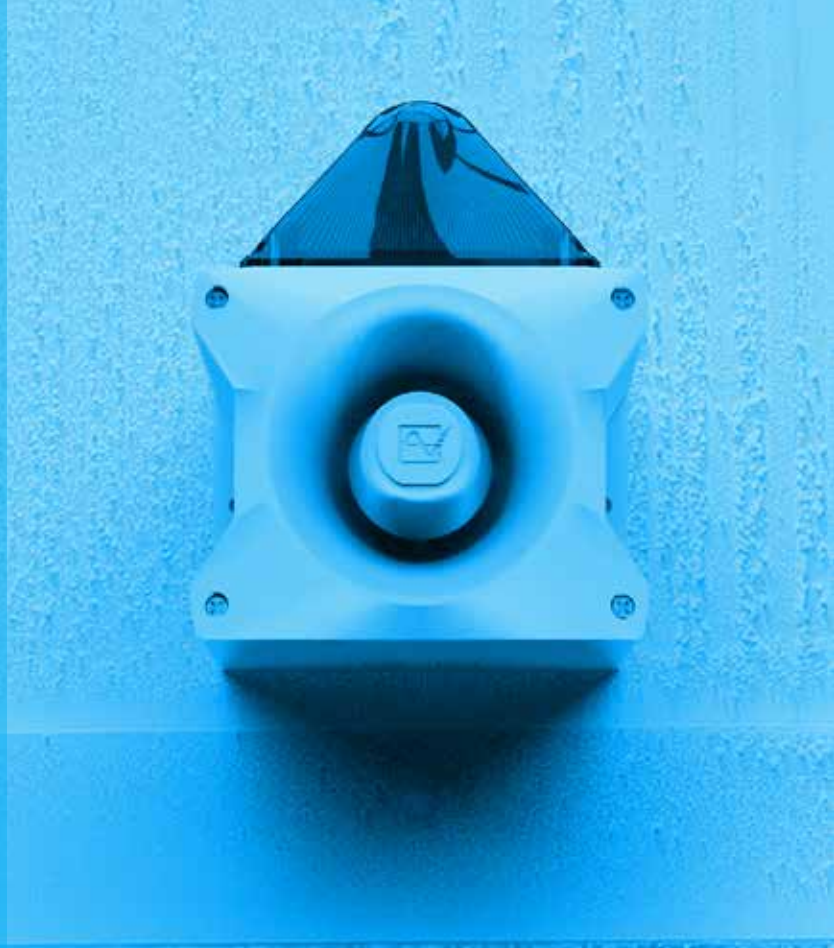
PYRA PY X PA X 1-05 PA1

Ammonia Refrigeration for Fixed Gas Detection Alarms

Plug and Play Audible and Visual Alarms for Fixed Gas Detection Systems

IIAR-2A - Safe design of closed circuit ammonia refrigeration systems require at minimum one audible and visual alarm to be placed in the room or area around an ammonia engine or machinery. According to IIAR, the audible alarm is *required* to be at a sound pressure level (SPL) of 15 dBa (decibles) above the average ambient sound level and 5 dBa above the maximum sound level of the area in which it is installed. At no point can a sound meter read lower than a 5 dBa offset at any point within the area that the alarm is covering. We make it easy to choose your audible and visual alarms.

*Per ANSI/IIAR 2-2014



Left to right: PA X 1-05, PA X 20-15, PYRA LARGE & MED

For additional technical data, drawings and templates. www.pfannenbergusa.com

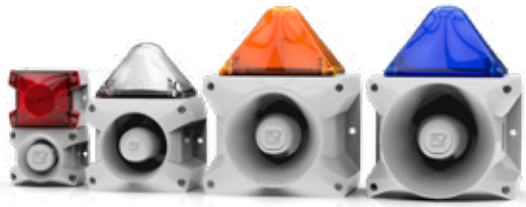
PATROL HORNS, SIRENS & SOUNDERS

WITH OR WITHOUT FLASHING STROBE LIGHT

10 YEARS WARRANTY

PATROL AUDIBLE / VISUAL ALARM

UL certified - Type 4/4X - IP 66
Independent operation of horn and strobe



PA X 1 PA X 5 PA X 10 PA X 20

Replace space in part # with desired lens color:

