



Overview Optical-Audible Signal Devices

LED/Buzzer Combination

150 Installation model
80 dB
Page 218



450 Installation model with acknowledgement function
80 dB
Page 219



450 Installation model for AS-Interface
80 dB
Page 220



420/422 Base, Wall mounting
92 dB
Page 192



Flash/Buzzer Combination

421/423 Base, Wall mounting
92 dB
Page 194



Light/Buzzer Combination

480 Wall mounting
90 dB
Page 198



Light/Horn Combination

580 Wall mounting
92 dB
Page 199



Flash/Horn Combination

425 Wall Mounting
98 dB
Page 197



581 Wall Mounting
92 dB
Page 199



LED/Horn Combination

424 Wall Mounting
98 dB
Page 196



434 Wall Mounting
108 dB
Page 204



435 Wall Mounting
108 dB
Page 206



LED/Flash/EVS/Horn Combination

435 Wall Mounting
108 dB
Page 205



LED/Flash/EVS/Multi-Tone Sounder Combination

431/433 Base, Wall Mounting
108 dB
Page 201



LED/Multi-Tone Sounder Combination

420/422 Base, Wall Mounting
105 dB
Page 193



430/432 Base, Wall Mounting
108 dB
Page 200



431/433 Base, Wall Mounting
108 dB
Page 202



LED Double Flash/Multi-Tone Sounder Combination

444 Base, Wall Mounting
114 dB
Page 211



LED EVS/Multi-Tone Sounder Combination

444 Base, Wall Mounting
114 dB
Page 212




Signal Towers with Audible Element

Modular and pre-assembled signal towers with audible element, VarioSIGN, FlatSIGN, CleansIGN with buzzer
80-105 dB
Page 222



Flash/Multi-Tone Sounder Combination

421 Base Mounting
105 dB
Page 195



423 Wall Mounting
109 dB
Page 195



439 Wall Mounting
105 dB
Page 207



441 Wall Mounting
110 dB
Page 208



442 Wall Mounting
120 dB
Page 209




LED Traffic Light/Siren Combination

494 Wall Mounting 2 and 3 tier
90 dB
Page 214



494 Wall Mounting 1, 2 and 3 tier
90 dB
Page 214




(LED)Traffic Light/Multi-Tone Sounder Combination

Permanent Beacon 890 with Multi-Tone Sounder 190
110 dB
Page 216



LED Permanent Beacon 890 with Multi-Tone Sounder 190
110 dB
Page 216



LED Beacon 853 with Sounder 153
105 dB
Page 217



Surface Housing for Combinations

975 Surface Housings for 1, 2 or 3 products
Page 221



Sounds

The sounds of these products can be played from our website www.werma.com under the heading "Optical-Audible Signal Devices".



Further information

Further information about the "Audible" theme can be found in the chapter "General Information" beginning on page 358.



Optical-Audible Signal Devices

Double safety with optical-audible signals

Under certain conditions operational sites with a high or changing noise level require a coloured, optical stimulus in addition to the audible signal. The combination of optical and audible signals leads to greater effectivity as both the eyes and ears are addressed by the sensory stimuli. The combination of an optical and an audible signal rules out the possibility of mistakes or the audible signal being overheard.

Variety of signals

WERMA supplies a large number of audible signals which can also be enhanced with the addition of optical light signals.

AUDIBLE SIGNALS

- Sirens and Multi-Tone Sounders
- (Installation) Buzzers
- Horns

OPTICAL SIGNALS

- LED Permanent Light
- (LED) Flashing Light and
- LED Double Flash Light
- LED EVS Signal
- LED Rotating Light
- LED Permanent/Flash/EVS Light



A successful combination: the optical-audible 43x signal devices

WERMA has expanded its range of optical-audible signal devices with the addition of the 43x series. The products offer a wide choice of light effects ranging from a light-intense LED permanent light, a powerful LED rotating light or a flexible combined version with LED permanent/flashing/EVS light effects. As an audible supplement, users have the choice of a multi-tone sounder or a horn.

The optical and audible signals can be triggered separately to provide users with the option of activating just one signal type or both at the same time to generate a maximum level of awareness. In addition to versions for base mounting, the signal devices are also available with a practical integrated mounting bracket.



iF product design award for outstanding design

The WERMA 43x signal device range won the coveted iF product design award in 2012. With their innovative and unique design, the attractive signal devices stood out in a highly-qualified, internationally competitive field. For over 58 years the iF product design award has been a globally respected brand for design excellence.

With this latest award, WERMA signal devices have again been recognised for their outstanding design quality. The products have repeatedly distinguished themselves through their appealing design, and for this reason been awarded internationally coveted prizes such as the red dot design award and the iF Award.



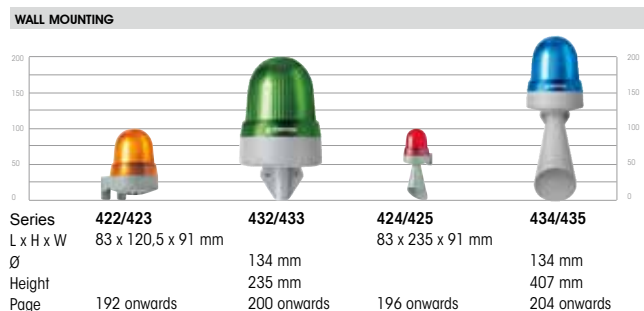
Quick Finder for Optical-Audible Signal Devices

WERMA provides its customers with a comprehensive selection of Optical-Audible Signal Devices. A range of different light effects and signal tones are available.

