

# Sounders PATROL series 100 / 105 dB(A)

## PA 1 / PA 5

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PATROL - the new generation of sounders.

Three dimensional innovation;

- safe; an incorrect installation is virtually impossible
- easy; significantly shorter assembly and installation times
- economical; extremely high efficiency and good penetration of acoustical obstacles significantly reduce the required number of sounders

PA 1



max. signal  
reception range

PA 5



max. signal  
reception range



Protection  
system



Operating  
temperature



Acoustic  
penetration



24-48 V DC



24-48 V DC



Electrical data	PA 1			
Rated voltage	230 V AC	115 V AC	24 V AC	10 – 57 V DC
Rated frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
Operating range	195 – 253 V	95 – 127 V	18 – 30 V	10 – 57 V
Nominal current consumption	9 – 15 mA	8 – 30 mA	59 – 120 mA	6 – 80 mA
Electrical data	PA 5			
Rated voltage	230 V AC	115 V AC	24 V AC	10 – 57 V DC
Rated frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
Operating range	± 10%	± 10%	± 10%	10 – 57 V
Nominal current consumption <sup>1</sup>	9 – 15 mA	8 – 30 mA	59 – 120 mA	6 – 80 mA

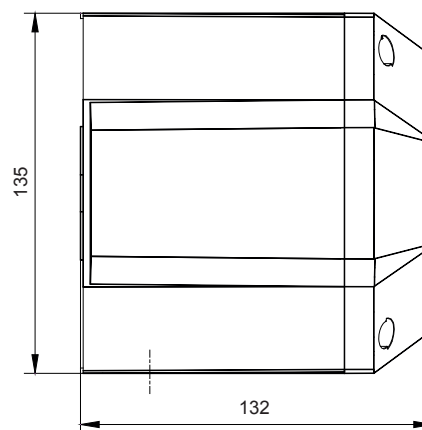
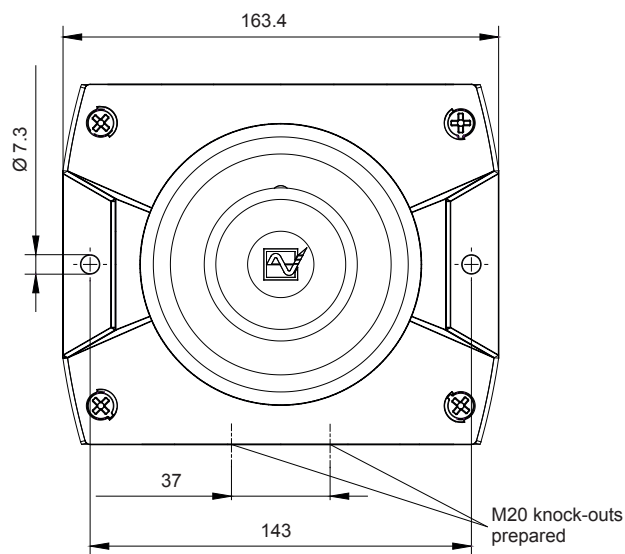
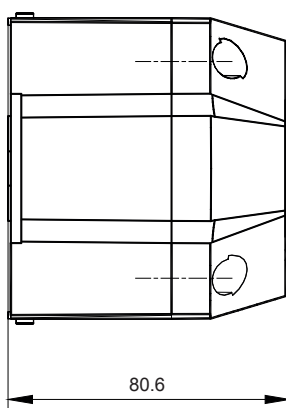
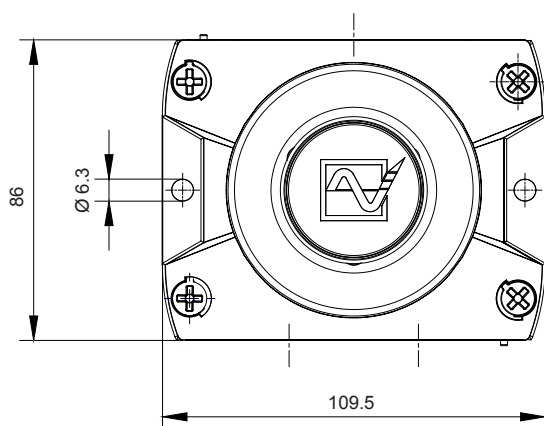
<sup>1</sup> power consumption dependent on operating voltage

