

PATROL FLASHING SOUNDERS 105/107 dB(A) / 5/10 J

PA X 1-05 / PA X 5-05 / PA X 5-10



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



PA X 1-05
24 V DC



PA X 1-05
24 V DC



PA X 1-05
24 V DC



UL



warranty



EAC



connector (option)

PRODUCT PA X 1-05

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	65–70 mA @ 230 V	110–130 mA	315–365 mA @ 24 V	190–150 mA	315–365 mA	610–625 mA

PRODUCT PA X 5

DATA

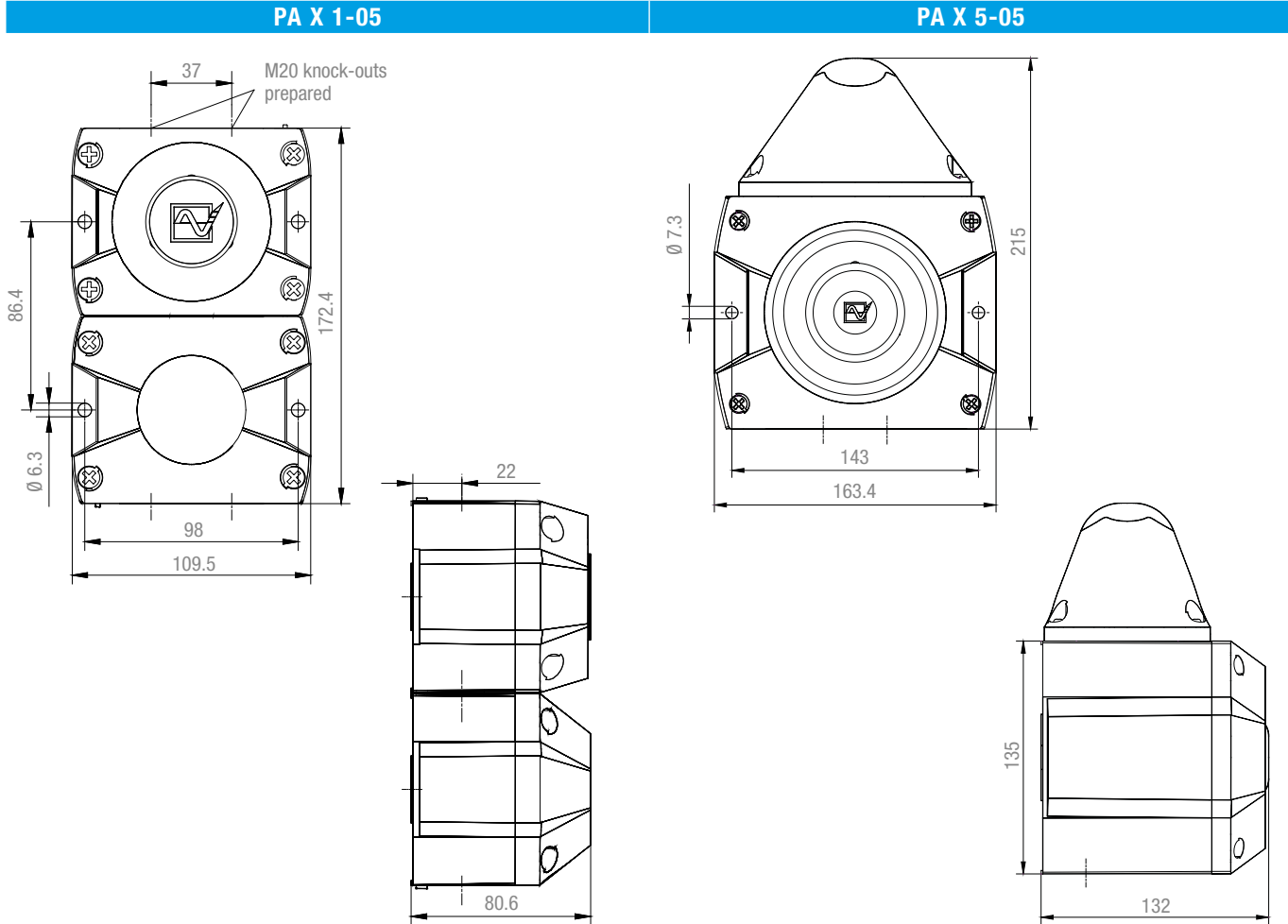
Operating range	187–255 V	90–135 V	18–30 V	40–60 V	18–30 V	12–15 V
	AC 50 60 Hz			DC		
Nominal current consumption ¹	5 J	65–70 mA @ 230 V	110–130 mA	315–365 mA @ 24 V	190–150 mA	315–365 mA
	10 J	150–155 mA	250–260 mA	1460–1520 mA	320–380 mA	565–620 mA

