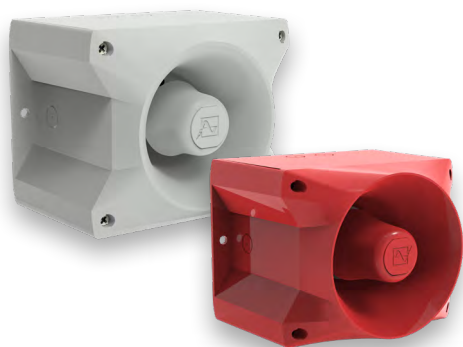


# PATROL SOUNDERS 117/122 dB(A)

## PA 10 / PA 20



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



UL



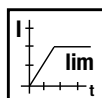
warranty



| 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 <sup>1</sup> (max) | 140 mA                                                                    | 850 mA  | 485 mA  | 330 mA                       | 1600 mA | 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. –10 dB via potentiometer                                             |         |         | max. –9 dB via potentiometer |         |         |
| Alarm tones                                    | 80 thereof 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 60529        | IP 66 (EN 60529), NEMA Type 4 & 4x                                        |         |         |                              |         |         |
| Protection class                               | II                                                                        |         |         |                              |         |         |
| Duty cycle                                     | 100 %                                                                     |         |         |                              |         |         |
| Material                                       | PC / ABS blend<br>similar to RAL 3000 (flame red)   RAL 7035 (light grey) |         |         |                              |         |         |
| Cable entry                                    | 6x M20 knock-outs on side, 1 knock-out on back                            |         |         |                              |         |         |
| Integrated seal with cable entry               | 7–13 mm (feed-through grommet)                                            |         |         |                              |         |         |
| Connecting terminals                           | 0.14 - 2.5mm <sup>2</sup> fine stranded / AWG24 - AWG 14                  |         |         |                              |         |         |
| Weight                                         | 1.060 g                                                                   |         | 1.050 g | 1.200 g                      |         | 1.090 g |

<sup>1</sup> Power consumption dependent on operating voltage.

### OPTIONS/ACCESSORIES



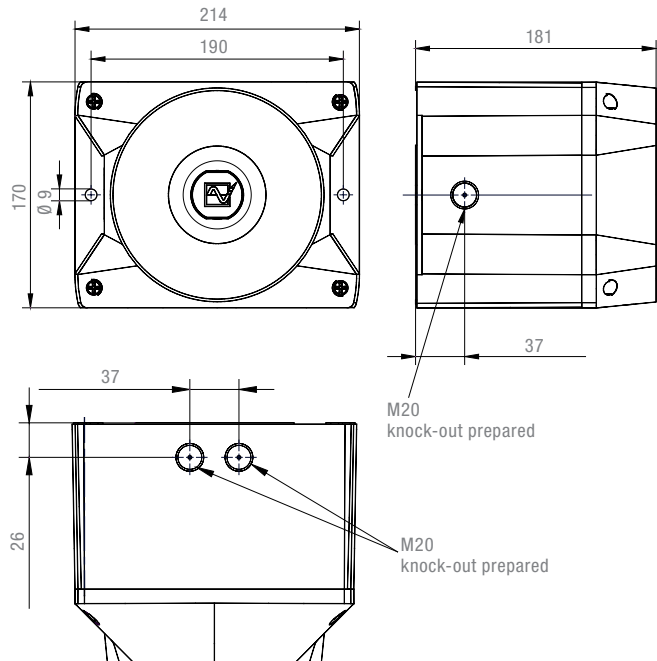
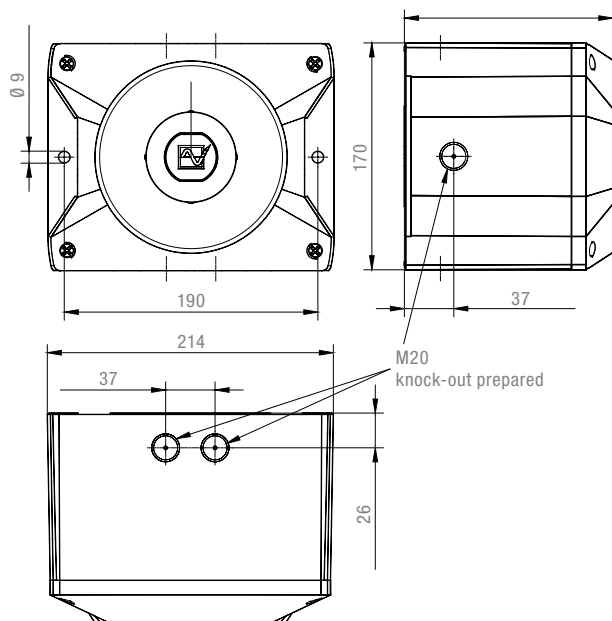
inrush current limitation