Mechanical data	PA 1	PA 5
Sound pressure level	100 dB (A)	105 dB (A)
Sound level reduction	max. - 16 dB via potentiometer	
Alarm tones	80 (see tone table page 140/141)	
Operating temperature	- 40 °C ... + 55 °C	
Storage temperature	- 40 °C ... + 70 °C	
Relative humidity	90%	
Protection system according to EN 60529	IP 66	
Protection class	II	
Duty cycle	100%	
Material	PC / ABS blend	
Colour	similar to RAL 3000 (flame red) / RAL 7035 (light grey) / RAL 9003 (signal white)	
Cable entry	3 x M20 knock-outs on side, 1 knock-out on back	5 x M20 knock-outs on side, 1 knock-out on back
Integrated seal with cable entry	6 – 13 mm (feed-through grommet)	
Connecting terminals	2.5 mm <sup>2</sup> fine wire with cable end sleeve, AWG 16	
Weight	AC	405 g
	DC	270 g
		778 g
		643 g

## Dimensions

PA 1

PA 5



## Ordering details

Article numbers		PA 1			PA 5		
Version	Rated voltage	230 V AC	115 V AC	10-57 V DC	230 V AC	115 V AC	10-57 V DC
Standard	housing red	233 10 10 0 000	233 10 15 0 000	233 10 63 0 000	233 50 10 0 000	233 50 15 0 000	233 50 63 0 000
GL	housing red	233 10 10 0 001	233 10 15 0 001	233 10 63 0 001	233 50 10 0 001	233 50 15 0 001	233 50 63 0 001
Standard	housing grey	233 10 10 0 055	233 10 15 0 055	233 10 63 0 055	233 50 10 0 055	233 50 15 0 055	233 50 63 0 055
GL	housing grey	233 10 10 0 056	233 10 15 0 056	233 10 63 0 056	233 50 10 0 056	233 50 15 0 056	233 50 63 0 056

Article numbers for other voltages and versions on request

## Options / Accessories



Enclosure fitting

Surface gasket

Tamper-proof sealing

Panel mounting kit



SSM  
(only for 24 V DC)

See page 141 for further information

## Conformity to standards

The acoustic parameters conform to the European standard DIN EN ISO 7731;  
"Ergonomic – alarm signals for public areas and workplaces – acoustic alarm signals".

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

Tone table PA 1 / PA 5 / PA 10 / PA 20			
Basic tone no.	Description		
1	no tone		
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP		
9	Slow whoop, fire alarm, UK BS5839-1		
11	Interrupted tone (fast)		
13	Interrupted tone		
15	Slow whoop, evacuation alarm Netherlands NEN 2575		
16	Slow whoop, Australian evacuation alarm AS2220		
18	Slow whoop, NFPA		
22	Pulsating tone, Australien alert AS1670, ISO8201		
23	Siren		
24	Siren		
25	Siren		
26	Pulsating tone, industrial alarm Germany		
27	Sweeping		
29	Sweeping (fast)		
30	Sweeping		
31	Sweeping, France NFC48-265		
33	Sweeping (medium), UK BS5839-1		
34	Sweeping (fast)		
35	Sweeping (fast), UK BS5839-1		
36	Sweeping		
43	Sweeping		
44	Sweeping, IMO 3d, Germany KTA3901 evacuation alarm		
45	Sweeping		
46	Sweeping, general alarm Finland		
52	Continuous tone	2400 Hz	
53	Continuous tone	2000 Hz	
54	Continuous tone, Finland (all-clear signal)	1500 Hz	
55	Continuous tone, PFEER gasalarm	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	2400 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), electromechanical horn	800 Hz	
97	Interrupted tone	725 Hz	
98	Interrupted tone, Sweden SS031711 (emergency signal)	700 Hz	
100	Interrupted tone, industrial alarm (Germany)	680 Hz	
101	Interrupted tone, Sweden SS031711 (important message (pres-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	
110	Interrupted tone, (fast variable), bell	1450 Hz	
111	Interrupted tone, ISO8201 (emergency evacuation signal), USA (evacuation alarm)	470 Hz	
112	Interrupted tone, ISO8201 (emergency evacuation signal)	950 Hz	
113	Interrupted tone, ISO8201 (emergency evacuation signal), sweeping	2850 Hz	
115	Interrupted tone, IMO (telephone call)	950 Hz	
116	Interrupted tone, IMO (leave ship)	950 Hz	
117	Interrupted tone, IMO SOLAS III/50 + SOLAS III/6.4 (general alarm)	825 Hz	
122	Alternating tone	2900 Hz, 2400 Hz	
123	Alternating tone	2900 Hz, 2400 Hz	
124	Alternating tone, Singapore	2000 Hz, 1000 Hz	
125	Alternating tone	1400 Hz, 1200 Hz	
128	Alternating tone	1025 Hz, 825 Hz	
130	Alternating tone, UK BS5839-1 (fire alarm)	1000 Hz, 800 Hz	
131	Alternating tone, UK BS5839-1 (fire alarm, railway crossing)	1000 Hz, 800 Hz	
135	Alternating tone, UK BS5839-1 (fire alarm, increased urgency - railway crossing)	1000 Hz, 800 Hz, 900 Hz	
142	Alternating tone	500 Hz	

