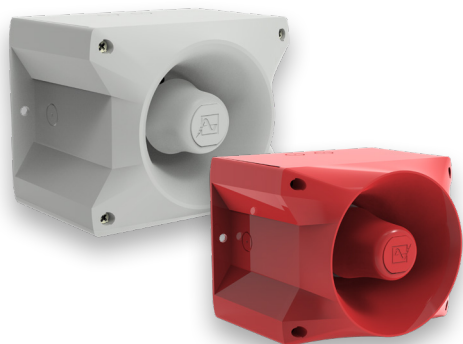


PATROL SOUNDERS 117/122 DB(A) PA 10 / PA 20



reddot design award
winner 2013

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.



protection system



impact-proof housing



operating temperature



acoustic penetration



external tone selection



24-48 V DC



24-48 V DC



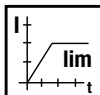
warranty



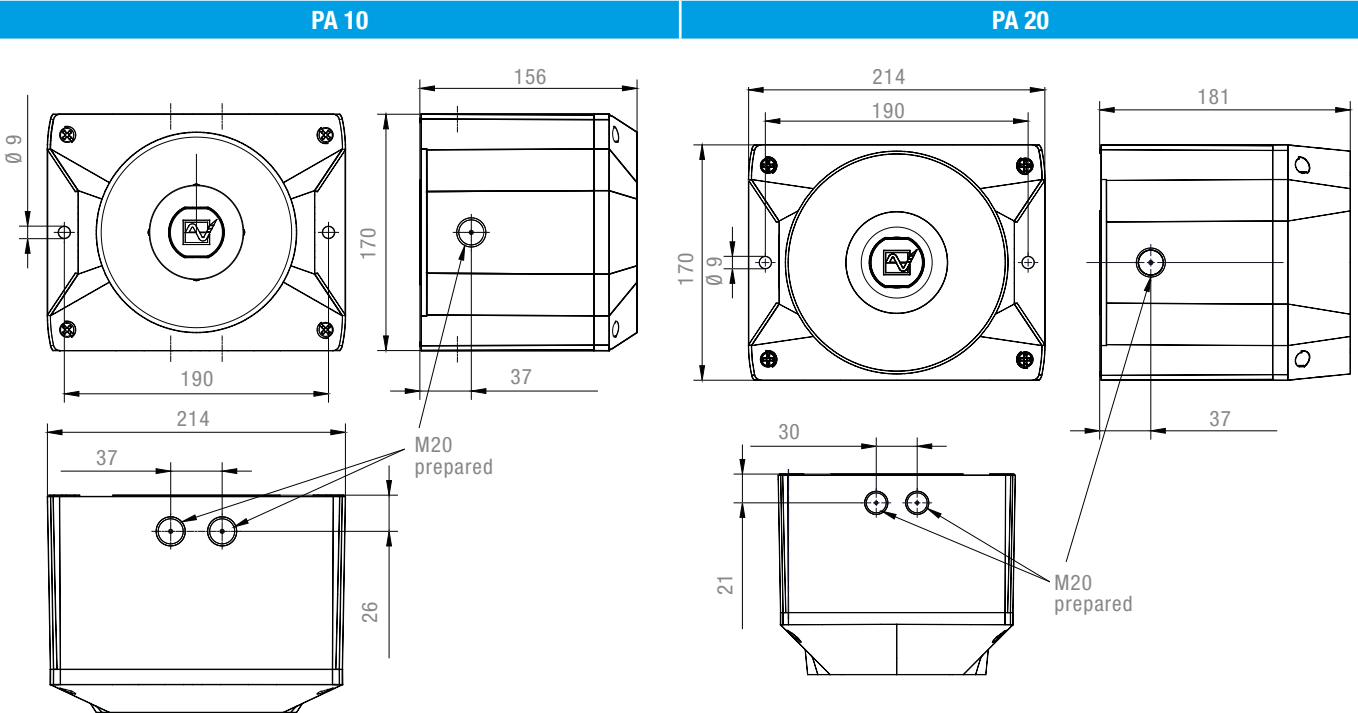
| PRODUCT | PA 10 | | | PA 20 | | |
|--|---|------------|-----------|-----------------------|-------------|------------|
| DATA | | | | | | |
| Operating range | 95–265 V | 20–30 V | 10–60 V | 95–265 V | 20–30 V | 10–60 V |
| | AC 50 60 | | DC | AC 50 60 | | DC |
| Nominal current consumption ¹ | 20-115 mA | 250-900 mA | 60-485 mA | 75-330 mA | 500-1800 mA | 120-880 mA |
| Sound pressure level | 117 dB(A) | | | 120 dB(A) 122 dB(A) | | |
| Sound pressure level @DIN-tone | 115 dB(A) | | | 118 dB(A) 120 dB(A) | | |
| Sound level reduction | max. –12 dB via potentiometer | | | | | |
| Alarm tones | 80 / 4 tones are externally selectable | | | | | |
| Operating temperature | –40 °C ... +55 °C | | | | | |
| Storage temperature | –40 °C ... +70 °C | | | | | |
| Relative humidity | 90 % | | | | | |
| Protection system according to EN 6052 | IP 66 | | | | | |
| Protection class | II | | | | | |
| Duty cycle | 100 % | | | | | |
| Material | PC / ABS blend similar to RAL 3000 (flame red) RAL 7035 (light grey) RAL 9003 (signal white) | | | | | |
| Cable entry | 5x 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 ² fine wire with cable end sleeve, AWG 16 | | | | | |
| Weight | 1,060 g | | 1,050 g | 1,200 g | | 1,090 g |

¹ Power consumption dependent on operating voltage.