## DIMENSIONS

### PA 10

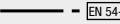
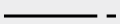
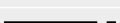
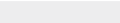
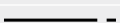
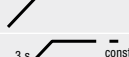
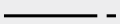
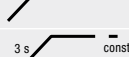
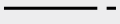
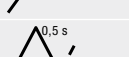
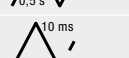
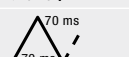
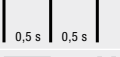
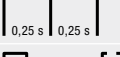
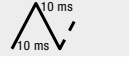
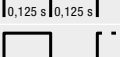
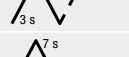
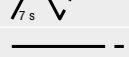
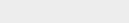
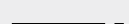
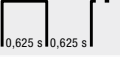
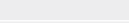
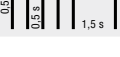
### PA 20



| ARTICLE NO. |              | PA 10           |                 |                 | PA 20           |                 |                 |
|-------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| VERSION     |              | 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  | 233 60 64 0 000 | 233 60 30 0 000 | 233 60 63 0 000 | 233 70 64 0 000 | 233 70 30 0 000 | 233 70 63 0 000 |
| DNV/MED     | housing red  | 233 60 64 0 001 | 233 60 30 0 001 | 233 60 63 0 001 | 233 70 64 0 001 | 233 70 30 0 001 | 233 70 63 0 001 |
| Standard    | housing grey | 233 60 64 0 055 | 233 60 30 0 055 | 233 60 63 0 055 | 233 70 64 0 055 | 233 70 30 0 055 | 233 70 63 0 055 |
| DNV/MED     | housing grey | 233 60 64 0 056 | 233 60 30 0 056 | 233 60 63 0 056 | 233 70 64 0 056 | 233 70 30 0 056 | 233 70 63 0 056 |

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                                                       |  |                                                                                                     | 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