With our Quick Finder you can quickly and easily select the correct signal device for your application. If you require additional support, simply give us a call!

| OPTICAL SIGNAL | Buzzer | Multi-Tone Sounder | Horn | Siren | AUDIBLE SIGNAL |
|-------------------------------|---|--|---|---|----------------|
| Permanent Light | 480 Light/Buzzer (Wall Mounting) P. 198 | 442 Flash/Multi-Tone Sounder (Wall Mounting) P. 209 | 580 Light/Horn (Wall Mounting) P. 199 | | |
| | 421 Flash/Buzzer (Base Mounting) P. 194 | 441 Flash/Multi-Tone Sounder (Wall Mounting) P. 208 | | | |
| Flashing Light | 423 Flash/Buzzer (Wall Mounting) P. 194 | 439 Flash/Multi-Tone Sounder (Wall Mounting) P. 207 | 425 Flash/Horn (Wall Mounting) P. 197 | | |
| | | 421 Flash/Multi-Tone Sounder (Base Mounting) P. 195 | 581 Flash/Horn (Wall Mounting) P. 199 | | |
| LED Rotating Light | | 431 LED/Multi-Tone Sounder (Base Mounting) P. 202 | 435 LED/Horn (Wall Mounting) P. 206 | | |
| | | 433 LED/Multi-Tone Sounder (Wall Mounting) P. 202 | | | |
| LED Permanent/Flash/EVS Light | | 444 LED EVS/Multi-Tone Sounder (Wall/Base Mounting) P. 212 | | | |
| | | 444 LED Double Flash/Multi-Tone Sounder (Wall/Base Mounting) P. 211 | | | |
| LED Permanent Light | 420 LED/Buzzer (Base Mounting) P. 192 | 431 LED/Flash/EVS (Base Mounting) P. 201 | 435 LED/Flash/EVS/Horn (Wall Mounting) P. 205 | | |
| | 422 LED/Buzzer (Wall Mounting) P. 192 | 433 LED/Flash/EVS (Wall Mounting) P. 201 | | | |
| | Installation version 150 LED/Buzzer P. 218 | 853/153 LED/Sounder P. 217 | | | |
| | 450 LED/Buzzer with acknowledgement function P. 219 | 890/190 LED Permanent Beacon/Multi-Tone Sounder (Wall/Bracket Mounting) P. 216 | | | |
| | 450 LED/Buzzer for AS-Interface P. 220 | 890/190 Permanent Beacon/Multi-Tone Sounder (Wall/Bracket Mounting) P. 216 | | | |
| | | 420 LED/Multi-Tone Sounder (Base Mounting) P. 193 | | | |
| | | 422 LED/Multi-Tone Sounder (Wall Mounting) P. 193 | | | |
| | | 430 LED/Multi-Tone Sounder (Base Mounting) P. 200 | 424 LED/Horn (Wall Mounting) P. 196 | | |
| | | 432 LED/Multi-Tone Sounder (Wall Mounting) P. 200 | 434 LED/Horn (Wall mounting) P. 204 | | |
| | | 853/153 LED/Sounder P. 217 | | | |
| | | | | 494 LED-Traffic Light/Siren with clear lenses P. 214 | |
| | | | | 494 LED-Traffic Light/Siren with coloured lenses P. 214 | |

Size comparison



Comparison of sound output



442 Flash/Multi-Tone Sounder Combination Page 209

120 dB



432 LED Permanent/Multi-Tone Sounder Combination Page 200
 433 LED Permanent/Flash/EVS/Multi-Tone Sounder Comb. Page 201
 433 LED Rotating/Multi-Tone Sounder Combination Page 202

114 dB

112 dB

110 dB



422 LED/Multi-Tone Sounder Combination Page 193
 423 Flash/Multi-Tone Sounder Combination Page 195

109 dB

108 dB



420 LED/Multi-Tone Sounder Combination Page 193
 421 Flash/Multi-Tone Sounder Combination Page 195
 439 Flash/Multi-Tone Sounder Combination Page 207

105 dB

100 dB

98 dB



494 LED Traffic Light/Siren Combination Page 214
 494 LED Beacon/Siren Combination Page 214

96 dB

92 dB



480 Light/Buzzer Combination Page 198

90 dB

80 dB

Sound output in db
 (measured
 at 1 m distance)



| | | | | |
|---------------|---------|--|----------|--|
| 120 dB | | | | |
| 114 dB | 444 | LED EVS/Multi-Tone Sounder Combination | Page 212 | |
| | 444 | LED Double Flash/Multi-Tone Sounder Combination | Page 211 | |
| 112 dB | | | | |
| 110 dB | 441 | Flash/Multi-Tone Sounder Combination | Page 208 | |
| | 190/890 | (LED) Beacon/Multi-Tone Sounder Combination | Page 216 | |
| 109 dB | | | | |
| 108 dB | 430 | LED Permanent/Multi-Tone Sounder Combination | Page 200 | |
| | 431 | LED Permanent/Flash/EVS/Multi-Tone Sounder Combinat. | Page 201 | |
| | 431 | LED Rotating/Multi-Tone Sounder Combination | Page 202 | |
| | 434 | LED Permanent/Horn Combination | Page 204 | |
| | 435 | LED Permanent/Flash/EVS/Horn Combination | Page 205 | |
| | 435 | LED Rotating/Horn Combination | Page 206 | |
| 105 dB | 853/153 | LED/Sounder Combination | Page 217 | |
| 100 dB | | | | |
| 98 dB | 424 | LED/Horn Combination | Page 196 | |
| | 425 | Flash/Horn Combination | Page 197 | |
| 96 dB | | | | |
| 92 dB | 420 | LED/Buzzer Combination | Page 192 | |
| | 421 | Flash/Buzzer Combination | Page 194 | |
| | 422 | LED/Buzzer Combination | Page 192 | |
| | 423 | Flash/Buzzer Combination | Page 194 | |
| | 580 | Light/Horn Combination | Page 199 | |
| | 581 | Flash/Horn Combination | Page 199 | |
| 90 dB | | | | |
| 80 dB | 150 | LED/Buzzer Combination | Page 218 | |
| | 450 | LED/Buzzer Combination with acknowledgement function | Page 219 | |
| | 450 | LED/Buzzer Combination for AS-Interface | Page 220 | |

