

SIGNALING TECHNOLOGY

MAIN CATALOGUE EDITION 21.1

THE COMPLETE SPECTRUM OF SIGNALING TECHNOLOGY.

Visual Signaling Devices | Obstruction Lights
Audible Signaling Devices
Combined Visual-Audible Signaling Devices
Signal Towers | Ex Signaling Devices
Art Illumination | Thermal Management

Pfannenberg
ELECTRO-TECHNOLOGY FOR INDUSTRY

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Industry-leading 10-year warranty

When reliability in safety and efficiency matters most, Pfannenberg quality delivers.

With over 70 years of expertise in developing visual and audible signaling solutions, we are confident in our designs – so much so that we stand behind them with an industry-leading 10-year warranty on our most popular standard products. Should anything go wrong, we will make it right. And with locations worldwide, you always have a local point of contact.



The following product families are covered by the 10 years warranty:


Patrol


Protect


Quadro


Pyra

Full warranty details can be found at: pfannenberg.com/10years

The importance and purpose of signaling device

Signaling devices play a central role in fire alarm technology as well as in modern industrial and automation technology. They ensure clear, unambiguous communication of statuses and hazards - both visually and acoustically. They therefore make a decisive contribution to safety, efficiency and process overview in a wide variety of working environments.

Whether in public buildings, production facilities, logistics centres or industrial buildings: signaling devices inform machine personnel, employees and bystanders about operating statuses, faults or potential hazards. Their task is clearly defined - they must transmit warnings and instructions in such a way that they are clearly visible and audible, clearly interpretable and appropriate to the situation under all conditions. This is the only way to ensure that people can react quickly and correctly.

The requirements for signaling devices are high: not only must they withstand the respective environmental conditions, they must also be compatible with other machine components, function reliably - even in the event of faults - and be tested regularly. At the same time, they are subject to clear standards and legal requirements that ensure safe and standard-compliant use.

This catalogue gives you a comprehensive overview of the most important requirements, technologies and solutions in the field of signaling technology - from the selection of suitable components to standard-compliant planning and practical implementation. The aim is to support you in implementing safe signaling that meets both the technical requirements and the high safety standards.



Pfannenberg

3D COVERAGE

A visual representation of device performance in any space

A holistic approach to alarm notification planning. Pfannenberg presents 3D-Coverage, a method for determining the actual effective coverage area for audible and visual signaling devices. Now planners can gain confidence in knowing whether signals can be perceived in relation to different environmental conditions and requirements.

For alarm system planners, specifying engineers, system integrators, and safety managers

Gain confidence in system design and goals

Naïve assumptions regarding the performance of signaling devices often lead to under-sizing, which may result in a project being rejected. Expensive upgrades and retrofits may then be required to remedy the situation. 3D-Coverage gives planners the confidence needed upfront for proper sizing with respect to environmental conditions and code requirements. The result is a system that will perform to expectations and be approved.

For all types of alarms in any application

Regardless of whether the signal is intended for a fire alarm, machinery safety, gas leak alarm, or general workplace safety, 3D-Coverage supports designing the optimal alarm solution. When coverage area and ambient conditions are taken into account, the safety of people and machines is assured.

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

The effective coverage parameter

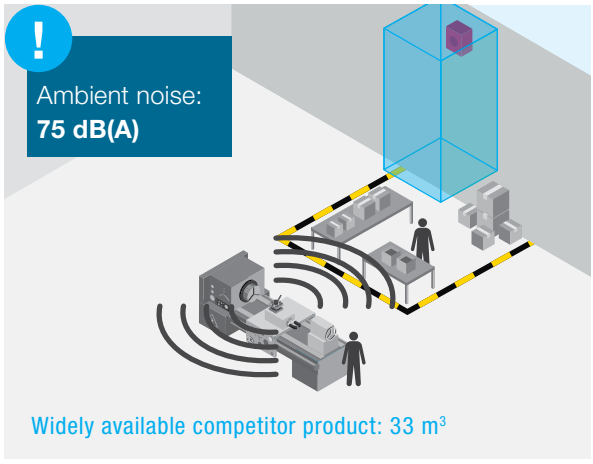
When designing reliable signaling solutions, one needs to be certain about the area that is to be effectively covered by the signal. 3D-Coverage provides the necessary dimensions to accomplish this since traditional information that is provided on a technical data sheet is insufficient.

3D-COVERAGE PERFORMANCE COMPARISON

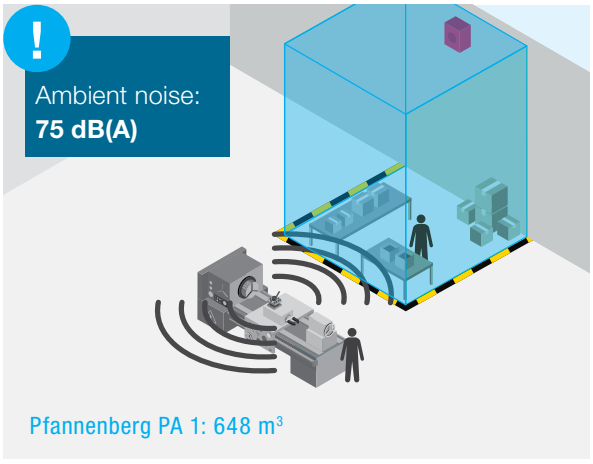
Two Sounders of the 100 dB(A) performance classes using, for example, the standard DIN signal (DIN 33404-3) and an exemplary offset of Δ 10 dB(A) in accordance with DIN VDE 0833.

PERFORMANCE CLASS	AMBIENT NOISE	OFFSET	REQUIRED SOUND LEVEL	A	B	C	Pfannenberg 3D COVERAGE
Widely available competitor product **100 dB(A)**	70 dB(A)	10 dB(A)	80 dB(A)	6.7 m	5.4 m	5.4 m	195 m³
	75 dB(A)	10 dB(A)	85 dB(A)	3.7 m	3 m	3 m*	33 m³
	80 dB(A)	10 dB(A)	90 dB(A)	2.1 m	1.7 m	1.7 m*	6 m³
Pfannenberg PA 1 **100 dB(A)**	70 dB(A)	10 dB(A)	80 dB(A)	16 m	14 m	16 m	3,584 m³
	75 dB(A)	10 dB(A)	85 dB(A)	9 m	8 m	9 m	648 m³
	80 dB(A)	10 dB(A)	90 dB(A)	5 m	4.5 m	5 m	113 m³

*NB: Lower than the minimum installation height!



Widely available competitor product: 33 m³



Pfannenberg PA 1: 648 m³

Schematic illustration

Result:

Despite an identical performance class, 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 inferior device.

Balanced range of sounders for spaces of all sizes

3D-Coverage for audible signaling devices

In order to determine the actual effective coverage area for an audible signaling appliance, ambient noise and the desired alarm level offset must be considered when sizing the device. Performance by dimension is the only way to be certain that the desired alarm criteria is met by the device.

True performance revealed

Applications for visual signaling

Whether signaling for alarm, warning, or indication, the technology used to generate light, the radiation characteristics of lenses and optics, and lens colour are all important characteristics to consider when designing a system to achieve an effective, perceivable signal.

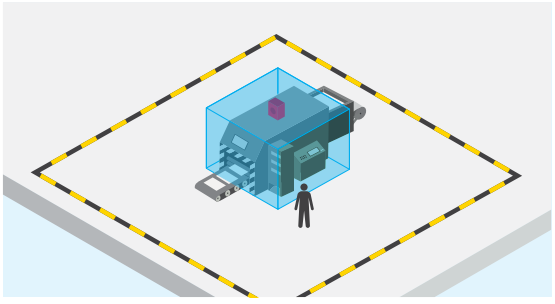
3D-Coverage for visual signaling devices

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.

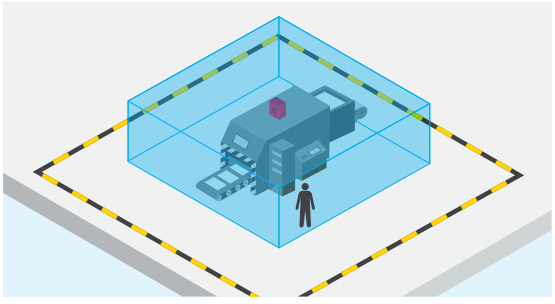
3D-COVERAGE PERFORMANCE COMPARISON

Two flashing lights (red cover versus clear) in alarm applications

			ALARM	
FLASHING LIGHT	**INTENSITY**	**LENS COLOUR**	**AREA** A x B x C	**Pfannenberg 3D COVERAGE**
PYRA M-10	39 cd	red	11.2 x 7 x 14 m	1,098 m³
PYRA M-10	118 cd	clear	18 x 10 x 22.5 m	4,050 m³



PYRA M red Alarm 1,098 m³



PYRA M clear Alarm 4,050 m³

Schematic illustration

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.

Designing with 3D-Coverage avoids incorrect system sizing

Guidelines are implemented more efficiently

Directives such as EN 54-23 require that the ambient conditions within the space in which a signal is to be perceived 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.

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.

Safety in working environments and public areas starts with clear and effective warning signals

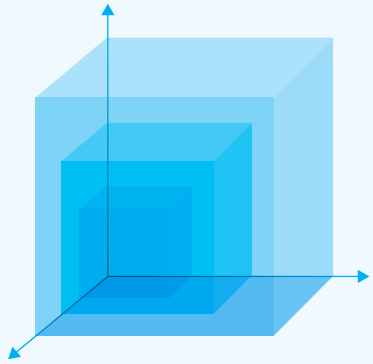
ISO 7731 and ISO 11428 specify comprehensive requirements for audible and visual hazard signals to ensure reliable perception and clear interpretation. Acoustic signals - such as warning, alarming or evacuation signals - must stand out clearly from the ambient sound level and be easily distinguishable. Parameters such as volume and frequency are regulated by standards. Visual signals must be clearly visible and immediately recognizable under all lighting conditions - with the help of defined colors, flashing patterns and correct positioning in the field of vision. The aim is to use a standardized procedure to identify signals at an early stage so that the correct action can be taken quickly and risks minimized.



3D-Coverage in the catalogue

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.

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



PA X 20-15

AUDIBLE	
80 dB(A)	98 x 86 x 86 m
85 dB(A)	55 x 48 x 48 m
90 dB(A)	31 x 27 x 27 m

PA X 20-15

VISUAL	
Indicate	126 x 99 x 68 m
Warn	56 x 44 x 30 m
Alarm	28 x 22 x 15 m

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”.



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. PSS is available online at www.pfannenberg.com/pss.

www.

pss-pfannenberg.com

Understanding visual coverage – the effective coverage area for each device varies with requirements for alarm, warning, or indication

Whether Xenon or LED technology, the purpose of the signal is the important consideration

For each signaling device, the largest effective coverage area is achieved for “indication” requirements, whereas the smallest is achieved for requirements intended to “alarm” people, since the signal should also be perceived indirectly, i.e. without a direct view of the light. The following examples highlight various applications for “alarm”, “warning”, and “indication”.:

INDICATE

- 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
- display of room occupancy

WARN

- moving vehicle or machine – get out of the way
- dangerous situation – proceed with caution, safeguards 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

- evacuate immediately – fire or gas leak detected
- process is abnormal or out of control – immediate action needed
- acute health risk – toxic substances identified
- maximum tolerance exceeded – immediate attention required

Digital Twin with 3D-Coverage – Reliable planning for signaling

Pfannenberg combines Digital Twin technology with 3D-Coverage to show the actual coverage of visual and audible signaling devices in digital planning environments. This provides a realistic basis for safe and efficient system design.

KEY BENEFITS

- Visualization of signaling coverage in BIM and CAD environments
- Optimized placement of devices through simulation-based coverage zones
- Early consideration of regulatory requirements
- Fewer planning errors, reduced costs, improved safety

PLANNING SUPPORT

Pfannenberg provides data and tools for seamless integration into digital workflows:

- Multi-CAD data in common formats
- BIM / Revit libraries for building planning
- Pfannenberg Sizing Software (PSS) for accurate product selection
- SISTEMA libraries for functional safety evaluation
- EPLAN macros for standardized engineering
- VDMA 66413 data for safety-related values

With these solutions, Pfannenberg supports efficient, compliant, and transparent planning of signaling devices in industrial and building environments.

Further information is available at: www.pfannenberg.com



Visual signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS					PAGE
					DNV	UL	EN 54-23	VdS	EAC	
	FLASHING LIGHTS									
	**PY X-L-15**	15 J	IP 66 IK08	157 x 212 x 144		●			●	14
	**PY X-L-15-CPR**	15 J	IP 66 IK08	157 x 212 x 144			●	●	●	
	**PY X-M-10**	10 J	IP 66 IK08	124 x 166 x 114		●	●	●	●	16
	**PY X-M-05**	5 J	IP 66 IK08	124 x 166 x 114		●	●	●	●	
	**PY X-S-05**	5 J	IP 66 IK08	85 x 109.5 x 80.6	● [2]	●	●	●	●	17
	**Quadro F12**	13 J	IP 66/67 IK08	130 x 130 x 130					●	18
	**PMF 2030**	30 J	IP 55	bracket mounting 170.5 x Ø 130 direct mounting 185 x Ø 177					●	20
	PMF 2015	14 J							●	
	**ABL / ABS**	15 J	IP 54	without bracket 242 x Ø 80					●	22
	**WBL / WBS**	5 J	IP 54	without bracket 200 x Ø 54					●	

● available ○ pending [2] option

Visual signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS					PAGE
					DNV	UL	EN 54-23	VdS	EAC	
	LED LIGHTS									
	**PY L-M**	23 cd [1]	IP 66 IK08	124 x 166 x 114					●	24
	**PY L-S**	76 cd [1]	IP 66 IK08	85 x 110 x 81					●	26
	**Quadro LED-HI**	75 cd [1]	IP 66/67 IK08	130 x 130 x 130					●	28
	**PMF LED-HI**	315 cd [1]	IP 55	bracket mounting 170.5 x Ø 130 direct mounting 185 x Ø 177					●	30
	PMF LED Flex	27 cd [1]							●	
	**ABL LED-HI/ ABS LED-HI**	75 cd [1]	IP 54	without bracket 242 x Ø 80					●	32
	TRAFFIC LIGHTS									
	**PY L-S-TL**	76 cd [1]	IP 66 IK08	345 x 110 x 81					●	34
	**Quadro LED-HI-TL**	80 cd [1]	IP 66 IK08	396 x 130 x 130					●	38
	**P 450 TLA P 350 TLA**	125 cd [1]	IP 65	177 x Ø 140 170 x Ø 100					●	40
	OBSTRUCTION LIGHTS									
	**POL 32-M**	32 cd [1]	IP 68	240 x Ø 114					●	42
	POL 10-M-RA	18 cd [1]							●	

[1] with a clear lens

● available ○ pending [2] option

Pyra Xenon Flashing Lights
PY X-L | PY X-M | PY X-S

XENON

Powerful
Extremely bright and highly visible flashing strobe light in an elegant pyramid design.

Variable flash frequency
Adjustable for different applications: 0.1 | 0.5 | 0.75 | 1 Hz

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

Circuit loading stability
24 V DC versions incorporate constant current regulators for stable and efficient system operation.

Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

Synchronised operation
of several lights according to EN 54-23

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

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

Inrush current regulator (DC version)
Provides electrical protection for control devices such as switching components and relays.



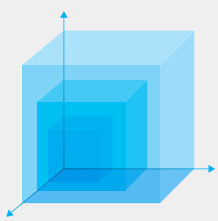
IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust.

Flash tube
A steel fixing clamp provides additional resistance to shock and vibration.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection.

EN 54-23 certified (CPR version)
Satisfies EU requirements for fire alarm safety.

3D-Coverage performance data, A x B x C, clear lens



	PY X-L-15 PY X-L-15-CPR	PY X-M-10 PY X-M-10-SSM	PY X-M-05 PY X-M-05-SSM	PY X-S-05
Indicate	109 x 72 x 117 m	81 x 45 x 102 m	57 x 29 x 61 m	46 x 39 x 51 m
Warn	48 x 32 x 52 m	36 x 20 x 45 m	25 x 13 x 27 m	20 x 17 x 23 m
Alarm	24 x 16 x 26 m	18 x 10 x 23 m	13 x 6 x 14 m	10 x 9 x 11 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA XENON FLASHING LIGHTS

IP 66 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

DC version

UL — PY X-L-15

EN 54-23 — CPR version

VdS — CPR version

NEMA 4/4X — protection system

EAC — EurAsian conformity

10 Years — warranty



EN 54-23 / VdS

PRODUCT	PY X-L-15		PY X-L-15-CPR
ARTICLE NO.	–	–	21561801020
ARTICLE NO.	21561103000	21561803000	on request (VdS)
ARTICLE NO.	21561104000	21561804000	on request (VdS)
ARTICLE NO.	21561105000	21561805000	21561805020
ARTICLE NO.	–	–	on request
ARTICLE NO.	21561103055	21561803055	on request (VdS)
ARTICLE NO.	21561104055	21561804055	on request (VdS)
ARTICLE NO.	21561105055	21561805055	on request

DATA			
Light source	xenon flash tube		
Operating range	187–255 V	19.2–28.8 V	19.2–28.8 V
	AC 50, 60 Hz	DC	DC
Nominal current consumption	150 mA @ 1 Hz	540 mA @ 1 Hz	700 mA @ 1 Hz
Flash energy and flash rate	15 J @ 0.1 I 0.5 I 0.75 I 1 Hz		
Light intensity (DIN 5037) [1]	190 cd		
Max. viewing distance	320 m		
Operating temperature	–40 … +55 °C		
Protection system (EN 60529)	IP 66		
Impact resistance as per EN 50102	IK08		
Service life of light source	light emission still 70 % after 8,000,000 flashes		
Material – lens	polycarbonate (PC)		
Material – housing	PC/ABS, RAL 3000 or RAL 7035		
Dimensions (X x Y x Z)	212 x 157 x 144 mm		

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealings	44	28300000002
Surface gasket	44	28111500002

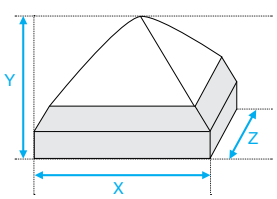
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

24 V AC I 115 V AC	White enclosure

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



PYRA XENON FLASHING LIGHTS

IP 66 — protection system
IK08 — impact-proof housing
+55 °C / –40 °C — operating temperature
M12 — option
UL — UL approval
EN 54-23 — SSM version
VdS — SSM version
NEMA 4/4X — protection system
CNBOP PIB — option
EAC — EurAsian conformity
10 Years — warranty



PRODUCT	PY X-M-10		EN 54-23 PY X-M-10-SSM	PY X-M-05		EN 54-23 PY X-M-05-SSM
ARTICLE NO. 🔴 ⊘	21551101000	21551811000	21551801005	21550101000	21550811000	21550801005
ARTICLE NO. 🔴 🟡	21551103000	21551813000	–	21550103000	21550813000	–
ARTICLE NO. 🔴 🟠	21551104000	21551814000	–	21550104000	21550814000	–
ARTICLE NO. 🔴 🔴	21551105000	21551815000	21551805005	21550105000	21550815000	21550805005
ARTICLE NO. ⚪ ⊘	21551101055	21551811055	21551801061	21550101055	21550811055	21550801061
ARTICLE NO. ⚪ 🟡	21551103055	21551813055	–	21550103055	21550813055	–
ARTICLE NO. ⚪ 🟠	21551104055	21551814055	–	21550104055	21550814055	–
ARTICLE NO. ⚪ 🔴	21551105055	21551815055	21551805061	21550105055	21550815055	21550805061

DATA						
Light source	xenon flash tube					
Operating range	187–255 V	10–57 V	18–30 V	187–255 V	AC: 18–30 V DC: 10–57 V	18–30 V
	AC 50 I 60 Hz	DC	DC	AC 50 I 60 Hz	AC 50 I 60 Hz / DC	DC
Nominal current consumption	150 mA @ 230 V	540 mA @ 24 V		60 mA @ 230 V	AC: 600 mA DC: 280 mA @ 24 V	
Flash energy and flash rate	10 J @ 1 Hz = 60 flashes/min			5 J @ 1 Hz = 60 flashes/min		
Light intensity (DIN 5037) [1]	149 cd			56 cd		
Max. viewing distance	283 m			173 m		
Operating temperature	–40 … +55 °C					
Protection system (EN 60529)	IP 66					
Impact resistance as per EN 50102	IK08					
Service life of light source	light emission still 70 % after 8,000,000 flashes					
Material – lens	⊘ ○ 🟡 🟠 🔴 🟢 🔵 polycarbonate (PC)					
Material – housing	PC/ABS, RAL 3000 🔴 or RAL 7035 ⚪					
Dimensions (X x Y x Z)	166 x 124 x 114 mm					

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealings	44	28300000002
Surface gasket	44	28111500000

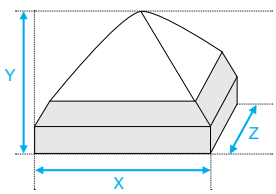
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

115 V AC	CNBOP	White enclosure

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



PYRA XENON FLASHING LIGHTS

IP 66 — protection system
IK08 — impact-proof housing
+55 °C / –40 °C — operating temperature
M12 — option
UL — UL approval
EN 54-23 — 24 V DC, 48 V DC
VdS — 24 V DC, 48 V DC
NEMA 4/4X — protection system
DNV — option
CNBOP PIB — option
EAC — EurAsian conformity
10 Years — warranty



PRODUCT	PY X-S-05			
	Housing ●		Housing ●	
ARTICLE NO. ⊘	21510101000	21510801000	21510101055	21510801055
ARTICLE NO. ●	21510103000	21510803000	21510103055	21510803055
ARTICLE NO. ●	21510104000	21510804000	21510104055	21510804055
ARTICLE NO. ●	21510105000	21510805000	21510105055	21510805055
DATA				
Light source	xenon flash tube			
Operating range	184–253 V AC 50 I 60 Hz	18–30 V DC	184–253 V AC 50 I 60 Hz	18–30 V DC
Nominal current consumption	55 mA @ 230 V	300 mA @ 24 V	55 mA @ 230 V	300 mA @ 24 V
Flash energy and flash rate	5 J @ 1 Hz = 60 flashes/min			
Light intensity (DIN 5037) [1]	50 cd			
Max. viewing distance	164 m			
Operating temperature	–40 … +55 °C			
Protection system (EN 60529)	IP 66			
Impact resistance as per EN 50102	IK08			
Service life of light source	light emission still 70 % after 8,000,000 flashes			
Material – lens	⊘ ○ ● ● ● ● ● polycarbonate (PC)			
Material – housing	PC, RAL 3000 ●		RAL 7035 ●	
Dimensions (X x Y x Z)	110 x 86 x 81 mm			

ACCESSORIES	PAGE	ARTICLE NUMBER
Enclosure fitting	44	28300000003
Tamper-proof sealings	44	28300000002
Surface gasket	44	28300000004
Panel mount installation kit	44	28300000010

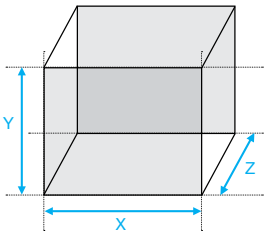
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

115 V AC I 24 V AC I 48 V DC I 12 V DC	White enclosure	DNV	CNBOP	Soft Start Module

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Quadro Xenon Flashing Lights
Quadro F12

XENON

LED versions
on page 29

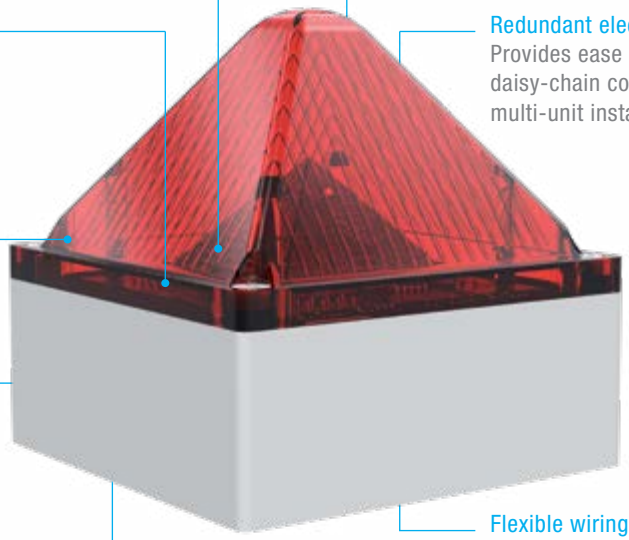
Secure enclosure sealing
Leak path risk is eliminated since the lens fastening screws are located outside the sealing gasket area.

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.

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

Inrush current regulator
Provides electrical protection for control devices such as switching components and relays.

Safe operation
in all possible thermal (weather) and environmental conditions around the world.

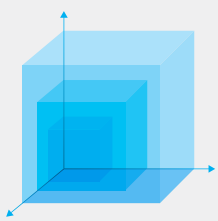


High quality, long life components
Provides the utmost in reliability and longevity.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.

Flexible wiring schemes
Multiple cable and conduit entries ensure easy installation in any orientation.

3D-Coverage performance data, A x B x C, clear lens



Quadro F12

Indicate	115 x 83 x 112 m
Warn	51 x 37 x 50 m
Alarm	26 x 18 x 25 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO XENON FLASHING LIGHTS

IP 66 IP 67 — protection system

IK08 — impact-proof housing

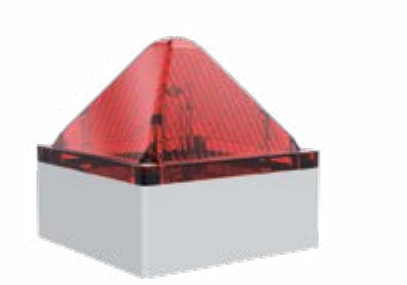
+55 °C / –40 °C — operating temperature

I lim t — inrush current limitation

Sync — synchronous operation

EAC — EurAsian conformity

10 Years — warranty



PRODUCT	Quadro F12	
ARTICLE NO.	21041101000	21041801000
ARTICLE NO.	21041103000	21041803000
ARTICLE NO.	21041104000	21041804000
ARTICLE NO.	21041105000	21041805000
DATA		
Light source	xenon flash tube	
Operating range	195–253 V	18–30 V
	AC 50 I 60 Hz	DC
Current consumption	250 mA @ 230 V	700 mA @ 24 V
Initial current limited to	<7 A / 150 µs	<5 A / 2 ms
Flash energy and flash rate	13 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]	260 cd	
Max. viewing distance	374 m	
Operating temperature	–40 … +55 °C	
Protection system according to EN 60529	IP 66/67, mounting arbitrary	
Impact resistance as per EN 50102	IK08	
Service life of light source	light emission still 70 % after 12,000,000 flashes	
Material – lens	⊘ ○ ● ● ● ● ● polycarbonate (PC)	
Material – housing	polycarbonate (PC)	
Dimensions (X x Y x Z)	130 x 130 x 130 mm	

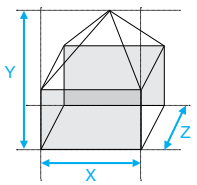
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Quadro	Quadro S	Quadro R	Quadro DMX
In 115 V AC and other operating voltages, other colours like blue, green, white, clear.	Multi-unit flash synchronisation for daisy-chained installations and solid-state xenon flash tube.	Solid-state xenon flash tube with integrated random flash function for “sparkling effect”. Used for spectacle illumination applications (as featured on the Eiffel Tower).	Solid-state xenon flash tube with integrated DMX control for generating illumination arrangements and light shows.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



PMF Xenon Flashing Lights
PMF 2030 | PMF 2015

XENON

LED versions on page 30 and 88

Robust, solid-state design
Xenon flash tubes are secured by a mechanical clamp and unlike rotating lights with motorised elements – there is no risk of failure due to moving parts.

Highly effective light beam
Fresnel lens optics provide a brilliant horizontal light stream for long distance signal transmission.

Up to 30 joules flash energy
High energy impulse creates an intense light flash for effective signal coverage in large areas.

Powerful 360° omnidirectional signaling
for large distances (indoor and outdoor)

Exceptional performance
Withstands extreme temperatures and is safeguarded against potential voltage fluctuations.

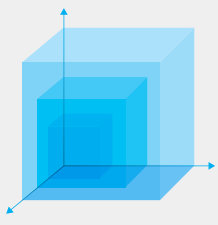
Very good perceptibility
over great distances; low power consumption

Versatile mounting
Choose direct mount for flat surface installation or bracket mount for attachment to walls or pipes.





3D-Coverage performance data, A x B x C, clear lens



	PMF 2030	PMF 2015
Indicate	144 x 450 x 450 m	54 x 172 x 172 m
Warn	64 x 200 x 200 m	24 x 76 x 76 m
Alarm	32 x 100 x 100 m	12 x 38 x 38 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PMF XENON FLASHING LIGHTS

IP 55
protection system

+55 °C
–40 °C
operating temperature

EAC
EurAsian conformity



PRODUCT		PMF 2030		PMF 2015	
		direct mounting	bracket mounting	direct mounting	bracket mounting
ARTICLE NO.	230 V	21010104000	21010104010	21007104000	21007104010
ARTICLE NO.	24 V	–	–	21007804000	21007804010
ARTICLE NO.	230 V	21010105000	21010105010	21007105000	21007105010
ARTICLE NO.	24 V	–	–	21007805000	21007805010

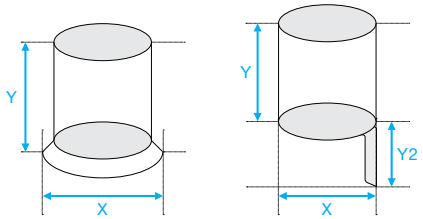
DATA					
Light source		xenon flash tube		xenon flash tube: quad, double flash	
Operating range		195–253 V		195–253 V	18–30 V
		AC 50 I 60 Hz		AC 50 I 60 Hz	DC
Nominal current consumption		450 mA @ 230 V		–	–
	2 flashes	–		0.08 A	0.65 A
Flash energy and flash rate		max. 30 J @ 1 Hz = 60 flashes/min switchable to 20 J		14 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]		1,500 cd		250 cd	
Max. viewing distance		898 m		366 m	
Operating temperature		–40 … +55 °C			
Protection system according to EN 60529		IP 55 (vertical mounting)			
Service life of light source		light emission still 70 % after 8,000,000 flashes			
Material	lens	polycarbonate (PC), fresnel characteristic			
	housing	acrylonitrile butadiene styrene (ABS)	polycarbonate (PC)	acrylonitrile butadiene styrene (ABS)	polycarbonate (PC)
Dimensions (X x Y + Y2)		177 x 185 + 0 mm	130 x 170.5 + 90 mm	177 x 185 + 0 mm	130 x 170.5 + 90 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



ABx/WBx Xenon Flashing Lights
ABL/ABS | WBL/WBS

XENON

LED versions on page 32

Powerful
Extremely bright and highly visible flashing strobe light for signaling in large manufacturing areas and warehouses as well as outdoor spaces.

Flash tube
Xenon strobe generates highly visible light without sensitive filaments. A steel fixing clamp provides additional resistance to shock and vibration.

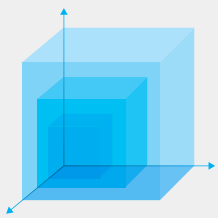
DNV
Approved versions available for maritime applications and areas prone to high shock and vibration conditions.

IP 54 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust.

Robust and reliable
With corrosion resistant anodised aluminium housing and mounting bracket, as well as a high strength polycarbonate lens, the signal light is ideal for tough industrial requirements.



