

# PROTECT LED SOUNDER 116 dB(A) ATEX

## PRO L 10 3G/3D



- Excellent robustness – Cast aluminium housing guarantees long lasting use in tough applications
- Explosion proof – for potentially explosive areas in zone 2 (3G) and zone 22 (3D)
- Selectable signaling modes – Continuous light, blinking light or flashing light
- Outstanding perceptibility – Ideal radiation characteristics and high penetration of acoustical obstacles reduce the required number of devices
- Selectable tone – 80 different tones, 3 additional tones externally selectable
- Selectable sound pressure – Reduction of sound pressure level up to 30 dB, internally or externally selectable
- Pre- & main alarm – Preventing shock reactions by pre-alarming due to reduced sound pressure level
- Safe & easy handling – Designed with unlosable seal and screws to significantly shorten wiring and installation times



acoustic penetration



protection system



impact-proof housing



operating temperature



warranty



sound adjustable



protection system



pending



EAC



ext. sound reduction

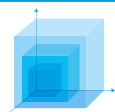


DC version, inrush current limitation



pending

### 3D-COVERAGE PERFORMANCE DATA



### PRO L 10 3G/3D

| VISUAL | Indicate | 43 x 39 x 44 m | AUDIBLE | 80 dB (A) | 51 x 49 x 24 m @DIN tone |
|--------|----------|----------------|---------|-----------|--------------------------|
|        | Warn     | 19 x 17 x 20 m |         | 85 dB (A) | 29 x 27 x 14 m @DIN tone |
|        | Alarm    | 10 x 9 x 10 m  |         | 90 dB (A) | 16 x 15 x 8 m @DIN tone  |

To determine the exact signalling area for your needs, please use the online available Pfannenberg Sizing Software PSS.

### PRODUCT

### PRO L 10 3G/3D

| DATA                                                 |         |                                                                                                               |                  |                  |
|------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------|------------------|------------------|
| Rated voltage                                        |         | 230 / 115 V AC / 120 V DC                                                                                     | 24 V AC          | 12–48 V DC       |
| Rated frequency                                      |         | 50 / 60 Hz / –                                                                                                | 50 / 60 Hz       | –                |
| Operating range                                      |         | 95–265 V AC / 108–132 V DC                                                                                    | 21.6–26.4 V      | 10–60 V          |
| Current consumption light (max)                      |         | 120 mA @ 230 V AC                                                                                             | 167 mA @ 24 V AC | 120 mA @ 24 V DC |
| Current consumption sounder (max)                    |         | 95 mA @ 230 V AC                                                                                              | 700 mA @ 24 V AC | 400 mA @ 24 V DC |
| Current consumption sounder @ DIN tone               |         | 85 mA @ 230 V AC                                                                                              | 630 mA @ 24 V AC | 355 mA @ 24 V DC |
| Type of protection                                   |         | Ex ec / Ex tc                                                                                                 |                  |                  |
| Explosion protection                                 |         | See manual                                                                                                    |                  |                  |
| Category (area of use)                               |         | 3G (Zone 2), 3D (Zone 22)                                                                                     |                  |                  |
| Certificate of conformity                            |         | Pfannenberg PDG 03.0001 X                                                                                     |                  |                  |
| Sound pressure level max / @DIN tone                 |         | 116 dB (A) @ 1m / 114 dB (A) @ 1m                                                                             |                  |                  |
| Sound level reduction                                |         | -4 dB / -10 dB / -16 dB / -22 dB / -26 dB / -30 dB                                                            |                  |                  |
| Tones                                                |         | 80 / 3 ext. selectable                                                                                        |                  |                  |
| Sound time-out                                       |         | 60 s / 15 min / 45 min / none                                                                                 |                  |                  |
| Light types                                          |         | flashing light (0.1 Hz, 0.5 Hz, 0.75 Hz, 1 Hz, 1 Hz double flash), blink light (1 Hz, 2 Hz), continuous light |                  |                  |
| Light intensity <sup>1</sup> / max. viewing distance |         | 23 cd (reducible) / 111 m                                                                                     |                  |                  |
| Temperature class T                                  |         | up to IIC T4 @ Ta -40°C...+55 °C<br>further details see certificate and installation instruction              |                  |                  |
| Operating / storage temperature                      |         | -40 °C ... +55 °C / -40 °C ... +70 °C                                                                         |                  |                  |
| Degree of protection                                 |         | IP66 / IP67 / NEMA 4/4x / IK09 (Housing), IK08 (Lens)                                                         |                  |                  |
| Service life of the light source                     |         | ≥50,000 hrs                                                                                                   |                  |                  |
| Material                                             | Sounder | Aluminum                                                                                                      |                  |                  |
|                                                      | Light   | ( ) - RGB Polycarbonate (PC)                                                                                  |                  |                  |
| Connecting terminal                                  |         | stranded 2.5 mm <sup>2</sup> , solid 4.0 mm <sup>2</sup>                                                      |                  |                  |
| Weight                                               |         | 2800 g                                                                                                        |                  |                  |

