

PATROL FLASHING SOUNDERS 117/122 dB(A) / 10/15 J PA X 10-10 / PA X 10-15 / PA X 20-10 / PA X 20-15



reddot design award
winner 2013

PATROL – the new generation of sounder/flashing light combinations. 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.
- Pre-wired sounder and light ex works.
- Various light intensities available to support best match of audible and visual coverage.



protection system



impact-proof housing



operating temperature



acoustic penetration



external tone selection



UL



warranty



EAC

PRODUCT		PA X 10						
DATA								
Operating range		187–255 V	90–135 V	18–30 V	40–60 V	18–30 V	12 –15 V	
		AC 50 60 Hz			DC			
Nominal current consumption ¹		10 J	160–215 mA @ 230 V	300–450 mA	665–935 mA @ 24 V	300–530 mA	680–1040 mA	1400–1890 mA
		15 J	220–320 mA	330–480 mA	1400–2250 mA	440–670 mA	850–1210 mA	1550–2040 mA

PRODUCT		PA X 20						
DATA								
Operating range		187–255 V	90–135 V	18–30 V	40–60 V	18–30 V	12 –15 V	
		AC 50 60 Hz			DC			
Nominal current consumption ¹		10 J	160–360 mA	300–630 mA	1400–3000 mA	300–800 mA	680–1480 mA	1400–1860 mA
		15 J	165–385 mA @ 230 V	330–660 mA	945–1540 mA @ 24 V	440–940 mA	850–1650 mA	1550–2010 mA

PRODUCT		PA X 10-10	PA X 10-15	PA X 20-10	PA X 20-15
Sound pressure level		117 dB(A)		122 dB(A)	
Sound pressure level @DIN-tone		115 dB(A)		120 dB(A)	
Sound level reduction		max. –12 dB via potentiometer			
Alarm tones		80 / 4 tones are externally selectable			
Flash energy		10 Joule	15 Joule	10 Joule	15 Joule
Flash rate		1 Hz = 60 flashes/min			
Light intensity (DIN 5037) ²		149 cd	265 cd	149 cd	265 cd
Max. viewing distance		283 m	377 m	283 m	377 m
Operating temperature		–40 °C ... +55 °C			
Relative humidity		90 %			
Protection system (EN 60529)		IP 66			
Protection class		II			
Service life of the light source		light emission still 70 % after 8,000,000 flashes			
Material	sounder	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey) / RAL 9003 (signal white)			
	lens flashing light	polycarbonate (PC)			
Cable entry		4x M20 knock-outs prepared (on side), 1 knock-out on back			
Integrated seal with cable entry		6–13 mm (feed-through grommet)			
Connecting terminals		2.5 mm ² fine wire with cable end sleeve, AWG 16			
Weight	AC	2133 g	2163 g	2268 g	2298 g
	DC	2056 g	2086 g	2191 g	2221 g