3D-Coverage performance data, A x B x C, clear lens



	ABL/ABS	WBL/WBS
Indicate	128 x 160 x 160 m	63 x 62 x 62 m
Warn	57 x 71 x 71 m	28 x 28 x 28 m
Alarm	28 x 36 x 36 m	14 x 14 x 14 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

ABX/WBX XENON FLASHING LIGHTS

IP 54
protection system

+55 °C
–40 °C
operating temperature

EAC
EurAsian conformity



WBL/WBS



ABL/ABS

PRODUCT	ABL	ABS	WBL	WBS
ARTICLE NO.	21001103000	21001803000	21003103000	21003803000
ARTICLE NO.	21001104000	21001804000	21003104000	21003804000
ARTICLE NO.	21001105000	21001805000	21003105000	21003805000

DATA					
Light source	xenon flash tube				
Operating range	185–255 V AC 50 I 60 Hz	18–30 V DC	185–255 V AC 50 I 60 Hz	18–35 V DC	
Nominal current consumption	0.18 A	0.7 A	0.07 A	0.25 A	
Flash energy and flash rate	15 J @ 1 Hz = 60 flashes/min		5 J @ 1 Hz = 60 flashes/min		
Light intensity (DIN 5037) [1]	226 cd		61 cd		
Max. viewing distance	348 m		181 m		
Operating temperature	–40 … +55 °C				
Protection system according to EN 60529	IP 54 (vertical mounted)				
Service life of light source	light emission still 70 % after 8,000,000 flashes				
Material – lens	⊘ ○ ● ● ● ● ● polycarbonate (PC)				
Material – housing	aluminium (Al Mg Si 1), anodised				
Material – base	polycarbonate (PC) with fibre glass				
Dimensions (X x Y)	80 x 242 mm		54 x 200 mm		

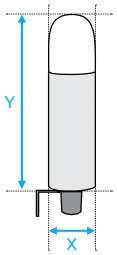
ACCESSORIES	PAGE	ARTICLE NUMBER	
Protective cage	44	28710500041	28710500042

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

127 I 115 I 110 I 48 I 42 I 24 V AC I 110 I 60 I 48 I 36 I 12 V DC	WBL-PX – WBL with inrush current limitation below 6 A for only 110 µS	DWBL/DWBS – 2.5 J, 54 mm diameter aluminium enclosure	Versions with 30 I 45 I 90 I 120 flashes per minute



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Pyra LED Multifunctional Lights
PY L-M

LED

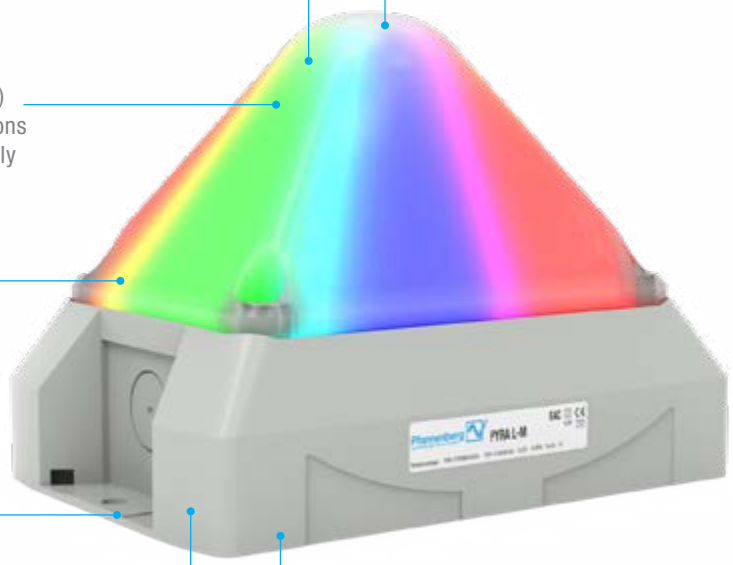
RGB multi colour or single colour LED light with wide signaling area and maximum visibility.

Selectable signaling modes
Continuous steady on, blinking light or flashing light.

Selectable colour (RGB version only)
Choose the colour you require. Stay flexible and keep your stock to a minimum!

External colour & mode control (RGB version only)
With PYRA LED RGB you can state several situations with only one light. Change colour and mode easily by remote control!

Selectable blink & flash frequencies
Adaptable to all your applications - select the frequency your gadget requires and boost the perceptibility.

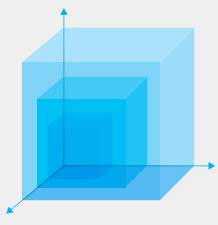


Multi-voltage-power supply
Plug and play. PYRA LED adapts to most machines and applications no matter the voltage.

Panel mount installation
Fully integrable into the design of your machine and equipment.

Function-monitored (option)
The function-monitored PY L-M-M ensures more safety in sensitive applications (separate product sheet available).

3D-Coverage performance data, A x B x C, clear lens



	PY L-M	PY L-M RGB
Indicate	39 x 43 x 44 m	23 x 11 x 19 m
Warn	17 x 19 x 20 m	10 x 5 x 8 m
Alarm	9 x 10 x 10 m	5 x 2 x 4 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA LED MULTIFUNCTIONAL LIGHTS

RGB — multi colour LED (option)
IP 66 — protection system
NEMA 4/4X — protection system
IK08 — impact-proof housing
+55 °C / –40 °C — operating temperature
brightness adjustable
UL — UL approval
M12 — connector (option)
EAC — EurAsian conformity
10 Years — warranty



PRODUCT	PY L-M / PY L-M RGB	
ARTICLE NO. ● ● / ○	21553648055	21553818055
ARTICLE NO. ● ●	21553643055	21553813055
ARTICLE NO. ● ●	21553644055	21553814055
ARTICLE NO. ● ●	21553645055	21553815055
ARTICLE NO. ● ●	21553646055	21553816055

DATA			
Light source	single colour: two high output LED / RGB: one high output LED		
Operating range	95–265 V	108–132 V	10–60 V
	50 I 60 Hz	–	–
Nominal current consumption	36 mA @ 230 V AC	25 mA @ 120 V DC	120 mA @ 24 V DC
Operating mode internally and externally selectable (external RGB only)	continuous light / blinking light / flashing light		
Light alternation frequency	blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)		
Light intensity (DIN 5037) [1]	23 cd (reducible)		
Max. viewing distance	111 m		
Colour of RGB LED	● ● ● ●; additionaly ○ though external control		
Operating temperature	–40 °C ... +55 °C		
Degree of protection	IP66 / IK08		
Service life of light source	≥50,000 hrs		
Material – lens	⁄ ○ ● ● ● ● ● (○ - RGB) polycarbonate (PC)		
Material – housing	PC / ABS blend		
Dimensions (X x Y x Z)	124 x 166 x 114 mm		

ACCESSORIES	PAGE	ARTICLE NUMBER
Sealing plug, 4-pack	44	28300000002
Spare locking bolt, 4-pack	44	28912000000
Surface seal	44	28111500000
Control panel installation kit	44	28112000019

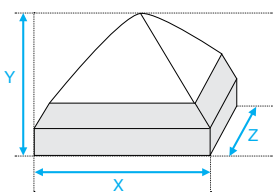
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

24 V AC	Red enclosure

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Pyra LED Multifunctional Lights
PY L-S

LED

Most flexible, ultra bright RGB multi colour or single colour LED technology.

Selectable signaling modes
Continuous-, blinking- and flashing-light.

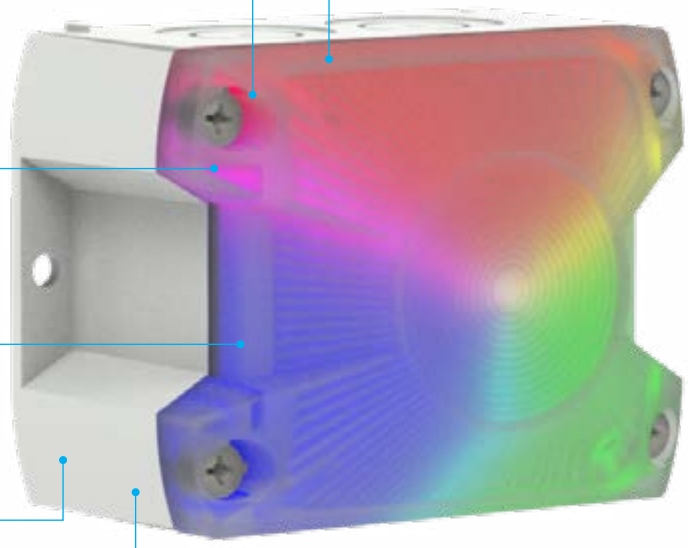
Selectable Colour (RGB version only)
PYRA LED RGB permits to choose the colour you require. Stay flexible and keep your stock to a minimum!

External colour & mode control (RGB version only)
With PYRA LED RGB you can state several situations with only one light. Change colour and mode easily by remote control!

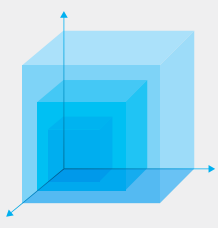
Selectable blink & flash frequencies
Adaptable to all your applications - select the frequency your gadget requires and boost the perceptibility!

Multi-voltage-power supply
Plug and play PYRA LED adapts to most machines and applications no matter the voltage.

Panel mount installation
Flat, smart, discrete, clean and 360° visible - fully integrable into the design of your machine and equipment.



3D-Coverage performance data, A x B x C, clear lens



	PY L-S	PY L-S RGB
Indicate	35 x 15 x 14 m	17 x 14 x 14 m
Warn	16 x 7 x 6 m	8 x 6 x 6 m
Alarm	8 x 3 x 3 m	4 x 3 x 3 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA LED MULTIFUNCTIONAL LIGHTS

RGB
multi colour LED (option)

IP 66
protection system

NEMA 4/4X
protection system

IK08
impact-proof housing

+55 °C
–40 °C
operating temperature

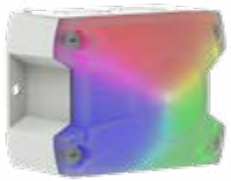
brightness adjustable

UL
UL approval

M12
connector (option)

EAC
EurAsian conformity

10 Years
warranty



PRODUCT	PY L-S / PY L-S RGB	
ARTICLE NO. ● ● / ●	21513648055	21513818055
ARTICLE NO. ● ●	21551643055	21513813055
ARTICLE NO. ● ●	21551644055	21513814055
ARTICLE NO. ● ●	21551645055	21513815055
ARTICLE NO. ● ●	21551646055	21513816055

DATA			
Light source	one high output LED		
Operating range	115 / 230 V	120 V DC	12–48 V DC
	AC 50 I 60 Hz / DC	–	–
Nominal current consumption	36 mA @ 230 V AC	25 mA @ 120 V DC	120 mA @ 24 V DC
Operating mode internally and externally selectable (external RGB only)	continuous light / blinking light / flashing light		
Light alternation frequency	blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)		
Light intensity (DIN 5037) [1]	76 cd (reducible)		
Max. viewing distance	202 m		
Operating temperature	–40 °C ... +55 °C		
Degree of protection	IP66 / IK08		
Service life of light source	≥50,000 hrs		
Material – lens	● ● ● ● ● ● ● (● ● - RGB) polycarbonate (PC)		
Material – housing	PC / ABS blend		
Dimensions (X x Y x Z)	86 x 110 x 81 mm		

ACCESSORIES	PAGE	ARTICLE NUMBER
Sealing plug, 4-pack	44	28300000002
Spare locking bolt, 4-pack	44	28912000000
Surface seal	44	28300000004
Control panel installation kit PY L-S	44	28112000042
Control panel installation kit PY L-S RGB	44	28112000043

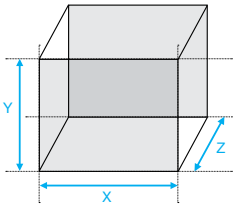
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

24 V AC	Red enclosure

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Quadro LED Multifunctional Lights QUADRO LED-HI



xenon versions on page 18, 90, 96 and 110

Advanced LED technology
User-adjustable brightness up to 75 cd and selection of several signaling modes: continuous light | blinking light | flashing light.

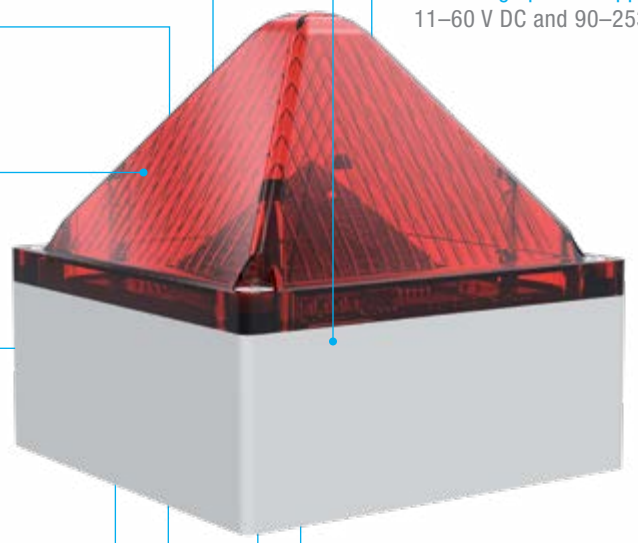
Safe operation
in all possible thermal (weather) and environmental conditions around the world.

Secure enclosure sealing
Leak path risk is eliminated since the lens fastening screws are located outside the sealing gasket area.

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.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.



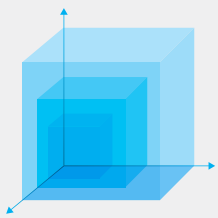
Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

Wide range power supplies
11–60 V DC and 90–253 V AC and DC.

Flexible wiring schemes
Multiple cable and conduit entries ensure easy installation in any orientation.

External selectable operating mode (DC)
Adapt continuous, blinking, and flashing modes to signaling requirements.

3D-Coverage performance data, A x B x C, clear lens



Quadro LED-HI

Indicate	48 x 36 x 47 m
Warn	21 x 16 x 21 m
Alarm	11 x 8 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO LED MULTIFUNCTIONAL LIGHTS

IP 66 IP 67 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

brightness adjustable

M12 — option

EAC — EurAsian conformity

10 Years — warranty



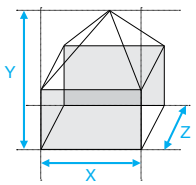
PRODUCT	Quadro LED-HI	
ARTICLE NO.	21108643000	21108633000
ARTICLE NO.	21108644000	21108634000
ARTICLE NO.	21108645000	21108635000
DATA		
Light source	4 high output LED	
Operating range	90–253 V	11–60 V
	AC/DC	DC
Current consumption (@ 1 Hz flash)	45 mA @ 230 V AC	165 mA @ 24 V DC
Operating modes	continuous light, blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)	
Control of operating mode	internally	internally / externally
Light intensity (DIN 5037) [1]	75 cd (reducible)	
Max. viewing distance	201 m	
Operating temperature	–40 … +55 °C	
Protection system according to EN 60529	IP 66/67	IP 66/67
Impact resistance as per EN 50102	IK08	
Service life of light source	>50,000 hrs	
Material – lens	⁄ ○ ● ● ● ● ● polycarbonate (PC)	
Material – housing	polycarbonate (PC)	
Dimensions (X x Y x Z)	130 x 130 x 130 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



PMF LED
Multifunctional Lights
PMF LED-HI | PMF LED-Flex



xenon versions on page 20 and 86 and 94

LED technology – multi-function capability
Durable, low power, high output LEDs with an array of signal action.

Rotating mirror effect
LED's illuminated in a circular chase offer a durable, no-moving-parts alternative to legacy rotating mirror lights.

Highly insensitive to vibration
with service life exceeding 50,000 hrs.

Externally controllable operating modes
PMF LED-HI with three different alarms from the same unit:
- blinking light
- flashing light
- rotating beacon effect

PMF-LED Flex with four different alarms from the same unit:
- continuous light
- blinking light
- flashing light
- rotating beacon effect

Energy saving (LED-HI)
Up to 2 out of 4 quadrants can be switched off, energy saving and for directional signaling.

Versatile mounting
Choose direct mount for flat surface installation or bracket mount for attachment to walls or pipes!



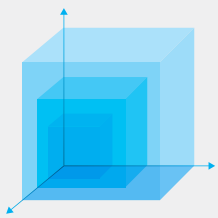
Low power consumption
Energy efficient, solid-state design is also shock and vibration tolerant.

Inrush current limitation (24 V DC)
As standard with inrush current limitation and flexible wide range power supplies.

Day/night switching (LED-HI)
Automatic brightness adjustment to ambient light (day/night switching) can be activated to prevent glare.



3D-Coverage performance data, A x B x C, clear lens



	PMF LED-HI	PMF-LED Flex
Indicate	65 x 166 x 166 m	11 x 63 x 63 m
Warn	29 x 74 x 74 m	5 x 28 x 28 m
Alarm	14 x 37 x 37 m	3 x 14 x 14 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PMF LED MULTIFUNCTIONAL LIGHTS

IP 55 protection system

+55 °C / –40 °C PMF LED-HI

+55 °C / –30 °C PMF-LED Flex

ultra bright

day/night

inrush current limitation

EurAsian conformity



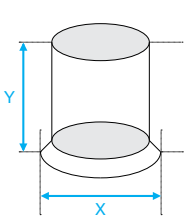
PRODUCT		PMF LED-HI		PMF LED Flex	
		direct mounting	bracket mounting	direct mounting	bracket mounting
ARTICLE NO.		21155634006	21155634007	21151644006	21151644007
ARTICLE NO.		21155635006	21155635007	21151645006	21151645007
DATA					
Light source		8 x 2 high performance LEDs		8 x 2 LEDs (3 chip version)	
Operating range		10–30 V		95–253 V	100–350 V
		DC		AC 50 I 60 Hz	DC
Nominal current consumption	@ 1 Hz	max. 300 mA		16 mA @ 230 V	13 mA @ 220 V
	continuous light	–		60 mA @ 230 V	35 mA @ 220 V
Operating mode		blinking light / flashing light / rotating all-round light		continuous light / blinking light / flashing light / rotating all-round light	
Light frequency		1.5 Hz	1 Hz / 2.5 Hz		1.5 Hz / 1 Hz / 2.5 Hz
Light intensity (DIN 5037) [1]		315 cd, automatically reducible (day/night operation)		27 cd	
Max. viewing distance		411 m		120 m	
Operating temperature		–40 … +55 °C		–30 … +55 °C	
Protection system according to EN 60529		IP 55 (vertical mounting)			
Service life of light source		>50,000 hrs			
Material	lens	polycarbonate (PC), fresnel characteristic			
	housing	acrylonitrile butadiene styrene (ABS)	polycarbonate (PC)	acrylonitrile butadiene styrene (ABS)	polycarbonate (PC)
Dimensions (X x Y + Y2)		Ø 177 x 185 + 0 mm	Ø 130 x 170.5 + 90 mm	Ø 177 x 185 + 0 mm	Ø 130 x 170.5 + 90 mm

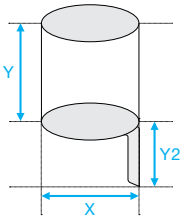
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

PMF-LED Flex in 24 V AC/DC





Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

ABx LED
Multifunctional Lights
ABL/ABS LED-HI



xenon versions on page 22

Extreme bright
Powerful 75 cd (adjustable) LED light with high signaling effect. Selection of several operating modes: continuous light | blinking light | flashing light.

Safe operation
in all possible thermal (weather) and environmental conditions around the world.

IP 54 enclosure rating
Resistant to shock and vibrations for any indoor and outdoor application.

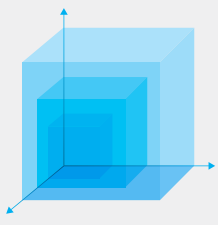
Safe operation
24 V DC device as standard with inrush current limitation

Robust and reliable
With corrosion-resistant anodised aluminium housing and mounting bracket, as well as a high strength polycarbonate lens, the signal light is ideal for tough industrial requirements. Protective metal cage optional available.



Wide range power supplies
as standard for simple and easy worldwide usage.

3D-Coverage performance data, A x B x C, clear lens



ABL/ABS LED-HI

Indicate	39 x 55 x 55 m
Warn	17 x 24 x 24 m
Alarm	9 x 12 x 12 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

ABX LED MULTIFUNCTIONAL LIGHTS

IP 54
protection system

+55 °C
–40 °C
operating temperature

brightness adjustable

M12
connector (option)

EAC
EurAsian conformity

10 Years
warranty



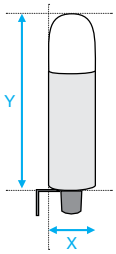
PRODUCT		ABL LED-HI	ABS LED-HI
ARTICLE NO.		21118643000	21118633000
ARTICLE NO.		21118644000	21118634000
ARTICLE NO.		21118645000	21118635000
DATA			
Light source		4 high output LED	
Operating range		90–253 V	11–60 V
		AC/DC	DC
Nominal current consumption (@ 1 Hz flash)		50 mA @ 230 V AC	165 mA @ 24 V DC
Operating modes		continuous light, blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)	
Control of operating mode		internally	internally / externally
Light intensity (DIN 5037) [1]		75 cd (reducible)	
Max. viewing distance		201 m	
Operating temperature		–40 … +55 °C	
Protection system according to EN 60529		IP 54	
Service life of light source		≥50,000 hrs	
Material	lens	polycarbonate (PC)	
	housing	aluminium (Al Mg Si 1), anodised	
	base	polycarbonate (PC) with fibre glass	
Dimensions (X x Y x Z)		80 x 242 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Protective cage	44	28710500042

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Pyra LED Traffic Lights
PY L-S-TL | PY L-S-TLA



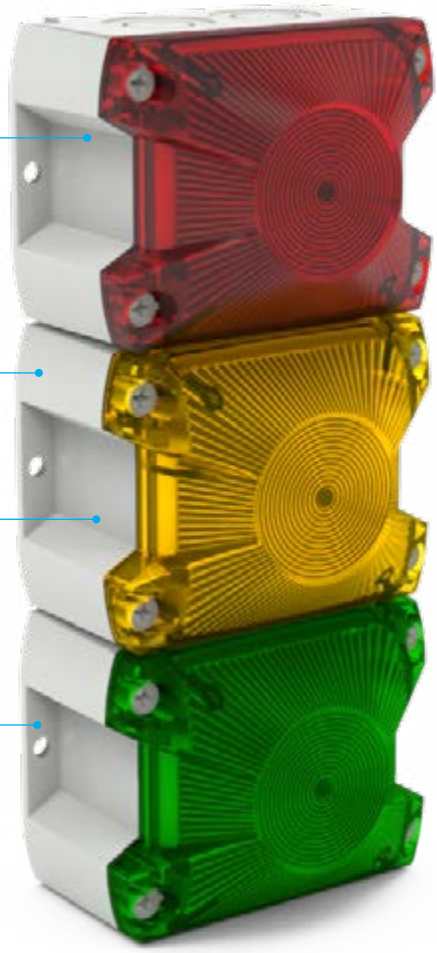
Combine it as you need it! PYRA compact LED traffic lights can be chosen pre-assembled or you can compose it due to your needs. Select between a 2 or 3-stages traffic light only or combine it additionally with a PA1 sounder.

Selectable combination
Flexible and easy. Feel free to compose your traffic light as you wish! The prewired base can be complemented with several stages of LEDs plus a sounder.

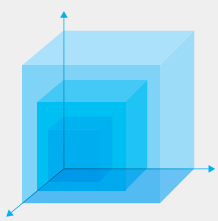
Selectable signaling modes
Continuous-, blinking- and flashing-light.

Selectable blink & flash frequencies
Adaptable to all your applications - select the frequency your gadget requires and boost the perceptibility!

Multi-voltage-power supply
Plug and play PYRA LED adapts to most machines and applications no matter the voltage.



3D-Coverage performance data, A x B x C, clear lens



		PY L-S-TL/TLA
VISUAL	Indicate	35 x 15 x 14 m
	Warn	16 x 7 x 6 m
	Alarm	8 x 3 x 3 m

		PY L-S-TLA
AUDIBLE	80 dB(A)	16 x 14 x 16 m
	85 dB(A)	9 x 8 x 9 m
	90 dB(A)	5 x 4 x 5 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA LED TRAFFIC LIGHTS

IP 66 protection system

NEMA 4/4X protection system

IK08 impact-proof housing

+55 °C / –40 °C operating temperature

brightness adjustable

UL UL approval

M12 connector (option)

EAC EurAsian conformity

10 Years warranty



PRODUCT		PY L-S-TL	
DATA			
Light source		one high output LED per single unit	
Operating range		90–253 V	10–60 V
		50 / 60 Hz	–
Nominal current consumption per stage		36 mA @ 230 V AC	120 mA @ 24 V DC
Operating mode internally selectable		continuous light / blinking light / flashing light	
Light intensity (DIN 5037) [1]		76 cd (reducible) per single unit	
Max. viewing distance		202 m	
Operating temperature		–40 °C ... +55 °C	
Degree of protection		IP66 / IK08	
Service life of light source		≥50,000 hrs	
Material	lens	polycarbonate (PC)	
	housing	PC / ABS blend	
Dimensions (X x Y x Z)		172 to 345 mm depending the number of modules x 81 x 110 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealing for PYRA / PATROL (4-Pack)	44	28300000002
Looking elements for PYRA / PATROL (4-Pack)	44	28912000000

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

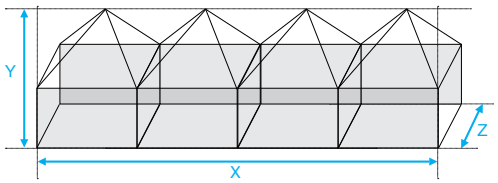
[1] with a clear lens

Models with alternative features available upon request.

24V AC, Variant with M12 connection

ORDERING DETAILS	PY L-TL (FULLY ASSEMBLED TRAFFIC LIGHTS WITH GREY BASES)		
Lens colours	Rated voltage	115 / 230 V AC; 120 V DC	12–48 V DC
red-green	Article number	21514642055	21514812055
red-yellow-green	Article number	21514643055	21514813055

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



PYRA LED TRAFFIC LIGHTS

IP 66 protection system

NEMA 4/4X protection system

IK08 impact-proof housing

+55 °C / –40 °C operating temperature

brightness adjustable

UL UL approval

M12 connector (option)

EAC EurAsian conformity

10 Years warranty



PRODUCT		PY L-S-TLA		
DATA				
Light source		one high output LED per single unit		
Operating range		195–253 V	95–127 V AC	10–57 V
		50 / 60 Hz	50 / 60 Hz	–
Nominal current consumption		36 mA @ 230 V AC	51 mA @ 115 V AC	120 mA @ 24 V DC
Current consumption / sounder stage (max)		16 mA @ 230 V AC	30 mA @ 115 V AC	70 mA @ 24 V DC
Operating mode internally selectable		continuous light / blinking light / flashing light		
Light intensity (DIN 5037) [1]		76 cd (reducible) per single unit		
Max. viewing distance		202 m		
Volume control		max. -12 dB		
Max sound level		105 dB (A) @ 1m		
Tones		80, tone table on page 137		
Operating temperature		–40 °C ... +55 °C		
Degree of protection		IP66 / IK08		
Service life of light source		≥50,000 hrs		
Material	lens	polycarbonate (PC)		
	housing	PC / ABS blend		
Dimensions (X x Y x Z)		172.4 to 345 mm depending the number of modules x 80.6 x 109.5 mm		

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealing for PYRA / PATROL (4-Pack)	44	28300000002
Looking elements for PYRA / PATROL (4-Pack)	44	28912000000

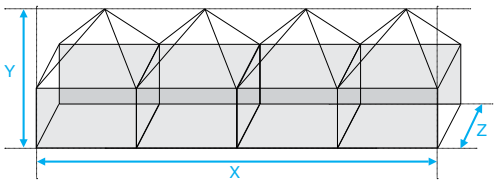
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

24 V AC, Variant with M12 connection

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



How to configurate PY L-S-TL/TLA:

STEP 1 - SELECT THE NUMBER OF MODULE STAGES

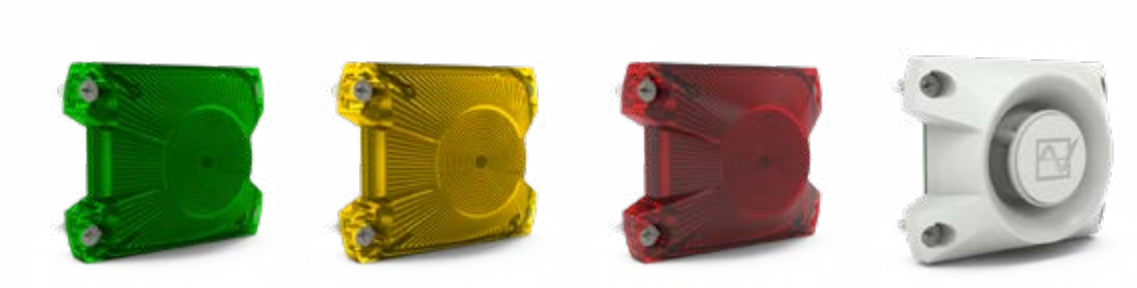
Choose a pre-assembled base. All you have to do is select the number of stages you need — 2, 3, or 4.



STAGE	2 STAGES	3 STAGES	4 STAGES
ARTICLE NO.	287105000040	28710500041	28710500042

STEP 2 - SELECT THE FUNCTION MODULES

Choose your inserts. You can select between different colored LED modules and a sounder. Please note that the number of stages chosen above is at the same time the number of inserts that can be assembled.



STAGE	GREEN	YELLOW	RED	SOUNDER
OPERATING RANGE	12-48V DC			12-48V DC
ARTICLE NO.	21516816000	21516813000	21516815000	21517810055
OPERATING RANGE	115/230V AC 120V DC			230V AC
ARTICLE NO.	21516646000	21516646000	21516646000	21517100055

Quadro LED Traffic Lights
Quadro LED-HI-TL



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.

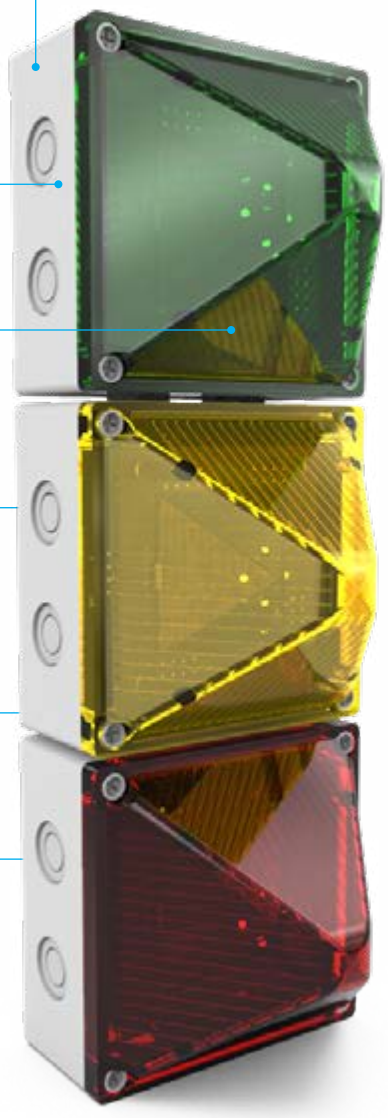
Impact resistant housing and lens
Achieves IK08 impact rating to endure harsh environments.

Very bright LED
Face-on LEDs provide far-reaching signals for traffic control and machinery feedback applications.

Mounting
Mounted using external lugs or internal holes that do not impair the IP protection; mounting can be performed in any direction.

Adjustable steady, blinking or flashing light function
provides indication of special operating conditions, e. g. on cranes or machines.

Optional dimmer
Light sensor provides automatic attenuation of light intensity for glare avoidance during night time operation.



Field of application examples:
Traffic routing in non-public areas, conveyer and storage systems, crane safety, container handling systems.