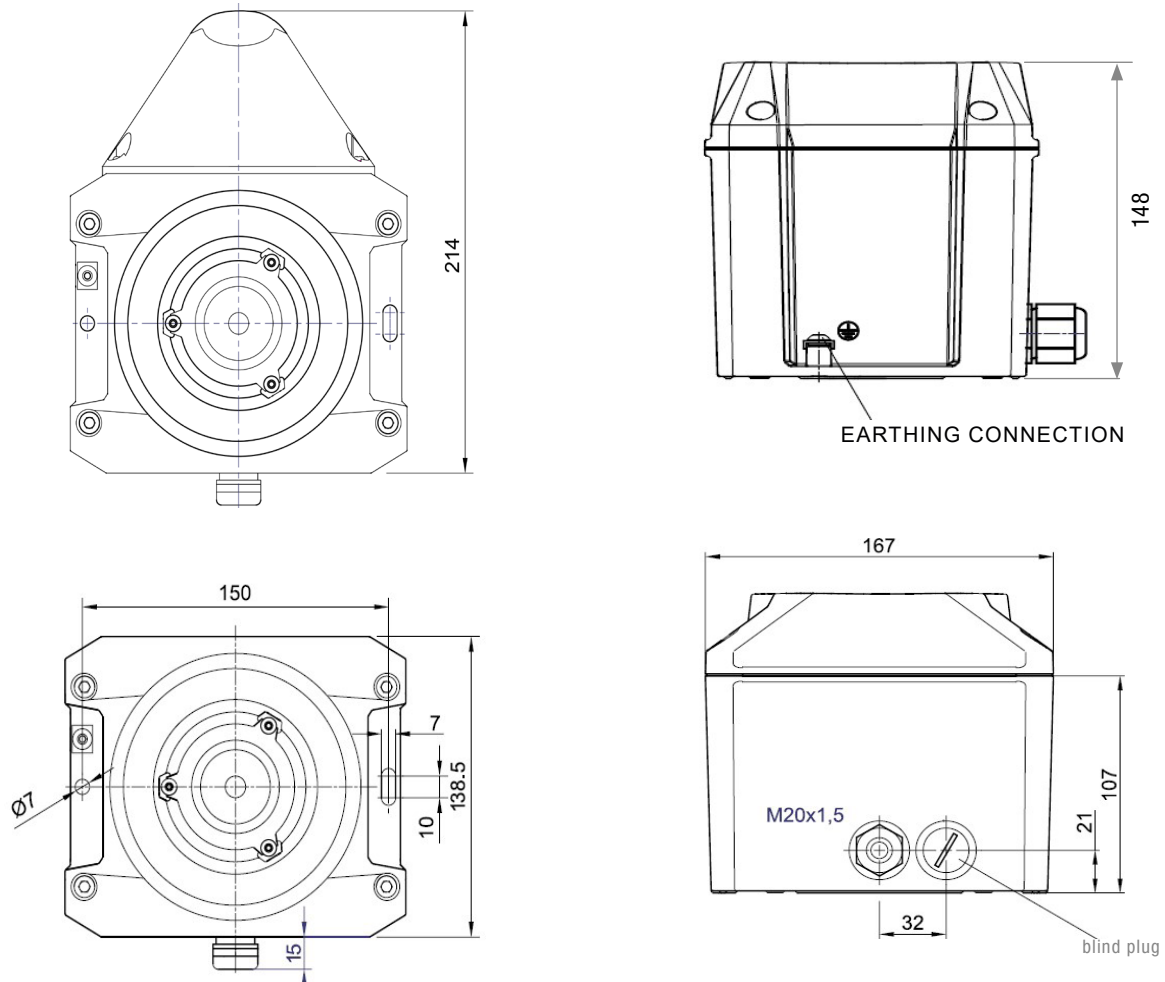
<sup>1</sup> with a clear lens

## OPTIONS



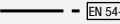
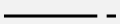
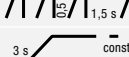
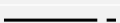
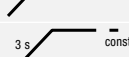
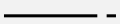
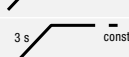
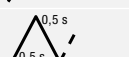
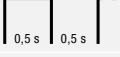
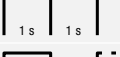
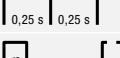
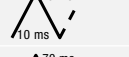
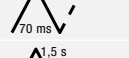
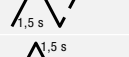
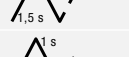
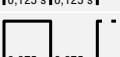
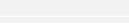
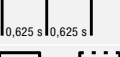
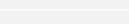
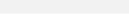
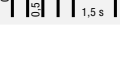
approval

## DIMENSIONS



| ORDERING DETAILS | PRO L 10 3G/3D            |            |             |
|------------------|---------------------------|------------|-------------|
| LENS COLOUR      | 230 / 115 V AC / 120 V DC | 24 V AC    | 12 -48 V DC |
| ●                | 23151645007               | on request | 23151635007 |
| ● DNV/MED/MER    | on request                | on request | on request  |

Article numbers for other colours and voltages on request.