Sound output in db
(measured at 1 m distance)





Base mounting



The adaptor (accessory) allows quick and simple mounting on a tube



Wall mounting

- Buzzer in combination with LED Permanent Beacon
- Adaptor for tube mounting (accessory)
- Easy to mount
- Optical and audible signals can be triggered separately
- Continuous or pulse tone selectable
- Integrated mounting bracket (422)

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

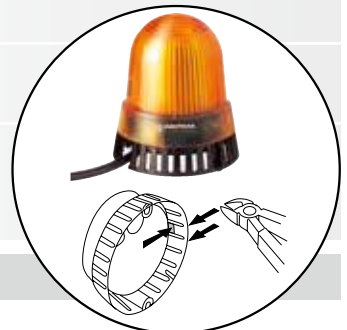
| | |
|---------------------------------|--|
| Dimensions (Ø x Height): | 89 mm x 100.5 mm (Base/tube mounting) |
| (L x H x W): | 83 mm x 120.5 mm x 91 mm (Wall mounting) |
| Housing: | Base/tube mounting: PC, black Wall mounting: PC-ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Tone type: | Continuous tone or pulse tone, adjustable 12 V: only continuous tone |
| Tone frequency: | 2.3 kHz (c. 3.3 kHz at 12 V) |
| Fixing: | Base mounting, tube mounting (accessory) Wall mounting, Sound outlet facing downwards |

ORDER SPECIFICATIONS:

| | | | | |
|---------------------------|------------|------------|------------|------------|
| Voltage | 12 V DC | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumpt. LED | 80 mA | 45 mA | 25 mA | 25 mA |
| Current consumpt. Buzzer | 40 mA | 15 mA | 15 mA | 25 mA |
| Base/Tube mounting | | | | |
| red | 420 110 54 | 420 110 75 | 420 110 67 | 420 110 68 |
| yellow | 420 310 54 | 420 310 75 | 420 310 67 | 420 310 68 |
| Wall mounting | | | | |
| red | 422 110 54 | 422 110 75 | 422 110 67 | 422 110 68 |
| yellow | - | 422 310 75 | 422 310 67 | 422 310 68 |

ACCESSORIES:

| | |
|--|------------|
| Adaptor for tube mounting, plastic, for tube Ø 25 mm | 975 420 01 |
| Base for tube Ø 25 mm, plastic, incl. rubber sea | 975 840 90 |
| Base for tube Ø 25 mm, metal, incl. rubber seal | 975 840 91 |
| Rohr Ø 25 mm, Aluminium eloxiert | |
| 100 mm | 975 845 10 |
| 250 mm | 975 840 25 |



A piece of the rim can be broken out to allow for cable entry from the side

TECHNICAL DIAGRAMS:

see page 304



See note on page 347





Base mounting



Mounting holes integrated into the product rim allow easy mounting without having to remove the lens



Wall mounting

- Multi-Tone Sounder in combination with LED Permanent Beacon
- Optical and audible signals can be triggered separately
- Choice of 8 different tones
- Easy to mount
- Adjustable sound output
- Integrated mounting bracket (422)
- Adaptor for tube mounting (accessory)

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|--|
| Dimensions (Ø x Height): | 89 mm x 100.5 mm (Base/tube mounting) |
| (L x H x W): | 83 mm x 120.5 mm x 91 mm (Wall mounting) |
| Housing: | Base/tube mounting: PC black Wall mounting: PC-ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Fixing: | Base mounting, tube mounting (accessory) Wall mounting, Sound outlet facing downwards |
| Tone type: | Selectable, see table below |
| Tone frequency: | See table below |

TONE TYPES AND FREQUENCIES:



| Tone No. | Tone type |
|----------|---|
| 1 | Horn tone (c. 110 Hz) |
| 2 | Continuous tone (c. 3.0 KHz) |
| 3 | 1 Hz tone (c. 3.0 KHz) |
| 4 | 20 Hz whistle tone (c. 3.0 KHz) |
| 5 | 800-970 Hz rising @ 1 Hz |
| 6 | 2400-2850 Hz rising @ 7 Hz |
| 7 | 1200-500 Hz falling @ 1 Hz |
| 8 | Alternating tone 800 Hz / 1200 Hz @ 1Hz |

ORDER SPECIFICATIONS:

| | |
|---------------------------|------------|
| Voltage | 24 V AC/DC |
| Current consumption LED | 45 mA |
| Current consumption MTS | 80 mA |
| Base/Tube mounting | |
| red | 420 120 75 |
| yellow | 420 320 75 |
| Wall mounting | |
| red | 422 120 75 |
| yellow | 422 320 75 |

ACCESSORIES:

Accessories see page 192.

TECHNICAL DIAGRAMS: see page 304

See note on page 347



Size comparison

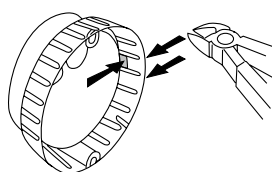




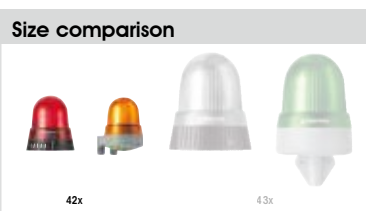
Base mounting



Wall mounting



A piece of the rim can be broken out to allow for cable entry from the side



- Buzzer in combination with Xenon Flash
- Optical and audible signal can be triggered separately
- Easy to mount
- Continuous or pulse tone selectable
- Adaptor for tube mounting (accessory)
- Integrated mounting bracket (423)

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|---|
| Dimensions (Ø x Height): | 89 mm x 100.5 mm (Base/tube mounting) |
| (L x H x W): | 83 mm x 120.5 mm x 91 mm (Wall mounting) |
| Housing: | Base/tube mounting: PC, black Wall mounting: PC-ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screwable protection with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Tone type: | Continuous or pulse tone, selectable |
| Tone frequency: | 2.3 kHz |
| Flash energy: | 1 Ws |
| Flash frequency: | 1 Hz |
| Fixing: | Base mounting, tube mounting (accessory), Wall mounting, Sound outlet facing downwards |
| Life duration: | 4 x 10 ⁶ flashes |