QUADRO LED TRAFFIC LIGHTS

IP 66 protection system

IK08 impact-proof housing

+55 °C / –40 °C operating temperature

light sensor option

brightness adjustable

EAC EurAsian conformity

10 Years warranty



PRODUCT		Quadro LED-HI-TL	
ARTICLE NO.		21106640008	21106630008
DATA			
Light source		4 high performance LEDs each	
Operating range		90–253 V	11–60 V
		AC 50 I 60 Hz	DC
Nominal current consumption		3x 45 mA @ 230 V AC	3x 165 mA @ 24 V DC
Operating mode		continuous light, blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)	
Control of operating mode		internally	internally / externally
Light intensity (DIN 5037) [1]		75 cd (reducible)	
Max. viewing distance		201 m	
Operating temperature		–40 … +55 °C	
Protection system according to EN 60529		IP 66	
Impact resistance as per EN 50102		IK08	
Service life of light source		>50,000 hrs	
Material	lens	polycarbonate (PC), UV resistant	
	housing	polycarbonate (PC), UV resistant	
Dimensions (X x Y x Z)		396 x 130 x 130 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Enclosure fitting	44	28112000003

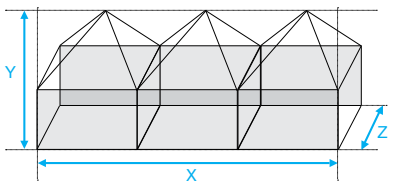
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Quadro LED-TL available as single-element light fixtures in green, amber or red which may be combined to create multi stage traffic signals or operator feedback lighting.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

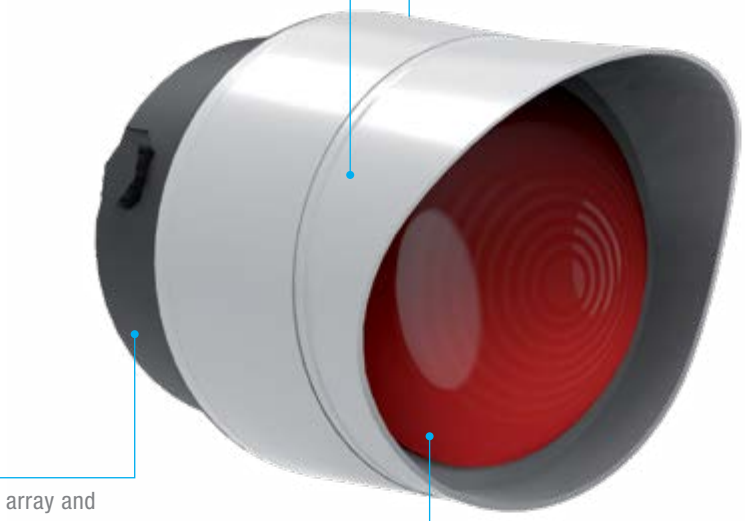


Spectra LED Traffic Lights
P350-TL | P450-TL



Robust construction
LED technology provides high tolerance to shock and vibration. High quality plastic housing offers corrosion resistance.

Glare protection
Visor shields against sunlight interference.



Optional mounting bracket
Creates multi-unit signal light array and provides alignment adjustability.

Highly visible
Clear prismatic lenses and coloured LEDs offer a high degree of signal perception even in daylight and bright surroundings.



Simple to combine
for horizontal or vertical configuration. Necessary connecting piece for traffic light combinations included.

SPECTRA LED TRAFFIC LIGHTS

IP 66
protection system

+70 °C
–40 °C
operating temperature

EAC
EurAsian conformity



PRODUCT	P 450 TLA		P 350 TLA	
ARTICLE NO. 🔴	21355645000	21355635000	21352645000	21352635000
ARTICLE NO. 🟠	21355644000	21355634000	21352644000	21352634000
ARTICLE NO. 🟢	21355646000	21355636000	21352646000	21352636000
DATA				
Light source	High output white LED array			
Operating range	48–260 V AC 50 I 60 Hz / DC	10–14 V / 16–33 V DC	48–260 V AC 50 I 60 Hz / DC	10–14 V / 16–33 V DC
Nominal current consumption	90 mA @ 115 V AC 55 mA @ 230 V AC	160 mA @ 12 V DC 180 mA @ 24 V DC	90 mA @ 115 V AC 55 mA @ 230 V AC	160 mA @ 12 V DC 180 mA @ 24 V DC
Operating mode	continuous light, blinking light, flashing light (1 / 1.5 / 2 Hz), double / triple / temporal flash			
Light intensity (DIN 5037)	125 cd			
Max. viewing distance	259 m			
Operating temperature	–40 °C ... +70 °C			
Protection system according to EN 60529	IP65			
Service life of light source	>50,000 hrs			
Material – lens	🔴🟠🟢 polycarbonate (PC), UL 94 V0 f1			
Material – housing	polycarbonate (PC), UL 94 V0 f1			
Dimensions (X x Y)	177 x Ø 140 mm		140 x Ø 100 mm	

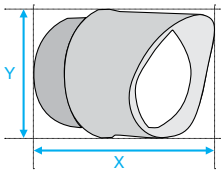
ACCESSORIES	PAGE	ARTICLE NUMBER	
Wall brackets (single unit mount)	45	21399000000	21398000000
Wall brackets (2 or 3 units mount)	45	21397000000	21396000000

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

P 450 TLA and P 350 TLA available as single-element light fixtures in green, amber, or red which may be combined to create multi stage traffic signals or operator feedback lighting.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



POL LED Obstacle Lights
POL 10 | POL 32



LED obstacle lights
AVV approved, compliant to ICAO, Annex 14, Volume 1, Chapter 6.

Omnidirectional LED array
Light radiation of 360° offers superb marking of aviation obstructions for night time and twilight safety.

Optional redundancy for added safety
Incorporates dual LEDs and circuitry to eliminate the need for backup or redundant fixtures.

Automatic switching over
to standby light in case of error or by means of external control system.

Self-monitoring
Integrated functional fault monitoring with dry contact relay permits automatic switchover to backup lighting.

Maintenance free
Shock and vibration tolerant LEDs provide a service life in excess of 50,000 hrs.

Breathable membrane
Integrated within the cable gland to prevent condensation.

Optional plug contact
For simplified installation.



Several versions to serve specific needs

POL 10-M-RA	POL 32-M
10 cd intensity, integrated fault monitoring, redundant LED array, automatic switchover.	32 cd intensity, integrated fault monitoring.
Low intensity ICAO type A, AVV	Low intensity ICAO type B

POL LED OBSTACLE LIGHTS

AVV
POL 10

ICAO
ICAO conformity

IP 68
protection system

+55 °C
–40 °C
operating temperature

redundant

M12
connector (option)

EAC
EurAsian conformity



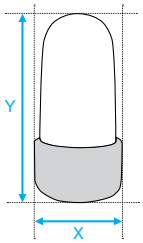
PRODUCT		POL 32-M		POL 10-M-RA	
ARTICLE NO.		21105681005	21105671005	21105641010	21105641010
DATA					
Light source		LED array (red)			
Operating range		85–265 V AC 50 I 60 Hz	9.6–28.8 V DC	85–265 V AC 50 I 60 Hz	9.6–28.8 V DC
Current consumption, determined arithmetically		96 mA @ 115 V 45 mA @ 230 V	800 mA @ 12 V 430 mA @ 24 V	60 mA @ 115 V 40 mA @ 230 V	600 mA @ 12 V 350 mA @ 24 V
Version		monitored		monitored, redundant	
Light intensity (DIN 5037)		32 cd		18 cd	
Light colour		aviation red			
Beam angle	vertical	approx. ±35°			
	horizontal	360°			
Operating temperature		–40 … +55 °C			
Protection system according to EN 60529		IP 68			
Service life of light source		>50,000 hrs			
Material	lens	polycarbonate (PC)			
	base	polybutylene terephthalate (PBT)			
Dimensions (X x Y)		118 x 240 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

48 V DC	POL 10-M: 10 cd, monitored	POL 10-M-R: 10 cd intensity, integrated fault monitoring, redundant LED array, relay contact for external switchover.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Accessories

PROTECTIVE CAGES

For safeguarding the lenses of signal lights against impact from foreign objects.
Particularly useful for use on lights installed onto vehicles and fork lifts.





SUITABLE FOR ...	WBL I WBS	ABL I ABS I WBL-M I WBS-M
ARTICLE NO.	28710500041	28710500042
DATA		
Material	steel, powder-coated	
Colour	white, similar to RAL 9016	

ACCESSORIES PYRA LIGHTS



Enclosure fitting



Surface gasket



Tamper-proof sealing



Locking elements for Pyra and Patrol



Panel mount installation kit

PRODUCT		PY L-S	PY X-S	PY X-M PY L-M	PY X-L
Enclosure fitting	Used for combining multiple PYRA lights together or installing one device to an electrical enclosure.	–	28300000003	–	–
Surface gasket	For use when surface mounting to an electrical enclosure to maintain the IP rating of the enclosure.	28300000004		28111500000	28111500002
Tamper-proof sealing (pack of 4)	Inserts into the head of the plastic 3/8-turn fasteners of PYRA devices to disable access to internal components.	28300000002			
Locking elements (pack of 4)	Replacement locking elements,for all PATROL sounders and PYRA flashing lights.	28912000000			
Panel mount installation kit	Permits flush mounting of PYRA lights to enclosure panels through a rectangular cutout. Includes mating electrical connector and mounting hardware.	28112000042 RGB: 28112000043	28300000010	28112000019	–

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

ACCESSORIES TRAFFIC LIGHTS



Enclosure fitting



Wall bracket P x50

PRODUCT		QUADRO LED-TL	P TLA
Enclosure fitting	For connection (daisy-chaining) of several traffic lights Quadro LED-TL.	28112000003	–
P 450 Wall bracket set for combinations of 2 or 3 lights	Metal wall mount bracket for SPECTRA traffic lights and combinations.	–	21397000000
P 450 Wall bracket for single mounting		–	21399000000
P 350 Wall bracket set for combinations of 2 or 3 lights		–	21396000000
P 350 Wall bracket for single mounting		–	21398000000

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Audible signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS						PAGE
					DNV	MED	UL	EN 54-3	VdS	EAC	
	SOUNDERS										
	**PRO 10**	116 dB(A)	IP 66 IP 67 IK09 NEMA 4/4X	139 x 167 x 148	○ [2]	○ [2]	●	●	●	●	48
	**PA 20**	122 dB(A)	IP 66 IK08 NEMA 4/4X	170 x 214 x 181	● [2]	● [2]	●	●	●	●	50
	**PA 10**	117 dB(A)	IP 66 IK08 NEMA 4/4X	170 x 214 x 156	● [2]	● [2]	●	●	●	●	
	**PA 5**	107 dB(A)	IP 66 IK08 NEMA 4/4X	135 x 163.4 x 132	● [2]	● [2]	●	●	●	●	51
	**PA 1**	105 dB(A)	IP 66 IK08 NEMA 4/4X	86 x 109.5 x 80.6	● [2]	● [2]	●	●	●	●	
	**PA 1-R**	105 dB(A)	IP 66 IK08 NEMA 4/4X	111 x 89 x 70			●			●	54

● available ○ pending [2] option

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 1 m distance.

Audible signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS						PAGE
					GL	MED	UL	EN 54-3	VdS	EAC	
	ELECTRONIC BUZZERS										
	**P 22 DBZ**	80 dB(A) @ 10 cm	IP 40	Ø 29 x 62						●	56
	**P 28 DMC301**	91 dB(A)	IP 65	Ø 35.8 x 38.2						●	
	**P 28 DMB530**	91 dB(A)	IP 65	Ø 35.8 x 38.2						●	

● available ○ pending [2] option

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.

Protect Sounders
PRO 10

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

Outstanding perceptibility
Ideal radiation characteristics and high penetration of acoustical obstacles reduce the required number of devices.

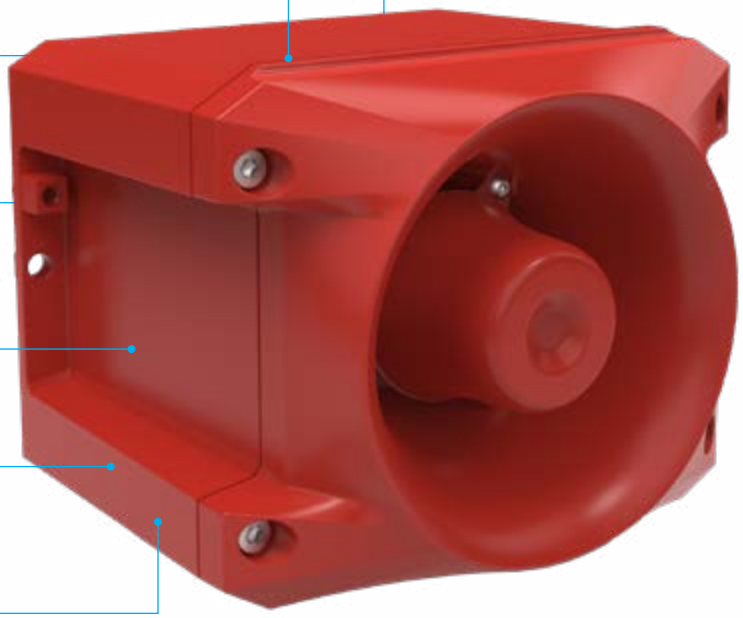
Multi-voltage-power supply
Made to connect with different voltages, no need to stock various units.

Selectable tone
80 different tones, 3 additional tones externally selectable.

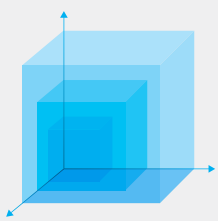
Reducible sound pressure level
Up to 30 dB, internally or externally selectable.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone



	PRO 10
AUDIBLE 80 dB (A)	51 x 49 x 24 m
AUDIBLE 85 dB (A)	29 x 27 x 14 m
AUDIBLE 90 dB (A)	16 x 15 x 8 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT SOUNDERS

IP 66/67 — protection system

IK09 — impact-proof housing

DNV — optional pending

MED MER — optional pending

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

EN 54-3 — approval

VdS — approval

UL — UL approval

EAC — EurAsian conformity

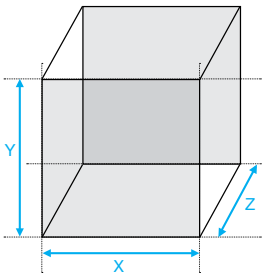
10 Years — warranty



PRODUCT	PRO 10		
ARTICLE NO. STANDARD	23150640000	23150630000	on request
ARTICLE NO. DNV / MED / MER	23150640001	23150630001	on request
DATA			
Operating range	95–265 V	10–60 V	18 - 53 V
	50 / 60 Hz	–	50 / 60 Hz
Current consumption @ DIN tone	85 mA @ 230 V AC	355 mA @ 24 V DC	630 mA @ 24 V AC
Nominal current consumption	95 mA @ 230 V AC	400 mA @ 24 V DC	700 mA @ 24 V AC
Sound pressure level @ DIN tone	114 dB(A) @ 1m		
Max. sound pressure level	116 dB(A) @ 1m		
Sound level reduction	-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB		
Alarm tones	80, 4 ext. selectable, tone table on page 138		
Sound time out	60 s / 15 min / 45 min / none		
Operating temperature /	–40 °C ... +55 °C		
Protection system (EN 60529)	IP66 / IP67 / NEMA 4/4x / IK09		
Material	Aluminum RAL 3000		
Dimensions (X x Y x Z)	167 x 139 x 148 mm		

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Patrol Sounders
PA 20 | PA 10 | PA 5 | PA 1

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

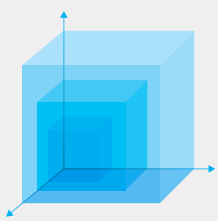
Impact resistant housing
Achieves IK08 impact rating to endure harsh environments.

Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

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



3D-Coverage performance data, A x B x C, @ DIN tone



AUDIBLE	PA 20	PA 10
80 dB(A)	86 x 98 x 86 m	53 x 73 x 53 m
85 dB(A)	48 x 55 x 48 m	30 x 41 x 30 m
90 dB(A)	27 x 31 x 27 m	17 x 23 x 17 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

Patrol Sounders

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

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

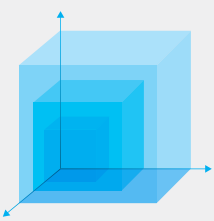
Selectable audible notification
Choice of 80 unique alarm tones with four stages of tone control for distinctive signaling of specific events.

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.

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.



3D-Coverage performance data, A x B x C, @ DIN tone



AUDIBLE

	PA 5	PA 1
80 dB(A)	14 x 18 x 14 m	16 x 14 x 16 m
85 dB(A)	8 x 10 x 8 m	9 x 8 x 9 m
90 dB(A)	4 x 6 x 4 m	5 x 4 x 5 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PATROL SOUNDERS

IP 66 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

acoustic penetration

external tone selection

inrush current limitation

M12 — option PA 10

EN 54-3 — 24–48 V DC

VdS — 24–48 V DC

UL — UL approval

DNV — option

MED MER — option

CNBOP — option

NEMA 4/4X — protection system

EAC — EurAsian conformity

10 Years — warranty



PA 20

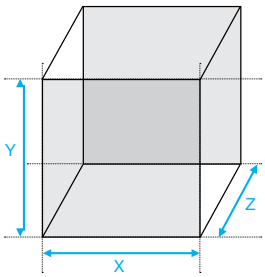


PA 10

PRODUCT	PA 20		PA 10	
ARTICLE NO. ●	23370640000	23370630000	23360640000	23360630000
ARTICLE NO. ●	23370640055	23370630055	23360640055	23360630055
DATA				
Operating range	95–265 V AC 50 I 60 Hz	10–60 V DC	95–265 V AC 50 I 60 Hz	10–60 V DC
Nominal current consumption	75–330 mA @ 230 V	120–880 mA	20–115 mA @ 230 V	60–485 mA
Max. sound pressure level	122 dB(A)		117 dB(A)	
Sound pressure level @ DIN tone	120 dB(A)		115 dB(A)	
Sound level reduction	max. –9 dB via potentiometer		max. –10 dB via potentiometer	
Alarm tones	80, 4 ext. selectable, tone table on page 138			
Operating temperature	–40 … +55 °C			
Protection system (EN 60529)	IP 66; NEMA 4 & 4X			
Material	PC / ABS blend similar to RAL 3000 ● I RAL 7035 ● I RAL 9003 ○			
Dimensions (X x Y x Z)	214 x 170 x 181 mm		214 x 170 x 156 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Enclosure fitting	57	28300000003
Surface gasket	57	28300000006
Tamper-proof sealings	57	28300000002
Panel mount installation kit	57	28300000009

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.



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PATROL SOUNDERS

IP 66 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

acoustic penetration

external tone selection

inrush current limitation

M12 — option PA 5

EN 54-3 — 24–48 V DC

VdS — 24–48 V DC

UL — UL approval



PA 5



PA 1

DNV — option

MED MER — option

CNBOP — option

NEMA 4/4X — protection system

EAC — EurAsian conformity

10 Years — warranty

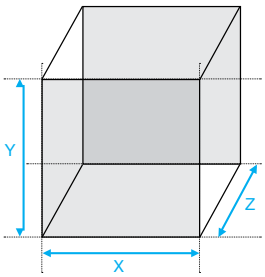
PRODUCT	PA 5		PA 1	
ARTICLE NO. ●	23350100000	23350630000	23310100000	23310630000
ARTICLE NO. ●	23350100055	23350630055	23310100055	23310630055
DATA				
Operating range	195–253 V AC 50 I 60 Hz	10–57 V DC	195–253 V AC 50 I 60 Hz	10–57 V DC
Nominal current consumption	9–15 mA @ 230 V	6–80 mA	9–15 mA @ 230 V	6–80 mA
Max. sound pressure level	107 dB(A)		105 dB(A)	
Sound pressure level @ DIN tone	105 dB(A)		104 dB(A)	
Sound level reduction	max. –12 dB via potentiometer			
Alarm tones	80, 4 ext. selectable, tone table on page 138			
Operating temperature	–40 … +55 °C			
Protection system (EN 60529)	IP 66; NEMA 4 & 4X			
Material	PC / ABS blend similar to RAL 3000 ● I RAL 7035 ● I RAL 9003 ○			
Dimensions (X x Y x Z)	163.4 x 135 x 132 mm		109.5 x 86 x 80.6 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER	
Enclosure fitting	57	28300000003	
Surface gasket	57	28300000005	28300000004
Tamper-proof sealings	57	28300000002	
Panel mount installation kit	57	28300000008	28300000007

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

115 V AC



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Patrol Radial Sounders
PA 1-R

Top mounted installation
Outstanding 360° perceptibility - ideal as a stand-alone solution on the top of the equipment or machine.

Multi-voltage power supply
One fits all - for operation with different voltages.

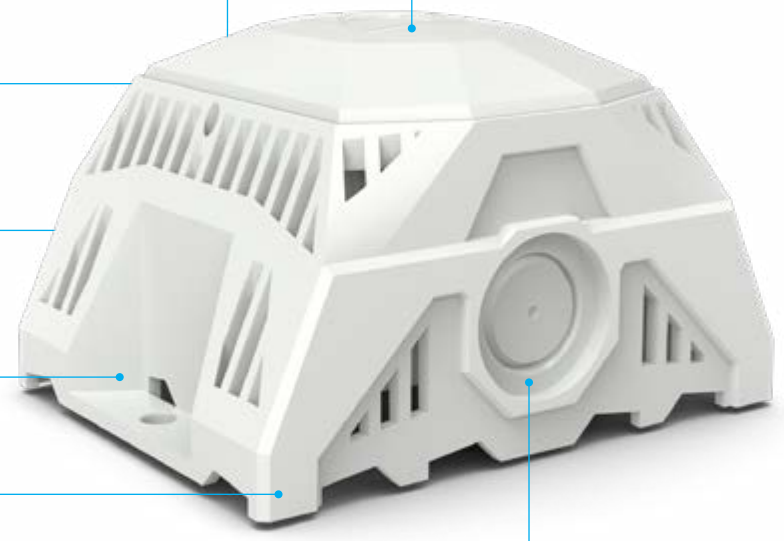
Selectable tones
Choice out of 70 tones in 32 tone combination, 4 tones externally selectable.

Reducible volume
Adjustment of the sound pressure level to the application.

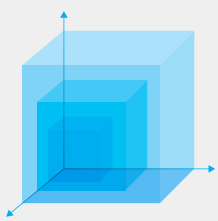
Excellent perceptibility
Meets the requirements of ISO7731.

Flexibility
Also available as Sounder/LED - Combi.

M12 connection (optional)
Take advantage of the M12 connector.



3D-Coverage performance data, A x B x C, @ DIN tone



	PA 1-R
AUDIBLE 75 dB (A)	53 x 32 x 13 m
AUDIBLE 80 dB (A)	30 x 18 x 8 m
AUDIBLE 85 dB (A)	17 x 10 x 4 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PATROL RADIAL SOUNDERS

IP 66 protection system

IK08 impact-proof housing

NEMA 4/4X protection system

+50 °C / –25 °C operating temperature

radial acoustic

volume control

M12 connector (option)

UL UL approval

EAC EurAsian conformity

10 Years warranty

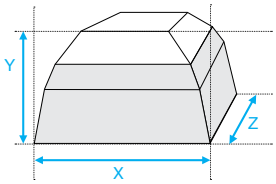


PRODUCT	PA 1-R		
ARTICLE NO.	23380640055	23380630055	
DATA			
Operating range	95-253 V	18-53 V	10-60 V
	50 / 60 Hz	50 / 60 Hz	DC
Current consumption @ DIN tone	19 mA @ 230 V AC	103 mA @ 24 V AC	56 mA @ 24 V DC
Sound pressure level	105 dB(A)		
Sound pressure level @ DIN tone	105 dB(A)		
Sound level reduction	-7 dB / -13 dB / -20 dB		
Alarm tones	70, 4 ext. selectable, tone table on page 138		
Operating temperature / storage temperature	-25 °C ... +50 °C / –25 °C ... +70 °C		
Protection system	IP66 (EN 60529) / NEMA 4/4x / IK08 (EN 50102)		
Material	PC / ABS blend		
Dimensions (X x Y x Z)	111 x 70 x 89 mm		

ACCESSORIES	ARTICLE NUMBER
Replacement gasket	28912000001

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

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Panel Mount Buzzers
P22 | P28

IP 40
P 22

IP 65
P 28

+50 °C
–25 °C
P 22

+65 °C
–25 °C
P 28

EAC
EurAsian conformity (pending)

Piezo buzzer with screw terminal connections
High output device for local machinery status alerts.

22 mm or 28 mm standard mounting
Diameter matches many common components. Ease of installation into control panel systems.

Variety of signal types
Continuous and pulsating tone.

IP 65 device and mount
With appropriate gasket. Wash-down capable.

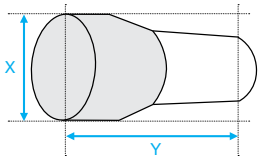


Volume adjuster
Also available with easily adjustable volume control.

PRODUCT	P 22 DBZ		P 28 DMC301	P 28 DMB530
ARTICLE NO.	23270100000	23270800000	23260110000	23265800000
DATA				
Rated voltage	230 V AC 50 I 60 Hz	24 V AC/DC AC/DC	230 V AC 50 I 60 Hz	30 V DC
Operating range	±15 %		130–230 V	5–30 V
Nominal current consumption	15–30 mA		20 mA @ 130 V 40 mA @ 220 V	2 mA @ 5 V 20 mA @ 30 V
Tone frequency	2400 Hz		2900 Hz	2900 Hz
Operating mode	pulsating tone (1 Hz)		continuous tone	continuous tone / pulsating tone (1 Hz)
Max. sound pressure level	80 dB(A) @ 10 cm		91 dB(A) @ 230 V	91 dB(A) @ 30 V
Sound level reduction	–		–20 dB	
Operating temperature	–25 … +50 °C		–25 … +65 °C	
Protection system according to EN 60529	IP 40		IP 65	
Material housing	polycarbonate (PC)		plastic NORYL® N-190, UL 49-VO	
Mounting	panel mounting Ø 22.5 mm max. 7 mm thickness		panel mounting Ø 28.6 mm max. 6.3 mm thickness	
Dimensions (X x Y)	Ø 29 x 62 mm		Ø 35.8 x 38.2 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Accessories

ACCESSORIES PATROL SOUNDERS



Enclosure fitting



Surface gasket



Tamper-proof sealing



Locking elements for Pyra and Patrol



Panel mount installation kit

PRODUCT		PA 1	PA 5	PA 10 / PA 20
Enclosure fitting	Used for combining several PATROL devices together or installing one device to an electrical enclosure.	28300000003		
Surface gasket	For use when surface mounting to an electrical enclosure to maintain the IP rating of the enclosure.	28300000004	28300000005	28300000006
Tamper-proof sealing (pack of 4)	Inserts into the head of the plastic 3/8-turn fasteners of PATROL devices to disable access to internal components.	28300000002		
Locking elements (pack of 4)	Replacement locking elements, for all PATROL sounders and PYRA flashing lights.	28912000000		
Panel mount installation kit	Permits flush mounting of PATROL devices to enclosure panels through a rectangular cutout. Includes mating electrical connector and mounting hardware.	28300000007	28300000008	28300000009

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

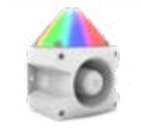
Combined visual-audible xenon signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS							PAGE
					DNV	MED	UL	EN 54-3	EN 54-23	VdS	EAC	
	COMBINED AUDIBLE + XENON											
	**PA X 20**	122 dB(A) 10/15 J	IP 66 NEMA 4/4X IK08	270 x 214 x 181	●[2]	●[2]	●				●	63
	**PA X 10**	117 dB(A) 10/15 J	IP 66 NEMA 4/4X IK08	270 x 214 x 156	●[2]	●[2]	●				●	64
	**PA X 5**	107 dB(A) 5/10 J	IP 66 NEMA 4/4X IK08	215 x 163 x 132	●[2]	●[2]	●				●	65
	**PA X 1**	105 dB(A) 5 J	IP 66 NEMA 4/4X IK08	172 x 110 x 81	●[2]	●[2]	●	●	●	●	●	66
	**PRO X 10**	116 dB(A) 5 J	IP 66 / 67 NEMA 4/4X IK08	214 x 167 x 139			●				●	68
	**PY X-LA**	103 dB(A) 15 J	IP 66 NEMA 4/4X IK08	144 x 216 x 172			●				●	70
	**PY X-MA**	101 dB(A) 5/10 J	IP 66 NEMA 4/4X IK08	134 x 166 x 114			●				●	72

● available ○ pending [2] option

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.

Combined visual-audible LED signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS							PAGE
					DNV	MED	UL	EN 54-3	EN 54-23	VdS	EAC	
	COMBINED AUDIBLE + LED											
	**PRO L 10**	116 dB(A) 23 cd [1]	IP 66 / 67 NEMA 4/4X IK08	214 x 167 x 139	○ [2]	○ [2]	●				●	74
	**PA L 5**	107 dB(A) 23 cd [1]	IP 66 NEMA 4/4X IK08	215 x 163 x 132	○ [2]	○ [2]	●				●	76
	**PA L 1**	105 dB(A) 76 cd [1]	IP 66 NEMA 4/4X IK08	172 x 110 x 81			●				●	78
	**PA L 1-R**	105 dB(A) 16 cd [1]	IP 66 NEMA 4/4X IK07	84 x 111 x 89			●				●	80
	**PY L-MA**	101 dB(A) 23 cd [1]	IP 66 NEMA 4/4X IK08	134 x 166 x 114			●				●	82

[1] with a clear lens

● available ○ pending [2] option

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.

Patrol Sounder/Xenon Combinations
PA X 1 | PA X 5 | PA X 10 | PA X 20

XENON

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

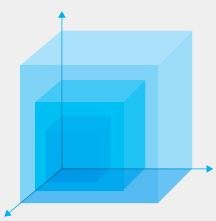
High quality components
Longevity is assured with 70 % light emission even after 8 million flashes.

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

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.



3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PA X 20-15	PA X 20-10	PA X 10-15	PA X 10-10
AUDIBLE	80 dB (A)	86 x 98 x 86 m	86 x 98 x 86 m	53 x 73 x 53 m	53 x 73 x 53 m
	85 dB (A)	48 x 55 x 48 m	48 x 55 x 48 m	30 x 41 x 30 m	30 x 41 x 30 m
	90 dB (A)	27 x 31 x 27 m	27 x 31 x 27 m	17 x 23 x 17 m	17 x 23 x 17 m
VISUAL	Indicate	85 x 75 x 145 m	68 x 62 x 120 m	85 x 75 x 145 m	68 x 62 x 120 m
	Warn	38 x 33 x 64 m	30 x 27 x 53 m	38 x 33 x 64 m	30 x 27 x 53 m
	Alarm	19 x 17 x 32 m	15 x 14 x 27 m	19 x 17 x 32 m	15 x 14 x 27 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

Patrol Sounder/Xenon Combinations

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

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

Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

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

Independent signaling
Visual and acoustic signal outputs can be controlled separately. Simple electrical connection in the sounder. Light part does not have to be opened.