PRODUCT	PA X 1-05	PA X 5-05	PA X 5-10
Sound pressure level	105 dB(A)	107 dB(A)	107 dB(A)
Sound pressure level @DIN-tone	104 dB(A)	105 dB(A)	105 dB(A)
Sound level reduction	max. –16 dB via potentiometer		
Alarm tones	80 / 4 tones are externally selectable		
Flash energy and flash rate	5 J @ 1 Hz = 60 flashes/min	5 J @ 1 Hz = 60 flashes/min	10 J @ 1 Hz = 60 flashes/min
Light intensity (DIN 5037) ²	50 cd	56 cd	149 cd
Max. viewing distance	164 m	173 m	283 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	PC / ABS blend similar to RAL 3000 (flame red) / RAL 7035 (light grey) / RAL 9003 (signal white)		
	polycarbonate (PC)		
Cable entry	3x 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	725 g	983 g
	DC	560 g	800 g

¹ power consumption dependent on operating voltage

² with a clear lens

DIMENSIONS



OPTIONS/ACCESSORIES



PA X 1-05 SSM, 24 V DC



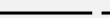
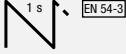
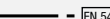
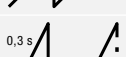
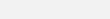
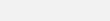
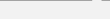
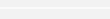
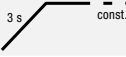
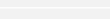
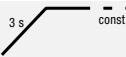
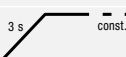
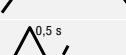
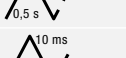
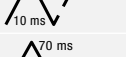
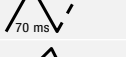
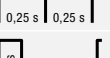
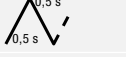
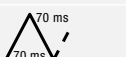
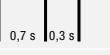
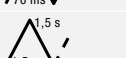
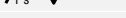
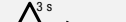
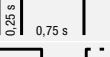
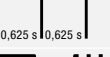
ARTICLE NO.		PA X 1-05			PA X 5-05		
HOUSING COLOUR	LENS COLOUR	230 V AC	115 V AC	24 V DC	230 V AC	115 V AC	24 V DC
●	✓	23311101000	23311151000	23311801000 ¹	23351101000	23351151000	23351801000
●	●	23311103000	23311153000	23311803000	23351103000	23351153000	23351803000
●	●	23311104000	23311154000	23311804000	23351104000	23351154000	23351804000
●	●	23311105000	23311155000	23311805000 ¹	23351105000	23351155000	23351805000
●	✓	23311101055	23311151055	23311801055 ¹	23351101055	23351151055	23351801055
●	●	23311103055	23311153055	23311803055	23351103055	23351153055	23351803055
●	●	23311104055	23311154055	23311804055	23351104055	23351154055	23351804055
●	●	23311105055	23311155055	23311805055 ¹	23351105055	23351155055	23351805055

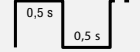
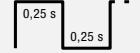
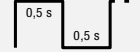
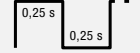
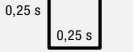
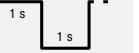
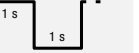
Article numbers for other voltages and versions on request.

¹ Version with EN 54-23 approval.

