










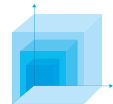


# PATROL RADIAL SOUNDER/LED COMBI 105 dB(A) PA L 1-R




- 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.
- 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 combinations. 4 tones externally selectable.
- Reducible volume - Adjustment of the sound pressure level to the application.
- Excellent perceptibility - Meets the requirements of ISO7731.
- M12 connection (optional) - Take advantage of the M12 connector.

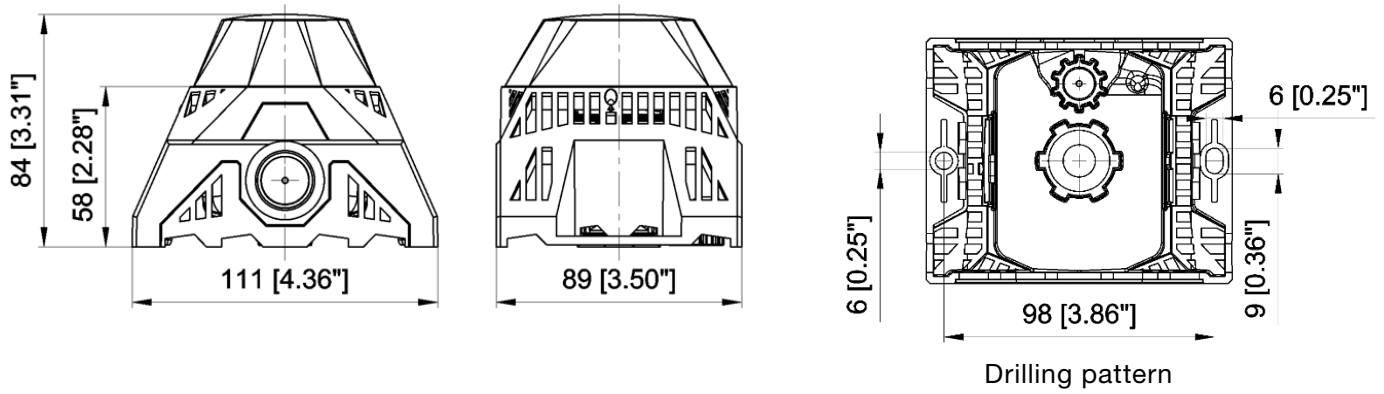
										
multi colour LED (option)	protection system	impact-proof housing	operating temperature	warranty	volume control	connector (option)	UL approval (pending)	radial acoustic	protection system	EurAsien Conformity (pending)

TOP MOUNTED. HORIZONTAL DIRECTION. DIN-TONE						
3D-COVERAGE PERFORMANCE DATA			PA L 1-R			
	VISUAL	Indicate	25.7 x 22.1 x 30.6 m	AUDIBLE	75 dB (A)	22.3 x 13.3 x 17.2 m
		Warn	11.4 x 9.8 x 13.6 m		80 dB (A)	12.6 x 7.5 x 9.6 m
		Alarm	5.7 x 4.9 x 6.8 m		85 dB (A)	7.1 x 4.2 x 5.4 m

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

PRODUCT		PA L 1-R		
<b>DATA</b>				
Rated voltage	12-48 V DC	115 / 230 V AC	24 / 48 V AC	
Operating range	10-60 V	95-253 V	18-53 V	
	-	50   60 Hz		
Nominal current consumption @DIN-Ton	54 mA @ 24 V DC	21 mA @ 230 V AC	83 mA @ 24 V AC	
Nominal current consumption Light	206 mA @24 V DC	69 mA @24 V AC	210 mA @24 V AC	
Sound pressure level	105 dB(A)			
Sound pressure level @DIN-Ton	105 dB(A)			
Sound level reduction	-7 dB / -13 dB / -20 dB			
Alarm tones	70 / 4 ext. selectable			
Operating mode internally and externally selectable	Flashlight (1 Hz, 2 Hz, 1 Hz double flash), Blinking light (0,5 Hz, 1 Hz, 2 Hz), Continuous light, Rotating light (60 rpm, 180 rpm)			
Color mode internally and externally selectable (RGB only)				
Light source / intensity (clear)	LED / 16 cd			
Max. viewing distance	93m			
Operating temperature	-25 °C ... +50 °C			
Storage temperature	-25 °C ... +70 °C			
Degree of protection	IP66 (EN 60529), NEMA 4/4X, IK 07 (EN 50102)			
Material	lens	polycarbonate (PC)		
	housing	PC / ABS blend		
Cable entry	1x M20 knock-out, 1x 10mm knock-out			
Connecting terminals	0.14 – 1.5 mm <sup>2</sup> (single-wire)			
Weight	220 g			

**DIMENSIONS**







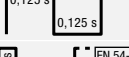





ORDERING DETAILS		PA L 1-R	
HOUSING COLOUR	LIGHT / LENS COLOUR	10-60 V DC	95-253 V AC
●	●	23383633055	23383643055
●	●	23383634055	23383644055
●	●	23383635055	23383645055
●	● / ●	23383638055	23383648055

Article numbers for other colours and voltages on request.