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



PA X 20-15



PA X 10-15



PA X 10-10



PA X 5-10

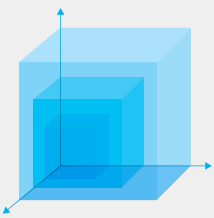


PA X 5-05



PA X 1-05

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PA X 5-10	PA X 5-05	PA X 1-05
AUDIBLE	80 dB (A)	14 x 18 x 14 m	14 x 18 x 14 m	75 dB (A) 16 x 14 x 16 m
	85 dB (A)	8 x 10 x 8 m	8 x 10 x 8 m	80 dB (A) 9 x 8 x 9 m
	90 dB (A)	4 x 6 x 4 m	4 x 6 x 4 m	85 dB (A) 5 x 4 x 5 m
VISUAL	Indicate	69 x 62 x 111 m	44 x 37 x 68 m	Indicate 19 x 32 x 50 m
	Warn	31 x 27 x 49 m	20 x 17 x 30 m	Warn 8 x 14 x 22 m
	Alarm	15 x 14 x 25 m	10 x 8 x 15 m	Alarm 4 x 7 x 11 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

Patrol Sounder/Xenon Combinations

Article numbers at a glance

VOLTAGE	187 - 255 V AC	18 - 30 V DC	187 - 255 V AC	18 - 30 V DC
PRODUCT	**PA X 20-15 – housing red**		**PA X 20-15 – housing grey**	
ARTICLE NO.	23372103000	23372803000	23372103055	23372803055
ARTICLE NO.	23372104000	23372804000	23372104055	23372804055
ARTICLE NO.	23372105000	23372805000	23372105055	23372805055
PRODUCT	**PA X 20-10 – housing red**		**PA X 20-10 – housing grey**	
ARTICLE NO.	23371103000	23371803000	23371103055	23371803055
ARTICLE NO.	23371104000	23371804000	23371104055	23371804055
ARTICLE NO.	23371105000	23371805000	23371105055	23371805055
PRODUCT	**PA X 10-15 – housing red**		**PA X 10-15 – housing grey**	
ARTICLE NO.	23362103000	23362803000	23362103055	23362803055
ARTICLE NO.	23362104000	23362804000	23362104055	23362804055
ARTICLE NO.	23362105000	23362805000	23362105055	23362805055
PRODUCT	**PA X 10-10 – housing red**		**PA X 10-10 – housing grey**	
ARTICLE NO.	23361103000	23361803000	23361103055	23361803055
ARTICLE NO.	23361104000	23361804000	23361104055	23361804055
ARTICLE NO.	23361105000	23361805000	23361105055	23361805055
PRODUCT	**PA X 5-10 – housing red**		**PA X 5-10 – housing grey**	
ARTICLE NO.	23352103000	23352803000	23352103055	23352803055
ARTICLE NO.	23352104000	23352804000	23352104055	23352804055
ARTICLE NO.	23352105000	23352805000	23352105055	23352805055
PRODUCT	**PA X 5-05 – housing red**		**PA X 5-05 – housing grey**	
ARTICLE NO.	23351103000	23351803000	23351103055	23351803055
ARTICLE NO.	23351104000	23351804000	23351104055	23351804055
ARTICLE NO.	23351105000	23351805000	23351105055	23351805055
PRODUCT	**PA X 1-05 – housing red**		**PA X 1-05 – housing grey**	
ARTICLE NO.	23311103000	23311803000	23311103055	23311803055
ARTICLE NO.	23311104000	23311804000	23311104055	23311804055
ARTICLE NO.	23311105000	23311805000	23311105055	23311805055

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

PATROL SOUNDER/XENON COMBINATIONS

IP 66 — protection system

IK08 — impact-proof housing

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

external tone selection

UL — UL approval

DNV — option

MED MER — option

EAC — EurAsian conformity

10 Years — warranty



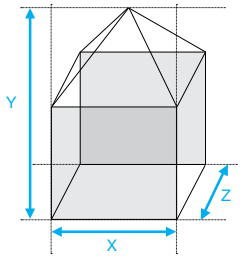
PRODUCT		PA X 20	
DATA			
Operating range		18–30 V	187–255 V
Rated frequency		DC	AC 50 I 60 Hz
Nominal current consumption	15 J	850–1650 mA	165–385 mA @ 230 V
	10 J	680–1480 mA	160–360 mA

PRODUCT		PA X 20-15	PA X 20-10
Sound pressure level		122 dB(A)	
Sound pressure level @ DIN tone		120 dB(A)	
Sound level reduction		max. –12 dB via potentiometer	
Alarm tones		80, 4 ext. selectable, tone table on page 138	
Flash energy and flash rate		15 J @ 1 Hz = 60 flashes/min	10 J @ 1 Hz = 60 flashes/min
Light intensity (DIN 5037) [1]		265 cd	149 cd
Max. viewing distance		377 m	283 m
Operating temperature		–40 °C ... +55 °C	
Protection system		IP 66 / IK08	
Material	sounder	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey)	
	lens flashing light	polycarbonate (PC)	
Dimensions (X x Y x Z)		214 x 270 x 181 mm	214 x 270 x 181 mm

ACCESSORIES	PAGE	ARTICLE NUMBER
Surface gasket	67	28300000006
Tamper-proof sealing (pack of 4)	67	28300000002

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

PATROL SOUNDER/XENON COMBINATIONS

IP 66 – protection system
IK08 – impact-proof housing
NEMA 4/4X – protection system
+55 °C / –40 °C – operating temperature
acoustic penetration
external tone selection
UL – UL approval
DNV – option
MED MER – option
EAC – EurAsian conformity
10 Years – warranty



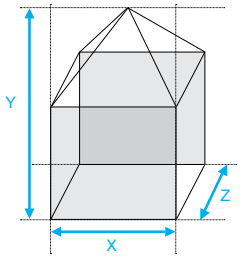
PRODUCT		PA X 10	
DATA			
Operating range		18–30 V	187–255 V
Rated frequency		DC	AC 50 I 60 Hz
Nominal current consumption	15 J	850–1210 mA	220–320 mA
	10 J	680–1040 mA	160–215 mA @ 230 V

PRODUCT		PA X 10-15	PA X 10-10
Sound pressure level		117 dB(A)	
Sound pressure level @ DIN tone		115 dB(A)	
Sound level reduction		max. –12 dB via potentiometer	
Alarm tones		80, 4 ext. selectable, tone table on page 138	
Flash energy and flash rate		15 J @ 1 Hz = 60 flashes/min	10 J @ 1 Hz = 60 flashes/min
Light intensity (DIN 5037) [1]		265 cd	149 cd
Max. viewing distance		377 m	283 m
Operating temperature		–40 °C ... +55 °C	
Protection system		IP 66 / IK08	
Material	sounder	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey)	
	lens flashing light	polycarbonate (PC)	
Dimensions (X x Y x Z)		214 x 270 x 156 mm	214 x 270 x 156 mm

ACCESSORIES	PAGE	ARTICLE NUMBER
Surface gasket	67	28300000006
Tamper-proof sealing (pack of 4)	67	28300000002

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[1] with a clear lens



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PATROL SOUNDER/XENON COMBINATIONS

IP 66 — protection system

IK08 — impact-proof housing

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

external tone selection

SSM, 24 V DC

UL — UL approval

M12 — connector (option)

DNV — option

MED MER — option

EAC — EurAsian conformity

10 Years — warranty



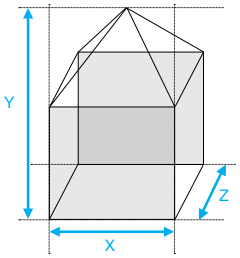
PRODUCT		PA X 5	
DATA			
Operating range		18–30 V	187–255 V
Rated frequency		DC	AC 50 I 60 Hz
Nominal current consumption	10 J	565–620 mA	150–155 mA
	5 J	315–365 mA	65–70 mA @ 230 V

PRODUCT		PA X 5-10	PA X 5-05
Sound pressure level		107 dB(A)	
Sound pressure level @ DIN tone		105 dB(A)	
Sound level reduction		max. –12 dB via potentiometer	
Alarm tones		80, 4 ext. selectable, tone table on page 138	
Flash energy and flash rate		10 J @ 1 Hz = 60 flashes/min	5 J @ 1 Hz = 60 flashes/min
Light intensity (DIN 5037) [1]		149 cd	56 cd
Max. viewing distance		283 m	173 m
Operating temperature		–40 °C ... +55 °C	
Protection system		IP 66 / IK08	
Material	sounder	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey) / RAL 9003 (signal white)	
	lens flashing light	polycarbonate (PC)	
Dimensions (X x Y x Z)		163.4 x 215 x 132 mm	163.4 x 215 x 132 mm

ACCESSORIES	PAGE	ARTICLE NUMBER
Surface gasket	67	28300000006
Tamper-proof sealing (pack of 4)	67	28300000002

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



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PATROL SOUNDER/XENON COMBINATIONS

IP 66 protection system
IK08 impact-proof housing
NEMA 4/4X protection system
+55 °C / –40 °C operating temperature
acoustic penetration
external tone selection
SSM, 24 V DC
UL UL approval
M12 connector (option)
EN 54-3 24V DC SSM
EN 54-23 24V DC SSM
VdS 24V DC SSM
DNV option
MED MER option
EAC EurAsian conformity
10 Years warranty

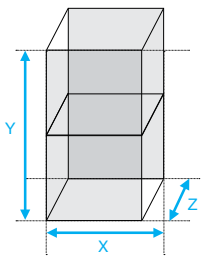


PRODUCT		PA X 1-05	
DATA			
Operating range		187–255 V	18–30 V
Rated frequency		AC 50 I 60 Hz	DC
Nominal current consumption		65–70 mA	315–365 mA
Sound pressure level		105 dB(A)	
Sound pressure level @ DIN tone		104 dB(A)	
Sound level reduction		max. –12 dB via potentiometer	
Alarm tones		80, 4 ext. selectable, tone table on page 138	
Flash energy and flash rate		5 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]		50 cd	
Max. viewing distance		164 m	
Operating temperature		–40 °C ... +55 °C	
Protection system		IP 66 / IK08	
Material	sounder	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey) / RAL 9003 (signal white)	
	lens flashing light	polycarbonate (PC)	
Dimensions (X x Y x Z)		109.5 x 172.4 x 80.6 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Surface gasket	67	28300000006
Tamper-proof sealing (pack of 4)	67	28300000002

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Accessories

PYRA FLASHING LIGHT SOUNDERS



Surface gasket



Tamper-proof sealing

PRODUCT		PY X-MA	PY X-LA
Surface gasket	For use when surface mounting to an electrical enclosure to maintain the IP rating of the enclosure.	28000500000	28111500001
Tamper-proof sealing (pack of 4)	Inserts into the head of the plastic 3/8-turn fasteners of PYRA devices to disable access to internal components.	28300000002	

PATROL FLASHING SOUNDERS



Surface gasket



Tamper-proof sealing

PRODUCT		PA X 1	PA X 5	PA X 10 / PA X 20
Surface gasket	For use when surface mounting to an electrical enclosure to maintain the IP rating of the enclosure.	28300000004	28300000005	28300000006
Tamper-proof sealing (pack of 4)	Inserts into the head of the plastic 3/8-turn fasteners of PATROL devices to disable access to internal components.	28300000002		

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Protect Sounder/Xenon Combinations
PRO X 10

Exceptional visibility
High performance xenon flash light for a reliable alarming.

Selectable tone
80 different tones, 3 additional tones externally selectable.

Selectable sound pressure
Reduction of sound pressure level up to 30 dB, internally or externally selectable.

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

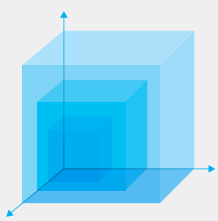
Outstanding perceptibility
Ideal radiation characteristics and high penetration of acoustical obstacles reduce the required number of devices.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PRO X 10-05
AUDIBLE	80 dB (A)	51 x 49 x 24 m
	85 dB (A)	29 x 27 x 14 m
	90 dB (A)	16 x 15 x 8 m
VISUAL	Indicate	41 x 73 x 68 m
	Warn	18 x 33 x 30 m
	Alarm	9 x 16 x 15 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT SOUNDER/XENON COMBINATIONS

IP 66/77 — protection system

IK08 — impact-proof housing

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

UL — UL approval (pending)

EAC — EurAsian conformity

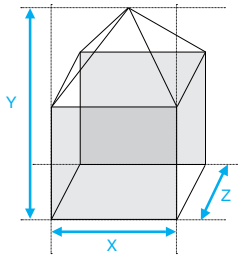
10 Years — warranty



PRODUCT		PRO X 10-05	
ARTICLE NO.		23152103000	23152633000
ARTICLE NO.		23152104000	23152634000
ARTICLE NO.		23152105000	23152635000
DATA			
Rated voltage		230 V AC	12–48 V DC
Rated frequency		50 / 60 Hz	–
Operating range		187–253 V	10–57 V
Current consumption light (max)		95 mA @ 230 V AC	280 mA @ 24 V DC
Current consumption sounder @ DIN tone		85 mA @ 230 V AC	355 mA @ 24 V DC
Sound pressure level		116 dB(A) @ 1m	
Sound pressure level @ DIN tone		114 dB(A) @ 1m	
Sound level reduction		-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB	
Alarm tones		80, 4 ext. selectable, tone table on page 138	
Alarm time-out		60 s / 15 min / 45 min / none	
Flash energy and flash rate		5 J with 0.1 / 0.5 / 0.75 / 1 Hz	
Light intensity (DIN 5037) [1]		56 cd	
Max. viewing distance		173 m	
Operating temperature		–40 °C ... +55 °C	
Protection system		IP66 / IP67 / NEMA 4/4x / IK09 (Housing), IK08 (Lens)	
Material	sounder	Aluminum RAL 3000	
	lens flashing light	polycarbonate (PC)	
Dimensions (X x Y x Z)		167 x 214 x 148 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Pyra Xenon/Sounder Combinations PY X-LA

XENON

Powerful flashing light with sounder
14 joules flash energy with a 103 dB(A) sounder in an attractive design.

Selectable output signals
On-board selection of 4 different light flash rates and 8 different acoustic alarm tones (tone table on page 137).

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

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

Circuit loading stability
24 V DC version incorporate constant current regulators for stable and efficient system operation.

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

Synchronised operation
of several lights according to EN 54-23.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection.

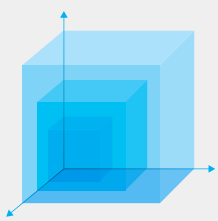
IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust.

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



Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



PY X-LA-15

AUDIBLE	75 dB (A)	7 x 6 x 14 m
	80 dB (A)	4 x 3 x 8 m
	85 dB (A)	2 x 2 x 4 m
VISUAL	Indicate	109 x 72 x 117 m
	Warn	48 x 32 x 52 m
	Alarm	24 x 16 x 26 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA XENON/SOUNDER COMBINATIONS

IP 66 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

DC version, inrush current limitation

UL — UL approval

EAC — EurAsian conformity

10 Years — warranty



PRODUCT		PY X-LA-15	
ARTICLE NO.	🔴 🟡	21565103000	21565803000
ARTICLE NO.	🔴 🟠	21565104000	21565804000
ARTICLE NO.	🔴 🔴	21565105000	21565805000
ARTICLE NO.	⚪ 🟡	21565103055	21565803055
ARTICLE NO.	⚪ 🟠	21565104055	21565804055
ARTICLE NO.	⚪ 🔴	21565105055	21565805055
DATA			
Operating range		187–255 V AC 50 I 60 Hz	19.2-28.8 V DC
Nominal current consumption	flashing light	150 mA @ 1 Hz	540 mA @ 1 Hz
	sounder	15 mA @ 1 Hz	20 mA @ 1 Hz
Max. sound pressure level		103 dB(A)	
Sound pressure level @ DIN tone		101 dB(A)	
Alarm tones / sound level reduction		8, tone table on page 137 / max. –25 dB	
Flash energy and flash rate		15 J @ 0.1 I 0.5 I 0.75 I 1 Hz	
Light intensity (DIN 5037) [1]		190 cd	
Max. viewing distance		320 m	
Operating temperature		–40 … +55 °C	
Protection system (EN 60529)		IP 66	
Impact resistance as per EN 50102		IK08	
Service life of light source		light emission still 70 % after 8,000,000 flashes	
Material	lens	⚪ 🟡 🟠 🔴 🟢 🔵 polycarbonate (PC)	
	housing	PC/ABS, RAL 3000 🔴 I PC/ABS, RAL 7035 ⚪	
Dimensions (X x Y x Z)		216 x 172 x 144 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealings	44	28300000002
Surface gasket	44	28111500001

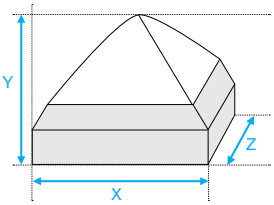
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

115 V AC I 24 V AC	White enclosure	Soft Start Module (24 V DC)

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Pyra Xenon/Sounder Combinations
PY X-MA

XENON

Powerful flashing light with sounder
Choice of 5 or 10 joules flash energy with a 101 dB(A) sounder in an attractive design.

Selectable output signals
On-board selection of 4 different light flash rates and 8 different acoustic alarm tones (tone table on page 137).

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

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

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

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

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

Inrush current regulator
Provides electrical protection for control devices such as switching components and relays.

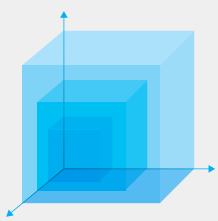


IP 66 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust. Withstands hose-directed spray during wash-down requirements.

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

Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PY X-MA-10	PY X-MA-05
AUDIBLE	75 dB (A)	12 x 8 x 6 m	12 x 8 x 6 m
	80 dB (A)	7 x 4 x 3 m	7 x 4 x 3 m
	85 dB (A)	4 x 3 x 2 m	4 x 3 x 2 m
VISUAL	Indicate	81 x 45 x 102 m	57 x 29 x 61 m
	Warn	36 x 20 x 45 m	25 x 13 x 27 m
	Alarm	18 x 10 x 23 m	13 x 6 x 14 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA XENON/SOUNDER COMBINATIONS

IP 66 — protection system

IK08 — impact-proof housing

+55 °C / –40 °C — operating temperature

DC version, inrush current limitation

UL — UL approval

EAC — EurAsian conformity

10 Years — warranty



PRODUCT	PY X-MA-10		PY X-MA-05	
ARTICLE NO. 🔴 🟡	21555103000	21555813000	21554103000	21554813000
ARTICLE NO. 🔴 🟠	21555104000	21555814000	21554104000	21554814000
ARTICLE NO. 🔴 🔴	21555105000	21555815000	21554105000	21554815000
ARTICLE NO. ⚪ 🟡	21555103055	21555813055	21554103055	21554813055
ARTICLE NO. ⚪ 🟠	21555104055	21555814055	21554104055	21554814055
ARTICLE NO. ⚪ 🔴	21555105055	21555815055	21554105055	21554815055

DATA

Operating range	187–255 V AC 50 I 60 Hz	10–57 V DC	187–255 V AC 50 I 60 Hz	AC: 18–30 V I DC: 10–57 V AC 50 I 60 Hz / DC
Nominal current consumption	160–165 mA	540 mA @ 24 V	70–75 mA	AC: 310 mA DC: 280 mA @ 24 V
Max. sound pressure level	101 dB(A)			
Sound pressure level @ DIN tone	99 dB(A)			
Alarm tones / sound level reduction	8, 4 ext. selectable, tone table on page 137 / max. –20 dB			
Flash energy and flash rate	10 J @ 0.1 I 0.5 I 0.75 I 1 Hz		5 J @ 0.1 I 0.5 I 0.75 I 1 Hz	
Light intensity (DIN 5037) [1]	149 cd		56 cd	
Max. viewing distance	283 m		173 m	
Operating temperature	–40 … +55 °C			
Protection system (EN 60529)	IP 66			
Impact resistance as per EN 50102	IK08			
Service life of light source	light emission still 70 % after 8,000,000 flashes			
Material — lens	⚪ 🟡 🟠 🔴 🟢 🔵 polycarbonate (PC)			
Material — housing	PC/ABS, RAL 3000 🔴 I PC/ABS, RAL 7035 ⚪			
Dimensions (X x Y x Z)	166 x 134.2 x 114 mm			

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealings	44	28300000002
Surface gasket	44	28111500000

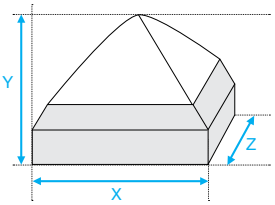
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

115 V AC	White enclosure	Soft Start Module (24 V DC)

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Protect Sounder/LED Combinations
PRO L 10

Selectable signaling modes
Continuous light, blinking light or flashing light.

Selectable tone
80 different tones, 3 additional tones externally selectable.

Selectable sound pressure
Reduction of sound pressure level up to 30 dB, internally or externally selectable.

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

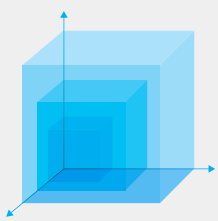
Outstanding perceptibility
Ideal radiation characteristics and high penetration of acoustical obstacles reduce the required number of devices.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PRO L 10
AUDIBLE	80 dB (A)	51 x 49 x 24 m
	85 dB (A)	29 x 27 x 14 m
	90 dB (A)	16 x 15 x 8 m
VISUAL	Indicate	43 x 39 x 44 m
	Warn	19 x 17 x 20 m
	Alarm	10 x 9 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT SOUNDER/LED COMBINATIONS

IP 66/67 — protection system

IK08 — impact-proof housing

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

10 Years — warranty

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

UL — UL approval

DNV — option pending

MED MER — option pending

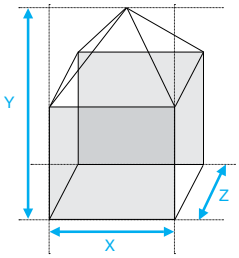
EAC — EurAsian conformity



PRODUCT	PRO L 10	
ARTICLE NO.	23151645000	23151635000
ARTICLE NO. DNV/MED/MER	23151645001	23151635001
DATA		
Rated voltage	230 / 115 V AC / 120 V DC	12–48 V DC
Rated frequency	50 / 60 Hz / –	–
Operating range	95–265 V AC / 108-132 V DC	10–60 V
Current consumption light (max)	120 mA @ 230 V AC	120 mA @ 24 V DC
Current consumption sounder @ DIN tone	85 mA @ 230 V AC	355 mA @ 24 V DC
Sound pressure level	116 dB(A) @ 1m	
Sound pressure level @ DIN tone	114 dB(A) @ 1m	
Sound level reduction	-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB	
Alarm tones	80, 4 ext. selectable, tone table on page 138	
Alarm time-out	60 s / 15 min / 45 min / none	
Light types	flashing light (0.1 / 0.5 / 0.75 / 1 / 1 Hz double flash), blink light (1 / 2 Hz), continuous light	
Light intensity[1]	23 cd (reducible)	
Max. viewing distance	111 m	
Operating temperature	–40 °C ... +55 °C	
Protection system	IP66 / IP67 / NEMA 4/4x / IK09 (Housing), IK08 (Lens)	
Material sounder	Aluminum RAL 3000	
Material lens flashing light	- RGB) Polycarbonate (PC)	
Dimensions (X x Y x Z)	167 x 214 x 148 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

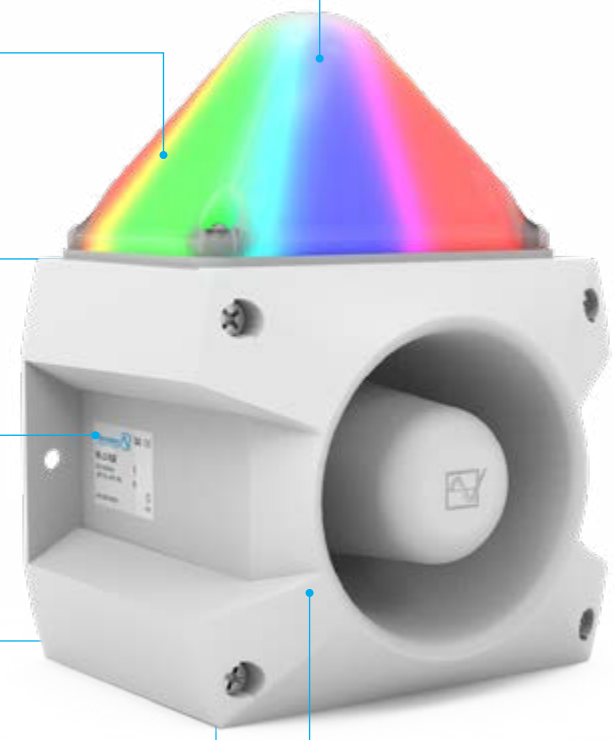
Patrol Sounder/LED Combinations
PA L 5

LED

Compact multifunction sounder/light combination with wide signaling area.

Selectable colour (RGB version only)
Choose the colour you require. Stay flexible and keep your stock to a minimum!

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



Numerous tones selectable
A numerous selection of different tones for all kind of applications always ensure the best coverage.

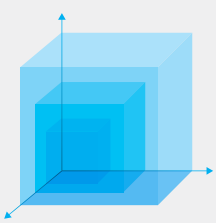
External tone selection
A maximum of four different tones can be switched by an external controller in just one device for different situations.

Selectable signaling modes
Continuous steady on, blinking light or flashing light.

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

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

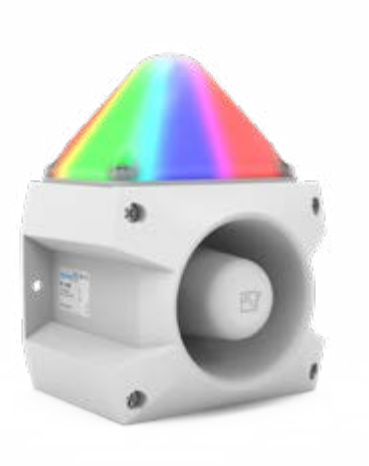
3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PA L-5
AUDIBLE	80 dB (A)	14 x 18 x 14 m
	85 dB (A)	8 x 10 x 8 m
	90 dB (A)	4 x 6 x 4 m
VISUAL	Indicate	39 x 43 x 44 m
	Warn	17 x 19 x 20 m
	Alarm	9 x 10 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PATROL SOUNDER/LED COMBINATIONS



RGB
multi colour LED (option)

IP 66
protection system

IK08
impact-proof housing

NEMA 4/4X
protection system

brightness adjustable

UL
UL approval

M12
connector (option)

EAC
EurAsian conformity

+55 °C
–40 °C
operating temperature

DNV
option pending

MED MER
option pending

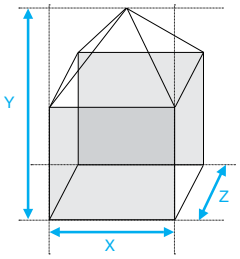
10 Years
warranty

PRODUCT	PA L 5	
ARTICLE NO. ● ● / ○	23353108055	23353638055
ARTICLE NO. ● ●	23353103055	23353633055
ARTICLE NO. ● ●	23353104055	23353634055
ARTICLE NO. ● ●	23353105055	23353635055
DATA		
Operating range	195 – 253 V	10 – 57 V
	50 / 60 Hz	–
Current consumption light (max)	36 mA	120 mA @ 24 V DC
Current consumption sound (max)	16 mA	70 mA @ 24 V DC
Max. sound pressure level	107 dB(A)	
Alarm tones / Sound level reduction	80, 4 ext. selectable, tone table on page 138 / max. –12 dB	
Light alternation frequency	blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)	
Light source / intensity (DIN 5037) [1]	LED / 23 cd (reducible)	
Colour of RGB LED	● ● ● ●	
Max. viewing distance	111 m	
Operating temperature	–40 … +55 °C	
Protection system	IP 66 (EN 60529), NEMA TYPE 4/4X, IK 08 (EN 62262)	
Service life of light source	≥50,000 hrs	
Material – lens	⁄ ● ● ● ● ● (○ ● - RGB) polycarbonate (PC)	
Material – housing	PC / ABS blend	
Dimensions (X x Y x Z)	163.4 x 215 x 132 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Sealing plug, 4-pack	44	28300000002
Spare locking bolt, 4-pack	44	28912000000
Surface seal	57	28300000005

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Patrol Sounder/LED Combinations
PA L 1

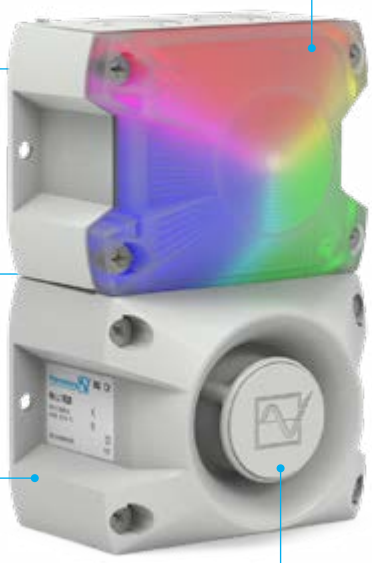
LED

Compact multifunction sounder/light combination with most flexible, ultra bright LED technology.

Selectable signaling modes
No matter which signaling mode is required – you are able to choose the one that fits to your needs.

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

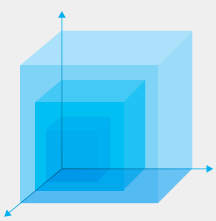
Intelligent installation
Electrical wiring is conducted in the base box to avoid impractical 3-hand assembly. Wires are safely routed where the potential for pinching and errors are eliminated.



Selectable Colour (RGB version only)
Not sure about the colour yet? One light for all your needs! PYRA LED RGB permits to choose the colour you require. Stay flexible and keep your stock to a minimum!

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

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PA L 1
AUDIBLE	80 dB (A)	16 x 14 x 16 m
	85 dB (A)	9 x 8 x 9 m
	90 dB (A)	5 x 4 x 5 m
VISUAL	Indicate	35 x 15 x 14 m
	Warn	16 x 7 x 6 m
	Alarm	8 x 3 x 3 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PATROL SOUNDER/LED COMBINATIONS

RGB
multi colour LED (option)

IP 66
protection system

IK08
impact-proof housing

NEMA 4/4X
protection system

+55 °C
–40 °C
operating temperature

brightness adjustable

UL
UL approval

M12
connector (option)

EAC
EurAsian conformity

10 Years
warranty

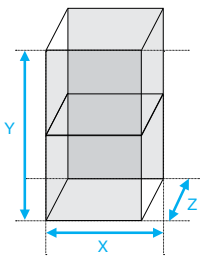


PRODUCT	PA L 1	
ARTICLE NO. ● ● / ●	23313108055	23313638055
ARTICLE NO. ● ●	23313103055	23313633055
ARTICLE NO. ● ●	23313104055	23313634055
ARTICLE NO. ● ●	23313105055	23313635055
ARTICLE NO. ● ●	23313105000	23313635000
DATA		
Operating range	195 – 253 V	10 – 57 V
	50 / 60 Hz	–
Current consumption light (max)	36 mA @ 230 V AC	120 mA @ 24 V DC
Current consumption sound (max)	16 mA @ 230 V AC	70 mA @ 24 V DC
Max. sound pressure level	105 dB (A) @ 1m	
Alarm tones / Sound level reduction	80, 4 ext. selectable, tone table on page 138 / max. –12 dB	
Operating mode internally selectable	continuous light / blinking light / flashing light	
Light source	one high output LED per single unit	
Light source / intensity (DIN 5037) [1]	LED / 76 cd (reducible)	
Max. viewing distance	202 m	
Operating temperature	–40 … +55 °C	
Protection system	IP 66 (EN 60529), NEMA TYPE 4/4x, IK 08 (EN 62262)	
Service life of light source	≥50,000 hrs	
Material – lens	○ ● ● ● ● ● (○ ●) - RGB) polycarbonate (PC)	
Material – housing	PC / ABS blend	
Dimensions (X x Y x Z)	109.4 x 172.4 x 80.6 mm	

ACCESSORIES	PAGE	ARTICLE NUMBER
Tamper-proof sealing for PYRA / PATROL (4-Pack)	44	28300000002
Looking elements for PYRA / PATROL (4-Pack)	44	28912000000
Surface seal	57	28300000005

For additional models, options and voltages (115V AC; 24 V AC) visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Patrol Radial Sounder/LED Combinations
PA L 1-R

LED

Selectable colour (RGB version only)
One device for all colours - keep your stock to a minimum!

Selectable visual signaling modes
Flashlight / Blinking light / Continuous light / Rotating light.