ARTICLE NO.		PA X 1-05	PA X 5-05
Enclosure fitting	For connection (daisy-chaining) of several sounders of the PATROL series.	28300000003	
Surface gasket	Sealing of the sounder installation surface when, e.g. cable entry is executed from the back.	28300000004	28300000005
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		NO.	DESCRIPTION	
1	no tone		57	Continuous tone, UK BS5839-1	950 Hz 
2	Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP	1200 Hz  500 Hz	59	Continuous tone	880 Hz 
9	Slow whoop, fire alarm, UK BS5839-1	970 Hz  800 Hz	60	Continuous tone	825 Hz 
11	Interrupted tone (fast)	970 Hz  800 Hz	61	Continuous tone	800 Hz 
13	Interrupted tone	900 Hz  700 Hz	63	Continuous tone	725 Hz 
15	Slow whoop, evacuation alarm Netherlands NEN 2575	1200 Hz  500 Hz	65	Continuous tone, Sweden SS031711 (all-clear signal)	660 Hz 
16	Slow whoop, evacuation alarm Australia AS2220	1200 Hz  500 Hz	66	Continuous tone	554 Hz 
18	Slow whoop, NFPA	775 Hz  422 Hz	67	Continuous tone, Germany KTA3901 (all-clear signal)	500 Hz 
22	Pulsating tone, Australien alert AS1670, ISO8201	1200 Hz  500 Hz	68	Continuous tone	470 Hz 
23	Siren	2400 Hz  500 Hz	69	Continuous tone	440 Hz 
24	Siren	1200 Hz  300 Hz	71	Continuous tone	340 Hz 
25	Siren	800 Hz  300 Hz	77	Interrupted tone	2200 Hz 
26	Siren, industrial alarm Germany	1000 Hz  150 Hz	82	Interrupted tone, PFEER (general alarm), UK BS5839-1 (back-up alarm)	1000 Hz 
27	Sweeping	2900 Hz  2400 Hz	83	Interrupted tone, PFEER (general alarm)	1000 Hz 
29	Sweeping (fast)	2900 Hz  2400 Hz	88	Interrupted tone	950 Hz 
30	Sweeping	2900 Hz  2400 Hz	90	Interrupted tone	825 Hz 
31	Sweeping, France NFC48-265	1600 Hz  1400 Hz	91	Interrupted tone	800 Hz 
33	Sweeping (medium), UK BS5839-1	1000 Hz  800 Hz	92	Interrupted tone	800 Hz 
34	Sweeping (fast)	1000 Hz  800 Hz	93	Interrupted tone (fast), Horn	800 Hz 
35	Sweeping (fast), UK BS5839-1	1000 Hz  800 Hz	97	Interrupted tone	725 Hz 
36	Sweeping	1500 Hz  700 Hz	98	Interrupted tone, Sweden SS031711 (emergency signal)	700 Hz 
43	Sweeping	1200 Hz  500 Hz	100	Interrupted tone, industrial alarm Germany	680 Hz 
44	Sweeping, IMO 3d, Germany KTA3901 evacuation alarm	1200 Hz  500 Hz	101	Interrupted tone, Sweden SS031711 (important message (pre-mess))	660 Hz 
45	Sweeping	1200 Hz  500 Hz	102	Interrupted tone, Sweden SS031711 (local warning)	660 Hz 
46	Sweeping, general alarm Finland	1500 Hz  500 Hz	103	Interrupted tone, Sweden SS031711 (air raid warning)	660 Hz 
52	Continuous tone	2400 Hz 	104	Interrupted tone, Sweden SS031711 (emergency signal)	660 Hz 
53	Continuous tone	2000 Hz 	107	Interrupted tone, Germany KTA3901 (evacuation alarm)	500 Hz 
54	Continuous tone, Finland (all-clear signal)	1500 Hz 	109	Interrupted tone, Australia AS2220, AS1610, AS1670	420 Hz 
55	Continuous tone, PFEER gas alarm	1200 Hz 	110	Interrupted tone, (fast variable), bell	1450 Hz 
56	Continuous tone	1000 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 	
123	Alternating tone	2900 Hz 	
124	Alternating tone, Singapore	2900 Hz 	
125	Alternating tone	1400 Hz 	
128	Alternating tone	1025 Hz 	
130	Alternating tone, UK BS5839-1 (fire alarm)	1000 Hz 	
131	Alternating tone, UK BS5839-1 (fire alarm, railway crossing)	1000 Hz 	
135	Alternating tone, UK BS5839-1 (fire alarm, increased urgency – railway crossing)	1000 Hz 	
142	Alternating tone	900 Hz 	
143	Alternating tone, industrial alarm Germany	660 Hz 	
144	Alternating tone	650 Hz 	
146	Alternating tone, France NFS 32-001 (fire alarm)	554 Hz 	EN 54-3
147	Alternating tone, Sweden SS031711	554 Hz 	
148	Alternating tone, Sweden SS031711	554 Hz 	
152	Alternating tone (two tone chime)	800 Hz 	