ORDER SPECIFICATIONS:

| | | | |
|----------------------------|------------|------------|------------|
| Voltage | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumption Flash | 120 mA | 25 mA | 35 mA |
| Current consumption Buzzer | 15 mA | 15 mA | 25 mA |
| Base/Tube mounting | | | |
| red | 421 110 75 | 421 110 67 | 421 110 68 |
| yellow | 421 310 75 | 421 310 67 | 421 310 68 |
| Wall mounting | | | |
| red | 423 110 75 | 423 110 67 | 423 110 68 |
| yellow | 423 310 75 | 423 310 67 | 423 310 68 |



ACCESSORIES:

| | |
|--|------------|
| Adaptor for tube mounting, plastic, for tube Ø 25 mm | 975 420 01 |
| Base for tube Ø 25 mm, plastic, incl. rubber seal | 975 840 90 |
| Base for tube Ø 25 mm, metal, incl. rubber seal | 975 840 91 |
| Tube Ø 25 mm, all anodized aluminium | |
| 100 mm | 975 845 10 |
| 250 mm | 975 840 25 |

TECHNICAL DIAGRAMS:

see page 304

See note on page 347





Base mounting



Wall mounting



Mounting holes integrated into the product rim allow easy mounting without having to remove the lens

- Multi-Tone Sounder in combination with Xenon Flash
- Optical and audible signal can be triggered separately
- Choice of 8 different tones
- Adjustable sound output
- Easy to mount
- Adaptor for tube mounting (accessory)
- Integrated mounting bracket (423)

i TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|--|
| Dimensions (Ø x Height): | 89 mm x 100.5 mm (Base/tube mounting) |
| (L x H x W): | 83 mm x 120.5 mm x 91 mm (Wall mounting) |
| Housing: | Base/tube mounting: PC black Wall mounting: PC-ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Flash energy: | 1 Ws |
| Flash frequency: | 1 Hz |
| Fixing: | Base mounting, tube mounting (accessory) Wall mounting, Sound outlet facing downwards |
| Life duration: | 4 x 10 ⁶ flashes |
| Tone type: | Selectable, see table below |
| Tone frequency: | See table below |

🎵 TONE TYPES AND FREQUENCIES:

| Tone No. | Tone type |
|----------|---|
| 1 | Horn tone (c. 110 Hz) |
| 2 | Continuous tone (c. 3.0 KHz) |
| 3 | 1 Hz tone (c. 3.0 KHz) |
| 4 | 20 Hz whistle tone (c. 3.0 KHz) |
| 5 | 800-970 Hz rising @ 1 Hz |
| 6 | 2400-2850 Hz rising @ 7 Hz |
| 7 | 1200-500 Hz falling @ 1 Hz |
| 8 | Alternating tone 800 Hz / 1200 Hz @ 1Hz |

🛒 ORDER SPECIFICATIONS:

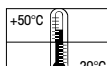
| | |
|---------------------------|------------|
| Voltage | 24 V AC/DC |
| Current consumption Flash | 120 mA |
| Current consumption MTS | 80 mA |
| Base/Tube mounting | |
| red | 421 120 75 |
| yellow | 421 320 75 |
| Wall mounting | |
| red | 423 120 75 |
| yellow | 423 320 75 |

🏠 ACCESSORIES:

Accessories see page 194.

📏 TECHNICAL DIAGRAMS: see page 304

See note on page 347



Size comparison





- Electronic Horn in combination with LED Permanent Beacon
- Horn with long life duration up to 5,000 hrs
- Optical and audible signal can be triggered separately
- Adjustable sound output (24 V version)

Life duration up to 50,000 hrs (LED) + 5,000 hrs (Horn)

i TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|--|
| Dimensions (L x H x W): | 83 mm x 234.5 mm x 91 mm |
| Housing: | PC/ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Fixing: | Wall mounting, sound outlet facing downwards |
| Life duration: | 50,000 hrs (LED Permanent light) 5,000 hrs (Horn) |
| Tone frequency: | 110 Hz |

🛒 ORDER SPECIFICATIONS:



| | | | |
|--------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumption LED | 45 mA | 25 mA | 25 mA |
| Current consumption Horn | 80 mA | 70 mA | 70 mA |
| red | 424 120 75 | 424 120 67 | 424 120 68 |
| yellow | 424 320 75 | 424 320 67 | 424 320 68 |

📐 TECHNICAL DIAGRAMS:

see page 304



See note on page 347





- Electronic Horn in combination with Xenon Flash
- Horn with long life duration of up to 5,000 hrs
- Optical and audible signal can be triggered separately
- Adjustable sound output (24 V version)

i TECHNICAL SPECIFICATIONS:

| | |
|--------------------------------|---|
| Dimensions (L x H x W): | 83 mm x 234.5 mm x 91 mm |
| Housing: | PC/ABS-Blend; PC grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Flash energy: | 1 Ws |
| Flash frequency: | 1 Hz |
| Fixing: | Wall mounting, sound outlet facing downwards |
| Life duration: | 4 x 10 ⁶ flashes (Xenon Flash) 5,000 hrs (Horn) |
| Tone frequency: | 110 Hz |

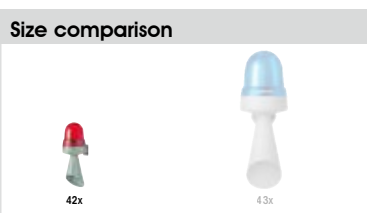
ORDER SPECIFICATIONS:

| | | | |
|---------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumption Flash | 120 mA | 30 mA | 30 mA |
| Current consumption Horn | 80 mA | 70 mA | 70 mA |
| red | 425 120 75 | 425 120 67 | 425 120 68 |
| yellow | 425 320 75 | 425 320 67 | 425 320 68 |



TECHNICAL DIAGRAMS:

see page 304



See note on page 347





- Light and sound can be triggered separately
- Integrated mounting bracket

TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|---|
| Dimensions (L x H x W): | 70 mm x 158.5 mm x 77 mm |
| Housing: | ABS |
| Lens: | PC, transparent |
| Socket: | BA15d, max. 7 Watt |
| Connection: | Screw terminal max. 2.5 mm ² |
| Cable entry: | Cable diameter max. 9 mm |
| Tone frequency: | C. 2400 Hz |
| Duty cycle: | 100 % |

Bulb included in assembly. Bulb Overview see pages 184 and 185.