1 3 4 5 6 7

Available lens and base color combinations:

Lens color →
Base color →

READILY AVAILABLE

Description	Nominal Sound Output (SPL)	Flash Energy	Part Numbers		Dimensions (WxHxD)
			24 VDC	115 VAC	
PA X 1-05	105 dB	5 J	2331180_055	2331115_055	4.31 x 3.38 x 3.17
PA X 5-05	107 dB	5 J	2335130_055	2335115_055	6.43 x 5.31 x 5.19
PA X 10-10	117 dB	10 J	2336180_055	2336115_055	8.42 x 6.7 x 6.14
PA X 20-15	122 dB	15 J	2337280_055	2337215_055	8.42 x 6.7 x 7.12

CATALOG NUMBERING SYSTEM:

- **PA X** - Audible/ Visual Alarm
- **1-05** - 105dB/5J
- **5-05** - 107dB/5J
- **5-10** - 107dB/10J
- **10-10** - 117dB/10J
- **10-15** - 117dB/15J
- **20-10** - 122dB/10J
- **20-15** - 122dB/15J
- **12 DC**
- **24 DC**
- **48 DC**
- **24 AC**
- **115 AC**
- **230 AC**
- **CL** - Clear
- **YE** - Yellow
- **AM** - Amber
- **Rd** - Red
- **Gr** - Green
- **Bu** - Blue
- **7035** - RAL 7035 Grey RAL 7035
- **3000** - RAL 3000 Flame Red RAL 3000

EXAMPLE:

-Patrol Audible/Visual Combination - Sound Pressure Level -Flash Energy -Voltage -Lens Color -Base Sounder Color

PA X - 10 - 05 - 115V - RD - 7035

PATROL AUDIBLE ALARM

UL certified - Type 4/4X - IP 66

PA 1 PA 5 PA 10 PA 20

READILY AVAILABLE

Description	Nominal Sound Output (SPL)	Part Number		Dimensions (WxHxD)
		10-60 VDC	95-265 VAC	
PA 1	105 dB	23310630055	23310150055	4.31 x 3.38 x 3.17
PA 5	107 dB	23350630055	23350150055	6.43 x 5.31 x 5.19
PA 10	117 dB	23360630055	23360640055	8.42 x 6.7 x 6.14
PA 20	122 dB	23370630055	23370640055	8.42 x 6.7 x 7.12

CATALOG NUMBERING SYSTEM:

- **PA** - Audible Alarm
- **1** - 105dB
- **5** - 107dB
- **10** - 117dB
- **20** - 122dB
- **LV** - Low voltage DC 10-60VDC
- **HV** - High voltage AC 95-265VAC
- **7035** - RAL 7035 Grey RAL 7035
- **3000** - RAL 3000 Flame Red RAL 3000

EXAMPLE:

-Patrol Audible/Visual Combination - Sound Pressure Level -Voltage -Base Sounder Color

PA X - 10 - HV - 7035

FEATURES & BENEFITS

- Volume controllable up to ± 12dB via potentiometer.
- Available in 10-60 VDC and 95-260 VAC.
- 10-year warranty is unmatched in the industry.
- Digital sound capsule generates a choice of tones with no moving parts for long service life in harsh operating environments.
- The PATROL series offers 80 different user-selectable tones with 4 tone stages. This permits the same device to emit up to 4 unique tones based on alarm circumstance. (Tone frequency range 420Hz to 2900Hz.)
- Pfannenberg's sound capsule technology emits a tone frequency envelope that excels at penetrating walls and doors to enhance safety with improved wide area notification.
- Integrated flashing strobe lights carry a rated service life in excess of 8,000,000 flashes (the most in the industry) while the high-intensity light output is tailored to match alarm severity for enhanced safety.
- Flame-retardant plastic housings are offered in a choice of red or grey with unique 3/8-turn fasteners for quick and trouble-free installation.
- Wide temperature range permits outdoor use in any climate. (-40° to 131°F)