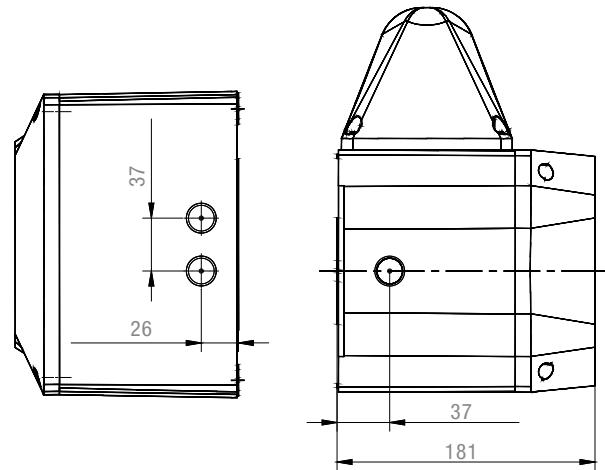
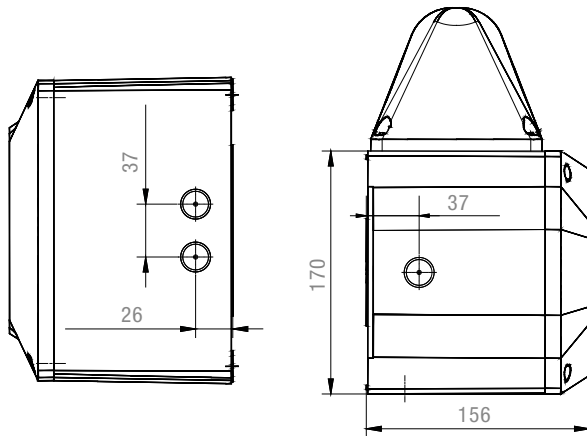
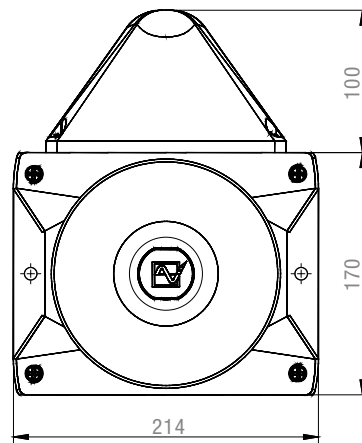
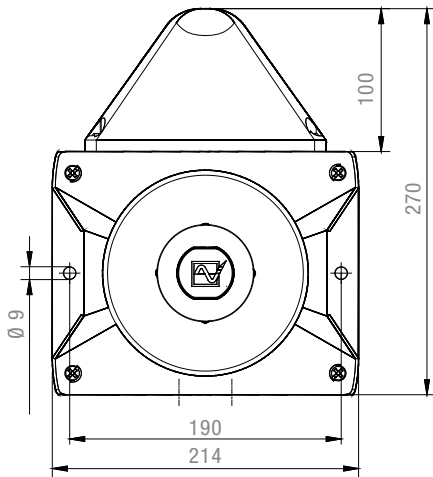
¹ power consumption dependent on operating voltage

² with a clear lens

DIMENSIONS

PA X 10-10 / PA X 10-15

PA X 20-10 / PA X 20-15



OPTIONS/ACCESSORIES



SSM, 24 V DC



Surface gasket



Tamper-proof sealing

ARTICLE NO.		PA X 10-10			PA X 20-15		
HOUSING COLOUR	LENS COLOUR	230 V AC	115 V AC	24 V DC	230 V AC	115 V AC	24 V DC
●	/	23361101000	23361151000	23361801000	23372101000	23372151000	23372801000
●	●	23361103000	23361153000	23361803000	23372103000	23372153000	23372803000
●	●	23361104000	23361154000	23361804000	23372104000	23372154000	23372804000
●	●	23361105000	23361155000	23361805000	23372105000	23372155000	23372805000
●	●	23361103055	23361153055	23361803055	23372103055	23372153055	23372803055
●	●	23361104055	23361154055	23361804055	23372104055	23372154055	23372804055
●	●	23361105055	23361155055	23361805055	23372105055	23372155055	23372805055

Article numbers for other voltages and versions on request.

ARTICLE NO.		PA X 10 PA X 20
Surface gasket	Sealing of the sounder installation surface when, e.g. cable entry is executed from the back.	28300000006
Tamper-proof sealing (pack of 4)	Anti-tamper sealing for fasteners of the PATROL devices after installation in order to prevent manipulation of the devices.	28300000002

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	
45	Sweeping	1200 Hz 500 Hz	
46	Sweeping, general alarm Finland	1500 Hz 500 Hz	
52	Continuous tone	2400 Hz	
53	Continuous tone	2000 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	
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 (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	
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	

TONE TABLE			
NO.	DESCRIPTION		
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	2900 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	
142	Alternating tone	900 Hz / 500 Hz	
143	Alternating tone, industrial alarm Germany	660 Hz / 440 Hz	
144	Alternating tone	650 Hz / 440 Hz	
146	Alternating tone, France NFS 32-001 (fire alarm)	554 Hz / 440 Hz	
147	Alternating tone, Sweden SS031711	554 Hz / 440 Hz	
148	Alternating tone, Sweden SS031711	554 Hz / 440 Hz	
152	Alternating tone (two tone chime)	800 Hz / 650 Hz	