**OPTIONS/ACCESSORIES**

Replacement gasket	28912000001
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TONE TABLE			
NO.	DESCRIPTION		
1	no tone		
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP	1200 Hz 500 Hz	
9	Slow whoop, fire alarm, UK BS5839-1	970 Hz 800 Hz	
11	Interrupted tone (fast)	970 Hz 800 Hz	
13	Interrupted tone	900 Hz 700 Hz	
15	Slow whoop, evacuation alarm Netherlands NEN 2575	1200 Hz 500 Hz	
16	Slow whoop, evacuation alarm Australia AS2220	1200 Hz 500 Hz	
18	Slow whoop, NFPA	775 Hz 422 Hz	
22	Pulsating tone, Australien alert AS1670, ISO8201	1200 Hz 500 Hz	
23	Siren	2400 Hz 500 Hz	
24	Siren	1200 Hz 300 Hz	
25	Siren	800 Hz 300 Hz	
26	Siren, industrial alarm Germany	1000 Hz 150 Hz	
27	Sweeping	2900 Hz 2400 Hz	
29	Sweeping (fast)	2900 Hz 2400 Hz	
30	Sweeping	2900 Hz 2400 Hz	
31	Sweeping, France NFC48-265	1600 Hz 1400 Hz	
33	Sweeping (medium), UK BS5839-1	1000 Hz 800 Hz	
34	Sweeping (fast)	1000 Hz 800 Hz	
35	Sweeping (fast), UK BS5839-1	1000 Hz 800 Hz	
36	Sweeping	1500 Hz 700 Hz	
43	Sweeping	1200 Hz 500 Hz	
44	Sweeping, IMO 3d, Germany KTA3901 evacuation alarm	1200 Hz 500 Hz	
46	Sweeping, general alarm Finland	1500 Hz 500 Hz	
52	Continuous tone	2400 Hz	
54	Continuous tone, Finland (all-clear signal)	1500 Hz	
55	Continuous tone, PFEER gas alarm	1200 Hz	
56	Continuous tone	1000 Hz	
57	Continuous tone, UK BS5839-1	950 Hz	
59	Continuous tone	880 Hz	
60	Continuous tone	825 Hz	
61	Continuous tone	800 Hz	
63	Continuous tone	725 Hz	
65	Continuous tone, Sweden SS031711 (all-clear signal)	660 Hz	
66	Continuous tone	554 Hz	
67	Continuous tone, Germany KTA3901 (all-clear signal)	500 Hz	
68	Continuous tone	470 Hz	
69	Continuous tone	440 Hz	
71	Continuous tone	340 Hz	
77	Interrupted tone	2200 Hz	
82	Interrupted tone, PFEER (general alarm), UK BS5839-1 (back-up alarm)	1000 Hz	
83	Interrupted tone, PFEER (general alarm)	1000 Hz	
88	Interrupted tone	950 Hz	
90	Interrupted tone	825 Hz	
91	Interrupted tone	800 Hz	
92	Interrupted tone	800 Hz	
93	Interrupted tone (fast), Horn	800 Hz	
100	Interrupted tone, industrial alarm Germany	680 Hz	
101	Interrupted tone, Sweden SS031711 (important message (pre-mess))	660 Hz	
102	Interrupted tone, Sweden SS031711 (local warning)	660 Hz	
103	Interrupted tone, Sweden SS031711 (air raid warning)	660 Hz	
104	Interrupted tone, Sweden SS031711 (emergency signal)	660 Hz	
107	Interrupted tone, Germany KTA3901 (evacuation alarm)	500 Hz	
109	Interrupted tone, Australia AS2220, AS1610, AS1670	420 Hz	
111	Interrupted tone, ISO8201 (emergency evacuation signal), USA (evacuation alarm)	470 Hz	
112	Interrupted tone, ISO8201 (emergency evacuation signal)	950 Hz	
122	Alternating tone	2900 Hz 2400 Hz	
123	Alternating tone	2900 Hz 2400 Hz	
124	Alternating tone, Singapore	2900 Hz 1000 Hz	
125	Alternating tone	1400 Hz 1200 Hz	
128	Alternating tone	1025 Hz 825 Hz	

TONE TABLE							
NO.	DESCRIPTION			NR.	BESCHREIBUNG		
130	Alternating tone, UK BS5839-1 (fire alarm)	1000 Hz 800 Hz		160	Continuous tone	110 Hz	
131	Alternating tone, UK BS5839-1 (fire alarm, railway crossing)	1000 Hz 800 Hz		161	Continuous tone	300 Hz	
143	Alternating tone, industrial alarm Germany	660 Hz 440 Hz		162	Interrupted tone	300 Hz	
146	Alternating tone, France NFS 32-001 (fire alarm)	554 Hz 440 Hz		163	Interrupted tone	300 Hz	
147	Alternating tone, Sweden SS031711	554 Hz 440 Hz		164	Slow whoop	2850 Hz 2400 Hz	

## CONFORMITY TO STANDARDS

The acoustic parameters conform to the European standard DIN EN ISO 7731: **“Ergonomic – alarms for public areas and workplaces – acoustic alarms“**.

The requirement for an acoustic alarm signal can be found in the harmonised standards:  
EN 60204-1 Electrical equipment of machines  
EN 60825-1 Radiation safety of laser devices, identical to IEC 825 and DIN-VDE 0837

The visual characteristics of LED lights conform to the European standard DIN EN 842; **“Machine safety – visual alarm signals”**. Requirements contained in the DIN EN 981 standard; **“Machine safety – system of acoustic and visual alarm and information signals”**, can be fulfilled.

The colours “red” for the emergency signal and “yellow” for the warning signal conform to the requirements of IEC 73 / DIN EN 60073 / VDE 0199; **“Coding of display devices and control elements using colours and supplementary means”**.

References to visual alarm devices can be found in the following standards:  
EN 60825-1 Radiation safety of laser devices, identical to IEC 825 and DIN-VDE 0837  
DIN EN 54 Fire alarm systems  
DIN 54113-2 Radiation protection regulations for the technical operation of X-ray equipment up to 500 kV