OPTIONS/ACCESSORIES



DIMENSIONS



| ARTICLE NO. | | PA 10 | | | PA 20 | | |
|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| VERSION | RATED VOLTAGE | 95–265 V AC | 24 V AC | 10–60 V DC | 95–265 V AC | 24 V AC | 10–60 V DC |
| Standard | housing red | 23360640000 | 23360300000 | 23360630000 | 23370640000 | 23370300000 | 23370630000 |
| GL/MED | housing red | 23360640001 | 23360300001 | 23360630001 | 23370640001 | 23370300001 | 23370630001 |
| Standard | housing grey | 23360640055 | 23360300055 | 23360630055 | 23370640055 | 23370300055 | 23370630055 |
| GL/MED | housing grey | 23360640056 | 23360300056 | 23360630056 | 23370640056 | 23370300056 | 23370630056 |

Article numbers for other voltages and versions on request.

| ARTICLE NO. | | PA 10 PA 20 |
|-------------------------------------|---|---------------|
| 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. | 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 |
| Panel mount installation kit PATROL | 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. | 28300000009 |

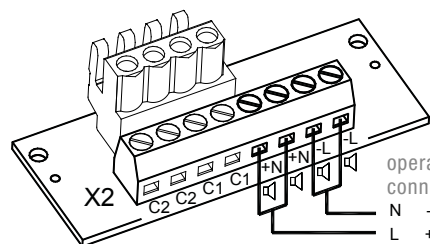
| TONE TABLE | | | |
|------------|---|--------------------|--|
| NO. | DESCRIPTION | | |
| 1 | no tone | | |
| 2 | Sawtooth, DIN tone 33404-3 Germany (emergency signal), PFEER PTAP | 1200 Hz 500 Hz | |
| 9 | Slow whoop, fire alarm, UK BS5839-1 | 970 Hz 800 Hz | |
| 11 | Interrupted tone (fast) | 970 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 | | | 88 | | | | | | ON | 71 | 131 | 52 | 93 |
| ON | | | | | | 2 * | 2 | 128 | 112 | 57 | ON | | | | ON | 77 | 61 | 52 | 122 |
| | ON | | | | | 2 | 26 | 100 | 93 | ON | 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 | | | 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 | | | 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 | | 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 | | 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 | | 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 | ON | 112 | 2 | 57 | 128 |
| ON | | | | ON | | 33 | 30 | 52 | 35 | ON | | | ON | ON | ON | 113 | 52 | 123 | 104 |
| | ON | | | ON | | 34 | 35 | 52 | 93 | ON | 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 | | 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 | 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 | 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 | 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 | 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 | 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 |

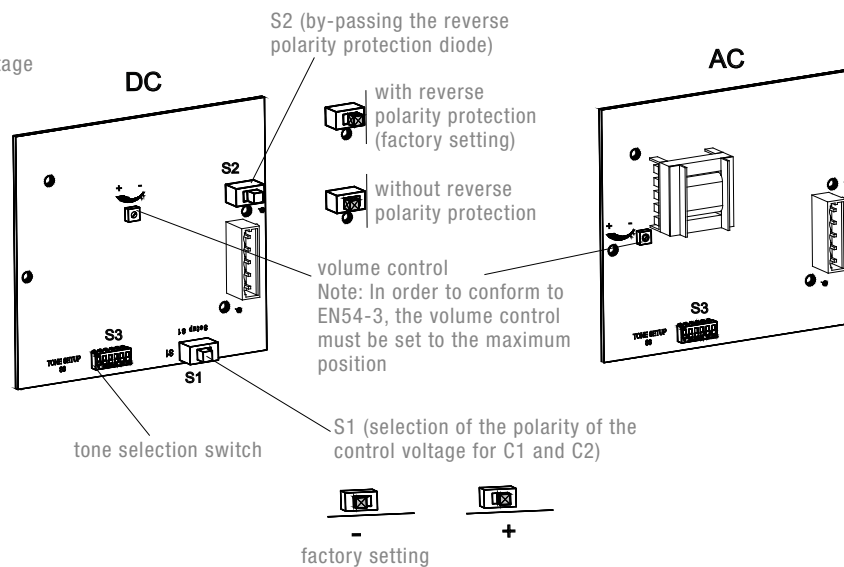
* factory setting

CONNECTION DIAGRAM



electrical connection and tone selection through external control of C1 and C2

operating voltage connection
 AC: L N -
 DC: + -



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