ORDER SPECIFICATIONS:

| | | |
|---------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 230 V AC |
| Current consumption | 320 mA | 50 mA |
| red | 480 152 55 | 480 152 68 |
| yellow | 480 352 55 | 480 352 68 |

Further colours and voltages on request.



ADDITIONAL INFORMATION:

Please also see LED/Buzzer Combination 422 with additional advantages (page 192)

- High protection rating IP 65
- Buzzer in combination with LED
- Long life duration of up to 50,000 hrs
- Continuous and pulse tone selectable



TECHNICAL DIAGRAMS:

see page 306



See note
on page 347





- Light and sound can be triggered separately
- Integrated mounting bracket

i TECHNICAL SPECIFICATIONS:

| | | | |
|---|---|--|--|
| Dimensions (L x H x W): | 70 mm x 251 mm x 77 mm | | |
| Housing: | ABS | | |
| Lens: | PC, transparent | | |
| Socket: | B15d, max. 7 Watt | | |
| Connection: | Screw terminal max. 2.5 mm ² | | |
| Cable entry: | Cable diameter max. 9 mm | | |
| Duty cycle: | 100 % | | |
| Bulb included in assembly. Bulb Overview see pages 184 and 185. | | | |

ORDER SPECIFICATIONS:

| | | | |
|---------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V DC | 42 V AC | 230 V AC |
| Current consumption | 360 mA | 250 mA | 50 mA |
| red | 580 152 55 | 580 152 66 | 580 152 68 |
| yellow | 580 352 55 | - | 580 352 68 |

Further colours and voltages on request.

TECHNICAL DIAGRAMS: see page 307

See note on page 347



! ADDITIONAL INFORMATION:

Please also see LED/Horn Combination 424 with add. advantages (page 196)

- High protection rating IP 65
- Horn with a life duration of up to 5,000 hrs
- LED Permanent light with a life duration of up to 50,000 hrs



- Light and sound can be triggered separately
- Integrated mounting bracket

i TECHNICAL SPECIFICATIONS:

| | | | |
|-------------------------|---|--|--|
| Dimensions (L x H x W): | 70 mm x 292 mm x 77 mm | | |
| Housing: | ABS | | |
| Lens: | PC, transparent | | |
| Connection: | Screw terminal max. 2.5 mm ² | | |
| Cable entry: | Cable diameter max. 9 mm | | |
| Flash frequency: | C. 1 Hz | | |
| Flash energy: | 2 Ws | | |
| Life duration: | 4 x 10 ⁶ flashes | | |

ORDER SPECIFICATIONS:

| | | | |
|---------------------|-------------------|-------------------|-------------------|
| Voltage | 12 V DC | 24 V DC | 230 V AC |
| Current consumption | 300 mA | 200 mA | 30 mA |
| red | - | 581 152 55 | 581 152 68 |
| yellow | 581 352 54 | 581 352 55 | 581 352 68 |

Further colours and voltages on request.

TECHNICAL DIAGRAMS: see page 308

See note on page 347



! ADDITIONAL INFORMATION:

Please also see Flash/Horn Combination 425 with add. advantages (Page 197)

- High Protection rating IP 65
- Horn with a life duration of up to 5,000 hrs
- Adjustable sound output





LED Permanent Light in combination with Multi-Tone Sounder



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket



Mounting holes integrated into the product rim allow easy mounting without having to remove the lens



- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories (432)

Life duration
up to 50,000 hrs (LED)
+ 5,000 hrs (Horn)

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|---|
| Dimensions (Ø x Height): | 146 mm x 171 mm (Base mounting) 134 mm x 235 mm (Wall mounting) |
| Housing: | Base mounting: PC, black Wall mounting: PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Base mounting (430), Wall mounting (432) Tube mounting (accessory, only for 430) |
| Installation position: | Sound outlet facing downwards |
| Tone type and frequency: | 32 tones adjustable, see table on page 203. |

ORDER SPECIFICATIONS:

| Base mounting 430 | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
|-------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 230 mA (red) | 550 mA (red) | 80 mA (red) |
| red | 430 100 75 | 430 100 70 | 430 100 60 |
| green | 430 200 75 | 430 200 70 | 430 200 60 |
| yellow | 430 300 75 | 430 300 70 | 430 300 60 |
| clear | 430 400 75 | 430 400 70 | 430 400 60 |
| blue | 430 500 75 | 430 500 70 | 430 500 60 |
| Wall mounting 432 | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 220 mA (red) | 550 mA (red) | 80 mA (red) |
| red | 432 100 75 | 432 100 70 | 432 100 60 |
| green | 432 200 75 | 432 200 70 | 432 200 60 |
| yellow | 432 300 75 | 432 300 70 | 432 300 60 |
| clear | 432 400 75 | 432 400 70 | 432 400 60 |
| blue | 432 500 75 | 432 500 70 | 432 500 60 |

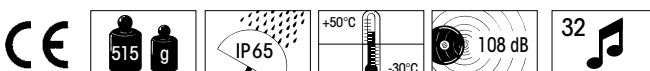
*Current consumption at 10 V / 115 V

ACCESSORIES:

| | |
|--|------------|
| Adaptor for tube mounting, plastic, for tube Ø 25 mm | 975 430 01 |
|--|------------|