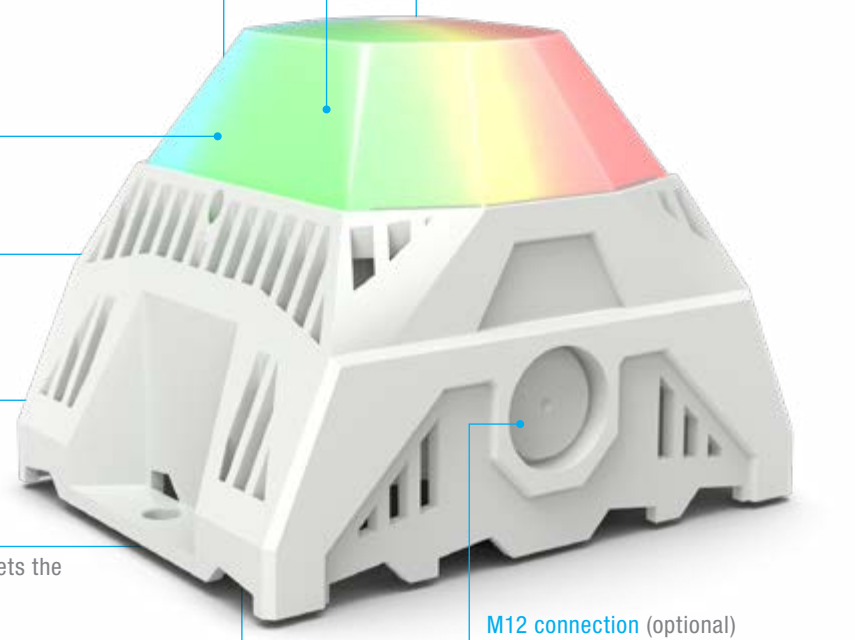
Selectable blink & flash frequencies
Fits all applications and increases visibility.

Multi-voltage power supply
One fits all - for operation with different voltages.

Reducible volume
Adjustment of the sound pressure level to the application.

Excellent perceptibility
360° radiation on top of the machone and meets the requirements of ISO7731.

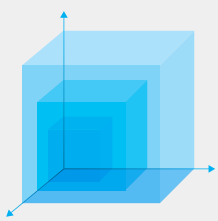
Selectable tones
Choice out of 70 tones in 32 tone combinations, 4 tones externally selectable.



I/O-Link (optional)
for intelligent control: Full para-meterisation of signaling modes.

M12 connection (optional)
Take advantage of the M12 connector.

3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PA L 1-R
AUDIBLE	75 dB (A)	53 x 32 x 13 m
	80 dB (A)	30 x 18 x 8 m
	85 dB (A)	17 x 10 x 4 m
VISUAL	Indicate	26 x 22 x 31 m
	Warn	11 x 10 x 14 m
	Alarm	6 x 5 x 7 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PATROL RADIAL SOUNDER/LED COMBINATIONS

RGB
multi colour LED (option)

IP 66
protection system

IK07
impact-proof housing

NEMA 4/4X
protection system

I/O Link
option

+50 °C
–25 °C
operating temperature

brightness adjustable

sound adjustable

radial acoustic

UL
UL approval

M12
connector (option)

EAC
EurAsian conformity

10 Years
warranty



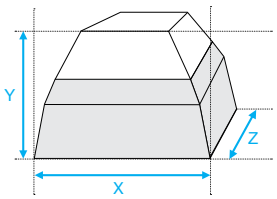
PRODUCT	PA L 1-R		
ARTICLE NO. ● ● / ●	23383648055	23383638055	
ARTICLE NO. ● ● / ●	–	23383808099 I/O-Link 21-27 V DC	
ARTICLE NO. ● ●	23383643055	23383633055	
ARTICLE NO. ● ●	23383644055	23383634055	
ARTICLE NO. ● ●	23383645055	23383635055	
DATA			
Operating range	95-253 V	18-53 V	10-60 V
	50 / 60 Hz	50 / 60 Hz	–
Current consumption light (max)	45 mA @ 230 V AC	260 mA @ 24 V AC	160 mA @ 24 V DC
Nominal current consumption @DIN-Ton	19 mA @ 230 V AC	83 mA @ 24 V AC	56 mA @ 24 V DC
Sound pressure level /reduction	105 dB (A) / -7 dB / -13 dB / -20 dB		
Alarm tones	70, 4 ext. selectable, tone table on page 138		
Operating mode internally and externally selectable	Flashlight (1 / 2 / 1 Hz double flash), Blinking light (0.5 / 1 / 2 Hz), Continuous light, Rotating light (60 rpm, 180 rpm)		
Color mode internally and externally selectable (RGB only)	● ● ● ● ● ● ● ●		
Light source / intensity (clear) [1]	LED / 16 cd		
Max. viewing distance	93 m		
Operating temperature	–25 … +50 °C		
Protection system	IP66 (EN 60529), NEMA 4/4X, IK 07 (EN 50102)		
Material – lens	polycarbonate (PC)		
Material – housing	PC / ABS blend		
Dimensions (X x Y x Z)	111 x 84 x 89 mm		

ACCESSORIES	ARTICLE NUMBER
Replacement gasket	28912000001

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Pyra LED/Sounder Combinations
PY L-MA

LED

RGB multi colour or single colour LED/Sounder combination. Maximal perceptible but discreet.

Selectable signaling modes
Continuous steady on, blinking light or flashing light.

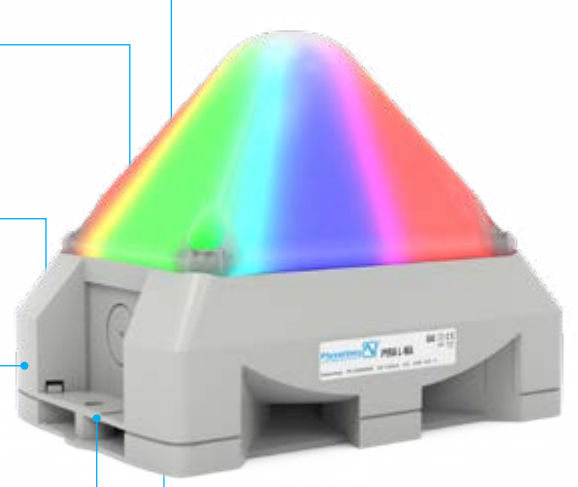
External colour & mode control (RGB version only)
With PYRA LED RGB you can state several situations with only one light. Change colour and mode easily by remote control!

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

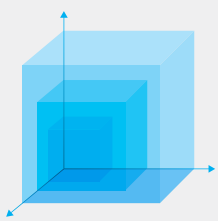
Selectable colour (RGB version only)
Choose the colour you require and stay flexible!

Possibility to control visual and audible signaling separately
High flexibility in controlling different warning levels.

Quick and easy to install
Several advantageous characteristics ease the installation process significantly.



3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PY L-MA
AUDIBLE	75 dB (A)	12 x 8 x 6 m
	80 dB (A)	7 x 4 x 3 m
	85 dB (A)	4 x 3 x 2 m
VISUAL	Indicate	39 x 43 x 44 m
	Warn	17 x 19 x 20 m
	Alarm	9 x 10 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA LED/SOUNDER COMBINATIONS

RGB
multi colour LED (option)

IP 66
protection system

IK08
impact-proof housing

NEMA 4/4X
protection system

+55 °C
–40 °C
operating temperature

brightness adjustable

UL
UL approval

M12
connector (option)

EAC
EurAsian conformity

10 Years
warranty



PRODUCT	PY L-MA	
ARTICLE NO. ● ● / ●	21556648055	21556818055
ARTICLE NO. ● ●	21556643055	21556813055
ARTICLE NO. ● ●	21556644055	21556814055
ARTICLE NO. ● ●	21556645055	21556815055

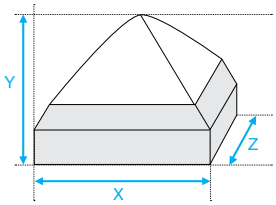
DATA			
Operating range	95 – 265 V	108 – 132 V	10 – 60 V
	50 / 60 Hz	–	–
Current consumption light (max)	36mA @ 230 V AC	25 mA @ 120 V DC	120 mA @ 24 V DC
Current consumption sound (max)	10 mA @ 230 V AC	40 mA @ 120 V DC	15 mA @ 24 V DC
Max. sound pressure level	101 dB(A)		
Alarm tones / sound level reduction	8, tone table on page 137 / max. –20 dB		
Light alternation frequency	blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)		
Light source / intensity (DIN 5037) [1]	LED / 23 cd (reducible)		
Colour of RGB LED	● ● ● ●; additionaly ○ though external control		
Max. viewing distance	111 m		
Operating temperature	–40 … +55 °C		
Protection system	IP 66 (EN 60529), NEMA TYPE 4/4X, IK 08 (EN 62262)		
Service life of light source	≥50,000 hrs		
Material – lens	⁄ ● ● ● ● ● (○ ●) - RGB) polycarbonate (PC)		
Material – housing	PC / ABS blend		
Dimensions (X x Y x Z)	172 x 134 x 114 mm		

ACCESSORIES	PAGE	ARTICLE NUMBER
Sealing plug, 4-pack	44	28300000002
Spare locking bolt, 4-pack	44	28912000000
Surface seal	67	28300000005

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Functional safety signaling devices – additional monitoring circuity for fault detection.

For risk mitigation surrounding hazardous machinery and processes in accordance with machinery safety directives 2006/42/EG, EN ISO 13849-1, DIN EN 62061 (PL); and plant safety directives Seveso III, IEC 610308, and IEC 61511 (SIL).

Pfannenberg's safety related signaling devices are intended for use in Safety Instrumented Systems (SIS) which have a Safety Integrity Level (SIL) up to **SIL 2 / PLd**. These devices are equipped with integrated self-monitoring functions, which automatically satisfy the requirement for regular inspection of warning devices.

!

Since signaling equipment performs a safety protection function on machines and systems, the consequences of an error in the signaling devices represents a potential risk that must be taken into consideration.



Function monitored xenon flashing and LED lights.

These devices are equipped with integrated self-monitoring functions to satisfy the requirements of EN 60825-1, DIN 54113-2, EN 50129, EN 12352:2000 and others.

Should the signaling device ever fail, a relay contact is activated for remotely recognising the fault. This feature is particularly useful around life threatening equipment such as laser cutters, x-ray scanners, radioactive processes, and railway crossings.

SIL/PL and function-monitored signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS					PAGE
					DNV	UL	SIL 2	PL d	EAC	
	SAFETY-RELATED / SIL LIGHTS									
	**PMF 2015-SIL**	10 J	IP 55	bracket mounting 170.5 x Ø 130 direct mounting 185 x Ø 177			●	●	●	86
	PMF LED-HI-SIL	315 cd [1]					●	●	●	88
	**Quadro F12-SIL**	10 J	IP 66/67 IK08	130 x 130 x 130			●	●	●	90
	SAFETY-RELATED / SIL SOUNDERS									
	**PRO 10-SIL**	116 dB(A)	IP 66/67 NEMA 4/4x IK09	139 x 167 x 148		●	●	●	●	92
	**PRO 10 3G/3D SIL**	116 dB(A)	IP 66/67 NEMA 4/4x IK09	139 x 167 x 148		●	●	●	●	
	FUNCTION-MONITORED LIGHTS									
	**PMF 2015-M**	10 J	IP 55	bracket mounting 170.5 x Ø 130 direct mounting 185 x Ø 177					●	94
	**Quadro S-M-Flex**	13 J	IP 66/67 IK08	130 x 130 x 130					●	96
	**WBL-M / WBS-M**	5 J	IP 54	242 x Ø 80					●	98
	**PY L-M-M**	23 cd [1]	IP 66 IK08 NEMA 4/4X	124 x 166 x 114		●			●	100
	**BR50-M**	12 cd [1]	IP54 IP65 option						●	102

[1] with a clear lens

● available ○ pending [2] option

PMF SIL Xenon Flashing Lights PMF 2015-SIL

XENON | SIL/PL | M monitored

SIL
The warning devices can be implemented in Safety Instrumented Systems (SIS) up to SIL 2 / PLd. Integrated self-monitoring function satisfies the requirement for routine system checks and eliminates the need for redundant devices.

LED technology – multi-function capability
Durable, low power, high output LEDs with an array of signal action.

Extreme bright
With 315 cd flash brightness for large areas and outdoors.

Highly insensitive to vibration
with service life exceeding 50,000 hrs.

3 different signaling modi selectable
- blinking light, highly efficient for permanent warning
- flashing light, brighter than comparable xenon flashing light
- rotating beacon effect, without susceptible mechanics

Versatile mounting
Choose direct mount for flat surface installation or bracket mount for attachment to walls or pipes.



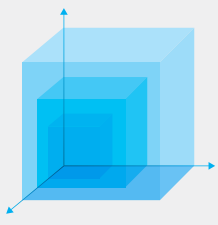
Low power consumption
Energy efficient, solid-state design is also shock and vibration tolerant.

Inrush current limitation
As standard with inrush current limitation and flexible wide range power supplies.

Day/night switching
Automatic brightness adjustment to ambient light (day / night switching) can be activated to prevent glare.



3D-Coverage performance data, A x B x C, clear lens



PMF 2015 SIL

Indicate	52 x 174 x 174 m
Warn	23 x 77 x 77 m
Alarm	12 x 39 x 39 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PMF SIL XENON FLASHING LIGHTS

SIL 2 PL d
declaration

IP 55
protection system

+55 °C
–30 °C
PMF 2015 SIL

EurAsian conformity



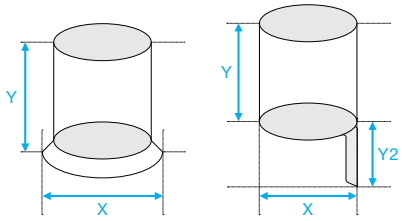
PRODUCT		PMF 2015-SIL			
		direct mounting		bracket mounting	
ARTICLE NO.		21007104601	21007804601	21007104611	21007804611
ARTICLE NO.		21007105601	21007805601	21007105611	21007805611
DATA					
Light source		xenon flash tube			
Operating range		195 – 253 V		18 – 30 V	
		AC 50 I 60 Hz		DC	
Nominal current consumption	flashing light @ 1 Hz	250 mA		700 mA	
	diagnostic channel	80 mA		65 mA	
Alarm contact		positively driven contact (1 x NC, 1 x NO); max. 6 A			
Operating mode		–		–	
Light frequency		–		–	
Flash rate of the main flash		1 Hz = 60 flashes/min			
Flash energy of the main flash		10 J			
Light intensity (DIN 5037) [1]		225 cd			
Max. viewing distance		348 m			
Operating temperature		–30 … +55 °C			
Protection system		IP 55 (vertical mounting)			
Service life of light source		light emission still 70 % after 8,000,000 flashes			
Material	lens	polycarbonate (PC), fresnel characteristic			
	housing	direct: acrylonitrile butadiene styrene (ABS) bracket: polycarbonate (PC)			
Dimensions (X x Y + Y2)		direct: Ø 177 x 185 + 0 mm bracket: Ø 130 x 170.5 + 90 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

All relevant safety data can be found in the manual in the download area on the product website.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



FUNCTION MONITORED

PMF SIL LED Multifunctional Lights PMF LED-HI-SIL

LED | SIL/PL | M monitored

SIL
The warning devices can be implemented in Safety Instrumented Systems (SIS) up to SIL 2 / PLd. Integrated self-monitoring function satisfies the requirement for routine system checks and eliminates the need for redundant devices.

LED technology – multi-function capability
Durable, low power, high output LEDs with an array of signal action.

Extreme bright
With 315 cd flash brightness for large areas and outdoors.

Highly insensitive to vibration
with service life exceeding 50,000 hrs.

3 different signaling modi selectable
- blinking light, highly efficient for permanent warning
- flashing light, brighter than comparable xenon flashing light
- rotating beacon effect, without susceptible mechanics

Versatile mounting
Choose direct mount for flat surface installation or bracket mount for attachment to walls or pipes.



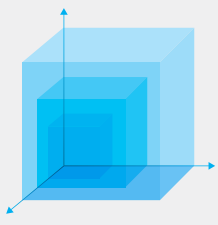
Low power consumption
Energy efficient, solid-state design is also shock and vibration tolerant.

Inrush current limitation
As standard with inrush current limitation and flexible wide range power supplies.

Day/night switching
Automatic brightness adjustment to ambient light (day / night switching) can be activated to prevent glare.



3D-Coverage performance data, A x B x C, clear lens



PMF LED-HI SIL

Indicate	65 x 166 x 166 m
Warn	29 x 74 x 74 m
Alarm	14 x 37 x 37 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PMF SIL LED MULTIFUNCTIONAL LIGHTS

SIL 2 PL d
declaration

IP 55
protection system

+55 °C
–40 °C
PMF LED-HI SIL

day/night
PMF LED-HI SIL

inrush current limitation
PMF LED-HI SIL

EurAsian conformity

ultra bright
PMF LED-HI SIL



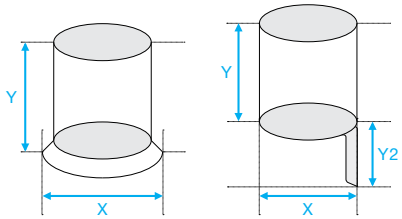
PRODUCT		PMF LED-HI-SIL	
		direct mounting	bracket mounting
ARTICLE NO.		21154634006	21154634007
ARTICLE NO.		21154635006	21154635007
DATA			
Light source		8 x 2 high performance LEDs	
Operating range		10–30 V DC	
		12 / 24 V DC	
Nominal current consumption	flashing light @ 1 Hz	max. 300 mA	
	diagnostic channel	35 mA	
Alarm contact		positively driven contact (1 x NC, 1 x NO); max. 3 A	
Operating mode		blinking light	flashing light / rotating mirror effect
Light frequency		1.5 Hz	1 Hz / 2.5 Hz
Flash rate of the main flash		–	– / –
Flash energy of the main flash		–	– / –
Light intensity (DIN 5037) [1]		315 cd, automatically reducible (day/night)	
Max. viewing distance		411 m	
Operating temperature		–40 … +55 °C	
Protection system		IP 55 (vertical mounting)	
Service life of light source		>50,000 hrs	
Material	lens	polycarbonate (PC), fresnel characteristic	
	housing	acrylonitrile butadiene styrene (ABS)	polycarbonate (PC)
Dimensions (X x Y + Y2)		Ø 177 x 185 + 0 mm	Ø 130 x 170.5 + 90 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

All relevant safety data can be found in the manual in the download area on the product website.

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FUNCTION MONITORED

Quadro SIL Xenon Flashing Lights Quadro F12-SIL

XENON

SIL/PL

M

LED versions on page 28

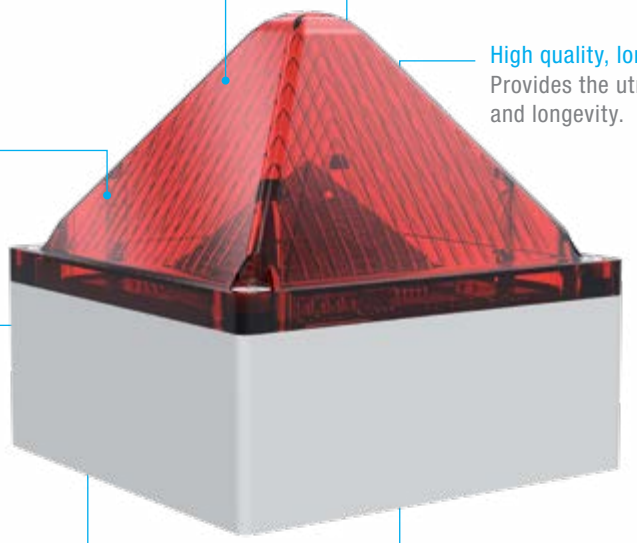
monitored

Quadro F12-SIL
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.

Secure enclosure sealing
Leak path risk is eliminated since the lens fastening screws are located outside the sealing gasket area.

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.

Function monitored
with fault relay contact and solid-state xenon flash tube.

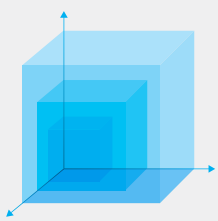


Inrush current regulator
Provides electrical protection for control devices such as switching components and relays.

High quality, long life components
Provides the utmost in reliability and longevity.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.

3D-Coverage performance data, A x B x C, clear lens



Quadro F12 SIL

Indicate	106 x 81 x 107 m
Warn	47 x 36 x 47 m
Alarm	24 x 18 x 24m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO SIL XENON FLASHING LIGHTS

SIL 2 PL d — declaration

IP 66 IP 67 — protection system

IK08 — impact-proof housing

+50 °C / –30 °C — operating temperature

inrush current limitation

Sync — synchronous operation

EAC — EurAsian conformity

10 Years — warranty



PRODUCT		Quadro F12-SIL	
ARTICLE NO.		21041103601	21041803601
ARTICLE NO.		21041104601	21041804601
ARTICLE NO.		21041105601	21041805601
DATA			
Light source		xenon flash tube	
Operating range		195 – 253 V	18 – 30 V
		AC 50 I 60 Hz	DC
Current consumption	flashing light	250 mA @ 230 V	700 mA @ 24 V
	diagnostic channel	100 mA	65 mA
Alarm contact	version	positively driven contact (1x NC, 1x NO)	
Flash energy and flash rate		10 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]		225 cd	
Max. viewing distance		348 m	
Operating temperature		–30 … +55 °C	
Degree of protection		IP 66/67, mounting arbitrary, IK08	
Service life of light source		light emission still 70 % after 8,000,000 flashes	
Material	lens	polycarbonate (PC)	
	housing	polycarbonate (PC)	
Dimensions (X x Y x Z)		130 x 130 x 130 mm	

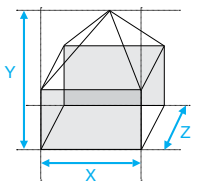
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

All relevant safety data can be found in the manual in the download area on the product website.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



FUNCTION MONITORED

Protect SIL Sounders
PRO 10-SIL | PRO 10-3G/3D-SIL

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

SIL 2/PL d
Fulfilling functional safety requirements by integrated safety design and diagnosis channel.

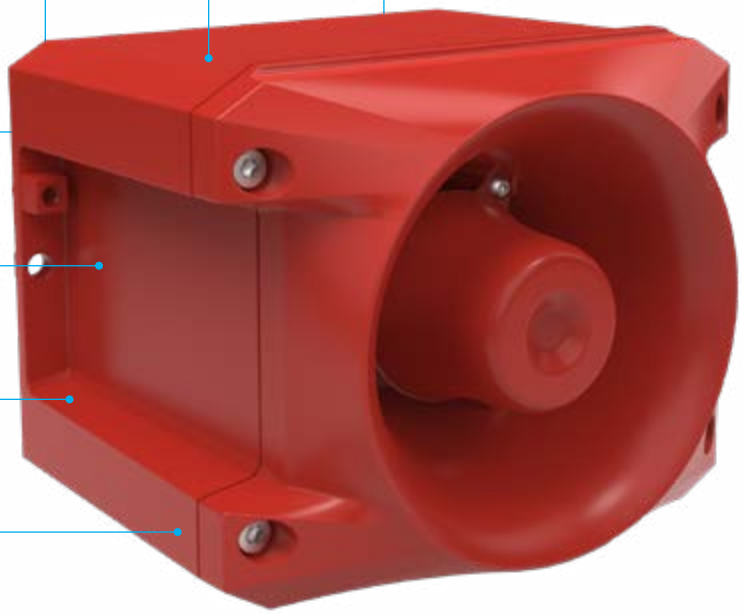
Explosion proof
for potentially explosive areas in zone 2 (3G) and zone 22 (3D).

Selectable tone
80 different tones, 3 additional tones externally selectable.

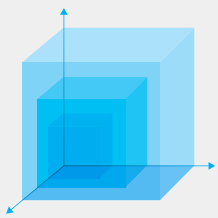
Selectable sound pressure
Reduction of sound pressure level up to 30 dB, internally or externally selectable.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone



		PRO 10 SIL	PRO 10 3G/3D SIL
AUDIBLE	80 dB (A)	51 x 49 x 24 m	51 x 49 x 24 m
	85 dB (A)	29 x 27 x 14 m	29 x 27 x 14 m
	90 dB (A)	16 x 15 x 8 m	16 x 15 x 8 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT SIL SOUNDERS

SIL 2 PL d — declaration

IP 66/67 — protection system

IK09 — impact-proof housing

IEC Ex — pending

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

UL — UL approval

EAC — EurAsian conformity

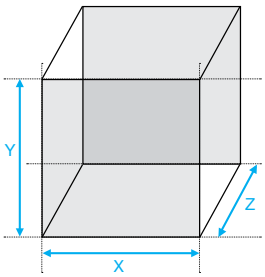
10 Years — warranty



PRODUCT	PRO 10-SIL		PRO 10 3G/3D-SIL	
ARTICLE NO.	23150640601	23150630601	23150640017	23150630017
DATA				
Operating range	95 – 265 V	10 – 60 V	95 – 265 V	10 – 60 V
	50 / 60 Hz	–	50 / 60 Hz	–
Current consumption @ DIN tone	85 mA @ 230 V AC	355 mA @ 24 V DC	85 mA @ 230 V AC	355 mA @ 24 V DC
Nominal current consumption	95 mA @ 230 V AC	400 mA @ 24 V DC	–	–
Diagnostic ch. current consumption	25 mA @ 230 V AC	17 mA @ 24 V DC	25 mA @ 230 V AC	17 mA @ 24 V DC
Diagnostic channel switching power	230 V AC / 80 mA			
Category (area of use)	non Ex area		3G (Zone 2), 3D (Zone 22)	
Explosion protection	–		see manual	
Sound pressure level @ DIN tone	114 dB(A) @ 1m			
Max. sound pressure level	116 dB(A) @ 1m			
Sound level reduction	-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB			
Alarm tones	80, 4 ext. selectable, tone table on page 138			
Sound time out	–			
Operating / storage temperature	–40 °C ... +55 °C / –40 °C ... +70 °C			
Protection system (EN 60529)	IP66 / IP67 / NEMA 4/4x / IK09			
Material	Aluminum RAL 3000			
Dimensions (X x Y x Z)	167 x 138.5 x 148 mm		167 x 138.5 x 148 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

All relevant safety data can be found in the manual in the download area on the product website.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

FUNCTION MONITORED

PMF Monitored Xenon Flashing Lights PMF 2015-M

XENON

M

monitored

Robust, solid-state design
Xenon flash tubes are secured by a mechanical clamp and unlike rotating lights with motorised elements – there is no risk of failure due to moving parts.

Highly effective light beam
Fresnel lens optics provide a brilliant horizontal light stream for long distance signal transmission.

Powerful 360° omnidirectional signaling
for large distances (indoor and outdoor).

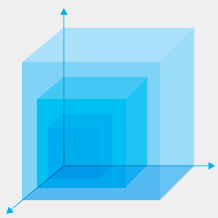
PMF 2015-M
Self-monitoring function. Additional contact closure included to alert operators of potential failure in the ability to generate a flashing light output. The light carries type approval from the Swiss Ministry of Transport.



Versatile mounting
Choose direct mount for flat surface installation or bracket mount for attachment to walls or pipes.



3D-Coverage performance data, A x B x C, clear lens



	PMF 2015-M
Indicate	54 x 172 x 172 m
Warn	24 x 76 x 76 m
Alarm	12 x 38 x 38 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PMF MONITORED XENON FLASHING LIGHTS

IP 55
protection system

+55 °C
–30 °C
operating temperature

EAC
EurAsian conformity



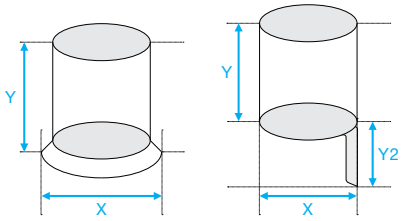
PRODUCT		PMF 2015-M
ARTICLE NO.		21007804012 (bracket mounting)
ARTICLE NO.		21007805012 (bracket mounting)
DATA		
Light source		xenon flash tube: double flash
Operating range		18–30 V
		DC
Nominal current consumption	flashing light	650 mA
	monitoring unit	50 mA
Alarm contact	version	positively driven contact (1x NC, 1x NO)
	max. switching power	1,500 VA AC
Flash energy and flash rate		10 J @ 1 Hz = 60 flashes/min
Light intensity (DIN 5037) [1]		250 cd
Max. viewing distance		366 m
Operating temperature		–30 … +55 °C
Protection system according to EN 60529		IP 55 (vertical mounting)
Service life of light source		light emission still 70 % after 8,000,000 flashes
Material	lens	polycarbonate (PC), fresnel characteristic
	housing	bracket mounting: polycarbonate (PC) / direct mounting: acrylonitrile butadiene styrene (ABS)
Dimensions (X x Y + Y2)		bracket mounting: Ø 130 x 170.5 + 90 mm / direct mounting: Ø 177 x 185 + 0 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

All relevant safety data can be found in the manual in the download area on the product website.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

SIL PL
FUNCTION MONITORED

Quadro Monitored Xenon Flashing Lights Quadro S-M-Flex

XENON

M

monitored

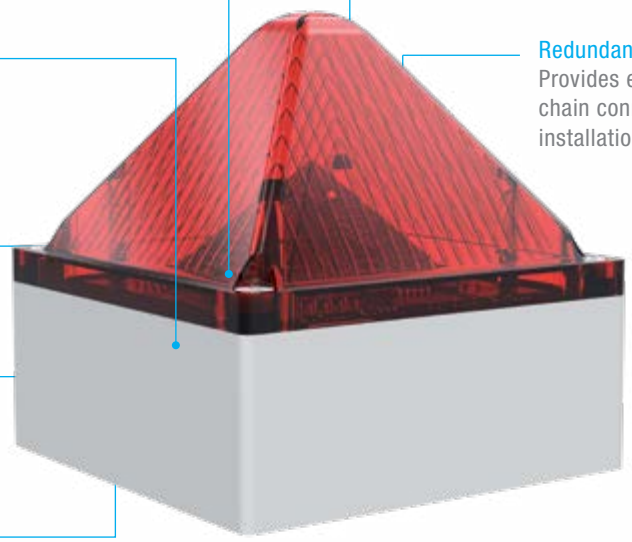
Shape-moulded gasket
For easy and secure installation – does not slip out of position and stays in place.

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.

Function monitored
with fault relay contact and solid-state xenon flash tube.

Inrush current regulator
Provides electrical protection for control devices such as switching components and relays.

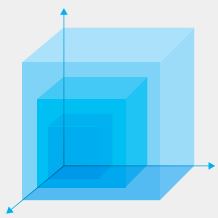
Quadro S-M-Flex
Multi-unit flash synchronisation for daisy-chained installations. On-board, adjustable flash frequency and light output intensity.



High quality, long life components
Provides the utmost in reliability and longevity.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.

3D-Coverage performance data, A x B x C, clear lens



Quadro S-M-Flex

Indicate	114 x 78 x 125 m
Warn	51 x 35 x 55 m
Alarm	25 x 17 x 28 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO MONITORED XENON FLASHING LIGHTS

IP 66 IP 67 — protection system

IK08 — impact-proof housing

+50 °C / –25 °C — operating temperature

Sync — operating synchronous

I lim t — inrush current limitation

EAC — EurAsian conformity

10 Years — warranty



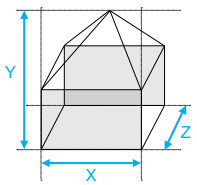
PRODUCT	Quadro S-M-Flex	
ARTICLE NO.	21041101179	
ARTICLE NO.	21042103179	
ARTICLE NO.	21042104179	
ARTICLE NO.	21042105179	
DATA		
Light source	xenon flash tube	
Operating range	195 – 253 V	95 – 127 V
	AC 50 I 60 Hz	AC 50 I 60 Hz
Current consumption	250 mA (1 Hz / 13 J)	350 mA (1 Hz / 13 J)
Inrush current	< 1 A / 50 ms	
Alarm output	230 V / 80 mA	
Flash energy and flash rate	max. 13 J flash rate adjustable	
Light intensity (DIN 5037) [1]	260 cd	
Max. viewing distance	374 m	
Operating temperature	–25 … +55 °C	
Protection system according to EN 60529	IP 66/67, mounting arbitrary	
Impact resistance as per EN 50102	IK08	
Service life of light source	light emission still 70 % after 12,000,000 flashes	
Material – lens	polycarbonate (PC)	
Material – housing	polycarbonate (PC)	
Dimensions (X x Y x Z)	130 x 130 x 130 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



FUNCTION MONITORED

WBx Monitored Xenon Flashing Lights
WBL-M | WBS-M

XENON

M
monitored



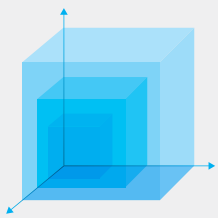
Flash tube
Xenon strobe generates highly visible light without sensitive filaments. A steel fixing clamp provides additional resistance to shock and vibration.