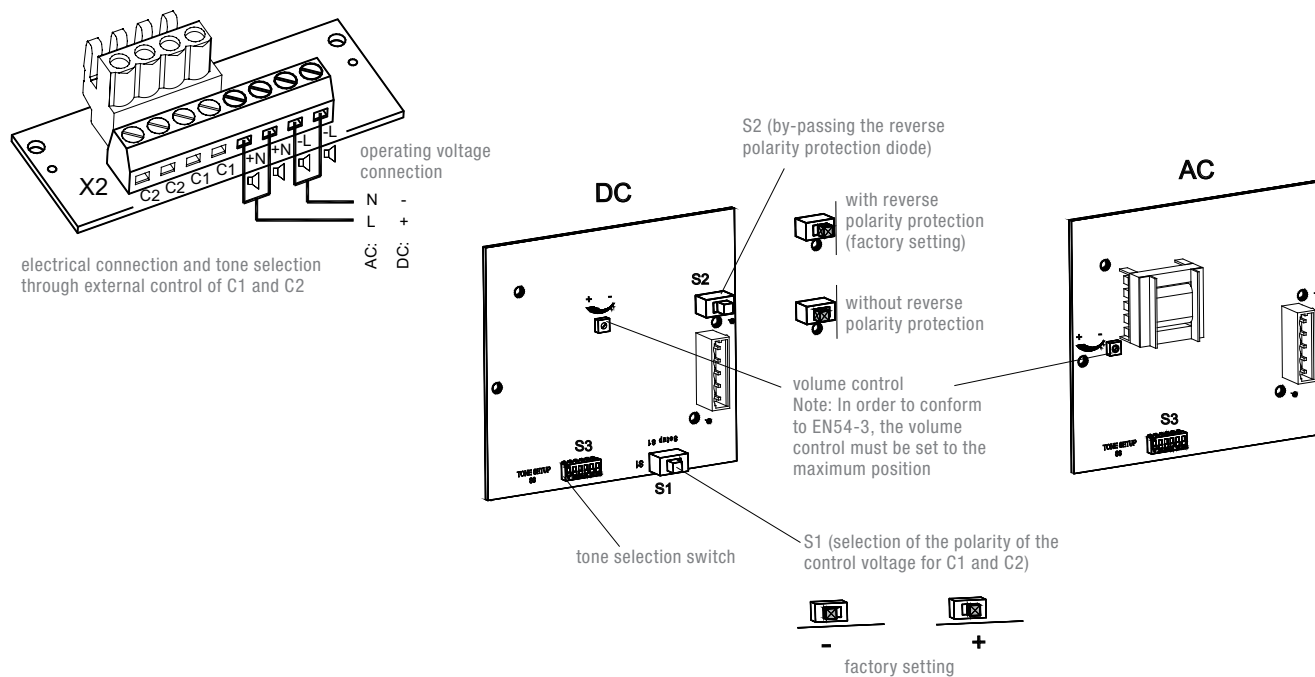
| NO. | DESCRIPTION                                                        |         | NO. | DESCRIPTION                                                                      |                  |
|-----|--------------------------------------------------------------------|---------|-----|----------------------------------------------------------------------------------|------------------|
| 115 | Interrupted tone, IMO (telephone call)                             | 950 Hz  | 131 | Alternating tone, UK BS5839-1 (fire alarm, railway crossing)                     | 1000 Hz  EN 54-3 |
| 116 | Interrupted tone, IMO (leave ship)                                 | 950 Hz  | 135 | Alternating tone, UK BS5839-1 (fire alarm, increased urgency – railway crossing) | 1000 Hz          |
| 117 | Interrupted tone, IMO SOLAS III/50 + SOLAS III/6.4 (general alarm) | 825 Hz  | 142 | Alternating tone                                                                 | 900 Hz           |
| 122 | Alternating tone                                                   | 2900 Hz | 143 | Alternating tone, industrial alarm Germany                                       | 660 Hz           |
| 123 | Alternating tone                                                   | 2900 Hz | 144 | Alternating tone                                                                 | 650 Hz           |
| 124 | Alternating tone, Singapore                                        | 2900 Hz | 146 | Alternating tone, France NFS 32-001 (fire alarm)                                 | 554 Hz  EN 54-3  |
| 125 | Alternating tone                                                   | 1400 Hz | 147 | Alternating tone, Sweden SS031711                                                | 554 Hz           |
| 128 | Alternating tone                                                   | 1025 Hz | 148 | Alternating tone, Sweden SS031711                                                | 554 Hz           |
| 130 | Alternating tone, UK BS5839-1 (fire alarm)                         | 1000 Hz | 152 | Alternating tone (two tone chime)                                                | 800 Hz           |

## CONTROL OF THE TONES

| DIP-SWITCH<br>(SETTING OF BASIC TONE) |    |    |    |    |   |            | EXTERNAL TONE SELECTION |     |       | DIP-SWITCH<br>(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 |
|                                       |    |    |    |    |   | 1          |                         | 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 | 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 | 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



## 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 |