TECHNICAL DIAGRAMS:

see page 304



431/433

LED Permanent/Flashing/EVS*/ Multi-Tone Sounder Combination



Multi-functional LED beacon:
3 light effects can be
externally triggered



The adaptor enables
mounting on a tube

- 3 light effects can be triggered externally
- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories (433)

Life duration
up to 50,000 hrs (LED)
+ 5,000 hrs (Horn)

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|--|
| Dimensions (Ø x Height): | 146 mm x 171 mm (Base mounting) 134 mm x 235 mm (Wall mounting) |
| Housing: | Base mounting: PC/ABS-Blend, black Wall mounting: PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Base mounting (431), Wall mounting (433), Tube mounting (accessory, only for 431) |
| Installation position: | Sound outlet facing downwards |
| Tone type and frequency: | 32 tones adjustable, see table on page 203 |

ORDER SPECIFICATIONS:

| Base mounting 431 | | | |
|-------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 220 mA (red) | 530 mA (red) | 80 mA (red) |
| red | 431 100 75 | 431 100 70 | 431 100 60 |
| green | 431 200 75 | 431 200 70 | 431 200 60 |
| yellow | 431 300 75 | 431 300 70 | 431 300 60 |
| clear | 431 400 75 | 431 400 70 | 431 400 60 |
| blue | 431 500 75 | 431 500 70 | 431 500 60 |
| Wall mounting 433 | | | |
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 220 mA (red) | 530 mA (red) | 80 mA (red) |
| red | 433 100 75 | 433 100 70 | 433 100 60 |
| green | 433 200 75 | 433 200 70 | 433 200 60 |
| yellow | 433 300 75 | 433 300 70 | 433 300 60 |
| clear | 433 400 75 | 433 400 70 | 433 400 60 |
| blue | 433 500 75 | 433 500 70 | 433 500 60 |

*Current consumption at 10 V / 115 V

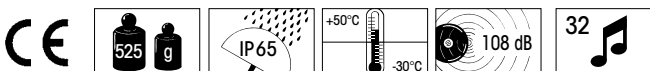
ACCESSORIES:

Adaptor for tube mounting, plastic, for tube Ø 25 mm **975 430 01**



* EVS = Enhanced Visibility System.
Further Information can be found in the chapter "General Information" beginning on page 352. Please note the photosensitive epilepsy warning on page 352.

TECHNICAL DIAGRAMS: see page 304





Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket



Base mounting

- Wear-free, intense rotating signal effect with low power consumption
- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories (433)

Life duration up to 50,000 hrs (LED) + 5,000 hrs (Horn)

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|---|
| Dimensions (Ø x Height): | 146 mm x 171 mm (Base mounting) 134 mm x 235 mm (Wall mounting) |
| Housing: | Base mounting: PC, black Wall mounting: PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Base mounting (431), Wall mounting (433) Tube mounting (accessory, only for 431) |
| Installation position: | Sound outlet facing downwards |
| Tone type and frequency: | 32 tones adjustable, see table on page 203. |

ORDER SPECIFICATIONS:

| | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
|--------------------------|-------------------|-------------------|-------------------|
| Base mounting 431 | | | |
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 220 mA | 500 mA | 70 mA |
| | 120 mA (red) | 300 mA (red) | 45 mA (red) |
| red | 431 110 75 | 431 110 70 | 431 110 60 |
| green | 431 210 75 | 431 210 70 | 431 210 60 |
| yellow | 431 310 75 | 431 310 70 | 431 310 60 |
| clear | 431 410 75 | 431 410 70 | 431 410 60 |
| blue | 431 510 75 | 431 510 70 | 431 510 60 |
| Wall mounting 433 | | | |
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 190 mA | 340 mA | 55 mA |
| Current consumption LED | 220 mA | 500 mA | 70 mA |
| | 120 mA (red) | 300 mA (red) | 45 mA (red) |
| red | 433 110 75 | 433 110 70 | 433 110 60 |
| green | 433 210 75 | 433 210 70 | 433 210 60 |
| yellow | 433 310 75 | 433 310 70 | 433 310 60 |
| clear | 433 410 75 | 433 410 70 | 433 410 60 |
| blue | 433 510 75 | 433 510 70 | 433 510 60 |

*Current consumption at 10 V / 115 V

ACCESSORIES:

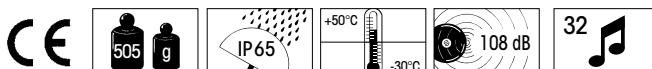
Adaptor for tube mounting, plastic, for tube Ø 25 mm **975 430 01**



TECHNICAL DIAGRAMS:

see page 304 + 305

Intense rotating signal effect with low power consumption



The Multi-Tone Sounder Combinations 43x offers a large choice of international signal tones for the widest range of applications. The tone types and frequencies can be found in the table below:



🎵 TONE TYPES AND FREQUENCIES:

| Tone 1 | Tone type | Frequency (Hz) | Description | Use | Tone 2 | Sound output (dbA) |
|--------|-------------|----------------|--|-------------------------------------|---------------|--------------------|
| 1 | continuous | 200 | | BS 5839-1:2002 | 440 Hz cont. | 97 |
| 2 | rising | 800 & 970 | 7 Hz | | 14 | 102 |
| 3 | rising | 800 & 970 | 1 Hz | | 14 | 103 |
| 4 | continuous | 2850 | | | 14 | 104 |
| 5 | rising | 2400 - 2850 | 7 Hz | | 4 | 109 |
| 6 | rising | 2400 - 2850 | 1 Hz | | 4 | 110 |
| 7 | rising | 500 - 1200 | 3 s, then 0.5 s OFF (then repeat) | | 14 | 106 |
| 8 | falling | 1200 - 500 | 1 Hz | DIN 33404-3 | 14 | 104 |
| 9 | alternating | 2400 & 2850 | 2 Hz | | 4 | 111 |
| 10 | pulse | 970 | 0.5 Hz (1 s On/1 s Off) | BS 5839 Part 1 1988 | 14 | 101 |
| 11 | alternating | 800 & 970 | 1 Hz | BS 5839 Part 1 1988 | 14 | 105 |
| 12 | pulse | 2850 | 0.5 Hz | | 4 | 104 |
| 13 | pulse | 970 | | 0,25 s On/1 s Off | 14 | 98 |
| 14 | continuous | 970 | | BS 5839-1:2002 PFEER - Toxic gas | 10 | 102 |
| 15 | alternating | 554 & 440 | | France NFS | 14 | 101 |
| 16 | pulse | 660 | 150 ms On/150 ms Off | Swedish | 16 | 96 |
| 17 | pulse | 660 | 1.8 s On/1.8 s Off | Swedish | 17 | 98 |
| 18 | pulse | 660 | 6.5 s On/13 s Off | Swedish | 18 | 98 |
| 19 | continuous | 660 | | Swedish | 19 | 98 |
| 20 | alternating | 554 & 440 | 0.5 Hz | | 20 | 102 |
| 21 | pulse | 660 | 1 Hz | Swedish | 21 | 97 |
| 22 | pulse | 2850 | 150 ms On/100 ms Off | GB | 14 | 104 |
| 23 | rising | 800 - 970 | 50 Hz (low) | BS 5839 Part 1 1988 | 14 | 102 |
| 24 | rising | 2400 - 2850 | 50 Hz (high) | | 4 | 109 |
| 25 | pulse | 970 | 3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (low) | ISO 8201 US Temporal | 26 | 101 |
| 26 | pulse | 2850 | 3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (high) | ISO 8201 US Temporal | 25 | 104 |
| 27 | continuous | 4000 | | | 27 | 92 |
| 28 | rising | 2000 - 2850 | 7 Hz | | 2000 Hz cont. | 111 |
| 29 | alternating | 988 & 645 | 2 Hz | | 988 Hz cont. | 102 |
| 30 | alternating | 510 & 610 | 2 Hz | | 510 Hz cont. | 102 |
| 31 | alternating | 800 & 970 | 2 Hz | 5839-1:2002 | 800 Hz cont. | 105 |
| 32 | alternating | 800 & 1200 | 1 Hz | | 800 Hz cont. | 105 |





Award winning design Winner of the IF product design award 2012

- Maintenance-free, electronic horn with a long life duration of up to 5,000 hrs
- Sound output can be set to meet the requirements of the application
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories

Life duration up to 50,000 hrs (LED)

i TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|---|
| Dimensions (L x H x W): | 134 mm x 407 mm x 144 mm |
| Housing: | PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Wall mounting, integrated mounting bracket |
| Installation position: | Sound outlet facing downwards |
| Tone frequency: | C. 110 Hz |
| Life duration: | Up to 50,000 h (LED), up to 5,000 h (Horn) |

ORDER SPECIFICATIONS:

| | | | |
|-------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 55 mA | 210 mA | 30 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 230 mA (red) | 550 mA (red) | 80 mA (red) |
| red | 434 100 75 | 434 100 70 | 434 100 60 |
| green | 434 200 75 | 434 200 70 | 434 200 60 |
| yellow | 434 300 75 | 434 300 70 | 434 300 60 |
| clear | 434 400 75 | 434 400 70 | 434 400 60 |
| blue | 434 500 75 | 434 500 70 | 434 500 60 |

*Current consumption at 10 V / 115 V

TECHNICAL DIAGRAMS:

see page 305



Loud, long-life combination for a diverse range of applications



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket

Size comparison



435 LED Permanent/Flashing/EVS*/Horn Combination



Multi-functional LED beacon:
3 light effects can be triggered
externally

- Maintenance-free, electronic horn with long life duration of up to 5,000 hrs
- Sound output can be set to meet the requirements of the application
- 3 light effects can be triggered externally
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories



TECHNICAL SPECIFICATIONS:

Life duration up to
50,000 hrs (LED)

| | |
|-------------------------|---|
| Dimensions (L x H x W): | 134 mm x 407 mm x 144 mm |
| Housing: | PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Wall mounting, integrated mounting bracket |
| Installation position: | Sound outlet facing downwards |
| Tone frequency: | C. 110 Hz |
| Life duration: | Up to 50,000 h (LED), up to 5,000 h (Horn) |



ORDER SPECIFICATIONS:

| | | | |
|-------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 55 mA | 210 mA | 30 mA |
| Current consumption LED | 350 mA | 700 mA | 100 mA |
| | 220 mA (red) | 550 mA (red) | 80 mA (red) |
| red | 435 100 75 | 435 100 70 | 435 100 60 |
| green | 435 200 75 | 435 200 70 | 435 200 60 |
| yellow | 435 300 75 | 435 300 70 | 435 300 60 |
| clear | 435 400 75 | 435 400 70 | 435 400 60 |
| blue | 435 500 75 | 435 500 70 | 435 500 60 |

*Current consumption at 10 V / 115 V



ACCESSORIES:

*EVS = Enhanced Visibility System
Further Information see page 352.
Please note the photosensitive epilepsy warning on page 352.