IP 54 enclosure rating
Suitable for use in all weather conditions due to the provided protection against driving rain, snow, ice, and dust.

Integrated flash monitoring
and fault message contact for enhanced human safety applications such as with x-ray and laser equipment.

Robust and reliable
With corrosion resistant anodised aluminium housing and mounting bracket, as well as a high strength polycarbonate lens, the signal light is ideal for tough industrial requirements.

3D-Coverage performance data, A x B x C, clear lens



WBL-M/WBS-M

Indicate	63 x 62 x 62 m
Warn	28 x 28 x 28 m
Alarm	14 x 14 x 14 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

WBX MONITORED XENON FLASHING LIGHTS

IP 54
protection system

+55 °C
–20 °C
operating temperature

EAC
EurAsian conformity



PRODUCT	WBL-M	WBS-M
ARTICLE NO.	21003103156	21003803156
ARTICLE NO.	21003104156	21003804156
ARTICLE NO.	21003105156	21003805156
DATA		
Light source	xenon flash tube	
Operating range	185 – 242 V	18 – 35 V
	AC 50, 60 Hz	DC
Nominal current consumption	0.07 A	0.25 A
Max. switching voltage	250 V AC	
Flash energy and flash rate	5 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]	61 cd	
Max. viewing distance	181 m	
Operating temperature	–20 … +55 °C	
Protection system according to EN 60529	IP 54 (vertical mounted)	
Service life of light source	light emission still 70 % after 8,000,000 flashes	
Material – lens	polycarbonate (PC)	
Material – housing	aluminium (Al Mg Si 1), anodised	
Material – base	polycarbonate (PC) with fibre glass	
Dimensions (X x Y)	80 x 242 mm	

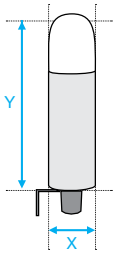
ACCESSORIES	PAGE	ARTICLE NUMBER
Protective cage	44	28710500042

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

WBL-M with 42 V AC supply	WBS-M with 12 I 48 V DC supply



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Pyra Monitored Multifunctional LED Lights
PY L-M-M

LED

M
monitored

Function-monitored LED light
for safety-critical applications.

Function-monitored
The function-monitored PY L-M-M ensures more safety in sensitive applications where a signal must be sent to an external safety system, operating station or control centre in the event of a malfunction.

Selectable signaling modes
Continuous steady on, blinking light or flashing light.

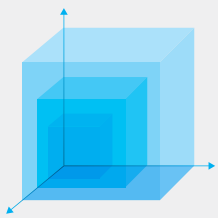
Selectable blink & flash frequencies
Adaptable to all your applications - select the frequency your gadget requires and boost the perceptibility.

Multi-voltage-power supply
Plug and play - made to connect with different voltages. No need to stock various units - PYRA LED adapts to most machines and applications no matter the voltage!

Panel mount installation
Smart, modern and 360° visible - fully integrable into the design of your machine and equipment! The pyramid-shaped lens has ideal radiation characteristics and ensures all-round visibility.



3D-Coverage performance data, A x B x C, clear lens



PY L-M-M

Indicate	39 x 43 x 44 m
Warn	17 x 19 x 20 m
Alarm	9 x 10 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PYRA MONITORED MULIFUNCTIONAL LED LIGHTS

IP 66 protection system

NEMA 4/4X protection system

IK08 impact-proof housing

+55 °C / –40 °C operating temperature

M12 connector (option)

brightness adjustable

UL UL approval

EAC EurAsian conformity

10 Years warranty



PRODUCT	PY L-M-M	
ARTICLE NO.	21553643004	21553813004
ARTICLE NO.	21553644004	21553814004
ARTICLE NO.	21553645004	21553815004
ARTICLE NO.	21553646004	21553816004

DATA

Operating range	95 – 265 V	108 – 132 V	21.6 – 26.4 V	10 – 60 V
	50 / 60 Hz	–	50 / 60 Hz	–
Current consumption light (max)	18 mA @ 230 V AC	18 mA @ 120 V DC	80 mA @ 24 V AC	63 mA @ 24 V DC
Alarm output	max. 230V / 120 mA (AC/DC)			
Operating mode internally selectable	continuous light / blinking light / flashing light			
Light alternation frequency	blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)			
Light source / intensity (DIN 5037) [1]	two high output LED / 23 cd (reducible)			
Max. viewing distance	111 m			
Operating temperature	–40 … +55 °C			
Protection system	IP 66 (EN 60529), NEMA TYPE 4/4X, IK 08 (EN 62262)			
Service life of light source	≥50,000 hrs			
Material – lens	clear / yellow / orange / red / green polycarbonate (PC)			
Material – housing	PC / ABS blend			
Dimensions (X x Y x Z)	166 x 124 x 114 mm			

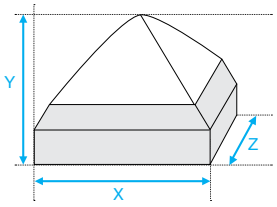
ACCESSORIES	PAGE	ARTICLE NUMBER
Sealing plug, 4-pack	44	28300000002
Spare locking bolt, 4-pack	44	28912000000
Surface seal	57	28300000005
Control panel installation kit	44	28112000019

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Intense Signal Tower BR50

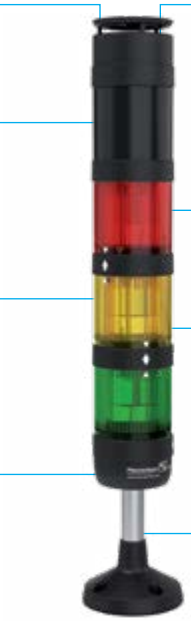


Ultra bright and super slim
Excellent perceptibility and slim design (ø 54 mm).

Signaling mode determinable by LED
Replaceable LEDs determine the signaling mode (continuous or blinking light). The standard modules are already equipped with continuous light LEDs.

Individual configuration
Up to 5 modules can be combined at any time. In addition to various LED light modules, Xenon flashing light modules, or an audible module can also be installed.

Flexible design options
Fully Coloured or Crystal-Clear modules with coloured LEDs - the choice is yours. Assemble your individual signal tower according to your needs and design ideas.



Versatile mounting options
Can either be mounted by tubular stand with plinth, tube, mounting bracket or directly – even with ready-made M12 connector available (see mounting equipment).

Universally applicable
Usable indoors and outdoors.

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 centre in the event of a malfunction.

Connectivity
Easy integration to IO-Link is possible with a separate module.

		EASY- and FLEXI MODULES	BASE / END MODULE
Total number of modules		max. 5 (Customisable order and colour)	1
Operating temperature		-25°C - +50°C	
Protection type EN 60529		IP 54 (Optional IP65)	
Material	Lens	Polycarbonate (UV-resistant)	–
	Base	Acrylonitrile butadiene styrene (ABS)	
Article no.			28250010000

EASY MODULES (LED INTEGRATED BY DEFAULT)

	LIGHT INTENSITY	NOMINAL CURRENT CONSUMPTION	OPERATING RANGE	ARTICLE NO.
Continuous light module Fully coloured - Yellow	27 cd	AC: 171mA; DC: 85 mA	10-30V AC/DC	28250376033
Continuous light module Fully coloured - Amber	15 cd	AC: 114mA; DC: 85 mA		28250376042
Continuous light module Fully coloured - Red	5 cd	AC: 121mA; DC: 85 mA		28250376055
Continuous light module Fully coloured - Green	9 cd	AC: 113mA; DC: 85 mA		28250376066
Continuous light module Fully coloured - Blue	3 cd	AC: 114mA; DC: 85 mA		28250376072
Continuous light module Crystal Clear - White	23 cd	AC: 114mA; DC: 85 mA		28250376012
Continuous light module Crystal Clear - Yellow	28 cd	AC: 171mA; DC: 85 mA		28250376013
Continuous light module Crystal Clear - Green	22 cd	AC: 113mA; DC: 85 mA		28250376016
Continuous light module Crystal Clear - Red	6 cd	AC: 121mA; DC: 85 mA		28250376015

FLEXI MODULES (WITHOUT LIGHT SOURCE)

	LIGHT INTENSITY	NOMINAL CURRENT CONSUMPTION	OPERATING RANGE	ARTICLE NO.
Signaling module Clear (Crystal Clear)	According to the selected LED			28250040010
Signaling module Yellow				28250040030
Signaling module Orange				28250040040
Signaling module Red				28250040050
Signaling module Green				28250040060
Signaling module Blue				28250040070

Further versions on request

INTENSE SIGNAL TOWER

IP 54 protection system

IP 65 option

UL UL approval

I/O Link option

+55 °C / –25 °C operating temperature

EAC EurAsian conformity



Base / End Module



Yellow



Amber



Red



Green



Blue



Clear



LED CONTINUOUS LIGHT

	LIGHT INTENSITY*	NOMINAL CURRENT CONSUMPTION	OPERATING RANGE	SERVICE LIFE	ARTICLE NO.
LED BA 15d Continuous light Yellow 24V AC/DC	28 cd	AC: 171mA; DC: 85 mA	10-30V AC/DC	>25.000h	28213000099
LED BA 15d Continuous light Red 24V AC/DC	6 cd	AC: 121mA; DC: 85 mA			28213000100
LED BA 15d Continuous light Green 24V AC/DC	22 cd	AC: 113mA; DC: 85 mA			28213000101
LED BA 15d Continuous light White 24V AC/DC	23 cd	AC: 114mA; DC: 85 mA			28213000102
LED BA 15d Continuous light Yellow 230V AC	17 cd	19 mA	220-240V AC		28213000103
LED BA 15d Continuous light Red 230V AC	4 cd	21 mA			28213000104
LED BA 15d Continuous light Green 230V AC	12 cd	22 mA			28213000105
LED BA 15d Continuous light White 230V AC	14 cd	22 mA			28213000106

LED BLINKING LIGHT (1Hz)

	LIGHT INTENSITY*	NOMINAL CURRENT CONSUMPTION	OPERATING RANGE	SERVICE LIFE	ARTICLE NO.
LED BA 15d Blinking light Yellow 24V AC/DC	28 cd	AC: 86 mA; DC: 51 mA	10-30V AC/DC	>25.000h	28213000107
LED BA 15d Blinking light Red 24V AC/DC	6 cd	AC: 61 mA; DC: 37 mA			28213000108
LED BA 15d Blinking light Green 24V AC/DC	22 cd	AC: 57 mA; DC: 53 mA			28213000109
LED BA 15d Blinking light White 24V AC/DC	23 cd	AC: 57 mA; DC: 58 mA			28213000110
LED BA 15d Blinking light Yellow 230V AC	17 cd	10mA	220-240V AC		28213000111
LED BA 15d Blinking light Red 230V AC	4 cd	11 mA			28213000112
LED BA 15d Blinking light Green 230V AC	12 cd	11 mA			28213000113
LED BA 15d Blinking light White 230V AC	14 cd	11 mA			28213000114

* Values for LEDs with clear signal module
Further versions on request
Please note that the LEDs are only intended for use in the BR 50 modules!

RECOMMENDED COLOUR COMBINATIONS	
SIGNALING MODULE COLOUR	LED COLOUR
●	●
●	●
●	●
●	○
●	○
○	○ ● ● ●



LED light source

FLASHING LIGHT MODULES		
	24V AC/DC	**230V AC**
Flash energy	1 J	0.6 J
Flash frequency	ca. 1 Hz	
Nominal current consumption (50/60 Hz)	100 mA	10.5 mA
Operating range	AC: 10-27V I DC: 10-35V	-10% ...+15%
Duty cycle	100%	
Service Life	after 8 million flashes still at least 70% light emission	
ARTICLE NO.		
Flashlight module Clear	28250078010	28250071010
Flashlight module Yellow	28250078030	28250071030
Flashlight module Amber	28250078040	28250071040
Flashlight module Red	28250078050	28250071050
Flashlight module Green	28250078060	28250071060
Flashlight module Blue	28250078070	28250071070

SAFETY AND IO-LINK MODULES		
	Monitored-LED	**I/O-Link Modul**
Module Type	2x8 LED, monitored continuous light	can be combined with LED, flash and sounder modules
Total number of modules	max. 3	max.4; not preconfig. max. 3
Profile	–	revision 1.1.4
Specification	–	IEC 61131-9
Alarm output	max. 230V /80mA, RONmax = 35 Ω (Closed during fault-free operation)	–
Rated voltage	24V DC	
Functional area	-15% ... + 20%	–
Nominal current consumption	35 mA	total output current: 1300 mA
ARTICLE NO.		
LED module Yellow monitored top segment	28250068030	–
LED module Red monitored top segment	28250068050	–
LED module Green monitored top segment	28250068060	–
LED module Yellow monitored bottom segment	28250368030	–
LED module Red monitored bottom segment	28250368050	–
LED module Green monitored bottom segment	28250368060	–
IO-Link Modul M12 incl. base	–	28250988000
IO-Link Module	–	28250998000

SOUNDER MODULES		
	24V DC	**230V AC**
Nominal current consumption	31 mA	15 mA
Operating range	-10% ... +20%	-15% ... +10%
Sound pressure level / reducible	96 / -20 dB (A)	87 / -10 dB (A)
Tone types	32 (details see chapter Tone Tables)	10 (details see chapter Tone Tables)
Operating temperature	-25° C ... + 50° C	
Protection type EN 60529	IP54 (option IP65)	IP54
ARTICLE NO.		
Sounder module	28250818000	28250081000
Further versions on request		

PRE-CONFIGURED BR50 SIGNAL TOWERS	
ARTICLE NO.	
2-Stage (Green, red) with mounting stand 100mm. IP 65	2211820000
3-Stage (Green, yellow, red) with mounting stand 100mm. IP 65	22118300009
3-Stage (Green, red, blue) with mounting stand 100mm. IP 65	22118300010
3-Stage (Green, yellow, red) direct mounting. IP 65	22138300002



Ordering example

SIGNAL TOWER 5-STAGES IP65	ARTICLE NO.		
	Version	230 V AC	24 V DC
 Sounder modules  230V AC 24V DC	**BR50-SM**	28250081000	28250818000
+			
 Flashing light module	**BR50-MG** + **BR50-FL**	28250220000	
		28250071050	28250078050
+			
 Continuous light module with bulb or LED	**BR50-MG** + **BR50-CL** + **LED BA15d**	28250220000	
		28250040060	
		28213000018	28213000011
+			
 Blinking light module with bulb or LED	**BR50-MG** + **BR50-BL** + **LED BA15d**	28250220000	
		28250051030	28250058030
		28213000030	28213000007
+			
 Continuous light module with bulb or LED	**BR50-MG** + **BR50-CL** + **LED BA15d** + **BR50-MG** + **BR50-BC**	28250220000	
		28250040010	
		28213000014	28213000006
		28250220000	
		28250010000	
+			
 Mounting stand (100 mm) and seal	**BR50-TG**	28250230000	
	BR50-S100	28250150010	

Configuration alternatives

STAGE 5



Sounder module



STAGE 4



Flashing light module





STAGE 3



Continuous light module with LED





STAGE 2



Blinking light module







Monitored module

STAGE 1



Continuous light module



IO-Link modul





MOUNTING VARIANTS



I/O-Link modul with premounted base





Modular design permits quick and easy configuration and assembly.

MOUNTING EQUIPMENT

	MATERIAL	ARTICLE NO.
Wall bracket	ABS; for mounting stand	28250200000
Mounting stand with plinth - 100mm	Stainless steel tube and PA 6 (Polyamid) plinth	28250150010
Mounting stand with plinth - 250mm	Stainless steel tube and PA 6 (Polyamid) plinth	28250150020
Mounting stand with plinth - 400mm	Stainless steel tube and PA 6 (Polyamid) plinth	28250150040
Tube with thread and bracket - 100mm	Stainless steel tube and bracket	28250160010
Tube with thread and bracket - 250mm	Stainless steel tube and bracket	28250160020
Tube with thread and bracket - 400mm	Stainless steel tube and bracket	28250160040
Base / end module with M12 connector	ABS and stainless steel adapter	28250126000
Base / end module on stand 100mm + M12 connector	ABS and stainless steel tube with PA 6 (Polyamid) plinth	28250126010
Base / end module on stand 250mm + M12 connector	ABS and stainless steel tube with PA 6 (Polyamid) plinth	28250126020
Base / end module on stand 400mm + M12 connector	ABS and stainless steel tube with PA 6 (Polyamid) plinth	28250126040
Bracket for direct mounting for all bases w. or w/o M12	Stainless steel	28250180000
Bracket for stand mouting for all stands w. or w/o M12	Stainless steel	28250190000


Wall bracket


Stand with plinth


Tube with bracket


Base / end module with M12 connector


Base / end module on stand + M12 connector


Bracket for direct mounting for all bases w. or w/o M12 connector


Bracket for stand mouting for all stands w. or w/o M12 connector

DIMENSIONS ASSEMBLED SIGNAL TOWERS

	DIAMETER: 54mm; TOTAL HEIGHT WITH SOUNDER MODULE: +21mm (230 V AC) -12mm (24 V DC)						
	STAND WITH PLINTH INSTALLATION LENGTH OF PIPE			TUBE WITH THREAD INSTALLATION LENGTH OF PIPE			DIRECT ASSEMBLY
Number of signal modules	100mm	250mm	400mm	100mm	250mm	400mm	–
1	183mm	333mm	483mm	209mm	359mm	509mm	107mm
2	246mm	396mm	546mm	272mm	422mm	572mm	170mm
3	309mm	459mm	609mm	335mm	485mm	635mm	233mm
4	372mm	522mm	672mm	398mm	584mm	698mm	296mm
5	435mm	585mm	735mm	461mm	611mm	761mm	359mm

ACCESORIES

		ARTICLE NO.
Flexi Tool	for easy change of the LED bulb	28250250000
Module gasket IP 65	1x per light module plus 1x base module	28250220000
Tube gasket IP 65	for stand or tube mounting	28250230000
Direct mounting set	1x surface gasket; 4x screws 4,2x16	28250210000


Flexi Tool


Module gasket


Tube gasket


Surface gasket

Ex signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS				PAGE
					DNV	CNBOP	EN 54-23	Category / Zone	
	EX FLASHING AND LED LIGHTS								
	**Quadro F12-3G/3D**	7.5 J	IP 66/67 IK08	130 x 130 x 130		● [2]	●	3G 3D / 2 22	110
	**Quadro LED RGB 3G/3D**	8 cd [1]	IP 66/67 IK08	130 x 130 x 130				3G 3D / 2 22	112
	**Quadro LED-HI 3G/3D**	75 cd [1]	IP 66/67 IK08	130 x 130 x 130				3G 3D / 2 22	
	BExBG 15	15 J	IP 66/67	240 x 165 x 165				2G 2D / 1, 2 21, 22	
	**BExBG 10**	10 J	IP 66/67	240 x 165 x 165				2G 2D / 1, 2 21, 22	114
	BExBG 05	5 J	IP 66/67	240 x 165 x 165				2G 2D / 1, 2 21, 22	
	**BExBG L 1**	75 cd [1]	IP 66/67	240 x 165 x 165				2G 2D / 1, 2 21, 22	116
	**CWB-ATEX**	5 J	IP 66	260 x Ø 70	●			2G 2D / 1, 2 21, 22	118
	**IS-mB1**	5 cd [1]	IP 65	85 x Ø 89				1G / 0, 1, 2	120

[1] with a clear lens

● available ○ pending [2] option

Ex signaling devices at a glance

	TYPE	PERFORMANCE	PROTECTION SYSTEM	DIMENSIONS (H x W x D) mm	APPROVALS/STANDARDS					PAGE
					UL	DNV	VdS	EN 54-3	Category / Zone	
	EX SOUNDERS									
	**PRO 10 3G/3D**	116 dB(A)	IP 66/67 IK09	139 x 167 x 148	●	○ [2]	●	●	3G 3D	122
	**PRO 10 3G/3D SIL**				●				2 22	
	**BExS 120D**	120 dB(A)	IP 66/67	Ø 220 x 313			●	●	2G, 2D	124
	BExS 120E			Ø 220 x 326					1, 2 21, 22	
	**BExS 110D**	113 dB(A)	IP 66/67	Ø 181 x 263			●	●	2G, 2D	126
	BExS 110E			Ø 181 x 275					1, 2 21, 22	
	**IS-A105N**	103 dB(A)	IP 66	130 x 130 x 132					1G 0, 1, 2	128
	**IS-mA1**	102 dB(A)	IP 65	Ø 88.7 x 99			●	●	1G 0, 1, 2	
	EX COMBINATIONS									
	**PRO L 10 3G/3D**	10 J 116 dB(A)	IP 66/67	214 x 167 x 148	●	○ [2]			3G, 3D 2, 22	130
	**BExCS 110-05D**	5 J 113 dB(A)	IP 66/67	Ø 181 x 368					2G, 2D 1, 2, 21, 22	132
	**IS-mC1**	5 cd [1] 102 dB(A)	IP 65	116 x Ø 89					1G 0, 1, 2	134

[1] with a clear lens

● available ○ pending [2] option

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.

Quadro Ex Flashing Lights
Quadro F12-3G/3D

XENON EX

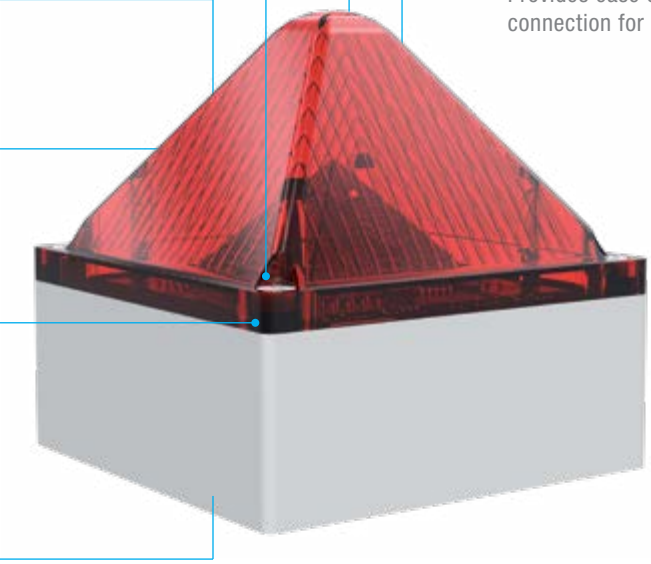
Secure enclosure sealing
Leak path risk is eliminated since the lens fastening screws are located outside the sealing gasket area.

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

ATEX certified for Zones 2 and 22
For use in potentially explosive areas in Zone 2 as per EN 60079-10 and Zone 22 as per EN 61241-10.

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.

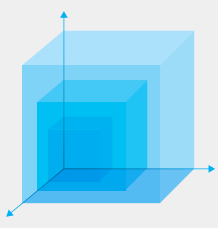
Inrush current regulator
Provides electrical protection for control devices such as switching components and relays.



High quality, long life components
Provides the utmost in reliability and longevity.

Redundant electrical contacts
Provides ease of wiring and daisy-chain connection for multi-unit installations.

3D-Coverage performance data, A x B x C, clear lens



Quadro F12-3G/3D

Indicate	80 x 57 x 77 m
Warn	36 x 25 x 34 m
Alarm	18 x 13 x 17 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO EX FLASHING LIGHTS

IP 66 / IP 67 — protection system

IK08 — impact-proof housing

+50 °C / –40 °C — operating temperature

CNBOP — option

EN 54-23 — approval

inrush current limitation

10 Years — warranty



PRODUCT		Quadro F12-3G/3D	
ARTICLE NO.	⊘	21041101008	21041801008
ARTICLE NO.	●	21041103008	21041803008
ARTICLE NO.	●	21041104008	21041804008
ARTICLE NO.	●	21041105008	21041805008
DATA			
Operating range		195–253 V AC 50 I 60 Hz	18–30 V DC
Current consumption		90 mA @ 230 V	360 mA @ 24 V
Initial current limited to		<7 A / 150 µs	<5 A / 2 ms
Explosion protection		see manual	
Category (area of use)		3G (Zone 2) / 3D (Zone 22)	
Flash energy and flash rate		7.5 J @ 50 flashes/min	
Light intensity (DIN 5037) [1]		84 cd	
Max. viewing distance		229 m	
Operating temperature		–20 … +45 °C	
Protection system according to EN 60529		IP 66/67, mounting arbitrary	
Impact resistance as per EN 50102		IK08	
Service life of light source		light emission still 70 % after 8,000,000 flashes	
Material	lens	⊘ ○ ● ● ● ● ● polycarbonate (PC)	
	housing	polycarbonate (PC)	
Dimensions (X x Y x Z)		130 x 130 x 130 mm	

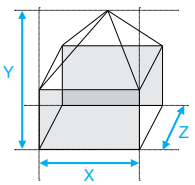
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

115 V AC

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



Quadro Ex LED Multifunctional Lights Quadro LED-HI-3G/3D

LED EX

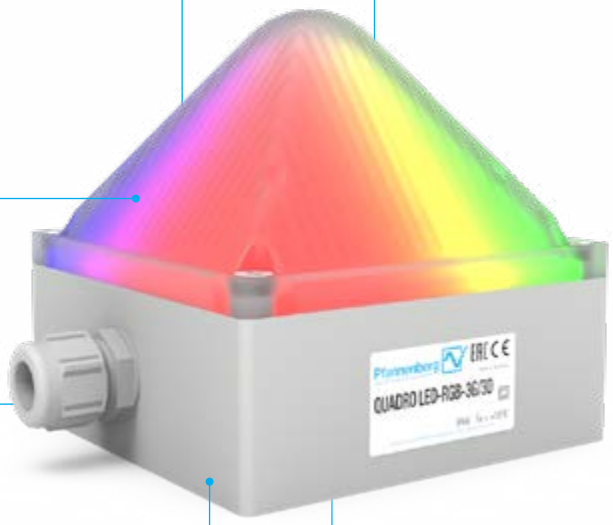
Most flexible, ultra-bright RGB multi colour LED technology certified for Ex-Zones 2 and 22.

Explosion proof
Made to be used in potentially explosive areas in zone 2 (3G) according to EN 60079-10-1 and zone 22 (3D) according to EN 60079-10-2.

Selectable Colour
QUADRO LED-RGB-3G/3D permits to choose the colour you require with just one product. Stay flexible and keep your stock to a minimum!

External colour & mode control
Whether operation, error indication or any other status – with QUADRO LED-RGB-3G/3D you can state several situations with only one light. Feel free to choose and change colour and mode easily by remote control!

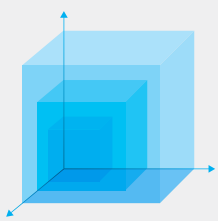
Selectable blink & flash frequencies
Adaptable to all your applications – select the frequency your gadget requires and boost the perceptibility.



Multi-voltage-power supply
Plug and play – made to connect with different voltages. No need to stock various units – QUADRO LED-RGB-3G/3D adapts to most machines and applications no matter the voltage!

Flexible range of applications
Whether for indoor or outdoor use, for industrial applications or as a stack light replacement – QUADRO LED-RGB-3G/3D can be used for numerous applications.

3D-Coverage performance data, A x B x C, clear lens



	Quadro LED-RGB-3G/3D	Quadro LED-Hi-3G/3D
Indicate	14 x 13 x 17 m	48 x 36 x 47 m
Warn	6 x 6 x 7 m	21 x 16 x 21 m
Alarm	3 x 3 x 4 m	11 x 8 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

QUADRO EX LED MULTIFUNCTIONAL LIGHTS

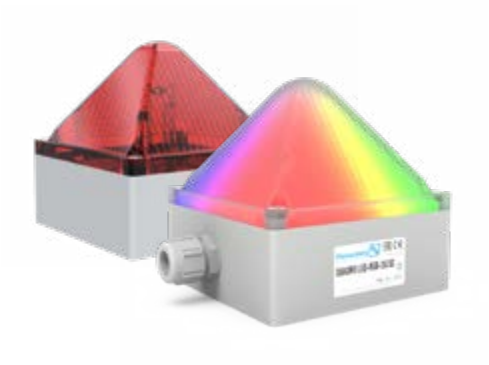
IP66 IP67 — protection system

IK08 — impact-proof housing

+50 °C / –20 °C — operating temperature

brightness adjustable

10 Years — warranty



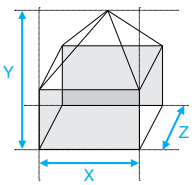
PRODUCT	Quadro-LED-HI 3G/3D			
ARTICLE NO. ● / ○	21109648009	21109638009	–	–
ARTICLE NO. ●	–	–	21108643009	21108633009
ARTICLE NO. ●	–	–	21108644009	21108634009
ARTICLE NO. ●	–	–	21108645009	21108635009
DATA				
Operating range	90 – 253 V AC 50 I 60 Hz	10 – 57 V DC	90 – 253 V AC 50 I 60 Hz / DC	11 – 60 V DC
Current consumption	51 mA @ 36 mA	276 mA @ 64 mA	65 mA @ 230 V AC	195 mA @ 24 V DC
Light source	1 High output LED (RGBW)		4 High output LED	
Explosion protection	see manual			
Category (area of use)	3G (Zone 2) / 3D (Zone 22)			
Operating mode	continuous light,blinking light (1 / 2 Hz), flashing light (0.1 / 0.5 / 0.75 / 1 / 2 Hz)			
Control of operating mode	internally / externally		internally	internally / externally
Light intensity (DIN 5037) [1]	8 cd (signal color yellow, flashing light 1 Hz, 10 %–100 %)		75 cd, adjustable 15%–100%	
Max. viewing distance	66 m		201 m	
Operating temperature	–20 … +55 °C			
Degree of protection	IP66 / 67, mounting arbitrary, IK08			
Service life of light source	>50,000 h			
Material – lens	○ polycarbonate (PC)		⊘ ○ ● ● ● ● ● polycarbonate (PC)	
Material – housing	polycarbonate (PC), light grey RAL 7035			
Dimensions (X x Y x Z)	130 x 130 x 130 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

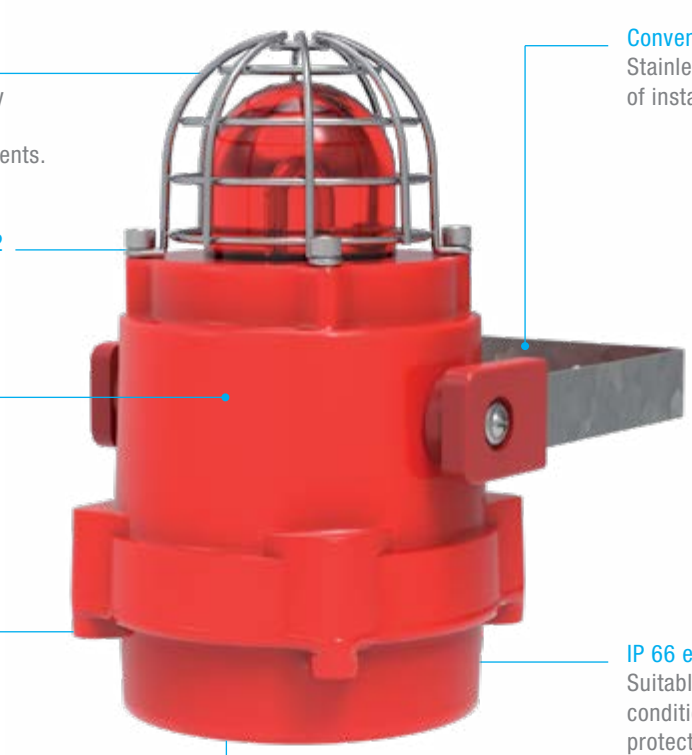
Models with alternative features available upon request.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



BEx Ex Flashing Lights BExBG

XENON EX



Powerful visual safety for hazardous areas
Up to 15 joules flashing light energy to alert personnel of danger in both combustible gas and dust environments.

ATEX certified for Zones 1, 2, 21, 22
Satisfies requirements for device category 2D and 2G.

Robust construction
Durable, cast-aluminium housing and stainless steel protection cage endures saltwater and other corrosives for demanding marine and industrial environments.