### Tone table PA 1 / PA 5 / PA 10 / PA 20

Basic tone no.	Description	Waveform	Basic tone no.	Description	Waveform
143	Alternating tone, industrial alarm (Germany)		147	Alternating tone, Sweden SS031711	
144	Alternating tone		148	Alternating tone, Sweden SS031711	
146	Alternating tone, France NFS 32-001 (fire alarm)		152	Alternating tone (two tone chime)	

### Control of the tones

Tone selection switch/DIP-Switch (setting of basic tone)							External tone selection			Tone selection switch/DIP-Switch (setting of basic tone)							External tone selection		
1	2	3	4	5	6	Basic tone no.	C1	C2	C1+C2	1	2	3	4	5	6	Basic tone no.	C1	C2	C1+C2
										Tone no.									
						1	2	88	57						ON	71	131	52	93
ON						2 *	128	112	57	ON					ON	77	61	52	122
	ON					2	26	100	93		ON				ON	82	131	52	83
ON	ON					2	61	131	112	ON	ON				ON	83	56	2	82
		ON				9	57	11	82			ON			ON	88	2	57	128
ON		ON				15	131	52	112	ON		ON			ON	90	131	52	125
	ON	ON				16	109	52	56		ON	ON			ON	91	30	52	110
ON	ON	ON				18	111	57	68	ON	ON	ON			ON	92	33	52	57
			ON			22	16	109	68				ON	ON	93	2	128	57	
ON			ON			23	131	52	112	ON			ON	ON	97	2	63	93	
	ON		ON			24	131	52	131		ON		ON	ON	100	131	52	125	
ON	ON		ON			25	131	52	92	ON	ON		ON	ON	101	98	102	65	
		ON	ON			26	2	100	93			ON	ON	ON	103	131	65	147	
ON		ON	ON			27	123	52	92	ON		ON	ON	ON	104	103	65	101	
	ON	ON				29	35	52	61		ON	ON	ON	ON	109	16	52	22	
ON	ON	ON				30	27	52	77	ON	ON	ON	ON	ON	110	131	61	91	
				ON		31	131	52	57					ON	ON	112	2	57	128
ON				ON		33	30	52	35	ON				ON	ON	113	52	123	104
	ON			ON		34	35	52	93		ON			ON	ON	115	117	116	44
ON	ON			ON		35	27	52	110	ON	ON			ON	ON	116	117	93	125
		ON		ON		36	146	67	57			ON		ON	ON	117	93	116	125
ON		ON		ON		43	131	52	91	ON		ON		ON	ON	123	27	52	77
	ON	ON		ON		45	2	57	93		ON	ON		ON	ON	124	53	83	2
ON	ON	ON		ON		52	15	65	82	ON	ON	ON		ON	ON	130	2	107	67
			ON	ON		54	46	54	131				ON	ON	ON	131	2	112	57
ON			ON	ON		55	131	52	128	ON			ON	ON	ON	135	16	56	109
	ON		ON	ON		56	82	35	33		ON		ON	ON	ON	142	2	54	88
ON	ON		ON	ON		59	143	59	101	ON	ON		ON	ON	ON	143	59	93	33
			ON	ON		60	131	52	125			ON	ON	ON	ON	144	110	61	2
ON		ON	ON	ON		65	131	52	93	ON		ON	ON	ON	ON	146	31	67	57
	ON	ON	ON	ON		66	110	52	107			ON	ON	ON	ON	148	131	52	92
ON	ON	ON	ON	ON		69	131	52	110	ON	ON	ON	ON	ON	ON	152	110	61	13

\* factory setting

## Accessories

Ordering details		PA 1	PA 5	PA 10 / PA 20
<b>Article numbers</b>				
<b>Enclosure fitting</b>	For connection (daisy-chaining) of several sounders of the PATROL series	283 00 00 0 003		
<b>Surface gasket</b>	Sealing of the sounder installation surface when, e.g. cable entry is executed from the back.	283 00 00 0 004	283 00 00 0 005	283 00 00 0 006
<b>Tamper-proof sealing (pack of 4)</b>	Anti-tamper sealing for fasteners of the PATROL devices after installation in order to prevent manipulation of the devices.	283 00 00 0 002		
<b>Panel mount installation kit PATROL</b>	The PATROL devices are also suitable for panel mounting. This kit consists of a plug connector for the electrical contact, as well as all installation materials.	283 00 00 0 007	283 00 00 0 008	283 00 00 0 009