CONTROL OF THE TONES

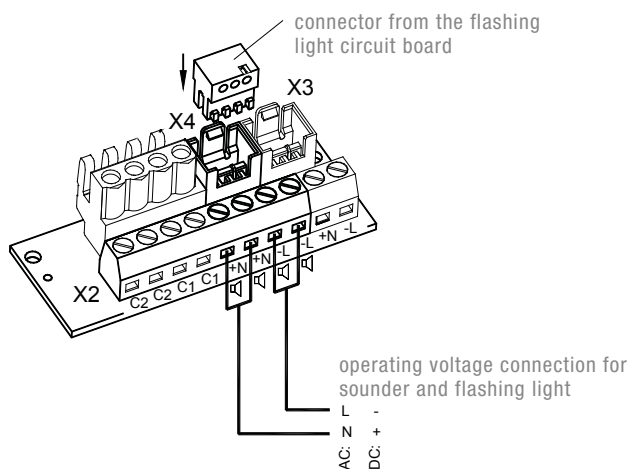
DIP-SWITCH (SETTING OF BASIC TONE)								EXTERNAL TONE SELECTION			DIP-SWITCH (SETTING OF BASIC TONE)								EXTERNAL TONE SELECTION		
1	2	3	4	5	6	BASIC TONE		C1	C2	C1+C2	1	2	3	4	5	6	BASIC TONE	C1	C2	C1+C2	
							TONE NO.										TONE NO.				
						1		2	88	57						ON	71	131	52	93	
ON						2 *		128	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	142	2	54	88		
ON	ON		ON	ON		59		143	59	101	ON	ON		ON	ON	143	59	93	33		
			ON	ON		60		131	52	125			ON	ON	ON	144	110	61	2		
ON		ON	ON	ON		65		131	52	93	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	152	110	61	13		

* factory setting

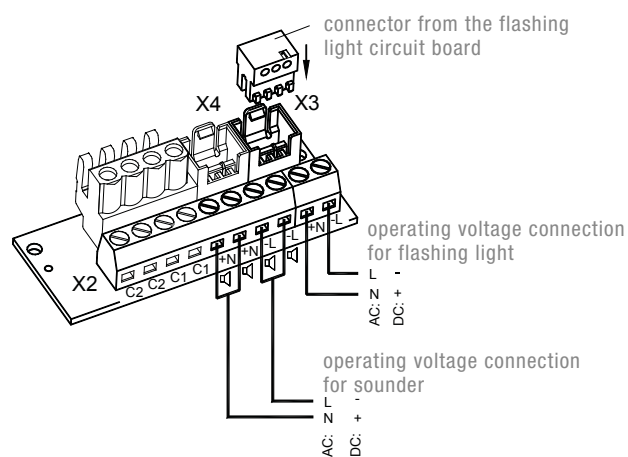
CONNECTION DIAGRAM

PA X 10-10 | PA X 10-15 | PA X 20-10 | PA X 20-15 light

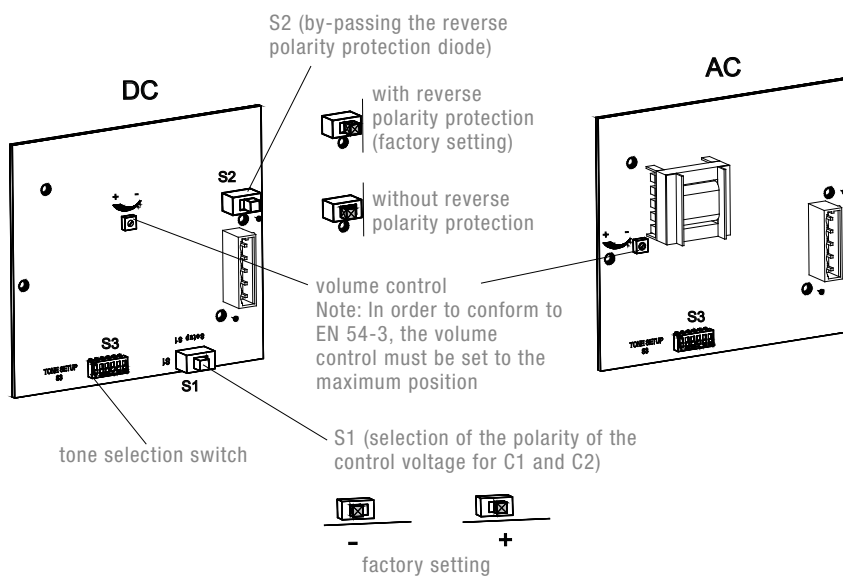
Common connection of flashing light and sounder
(delivery condition)



Separated connection of flashing light and sounder



PA X 10-10 | PA X 10-15 | PA X 20-10 | PA X 20-15 sounder



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