Wide range
of operating temperatures from –40 °C to +70 °C.

Choice of housing protection scheme
Category “d” flame proof enclosure or category “e” enhanced safety for ease of safe electrical connection.

Convenient mounting
Stainless steel bracket permits ease of installation for any orientation.

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.

Models with alternative features available upon request.

BExBG05 in 115 V AC, 12 V DC, 48 V DC, BExBG15 in 48 V DC	Less expensive versions with higher IP rating but without “e” enhanced safety electrical connection.

BEX EX FLASHING LIGHTS

IP 66
IP 67
protection system

+70 °C
–50 °C
Ex-certified

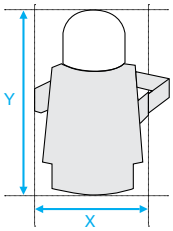
+70 °C
–40 °C
operating temperature



PRODUCT		BExBG15-E		BExBG10-E		BExBG05-E	
ARTICLE NO.		31110103000	31110803000	31120103000	31120803000	31130103000	31130803000
ARTICLE NO.		31110104000	31110804000	31120104000	31120804000	31130104000	31130804000
ARTICLE NO.		31110105000	31110805000	31120105000	31120805000	31130105000	31130805000
DATA							
Operating range		230 V ±10 % AC 50 I 60 Hz	24 V ±25 % DC	230 V ±10 % AC 50 I 60 Hz	24 V ±25 % DC	230 V ±10 % AC 50 I 60 Hz	24 V ±25 % DC
Current consumption		170 mA @ 230 V AC	860 mA @ 24 V DC	110 mA @ 230 V AC	660 mA @ 24 V DC	55 mA @ 230 V AC	300 mA @ 24 V DC
Explosion protection		see manual					
Category (area of use)		2G (Zone 1) / 2D (Zone 21) 3G (Zone 2) / 3D (Zone 22)					
Flash energy and flash rate		15 J @ 1 Hz = 60 flashes/min		10 J @ 1 Hz = 60 flashes/min		5 J @ 1 Hz = 60 flashes/min	
Light intensity (DIN 5037) [1]		226 cd		178 cd		55 cd	
Max. viewing distance		348 m		309 m		172 m	
Protection system according to EN 60529		IP 66					
Service life of light source		light emission still 70 % after 8,000,000 flashes					
Material	lens	glass					
	housing	die-cast aluminium, resistant to salt water, marine grade LM6					
Dimensions (X x Y)		Ø 165 x 239.5 mm					

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

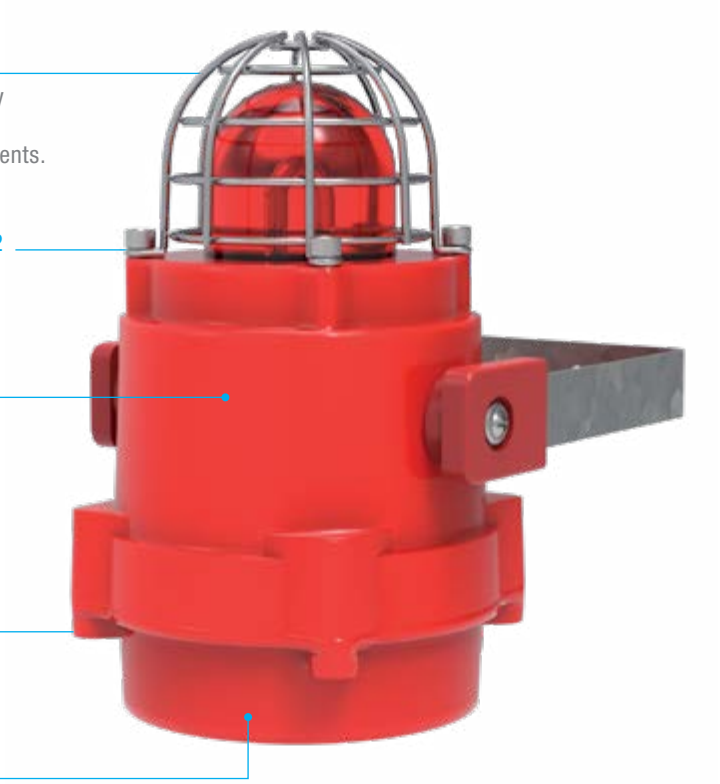
[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

BEx Ex LED Multifunctional Lights BExBG L

LED EX



Powerful visual safety for hazardous areas
Up to 15 joules flashing light energy to alert personnel of danger in both combustible gas and dust environments.

ATEX certified for Zones 1, 2, 21, 22
Satisfies requirements for device category 2D and 2G.

Robust construction
Durable, cast-aluminium housing and stainless steel protection cage endures saltwater and other corrosives for demanding marine and industrial environments.

Wide range
of operating temperatures from –50 °C to +70 °C.

Convenient mounting
Stainless steel bracket permits ease of installation for any orientation.

BEX EX LED MULTIFUNCTIONAL LIGHTS

IP 67
protection system

+70 °C
–50 °C
operating temperature

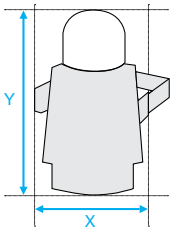


PRODUCT		BExBG L	
ARTICLE NO.		31151103000	31151903000
ARTICLE NO.		31151104000	31151904000
ARTICLE NO.		31151105000	31151905000
DATA			
Rated voltage		230 V	24 V
		AC 50 I 60 Hz	DC
Operating range		±10 %	18 – 54 V
Nominal current consumption		48 mA	240 mA
Explosion protection		see manual	
Category (area of use)		2G (Zone 1) / 2D (Zone 21) 3G (Zone 2) / 3D (Zone 22)	
Light source		LED	
Operating temperature		up to –50 °C … +70 °C	
Service life of light source		>50,000 h	
Material	lens	glass with plastic colour cap	
	housing	die-cast aluminium, resistant to salt water, marine grade LM6, red (RAL 3000)	
	protective cage and bracket	stainless steel	
Dimensions (X x Y)		Ø 165 x 239.5 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



CWB Ex Xenon Flashing Lights CWB-ATEX

XENON EX

Visual safety for hazardous areas
Up to 5 joules flashing light energy to alert personnel of danger in both combustible gas and dust environments.

Flash tube
Xenon strobe generates highly visible light without sensitive filaments. A steel fixing clamp provides additional resistance to shock and vibration.

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.



Protective cage
Stainless steel protective cage available as accessory.

ATEX certified for Zones 1, 2, 21, 22
Satisfies requirements for device category 2G/3G and 2D/3D.

Robust and reliable
With corrosion resistant anodised aluminium housing and mounting bracket, as well as a high strength polycarbonate lens, the signal light is ideal for tough industrial requirements.

Optional
available with different mounting accessories; for pipe clamp, mounting bracket and mounting plate.

Accessories

ACCESSORIES CWB-ATEX


Mounting bracket


Standard bracket set


Mounting plate


Pipe clamp


Protective cage

PRODUCT		ARTICLE NO.
Mounting bracket	stainless steel	38108100100
Standard bracket set	stainless steel	38108100150
Mounting plate	stainless steel	38108100000
Pipe clamps	R1 1/4" stainless steel	38108101000
	R1 1/2" stainless steel	38108101200
	R2" stainless steel	38108102000
Protective cage	stainless steel	38108100201

CWB EX XENON FLASHING LIGHTS

IP 66
protection system

+50 °C
–40 °C
operating temperature

DNV
approval



PRODUCT		CWB-ATEX		
ARTICLE NO.	31006103000	31006903000		
ARTICLE NO.	31006104000	31006904000		
ARTICLE NO.	31006105000	31006905000		
DATA				
Rated voltage	230 V	24 – 42 V	12 – 48 V	
	AC 50 I 60 Hz		DC	
Operating range	±10 %			
Nominal current consumption	80 A	500 – 300 mA	500 – 300 mA	
Explosion protection	see manual			
Category (area of use)	2G (Zone 1) / 3G (Zone 2) I 2D (Zone 21) / 3D (Zone 22)			
Certificate of conformity	EPS 20 ATEX 1 222 X			
Flash energy and flash rate	5 J @ 1 Hz			
Protection system (EN 60529)	IP 66			
Service life of the light source	light emission still 70 % after 8,000,000 flashes			
Material – lens	⊘ ○ ● ● ● ● ● polycarbonate (PC)			
Material – housing	stainless steel			
Material – base	aluminium alloy yellow; plinth black			
Dimensions (X x Y x Z)	91 x 260 x 82 mm			

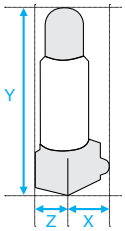
ACCESSORIES	PAGE	ARTICLE NUMBER
Mounting bracket	118	38108100100
Standard bracket set	118	38108100150
Mounting plate	118	38108100000
Pipe clamp R1 1/4"	118	38108101000
Pipe clamp R1 1/2"	118	38108101200
Pipe clamp R2"	118	38108102000
Protective cage	118	38108100201

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

110–127 V AC I 60–80 V DC



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

IS-Mini Ex LED Mutlifunctional Lights IS-mB



Intrinsically safe signaling
Choose from audible, visual, or combined audible-visual alarms for hazardous areas.

Zones 0, 1 and 2
Certified for use in Ex zones 0, 1 and 2 when used with a certified zener barrier or galvanic isolator.

Effective alarming
Blinking LED array.

Compact design
Permits versatile installation in practically any space.



Low power consumption
Ideal for use as a notification appliance in fire alarm systems.

Visual notification
Choice of yellow/amber, red, green or blue LEDs with selectable blinking frequency of 1 or 2 Hz.

Wide range
of operating temperatures from –40 °C to +60 °C.

Zener barriers
To achieve intrinsically safe operation, units must be connected with a zener barrier or galvanic isolator. See accessory pages 136 for available models.

IS-MINI EX LED MUTLIFUNCTIONAL LIGHTS

IP 65
protection system

+60 °C
–40 °C
operating temperature

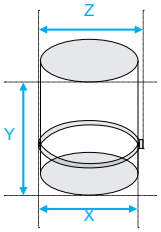


PRODUCT	IS-mB1
ARTICLE NO.	31008804000
ARTICLE NO.	31008805000
DATA	
Operating mode	blinking light
Operating range	16 – 28 V
	DC
Current consumption	25 mA @ 24 V DC typical for connection to 24 V DC via 28 V / 300 Ω zener barrier
Type of protection	"ia" inherently safe
Explosion protection	II 1G EEx ia IIC T4
Category (area of use)	1G (Zone 0, 1, 2)
Certificate of conformity	SIRA 05 ATEX2084 X
Temperature class T	T4 @ Ta –40 °C ... +60 °C
Light source	LED
Blinking rate	can be set to 2 Hz or 1 Hz
Max. viewing distance	52 m
Protection system according to EN 60529	IP 65
Service life of light source	light emission still 70 % after 8,000,000 flashes
Material – housing	acrylonitrile butadiene styrene (ABS), self-extinguishing UL94V0 & 5VA
Material – lens	polycarbonate (PC)
Dimensions (X x Y x Z)	89 x 85 x 95 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

Power must be connected via a zener barrier (max. 28 V DC, 93 mA DC, 0.66 W),
(zener barriers on page 136) or a galvanic isolator, specified by the system certificate.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Protect Ex Sounders
PRO 10-3G/3D | PRO 10-3G/3D-SIL

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

SIL 2/PL d
Fulfilling functional safety requirements by integrated safety design and diagnosis channel.

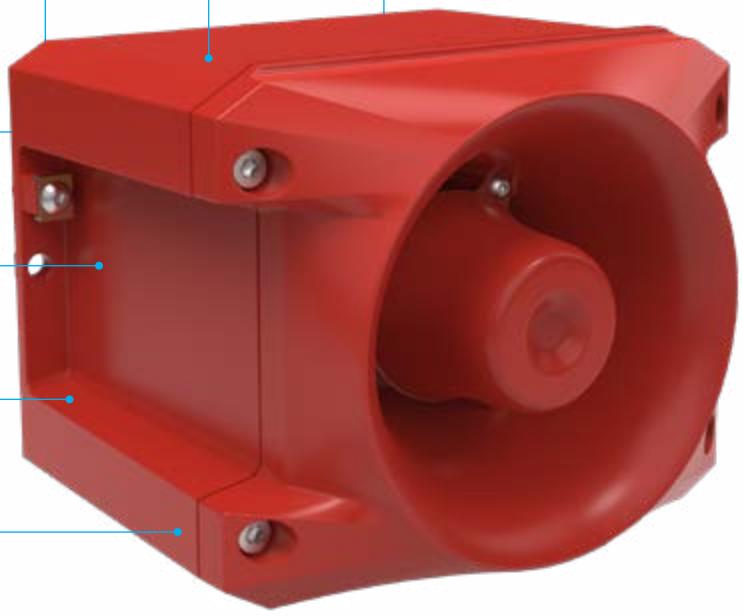
Explosion proof
for potentially explosive areas in zone 2 (3G) and zone 22 (3D).

Selectable tone
80 different tones, 3 additional tones externally selectable.

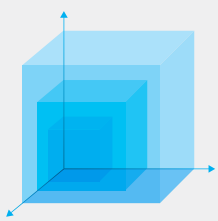
Selectable sound pressure
Reduction of sound pressure level up to 30 dB, internally or externally selectable.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone



		PRO 10 3G/3D	PRO 10 3G/3D SIL
AUDIBLE	80 dB (A)	51 x 49 x 24 m	51 x 49 x 24 m
	85 dB (A)	29 x 27 x 14 m	29 x 27 x 14 m
	90 dB (A)	16 x 15 x 8 m	16 x 15 x 8 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT EX SOUNDERS

IP 66/67 — protection system

IK09 — impact-proof housing

SIL PL — PRO 10 3G/3D SIL

IEC Ex — option

NEMA 4/4X — protection system

VdS — option

+55 °C / –40 °C — operating temperature

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

UL — option

EAC — EurAsian conformity

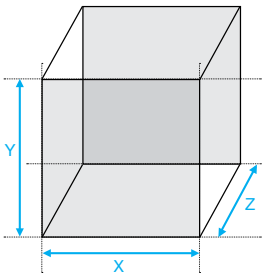
10 Years — warranty

DNV — option



PRODUCT	PRO 10 3G/3D		PRO 10 3G/3D SIL	
ARTICLE NO.	23150640007	23150630007	23150640017	23150630017
DATA				
Operating range	95 – 265 V	10 – 60 V	95 – 265 V	10 – 60 V
	50 / 60 Hz	–	50 / 60 Hz	–
Current consumption @ DIN tone	85 mA @ 230 V AC	355 mA @ 24 V DC	85 mA @ 230 V AC	355 mA @ 24 V DC
Nominal current consumption	95 mA @ 230 V AC	400 mA @ 24 V DC	95 mA @ 230 V AC	400 mA @ 24 V DC
Diagnostic ch. current consumption	–	–	25 mA @ 230V AC	14.9 mA @ 24 V DC
Diagnostic channel switching power	230 V AC / 80 mA			
Type of protection	see manual			
Explosion protection	3G (Zone 2), 3D (Zone 22)			
Sound pressure level @ DIN tone	114 dB(A) @ 1m			
Max. sound pressure level	116 dB(A) @ 1m			
Sound level reduction	-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB			
Alarm tones	80 / 4 ext. selectable, tone table on page 138			
Sound time out	60 s / 15 min / 45 min / none		–	
Operating / storage temperature	–40 °C ... +55 °C / –40 °C ... +70 °C			
Protection system (EN 60529)	IP66 / IP67 / NEMA 4/4x / IK09			
Material	Aluminum RAL 3000			
Dimensions (X x Y x Z)	167 x 139 x 148 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

BEx Ex Sounders
BExS 120

EX

Powerful electronic sounders
Certified for hazardous area use. When human safety matters most. Robust metal housing and flame retardant ABS projection horn for wide area notification.

Robust construction
Durable, cast-aluminium housing and stainless steel protection cage endures saltwater and other corrosives for demanding marine and industrial environments.

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.

ATEX certified for Zones 1, 2, 21 and 22
Satisfies requirements for device category 2G 3G 2D and 3D.

Explosion protection
Execution to choose from: E version with large connection chamber with increased safety and D version with more favourable flameproof enclosure.

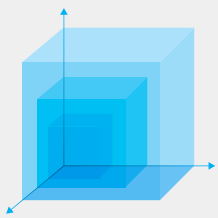


Wide range
of operating temperatures from –50 °C to +70 °C.

Convenient mounting
Stainless steel bracket ensure easy installation in any orientation.

Choice of output level and tone
Versions for 113 and 120 dB(A) output levels, each with 32 selectable tones and 3 stages of alarm to signal multiple unique circumstances or events with one device.

3D-Coverage performance data, A x B x C, @ DIN tone



	BExS 120
AUDIBLE 80 dB (A)	74 x 90 x 74 m
AUDIBLE 85 dB (A)	42 x 51 x 42 m
AUDIBLE 90 dB (A)	24 x 28 x 24 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

BEX EX SOUNDERS

IP 66
IP 67
protection system

+70 °C
–50 °C
operating temperature

EN 54-3
BExS120D 24V DC



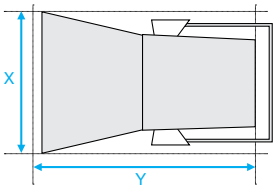
PRODUCT		BExS120D		BExS120E	
ARTICLE NO.		32076100000	32076800000	32078100000	32078800000
DATA					
Rated voltage		230 V ±10 %	24 V ±25 %	230 V ±10 %	24 V ±25 %
		AC 50 I 60 Hz	DC	AC 50 I 60 Hz	DC
Current consumption		90 mA @ 230 V AC	800 mA @ 24 V DC	90 mA @ 230 V AC	800 mA @ 24 V DC
Max. sound pressure level		120 dB(A)			
Sound pressure level @ DIN tone		118 dB(A)			
Sound level reduction		max.-9 dB			
Alarm tones		32, tone table on page 137			
Type of protection		D = Ex db / Ex tb or E = Ex db / Ex db eb / Ex tb			
Explosion protection		see manual			
Category (area of use)		2G (Zone 1) / 2D (Zone 21) 3G (Zone 2) / 3D (Zone 22)			
Operating temperature		max. -50°C ... +70°C			
Duty cycle		100%			
Material	housing	die-cast aluminium LM6, similar to RAL 3000 (flame red)			
	horn	ABS self-extinguishing, UL 94 VO & 5VA FR ABS			
Connecting terminals	BExS D	1x 4 mm² or 2x 2.5 mm²			
	BExS E	2x 2.5 mm²			
Cable entry		2 / 1x closed, 1x open (M20), optionally PG13.5 or 1/2“ NPT			
Dimensions (X x Y)		D:Ø 220 x 313 mm I E: Ø 220 x 326 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

Available voltage supply 115 V AC, 12 V DC, 48 V DC.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



BEx Ex Sounders
BExS 110

EX

Powerful electronic sounders
Certified for hazardous area use. When human safety matters most. Robust metal housing and flame retardant ABS projection horn for wide area notification.

Robust construction
Durable, cast-aluminium housing and stainless steel protection cage endures saltwater and other corrosives for demanding marine and industrial environments.

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.

ATEX certified for Zones 1, 2, 21 and 22
Satisfies requirements for device category 2G 3G 2D and 3D.

Explosion protection
Execution to choose from: E version with large connection chamber with increased safety and D version with more favourable flameproof enclosure.

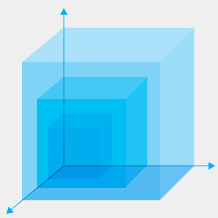


Wide range
of operating temperatures from –50 °C to +70 °C.

Convenient mounting
Stainless steel bracket ensure easy installation in any orientation.

Choice of output level and tone
Versions for 113 and 120 dB(A) output levels, each with 32 selectable tones and 3 stages of alarm to signal multiple unique circumstances or events with one device.

3D-Coverage performance data, A x B x C, @ DIN tone



	BExS 110
AUDIBLE 80 dB (A)	27 x 23 x 27 m
AUDIBLE 85 dB (A)	15 x 13 x 15 m
AUDIBLE 90 dB (A)	9 x 7 x 9 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

BEX EX SOUNDERS

IP 66
IP 67
protection system

+70 °C
–50 °C
operating temperature

EN 54-3
BExS110D 24V DC

VdS G209081
BExS110D 24V DC



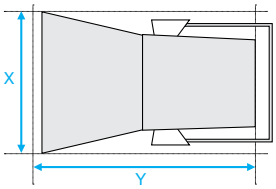
PRODUCT		BExS110D		BExS110E	
ARTICLE NO.		32080100000	32080800000	32082100000	32082800000
DATA					
Rated voltage		230 V ±10 %	24 V ±25 %	230 V ±10 %	24 V ±25 %
		AC 50 I 60 Hz	DC	AC 50 I 60 Hz	DC
Current consumption		56 mA @ 230 V AC	265 mA @ 24 V DC	56 mA @ 230 V AC	265 mA @ 24 V DC
Max. sound pressure level		120 dB(A)			
Sound pressure level @ DIN tone		118 dB(A)			
Sound level reduction		max. –9 dB			
Alarm tones		32, tone table on page 137			
Type of protection		D = Ex db / Ex tb or E = Ex db / Ex db eb / Ex tb			
Explosion protection		see manual			
Category (area of use)		2G (Zone 1) / 2D (Zone 21) 3G (Zone 2) / 3D (Zone 22)			
Operating temperature		max. -50°C ... +70°C			
Duty cycle		100%			
Material	housing	die-cast aluminium LM6, similar to RAL 3000 (flame red)			
	horn	ABS self-extinguishing, UL 94 VO & 5VA FR ABS			
Connecting terminals	BExS D	1x 4 mm² or 2x 2.5 mm²			
	BExS E	2x 2.5 mm²			
Cable entry		2 / 1x closed, 1x open (M20), optionally PG13.5 or 1/2“ NPT			
Dimensions (X x Y)		D:Ø 181 x 263 mm I E: Ø 181 x 275 mm			

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

Available voltage supply 115 V AC, 12 V DC, 48 V DC.

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



IS Ex Sounders
IS-A105N | IS-mA



EX

Intrinsically safe audible signaling
103 dB(A) sounder for hazardous areas, with volume control and selectable tone stages.

Zones 0, 1 and 2
Certified for use in Ex zones 0, 1 and 2 when used with a certified zener barrier or galvanic isolator.



Effective alarming
102 dB(A) sounder.

Compact design
Permits versatile installation in practically any space.

Audible notification
Choice of 49 unique alarm tones with three stages of tone control for distinctive signaling of specific events. Audible signals are synchronised across multiple units connected in series. Volume control adjusts output level to fit the signaling space required.

Low power consumption
Ideal for use as a notification appliance in fire alarm systems.

Wide range
of operating temperatures from -40 °C to +60 °C.

Zener barriers
To achieve intrinsically safe operation, units must be connected with a zener barrier or galvanic isolator. See accessory pages 136 for available models.

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.

IS EX SOUNDERS

IP 65
protection system IS-m A1

IP 66
protection system IS-A105N

+60 °C
–40 °C
operating temperature



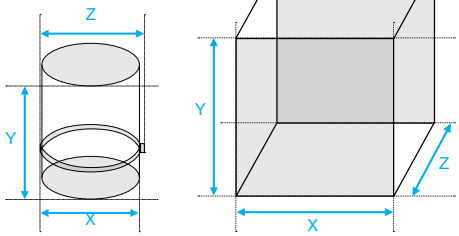


PRODUCT	IS-A105N	IS-mA1
ARTICLE NO.	32033800000	32034800000
DATA		
Operating range	10 – 28 V	16 – 28 V
	DC	
Current consumption	25 mA @ 24 V DC typical for connection to 24 V DC via 28 V / 300 Ω zener barrier	
Type of protection	"ia" inherently safe	
Explosion protection	II 1G Ex ia IIC T4	II 1G EEx ia IIC T4
Category (area of use)	1G (Zone 0) 2G (Zone 1) 3G (Zone 2)	
Temperature class T	T4 @ Ta –40 °C ... +60 °C	
Max. sound pressure level	103 dB(A)	102 dB(A)
Sound pressure level @ DIN tone	100 dB(A)	98 dB(A)
Sound level reduction	up to 15 dB(A) via an internal potentiometer	–20 dB
Alarm tones	49, tone table on page 141	
Protection system according to EN 60529	IP 66	IP 65
Material housing	acrylonitrile butadiene styrene (ABS), self-extinguishing, similar UL 94 V0	acrylonitrile butadiene styrene (ABS), self-extinguishing UL94V0 & 5VA
Dimensions (X x Y x Z)	130 x 130 x 132 mm	89 x 85 x 95 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

Power must be connected via a zener barrier (max. 28 V DC, 93 mA DC, 0.66 W), (zener barriers on page 136) or a galvanic isolator, specified by the system certificate.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

Protect Ex Sounder/LED Combinations
PRO L 10-3G/3D

Excellent robustness
Cast aluminium housing guarantees long lasting use in tough applications.

Explosion proof
for potentially explosive areas in zone 2 (3G) and zone 22 (3D).

Selectable signaling modes
Continuous light, blinking light or flashing light.

Outstanding perceptibility
Ideal radiation characteristics and high penetration of acoustical obstacles reduce the required number of devices.

Selectable tone
80 different tones, 3 additional tones externally selectable.

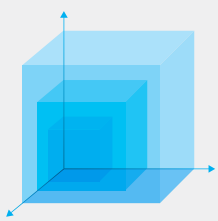
Selectable sound pressure
Reduction of sound pressure level up to 30 dB, internally or externally selectable.

Pre- & main alarm
Preventing shock reactions by pre-alarming due to reduced sound pressure level.

Safe & easy handling
Designed with unlosable seal and screws to significantly shorten wiring and installation times.



3D-Coverage performance data, A x B x C, @ DIN tone, clear lens



		PRO L 10 3G/3D
AUDIBLE	80 dB (A)	51 x 49 x 24 m
	85 dB (A)	29 x 27 x 14 m
	90 dB (A)	16 x 15 x 8 m
VISUAL	Indicate	43 x 39 x 44 m
	Warn	19 x 17 x 20 m
	Alarm	10 x 9 x 10 m

To determine the exact signaling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

PROTECT EX SOUNDER/LED COMBINATIONS

IP 66/77 — protection system

IK08 — impact-proof housing

NEMA 4/4X — protection system

+55 °C / –40 °C — operating temperature

acoustic penetration

sound adjustable

ext. sound reduction

DC version, inrush current limitation

IEC Ex — pending

UL — UL approval (pending)

EAC — EurAsian conformity

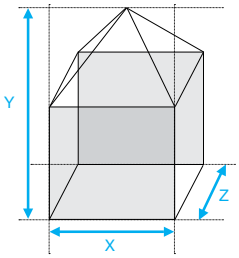
10 Years — warranty



PRODUCT	PRO L 10 3G/3D	
ARTICLE NO.	23151645007	23151635007
DATA		
Rated voltage	230 / 115 V AC / 120 V DC	12–48 V DC
Rated frequency	50 / 60 Hz / –	–
Operating range	95 – 265 V AC / 108 – 132 V DC	10 – 60 V
Current consumption light (max)	120 mA @ 230 V AC	120 mA @ 24 V DC
Current consumption sounder @ DIN tone	85 mA @ 230 V AC	355 mA @ 24 V DC
Type of protection	Ex ec / Ex tc	
Sound pressure level	116 dB(A) @ 1m	
Sound pressure level @ DIN tone	114 dB(A) @ 1m	
Sound level reduction	-4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB	
Alarm tones	80, 4 ext. selectable, tone table on page 138	
Alarm time-out	60 s / 15 min / 45 min / none	
Light types	flashing light (0.1 / 0.5 / 0.75 / 1 Hz / 1 Hz double flash), blink light (1 / 2 Hz), continuous light	
Light intensity[1]	23 cd (reducible)	
Max. viewing distance	111 m	
Operating temperature	–40 °C ... +55 °C	
Protection system	IP66 / IP67 / NEMA 4/4x / IK09 (Housing), IK08 (Lens)	
Service life of the light source	≥50,000 hrs	
Material – sounder	Aluminum RAL 3000	
Material – lens flashing light	- RGB) Polycarbonate (PC)	
Dimensions (X x Y x Z)	167 x 214 x 148 mm	

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

BEx Ex Sounder/Xenon Combinations BExCS 110

XENON EX



Visual and audible signaling
Combined flashing strobe light and powerful sounder for enhanced alarming and safety.

ATEX certified for Zones 1, 2, 21 and 22

Flashing strobe light
5 joules flash energy provides visual perception over wide areas. The Xenon flash tube is shock and vibration tolerant while the stainless steel cage protects against impacts from foreign objects.

Synchronised flash
Supports simultaneous or alternating 1 Hz flash for multiple devices connected in series.

32 tone selection
A vast selection of unique tones, many in conformance with international requirements. Three stages of tone control for distinctive signaling of specific events.

Robust construction
Durable, cast-aluminium housing and stainless steel protection cage endures saltwater and other corrosives for demanding marine and industrial environments.

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

Powerful electronic sounder
113 dB(A) output sound pressure intensity provides alarm coverage for large areas, both indoors and outdoors.

High IP rating
Aggressive environmental conditions or driving rain cannot damage the device, because of resistant surfaces and high IP rated enclosure.

Convenient mounting
Stainless steel bracket permits ease of installation for any orientation.

BEX EX SOUNDER/XENON COMBINATIONS

IP 66
IP 67
protection system

+70 °C
–50 °C
operating temperature



PRODUCT		BExCS 110-05D	
ARTICLE NO. 🟡		32074103000	32074803000
ARTICLE NO. 🔴		32074105000	32074805000
DATA			
Operating range sounder		230 V ±10 %	20 – 28 V
		AC 50 I 60 Hz	DC
Current consumption sounder		56 mA @ 230 V AC	265 mA @ 24 V DC
Operating range light		230 V ±10 %	20 – 28 V
		AC 50 I 60 Hz	DC
Current consumption light		55 mA @ 230 V AC	300 mA @ 24 V DC
Explosion protection		see manual	
Category (area of use)		2G (Zone 1) / 2D (Zone 21) / 3G (Zone 2) / 3D (Zone 22)	
Max. sound pressure level		113 dB(A)	
Sound pressure level @ DIN tone		112 dB(A)	
Sound level reduction		-9 dB	
Alarm tones		32, tone table on page 136	
Flash energy and flash rate		5 J @ 1 Hz	
Light intensity (DIN 5037) [1]		55 cd	
Max. viewing distance		172 m	
Protection system according to EN 60529		IP 66/67	
Service life of light source		light emission still 70 % after 8,000,000 flashes	
Material	lens	⚪🟡🟠🔴🟢🔵 glass	
	housing	die-cast aluminium LM6	
	horn	ABS self-extinguishing, similar UL 94 VO & 5VA FR ABS, Ex II 2D anti-static ABS	
Dimensions (X x Y)		Ø 181 x 368 mm	

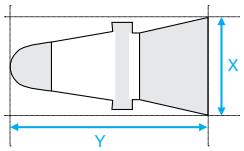
For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

[1] with a clear lens

Models with alternative features available upon request.

ExCS in 115 V AC, 12 V DC, 48 V DC

Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com



IS-Mini Ex Sounder/LED Combinations IS-mC

50% 50% LED EX

Intrinsically safe signaling
Choose from audible, visual, or combined audible-visual alarms for hazardous areas.

Zones 0, 1 and 2
Certified for use in Ex zones 0, 1 and 2 when used with a certified zener barrier or galvanic isolator.

Effective alarming
Choice of 102 dB(A) sounder, blinking LED array, or both.

Compact design
Permits versatile installation in practically any space.

Audible notification
Choice of 49 unique alarm tones with three stages of tone control for distinctive signaling of specific events. Audible signals are synchronised across multiple units connected in series. Volume control adjusts output level to fit the signaling space required.



Low power consumption
Ideal for use as a notification appliance in fire alarm systems.

Signal control
Sounder and blinking light can be independently controlled.

Visual notification
Choice of yellow/amber, red, green or blue LEDs with selectable blinking frequency of 1 or 2 Hz.