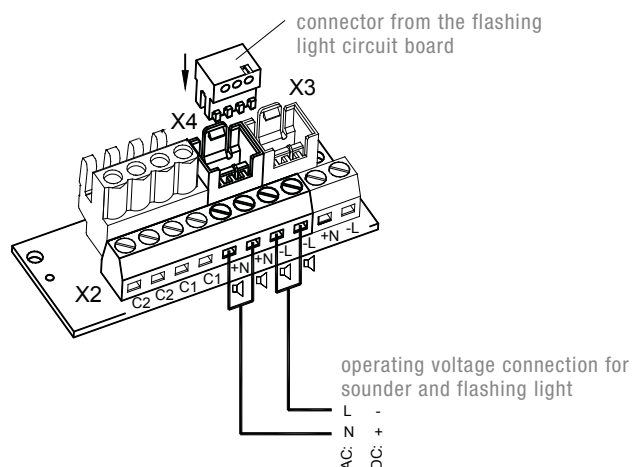
CONTROL OF THE TONES												
DIP-SWITCH (SETTING OF BASIC TONE)							EXTERNAL TONE SELECTION					
1	2	3	4	5	6	BASIC TONE	C1	C2	C1+C2	1	2	3
							TONE NO.					
						1	2	88	57			
ON						2 *	128	112	57	ON		
	ON					2	26	100	93		ON	
ON	ON					2	61	131	112	ON	ON	
		ON				9	57	11	82			ON
ON		ON				15	131	52	112	ON		ON
	ON	ON				16	109	52	56		ON	ON
ON	ON	ON				18	111	57	68	ON	ON	ON
			ON			22	16	109	68			ON
ON			ON			23	131	52	112	ON		ON
	ON		ON			24	131	52	131		ON	ON
ON	ON		ON			25	131	52	92	ON	ON	ON
		ON	ON			26	2	100	93			ON
ON		ON	ON			27	123	52	92	ON		ON
	ON	ON				29	35	52	61		ON	ON
ON	ON	ON				30	27	52	77	ON	ON	ON
				ON		31	131	52	57			ON
ON				ON		33	30	52	35	ON		ON
	ON			ON		34	35	52	93		ON	ON
ON	ON			ON		35	27	52	110	ON	ON	ON
		ON		ON		36	146	67	57			ON
ON		ON		ON		43	131	52	91	ON		ON
	ON	ON		ON		45	2	57	93		ON	ON
ON	ON	ON		ON		52	15	65	82	ON	ON	ON
			ON	ON		54	46	54	131			ON
ON			ON	ON		55	131	52	128	ON		ON
	ON		ON	ON		56	82	35	33		ON	ON
ON	ON		ON	ON		59	143	59	101	ON	ON	ON
			ON	ON		60	131	52	125			ON
ON		ON	ON	ON		65	131	52	93	ON		ON
	ON	ON	ON	ON		66	110	52	107		ON	ON
ON	ON	ON	ON	ON		69	131	52	110	ON	ON	ON

* factory setting

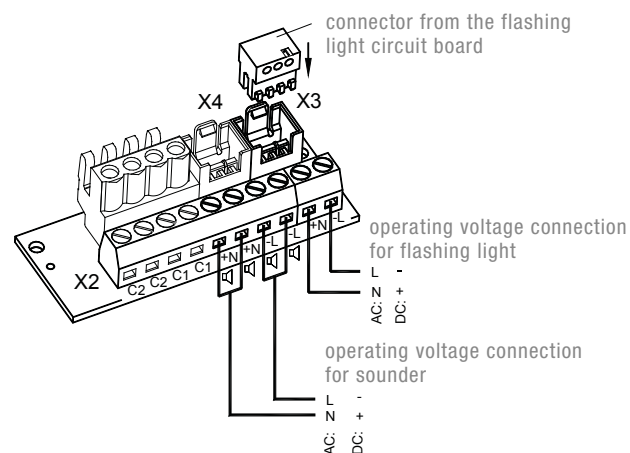
CONNECTION DIAGRAM

PA X 1-05 | PA X 5-05 light

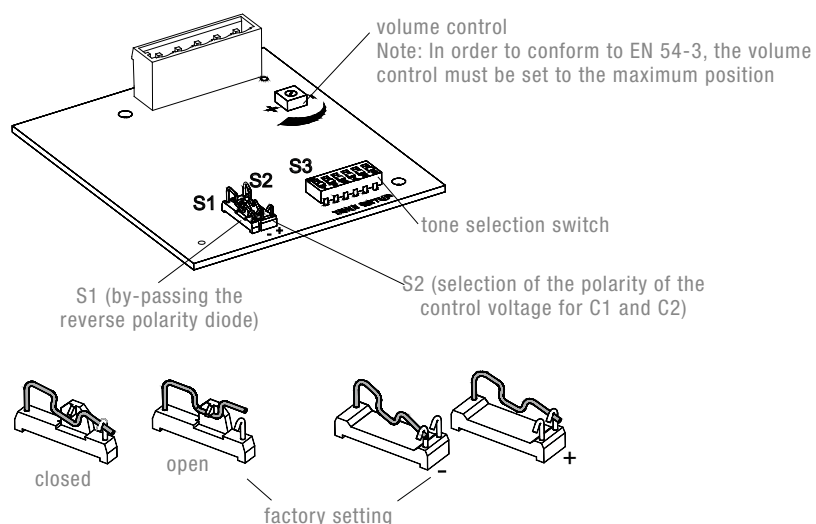
Common connection of flashing light and sounder (delivery condition)



Separated connection of flashing light and sounder



PA X 1-05 | PA X 5-05 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