Art Illumination

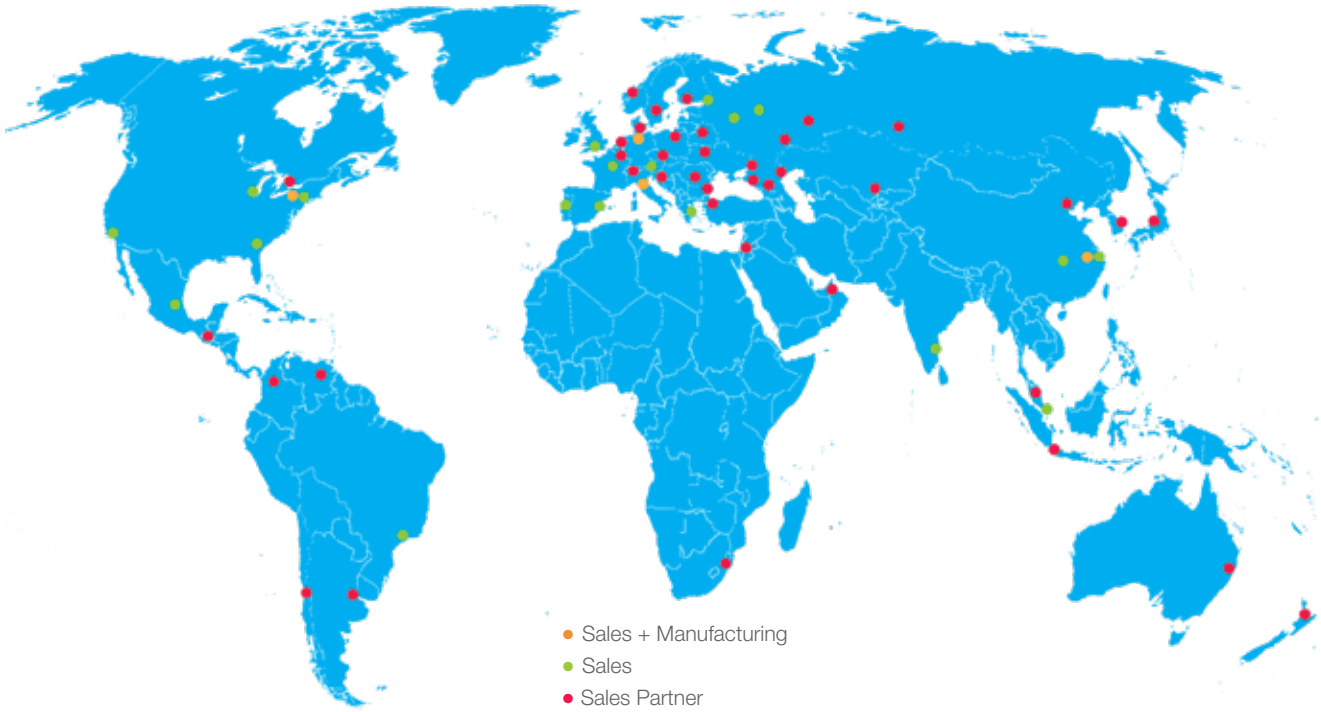
A Different Side of Pfannenberg:
Artistic Lighting and Spectacle Illumination.
Pfannenberg is proud to have been involved in beautiful adaptations of our durable lighting solutions on some of the world's most renowned landmarks. Presented here are a few examples designed to captivate audiences with flashing light technology by Pfannenberg.

Paris, France I Eiffel Tower
20,000 Pfannenberg flashing lights

QUADRO A-DMX

- Solid-state Xenon flash tube with integrated DMX control for generating illumination arrangements and light shows.
- Multiple units connect in a daisy-chained fashion to a DMX-Bus system.
- Can be directly controlled by the DMX-Master.
- Rugged plug connectors for power supply and DMX-Bus (inlet and outlet).

Pfannenberg – Worldwide Expertise in Signaling Technology and Thermal Management



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