Wide range
of operating temperatures from –40 °C to +60 °C.

Zener barriers
To achieve intrinsically safe operation, units must be connected with a zener barrier or galvanic isolator. See accessory page 136 for available models.

IS-MINI EX SOUNDER/LED COMBINATIONS

IP 65
protection system

+60 °C
–40 °C
Ex-certified

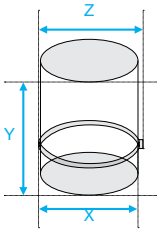


PRODUCT		IS-mC1
ARTICLE NO.		32035804000
ARTICLE NO.		32035805000
DATA		
Operating mode		blinking light
Operating range		16 – 28 V
		DC
Current consumption		48 mA @ 24 V DC typical for connection to 24 V DC via 28 V / 300 Ω zener barrier
Type of protection		“ia” inherently safe
Explosion protection		see manual
Category (area of use)		1G (Zone 0, 1, 2)
Max. sound pressure level		102 dB(A)
Sound pressure level @ DIN tone		98 dB(A)
Sound level reduction		-20 dB
Alarm tones		49, tone table on page 141
Light source		LED
Blinking rate		can be set to 2 Hz or 1 Hz
Max. viewing distance		52 m
Protection system according to EN 60529		IP 65
Service life of light source		light emission still 70 % after 8,000,000 flashes
Material	housing	acrylonitrile butadiene styrene (ABS), self-extinguishing UL94V0 & 5VA
	lens	polycarbonate (PC)
Dimensions (X x Y x Z)		89 x 116 x 95 mm

For additional models, options and voltages visit www.pfannenberg.com or contact us directly.

Models with alternative features available upon request.

Power must be connected via a zener barrier (max. 28 V DC, 93 mA DC, 0.66 W),
(zener barriers on page 136) or a galvanic isolator, specified by the system certificate.



Comprehensive technical documentation such as **operating instructions, technical data, approvals, planning support, 3D models, CAD data** is available at www.pfannenberg.com

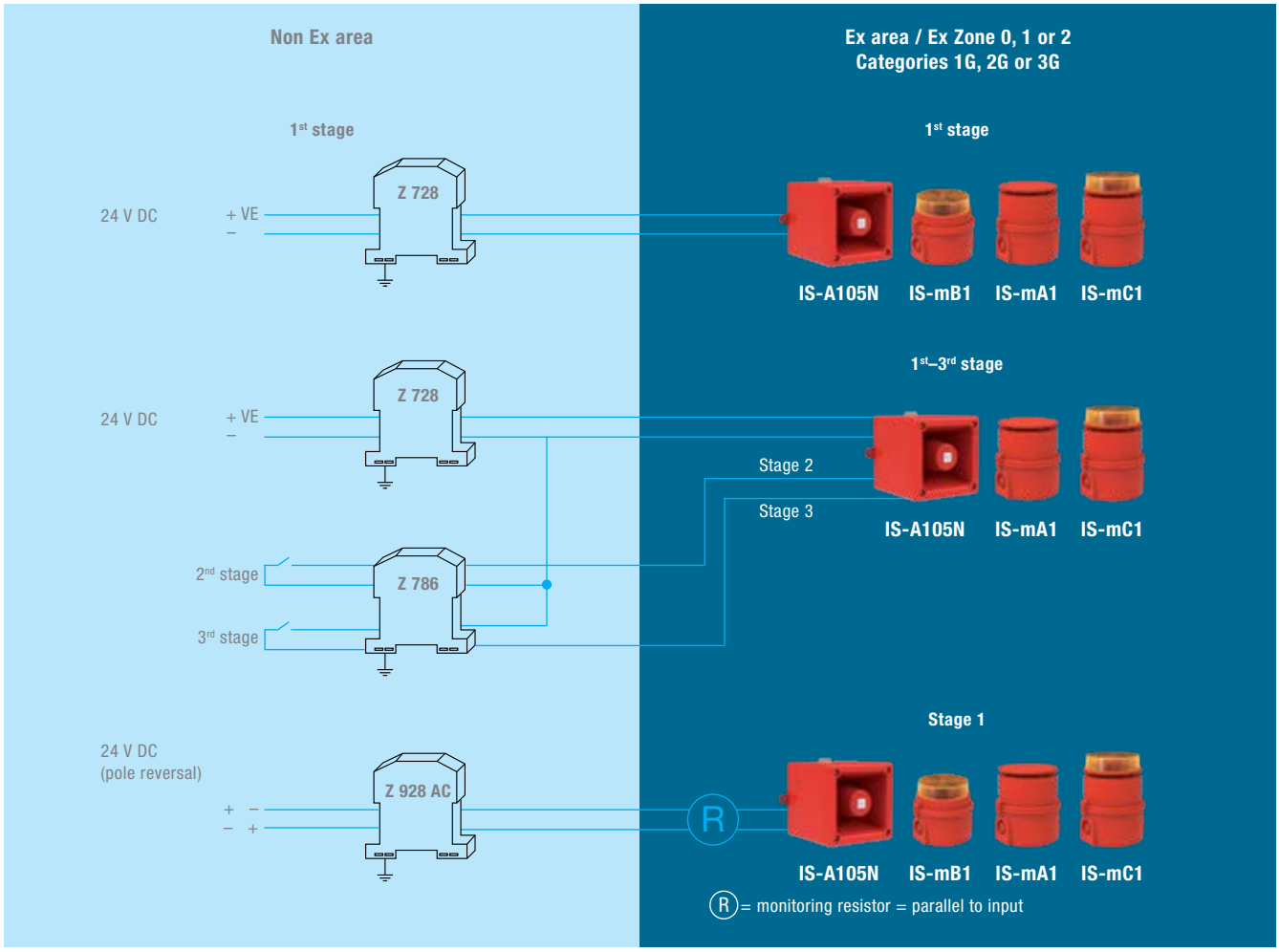
ZENER BARRIERS

PRODUCT	Z 728	Z 928	Z 786	Z 787
ARTICLE NO.	38109800000	38109300000	38109800001	38109800002
DATA				
Design	terminal housing made of makrolon, flammability class UL 94 V-0			
Dimensions (H x W x D)	110 x 12.5 x 115 mm			
Mounting	snap fitting to 35 mm DIN rail conforming to DIN EN 50022			
Connection	self-opening apparatus terminals; max. wire cross-section 2x 2.5 mm²			
Ambient temperature	–20 °C … +60 °C			

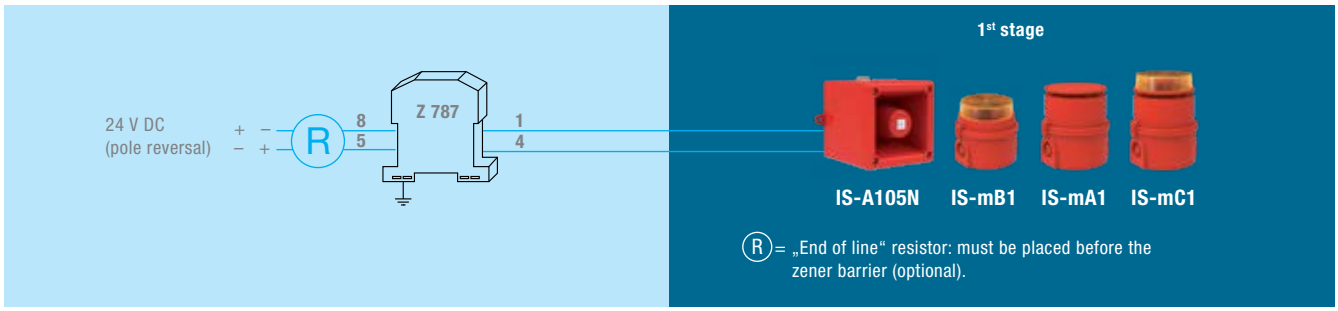


Combination possibilities: Zener barrier, IS-A105N sounder and IS-Mini series alarm.

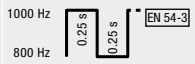
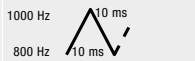
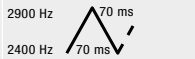
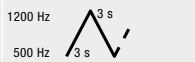
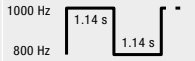
Barriers to ground-based operations.

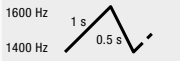
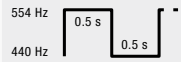
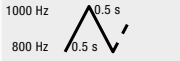
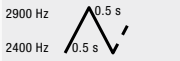
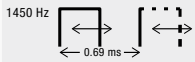


Barrier for earth-free operation (e.g. for systems with ground fault test).



Tone table **BExS I BExCS**

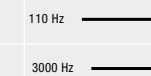
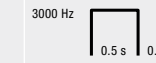
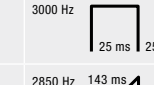
NO.	DESCRIPTION – BASIC TONE		STAGE 2	STAGE 3
1	Continuous tone		31	11
2 [1]	Alternating tone, UK BS 5839-1 (fire alarm, railway crossing)		17	5
3	Slow whoop		2	5
4	Sweeping (fast)		6	5
5	Continuous tone		3	27
6	Sweeping		7	5
7	Sweeping (fast)		10	5
8	Sweeping		2	5
9	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP		15	2
10	Alternating tone		7	5
11	Interrupted tone		31	1
12	Alternating tone		4	5
13	Interrupted tone		15	5
14	Interrupted tone		4	5
15	Continuous tone		2	5
16	Interrupted tone		18	5
17	Alternating tone, France NFS 32-001 (fire alarm)		2	27

NO.	DESCRIPTION – BASIC TONE		STAGE 2	STAGE 3
18	Interrupted tone, Sweden SS 031711 (air raid warning)		2	5
19	Sweeping, France NF C 48-265		2	5
20	Continuous tone, Sweden SS 031711 (all-clear signal)		2	5
21	Alternating tone, Sweden SS 031711		2	5
22	Interrupted tone		2	5
23	Interrupted tone		6	5
24	Sweeping (medium), UK BS 5839-1		29	5
25	Sweeping		29	5
26	Interrupted tone, (fast variable), bell		2	1
27	Continuous tone		26	5
28	Continuous tone		2	5
29	Sweeping (fast), UK BS 5839-1		7	5
30	Interrupted tone, Australia AS 2220, AS 1610, AS 1670		32	5
31	Sawtooth, DIN tone 33404-3 Germany (emergency signal)		11	1
32	Slow whoop, Australian evacuation alarm AS 2220		26	1

[1] factory setting

The sounder can be set externally to the respective tones of stage 2 & 3. Tone 2 is preset.

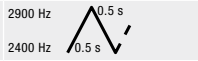
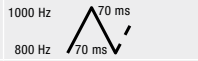
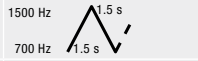
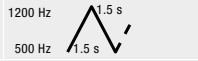
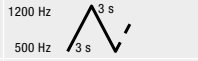
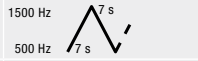
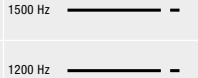
Tone table **PY X-MA I PY L-MA**

NO.	DESCRIPTION	
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP	
9	Slow whoop, fire alarm, UK BS 5839-1	
131	Alternating tone, UK BS 5839-1 (fire alarm, railway crossing)	

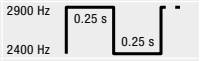
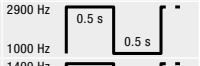
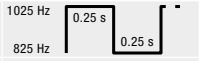
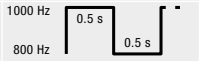
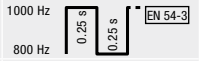
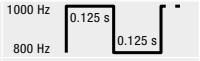
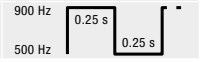
[1] factory setting

NO.	DESCRIPTION	
160	Continuous tone (horn)	
161	Continuous tone	
162 [1]	Interrupted tone	
163	Interrupted tone	
164	Slow whoop	

Tone table **PATROL I PROTECT SERIES**

NO.	DESCRIPTION	
1	no tone	
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP	
9	Slow whoop, fire alarm, UK BS 5839-1	
11	Interrupted tone (fast)	
13	Interrupted tone	
15	Slow whoop, evacuation alarm Netherlands NEN 2575	
16	Slow whoop, Australian evacuation alarm AS 2220	
18	Slow whoop, NFPA	
22	Whoop, Australien alert AS 1670, ISO 8201	
23	Siren	
24	Siren	
25	Siren	
26	Siren (industrial alarm Germany – Hoechst –)	
27	Sweeping	
29	Sweeping (fast)	
30	Sweeping	
31	Sweeping, France NF C 48-265	
33	Sweeping (medium), UK BS 5839-1	
34	Sweeping (fast)	
35	Sweeping (fast), UK BS 5839-1	
36	Sweeping	
43	Sweeping	
44	Sweeping, IMO 3d, Germany KTA 3901 evacuation alarm	
45	Sweeping	
46	Sweeping, general alarm Finland	
52	Continuous tone	
53	Continuous tone	
54	Continuous tone, Finland (all-clear signal)	
55	Continuous tone, PFEER gasalarm	
56	Continuous tone	
57	Continuous tone, UK BS 5839-1	

NO.	DESCRIPTION	
59	Continuous tone	
60	Continuous tone	
61	Continuous tone	
63	Continuous tone	
65	Continuous tone, Sweden SS 031711 (all-clear signal)	
66	Continuous tone	
67	Continuous tone, Germany KTA 3901 (all-clear signal)	
68	Continuous tone	
69	Continuous tone	
71	Continuous tone	
77	Interrupted tone	
82	Interrupted tone, PFEER (general alarm), UK BS 5839-1 (back-up alarm)	
83	Interrupted tone, PFEER (general alarm)	
88	Interrupted tone	
90	Interrupted tone	
91	Interrupted tone	
92	Interrupted tone	
93	Interrupted tone (fast), horn	
97	Interrupted tone	
98	Interrupted tone, Sweden SS 031711 (emergency signal)	
100	Interrupted tone, industrial alarm Germany	
101	Interrupted tone, Sweden SS 031711 (important message (pre-mess))	
102	Interrupted tone, Sweden SS 031711 (local warning)	
103	Interrupted tone, Sweden SS 031711 (air raid warning)	
104	Interrupted tone, Sweden SS 031711 (emergency signal)	
107	Interrupted tone, Germany KTA 3901 (evacuation alarm)	
109	Interrupted tone, Australia AS 2220, AS 1610, AS 1670	
110	Interrupted tone, (fast variable), bell	
111	Interrupted tone, ISO 8201 (emergency evacuation signal), USA (evacuation alarm)	
112	Interrupted tone, ISO 8201 (emergency evacuation signal)	
113	Interrupted tone, ISO 8201 (emergency evacuation signal), sweeping	
115	Interrupted tone, IMO (telephone call)	

NO.	DESCRIPTION	
116	Interrupted tone, IMO (leave ship)	
117	Interrupted tone, IMO SOLAS III/50 + SOLAS III/6.4 (general alarm)	
122	Alternating tone	
123	Alternating tone	
124	Alternating tone, Singapore	
125	Alternating tone	
128	Alternating tone	
130	Alternating tone, UK BS 5839-1 (fire alarm)	
131	Alternating tone, UK BS 5839-1 (fire alarm, railway crossing)	
135	Alternating tone, UK BS 5839-1 (fire alarm, increased urgency – railway crossing)	
142	Alternating tone	

NO.	DESCRIPTION	
143	Alternating tone, industrial alarm Germany	
144	Alternating tone	
146	Alternating tone, France NFS 32-001 (fire alarm)	
147	Alternating tone, Sweden SS 031711	
148	Alternating tone, Sweden SS 031711	
152	Alternating tone (two tone chime)	
160	Continuous tone	
161	Continuous tone	
162	Interrupted tone	
163	Interrupted tone	
164	Slow whoop	

Tone stages combinations **PATROL I PROTECT SERIES**

BASIC TONE	EXTERNAL TONE SELECTION		
	stage 2	stage 3	stage 4
	TONE NO.		
1	2	88	57
2[1]	128	112	57
2	26	100	93
2	61	131	112
9	57	11	82
15	131	52	112
16	109	52	56
18	111	57	68
22	16	109	68
23	131	52	112
24	131	52	131
25	131	52	92
26	2	100	93
27	123	52	92
29	35	52	61
30	27	52	77
31	131	52	57
33	30	52	35
34	35	52	93
35	27	52	110
36	146	67	57
43	131	52	91
45	2	57	93
52	15	65	82
54	46	54	131
55	131	52	128
56	82	35	33
59	143	59	101
60	131	52	125
65	131	52	93
66	110	52	107
69	131	52	110

BASIC TONE	EXTERNAL TONE SELECTION		
	stage 2	stage 3	stage 4
	TONE NO.		
71	131	52	93
77	61	52	122
82	131	52	83
83	56	2	82
88	2	57	128
90	131	52	125
91	30	52	110
92	33	52	57
93	2	128	57
97	2	63	93
100	131	52	125
101	98	102	65
103	131	65	147
104	103	65	101
109	16	52	22
110	131	61	91
112	2	57	128
113	52	123	104
115	117	116	44
116	117	93	125
117	93	116	125
123	27	52	77
124	53	83	2
130	2	107	67
131	2	112	57
135	16	56	109
142	2	54	88
143	59	93	33
144	110	61	2
146	31	67	57
148	131	52	92
152	110	61	13

[1] factory setting

Tone table **INTENSE BR 50 SM 230V AC**

NO.	DESCRIPTION
2	Slow whoop
16	Slow whoop, evacuation Australia AS2220
29	Sweeping (fast)
35	Sweeping, UK BS5839-1 (fast sweep)
56 [1]	Continuous tone

[1] factory setting

NO.	DESCRIPTION
109	Intermittent, Australia AS2220,AS1610, AS1670
110	Simulated bell
131	Alternating tone
146	Alternating tone, France NFS 32-001 (fire alarm)
167	Slow whoop

Tone table **INTENSE BR50 SM 24V DC**

NO.	DESCRIPTION
1	no tone
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP
9	Slow whoop, fire alarm, UK BS 5839-1
15	Slow whoop, evacuation alarm Netherlands NEN 2575
18	Slow whoop, NFPA
22	Whoop, Australien alert AS 1670, ISO 8201
24	Siren
26	Siren (industrial alarm Germany – Hoechst –)
27	Sweeping
29	Sweeping (fast)
36	Sweeping
54	Continuous tone, Finland (all-clear signal)
56	Continuous tone
60	Continuous tone
63	Continuous tone
71	Continuous tone

NO.	DESCRIPTION
82	Interrupted tone, PFEER (general alarm), UK BS 5839-1 (back-up alarm)
83	Interrupted tone, PFEER (general alarm)
100	Interrupted tone, industrial alarm Germany
102	Interrupted tone, Sweden SS 031711 (local warning)
103	Interrupted tone, Sweden SS 031711 (air raid warning)
104	Interrupted tone, Sweden SS 031711 (emergency signal)
112	Interrupted tone, ISO 8201 (emergency evacuation signal)
123	Alternating tone
130	Alternating tone, UK BS 5839-1 (fire alarm)
131	Alternating tone, UK BS 5839-1 (fire alarm, railway crossing)
146	Alternating tone, France NFS 32-001 (fire alarm)
160	Continuous tone
161	Continuous tone
162[1]	Interrupted tone
163	Interrupted tone
164	Slow whoop

[1] factory setting

Tone table **IS MINI I IS-A105N**

NO.	DESCRIPTION	STAGE	
		2	3
1	Continuous 340Hz	2	5
2	Alternating 800/1000Hz @ 0.25s intervals	17	5
3	Slow whoop 500/1200Hz @ 0.3Hz with 0.5s gap repeated	2	5
4	Sweeping 500/1000Hz @ 1Hz	6	5
5	Continuous 2400Hz	3	20
6	Sweeping 2400/2900Hz @ 7Hz	7	5
7	Sweeping 2400/2900Hz @ 1Hz	10	5
8	Siren 500/1200/500Hz @ 0.3Hz	2	5
9	Sawtooth 1200/500Hz @ 1Hz - D.I.N.	15	2
10	Alternating 2400/2900Hz @ 2Hz	7	5
11	Intermittent 1000Hz @ 1Hz	2	5
12	Alternating 800/1000Hz @ 0.875Hz	4	5
13	Intermittent 2400Hz @ 1Hz	15	5
14	Intermittent 800Hz 0.25s ON, 1s OFF	4	5
15	Continuous 800Hz	2	5
16	Intermittent 660Hz 150Ns ON, 150ms OFF	18	5
17	Alternating 544Hz (100ms) / 440Hz (400ms) – NFS 32-001	2	27
18	Intermittent 660Hz 1.8s ON, 1.8s OFF	2	5
19	Sweep 1400Hz to 1600Hz up 1s 1600Hz to 1400Hz down 0.5s	2	5
20	Continuous 660Hz	2	5
21	Alternating 554/440Hz @ 1Hz	2	5
22	Intermittent 544Hz @ 0.875Hz	2	5
23	Intermittent 800Hz @ 2Hz	6	5
24	Sweeping 800/1000Hz @ 50Hz	29	5

NO.	DESCRIPTION	STAGE	
		2	3
25	Sweeping 2400/2900Hz @ 50Hz	29	5
26	Simulated bell	2	15
27	Continuous 554Hz	26	5
28	Continuous 440Hz	2	5
29	Sweeping 800/1000Hz @ 7Hz	7	5
30	Continuous 300Hz	2	5
31	Sweeping 660/1200 @ 1Hz	26	5
32	Two Tone Chime	26	15
33	Intermittent 745Hz	2	5
34	Alternating 1000/2000Hz @ 0.5s – Singapore	38	45
35	420Hz @ 0.625s - Australian Alert	36	5
36	500-1200Hz 3.75s / 0.25s - Australian Evacuate	35	5
37	Continuous 1000Hz	9	45
38	Continuous 2000Hz	34	45
39	Intermittent 800Hz 0.25s ON 1s OFF	23	17
40	Alternating 544Hz (100ms) / 440Hz (400ms) – NFS 32-001	31	27
41	Motor Siren – Slow rise to 1200Hz	2	5
42	Motor Siren – Slow rise to 800Hz	2	5
43	Continuous 1200Hz	2	5
44	Motor Siren – Slow rise to 2400Hz	2	5
45	Intermittent 1000Hz 1s ON, 1s OFF	38	34
46	Sawtooth 1200/500Hz @ 1Hz - D.I.N. (PFEER P.T.A.P)	47	37
47	Intermittent 1000Hz 1s ON, 1s OFF – PFEER General Alarm	46	37
48	420Hz @ 0.625s - Australian Alert	49	5
49	500-1200Hz 3.75s / 0.25s - Australian Evacuate	26	37

Cooling units, filterfans, heat exchangers, heaters, thermostats, hygrostats and chillers

Pfannenberg also offers a comprehensive product portfolio for the thermal management of electrical enclosures and process cooling. Pfannenberg is one of the few manufacturers worldwide which offers complete competence developed in-house – from filterfans, cooling units and chillers to heaters and thermostats. You can also benefit from comprehensive know-how and several years of application experience in various industries.

The entire portfolio of Pfannenberg thermal management can be found at www.pfannenberg.com. Or just order your complimentary copy of the whole catalogue **“Thermal Management – thermal management for electrical enclosures and process cooling”** on +49 40 73412 156.

The following chapter shows you a selection of Pfannenberg’s thermal management portfolio.

Cooling units

TYPE	COOLING CAPACITY
DTI for partially recessed mounting in the door or side	
DTS for outer mounting on the door or side	
DTFS for fully recessed mounting or outer mounting on the door or side	
DTI / DTS 6801	4,000 W
DTI / DTS 6501	2,500 W
DTI / DTS 6401	2,000 W
DTI / DTS 6301	1,550 W
DTI/ DTS 6201	1,150 W
DTI / DTS 6301C	1,500 W
DTI / DTS 6201C	1,000 W
DTFS 6041	870 W
DTFS 6041	570 W
DTFS 6041	370 W



Pfannenberg offers a comprehensive portfolio of cooling units specifically designed for harsh industrial environments. In addition, roof-mounted units can be mounted on the control cabinet to save space, outdoor cooling units are NEMA 4X certified, and the X series with state-of-the-art brushless DC technology achieves extreme energy efficiency.

Filterfans 4.0

TYPE	AIRFLOW RATE IP 54 / IP 55
PF Filterfans	
PF 11.000	19 / – m^3/h
PF 22.000	60 / 56 m^3/h
PF 32.000	98 / 100 m^3/h
PF 42.500	125 / 145 m^3/h
PF 43.000	223 / 233 m^3/h
PF 65.000	480 / 505 m^3/h
PF 66.000	640 / 770 m^3/h
PF 67.000	845 / 925 m^3/h
PFA Filter grids	
PFA 10.000	
PFA 20.000	
PFA 30.000	
PFA 40.000	
PFA 60.000	
PTF Filterfans for top mounting	
PTF 60.500	350 / – m^3/h
PTF 60.700	646 / – m^3/h
PTF 61.000	1,035 / – m^3/h
PTFA Filter grids for top mounting	
PTFA 60.000	



Pfannenberg filter fans are available in IP 54 and IP55 (UV-stable) versions. They are also available in various colors such as gray and black, or customized to customer specifications. EMC-protected versions protect against harmful electromagnetic waves both internally and externally.

Air/water heat exchangers

TYPE	COOLING CAPACITY
PWI for partially recessed mounting in the door or side	
PWS for outer mounting on the door or side	
PWI / PWS 6502	5,000 W
PWI / PWS 6302	3,000 W
PWI / PWS 6302C	3,000 W
PWI / PWS 6152	1,500 W
PWI / PWS 6102	1,000 W



Pfannenberg air-water heat exchangers are the perfect outdoor air-independent technology for control cabinet temperature control. Outputs from 300W to 12,500W for side or roof mounting reliably cover all application variants.

Air/air heat exchangers

TYPE	COOLING CAPACITY
... for outer mounting on the door or side	
PAS 6203	100 W/K
PAS 6133	65 W/K
PAS 6043	20 W/K



Using the ambient air for the thermal management of the enclosure is the most economical and energy efficient type of cooling. In many applications the ambient air is contaminated by dust, liquid or gases, so that components which are integrated in the enclosure can be damaged when contact occurs.

Heaters

TYPE	HEATING PERFORMANCE
FLH Radiant heaters	
FLH 010	10 W
FLH 015	15 W
FLH 030	30 W
FLH 045	45 W
FLH 060	60 W
FLH 075	75 W
FLH 100	100 W
FLH 150	150 W
FLH Fan Heaters	
FLH 250	250 W
FLH 400	400 W
PFH-T Compact fan heaters with integrated thermostat	
PFH-T 200	200 W
PFH-T 300	300 W
PFH-T 400	400 W
PFH-T 500	500 W
PFH-T 650	650 W
PFH-T 800	800 W
PFH-T 1000	1,000 W
PFH-T 1200	1,200 W





Pfannenberg heaters reliably prevent condensation from forming. They are available with or without an integrated thermostat. Versions for vibrating environments or very low surface temperatures offer solutions for a wide range of applications.

Thermostats and hygrostats

TYPE	OPERATING TEMPERATURE RANGE	TYPE OF CONTACT
FLZ Thermostats		
FLZ 510	–40 … +80 °C	changeover
FLZ 520	–20 … +80 °C	N.C.
FLZ 530		N.O.
FLZ 541	–20 … +80 °C	N.C. I N.O.
FLZ 542		N.C. I N.C.
FLZ 543		N.O. I N.O.
FLZ Hygrostats		
FLZ 600	0 … +60 °C	changeover
FLZ 610	–20 … +60 °C	changeover/relay





Pfannenberg thermostats and hygrostats are used as temperature and humidity controllers. They can switch filterfans or heaters to adjust the temperature and the relative humidity in cabinets. This saves energy costs, increases lifespan and avoids condensate.

Chiller

TYPE	COOLING CAPACITY
CCE Chiller	
CCE 6601	6,500 W
CCE 6501	5,000 W
CCE 6401	3,500 W
CCE 6301	2,400 W
CCE 6201	1,700 W
CCE 6101	1,100 W
EB Chiller	
EB 400 WT	40,000 W
EB 160 OL	16,000 W
EB 160 WT	16,000 W
EB 140 OL	14,000 W
EB 95 WT	9,500 W
EB 80 WT	8,000 W
EB 65 WT	6,500 W





CPC, PC, CCE, EB, BESS-units and PWW series – air and liquid cooled chillers. With manufacturing space at minimum, machine designs have become smaller and liquid cooling has emerged as the most efficient and economical means of removing process heat. Liquid cooling is especially well adapted to hot and dirty environments where it provides a method of removing the heat not only from the machines, but also from the factory itself.

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Straßwalchen-Flachgau
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How can we support you?

Specialists in Thermal Solutions and Experts in Signaling Solutions

1954 Company foundation by Otto Pfannenberg in Hamburg, Germany

1958 Invention of the Industrial Filterfan

1962 Invention of the Industrial Flashing Light

Thermal Management for Enclosures

Thermostats & Hygrostats
Heaters
Filterfans
Cooling Units
Air/Water Heat Exchangers
Air/Air Heat Exchangers

Liquid Cooling Solutions

Chillers
Water/Water Heat Exchangers
Air/Water Heat Exchangers

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Visual Signaling
Signal Towers
Ex-ATEX Signaling
Obstacle Lights

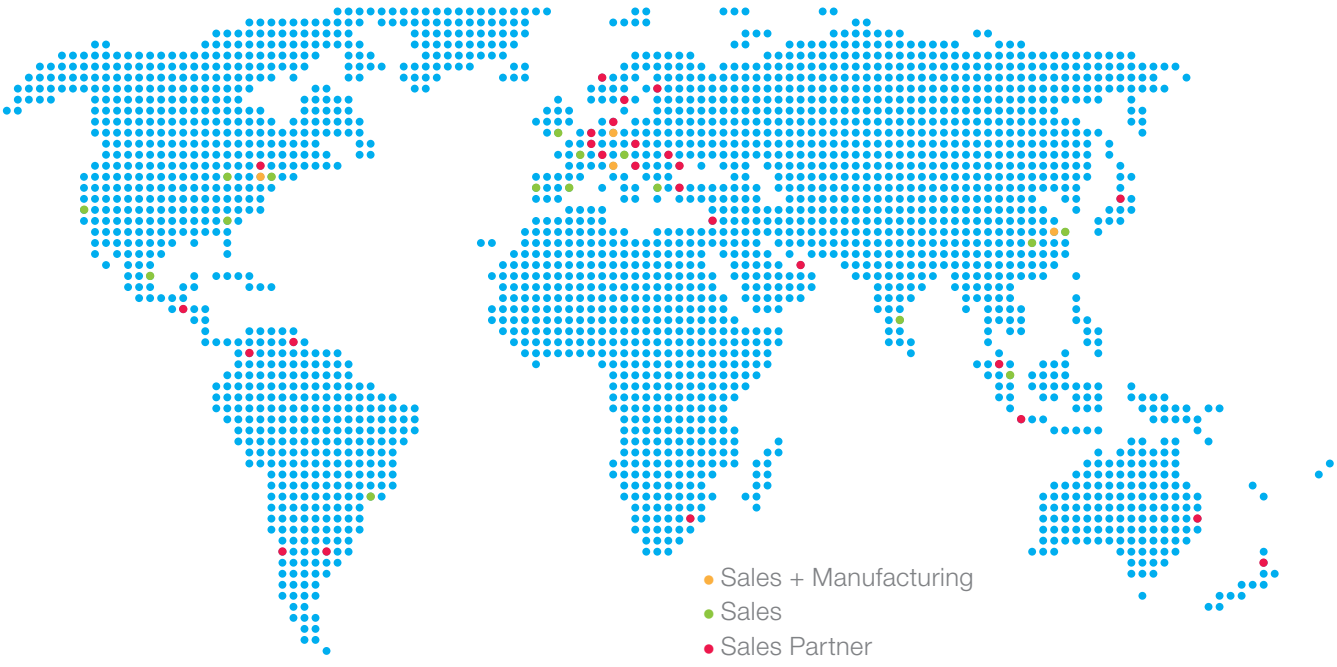
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