| 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   | 59  | Continuous tone                                                                 |  | 880 Hz                                                                                          |
| 9          | Slow whoop, fire alarm, UK BS5839-1                               |  | 970 Hz                                                                                     | 60  | Continuous tone                                                                 |  | 825 Hz       |
| 11         | Interrupted tone (fast)                                           |  | 800 Hz                                                                                     | 61  | Continuous tone                                                                 |  | 800 Hz                                                                                          |
| 13         | Interrupted tone                                                  |  | 970 Hz                                                                                     | 63  | Continuous tone                                                                 |  | 725 Hz                                                                                          |
| 15         | Slow whoop, evacuation alarm Netherlands NEN 2575                 |  | 1200 Hz   | 65  | Continuous tone, Sweden SS031711 (all-clear signal)                             |  | 660 Hz                                                                                          |
| 16         | Slow whoop, evacuation alarm Australia AS2220                     |  | 500 Hz                                                                                     | 66  | Continuous tone                                                                 |  | 554 Hz                                                                                          |
| 18         | Slow whoop, NFPA                                                  |  | 775 Hz                                                                                     | 67  | Continuous tone, Germany KTA3901 (all-clear signal)                             |  | 500 Hz                                                                                          |
| 22         | Pulsating tone, Australien alert AS1670, ISO8201                  |  | 1200 Hz                                                                                    | 68  | Continuous tone                                                                 |  | 470 Hz                                                                                          |
| 23         | Siren                                                             |  | 2400 Hz                                                                                    | 69  | Continuous tone                                                                 |  | 440 Hz                                                                                          |
| 24         | Siren                                                             |  | 1200 Hz                                                                                    | 71  | Continuous tone                                                                 |  | 340 Hz                                                                                          |
| 25         | Siren                                                             |  | 800 Hz                                                                                    | 77  | Interrupted tone                                                                |  | 2200 Hz                                                                                         |
| 26         | Siren, industrial alarm Germany                                   |  | 1000 Hz                                                                                  | 82  | Interrupted tone, PFEER (general alarm), UK BS5839-1 (back-up alarm)            |  | 1000 Hz                                                                                         |
| 27         | Sweeping                                                          |  | 2900 Hz                                                                                  | 83  | Interrupted tone, PFEER (general alarm)                                         |  | 1000 Hz                                                                                         |
| 29         | Sweeping (fast)                                                   |  | 2400 Hz                                                                                  | 88  | Interrupted tone                                                                |  | 950 Hz                                                                                          |
| 30         | Sweeping                                                          |  | 2900 Hz                                                                                  | 90  | Interrupted tone                                                                |  | 825 Hz                                                                                        |
| 31         | Sweeping, France NFC48-265                                        |  | 1600 Hz                                                                                  | 91  | Interrupted tone                                                                |  | 800 Hz                                                                                        |
| 33         | Sweeping (medium), UK BS5839-1                                    |  | 1000 Hz                                                                                  | 92  | Interrupted tone                                                                |  | 800 Hz                                                                                        |
| 34         | Sweeping (fast)                                                   |  | 1000 Hz                                                                                  | 93  | Interrupted tone (fast), Horn                                                   |  | 800 Hz                                                                                        |
| 35         | Sweeping (fast), UK BS5839-1                                      |  | 1000 Hz                                                                                  | 97  | Interrupted tone                                                                |  | 725 Hz                                                                                        |
| 36         | Sweeping                                                          |  | 1500 Hz                                                                                  | 98  | Interrupted tone, Sweden SS031711 (emergency signal)                            |  | 700 Hz                                                                                        |
| 43         | Sweeping                                                          |  | 1200 Hz                                                                                  | 100 | Interrupted tone, industrial alarm Germany                                      |  | 680 Hz                                                                                        |
| 44         | Sweeping, IMO 3d, Germany KTA3901 evacuation alarm                |  | 1200 Hz                                                                                  | 101 | Interrupted tone, Sweden SS031711 (important message (pre-mess))                |  | 660 Hz                                                                                        |
| 45         | Sweeping                                                          |  | 1200 Hz                                                                                  | 102 | Interrupted tone, Sweden SS031711 (local warning)                               |  | 660 Hz                                                                                        |
| 46         | Sweeping, general alarm Finland                                   |  | 1500 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 |
| 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  |
| 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  |

## 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

The visual characteristics of flashing lights conform to the European standard DIN EN 842; **“Machine safety – visual alarm signals”**.  
Requirements contained in the DIN EN 981 standard; **“Machine safety – system of acoustic and visual alarm and information signals”**, can be fulfilled.

The colours “red” for the emergency signal and “yellow” for the warning signal conform to the requirements of IEC 73 / DIN EN 60073 / VDE 0199; **“Coding of display devices and control elements using colours and supplementary means”**.

References to visual alarm devices can be found in the following standards:  
EN 60825-1 Radiation safety of laser devices, identical to IEC 825 and DIN-VDE 0837  
DIN EN 54 Fire alarm systems  
DIN 54113-2 Radiation protection regulations for the technical operation of X-ray equipment up to 500 kV