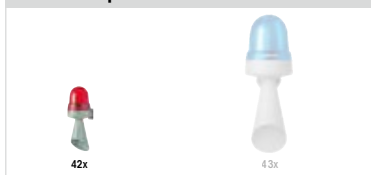
TECHNICAL DIAGRAMS:

see page 305

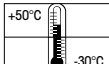
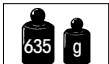


The "EVS"* light effect ensures a
maximum attention-grabbing
effect

Size comparison



Loud, long-life horn for a diverse
range of applications





Award winning design Winner of the iF product design award 2012

- Maintenance-free, electronic horn with long life duration of up to 5,000 hrs
- Sound output can be set to meet the requirements of the application
- Wear-free, intense rotating signal effect with low power consumption
- Optical and audible warning can be separately triggered for two stage signalling
- Integrated bracket for simple wall mounting without additional accessories

Life duration up to 50,000 hrs (LED)

TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|---|
| Dimensions (L x H x W): | 134 mm x 407 mm x 144 mm |
| Housing: | PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 11 mm |
| Fixing: | Wall mounting, integrated mounting bracket |
| Installation position: | Sound outlet facing downwards |
| Tone frequency: | C. 110 Hz |
| Life duration: | Up to 50,000 h (LED), up to 5,000 h (Horn) |

ORDER SPECIFICATIONS:

| | | | |
|-------------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 10-48 V AC/DC* | 115-230 V AC* |
| Current consumption MTS | 55 mA | 210 mA | 30 mA |
| Current consumption LED | 220 mA | 500 mA | 70 mA |
| | 150 mA (red) | 300 mA (red) | 45 mA (red) |
| red | 435 110 75 | 435 110 70 | 435 110 60 |
| green | 435 210 75 | 435 210 70 | 435 210 60 |
| yellow | 435 310 75 | 435 310 70 | 435 310 60 |
| clear | 435 410 75 | 435 410 70 | 435 410 60 |
| blue | 435 510 75 | 435 510 70 | 435 510 60 |

*Current consumption at 10 V / 115 V

TECHNICAL DIAGRAMS:

see page 305



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket



Intense rotating signal effect thanks to long-life, wear-free LED technology

Size comparison





- Multi-Tone Sounder in combination with Xenon Flash
- 32 tones for a diverse range of applications
- Adjustable sound output up to 105 dB
- 2 tones can be triggered externally
- Optical and audible signal can be triggered separately

i TECHNICAL SPECIFICATIONS:

| | | |
|-----------------------------|--|--|
| Dimensions (L x H x W): | 136 mm x 138 mm x 119 mm | |
| Housing: | ABS | |
| Connection: | Screw terminal max. 2.5 mm ² | |
| Cable entry: | Cable gland M20 x 1.5 mm (not included in assembly) | |
| Flash frequency: | 1 Hz | |
| Flash energy: | 1.6 Ws | |
| Tone types and frequencies: | Selectable via DIP switch | |

🛒 ORDER SPECIFICATIONS:

| | | |
|---------------------|-------------------|-------------------|
| Voltage | 9-60 V DC | 110-230 V AC |
| Current consumption | 230 mA (24 V) | 30 mA (230 V) |
| Housing / Flash | | |
| red / red | 439 010 55 | 439 010 68 |
| red / yellow | 439 030 55 | 439 030 68 |
| grey / red | 439 110 55 | 439 110 68 |
| grey / yellow | 439 130 55 | 439 130 68 |



🏠 ACCESSORIES:

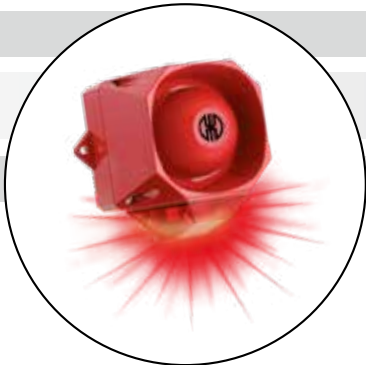
| | |
|--------------------------|-------------------|
| Cable gland M20 x 1.5 mm | 975 444 01 |
|--------------------------|-------------------|

🎵 TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

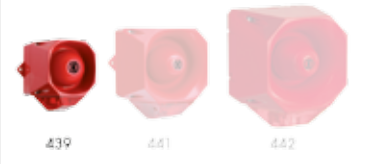
📏 TECHNICAL DIAGRAMS:

see page 305

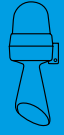


Multi-Tone Sounder in combination with a powerful Xenon Flash

Size comparison



See note on page 347





- Multi-Tone Sounder in Combination with Xenon Flash
- 32 tones for a diverse range of applications
- Adjustable sound output up to 110 dB
- 2 tones can be triggered externally
- Optical and audible signal can be triggered separately

i TECHNICAL SPECIFICATIONS:

| | | |
|-----------------------------|--|--|
| Dimensions (L x H x W): | 165 mm x 169 mm x 132 mm | |
| Housing: | PC/ABS-Blend | |
| Connection: | Screw terminal max. 2.5 mm ² | |
| Cable entry: | Cable gland M20 x 1.5 mm (not included in assembly) | |
| Flash frequency: | 1 Hz | |
| Flash energy: | 2.5 Ws | |
| Tone types and frequencies: | Selectable via DIP switch | |

🛒 ORDER SPECIFICATIONS:

| | | |
|---------------------|------------|------------|
| Voltage | 9-60 V DC | 230 V AC |
| Current consumption | 230 mA | 35 mA |
| Housing / Flash | | |
| red / red | 441 010 55 | 441 010 68 |
| red / yellow | 441 030 55 | 441 030 68 |
| grey / red | 441 110 55 | 441 110 68 |
| grey / yellow | 441 130 55 | 441 130 68 |



🏠 ACCESSORIES:

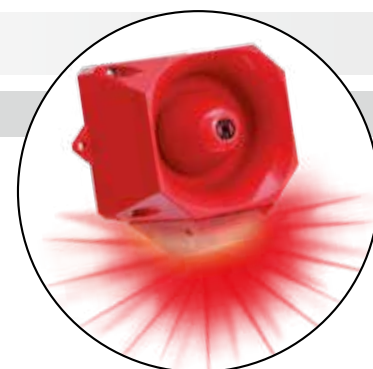
| | |
|--------------------------|------------|
| Cable gland M20 x 1.5 mm | 975 444 01 |
|--------------------------|------------|

🎵 TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

📐 TECHNICAL DIAGRAMS:

see page 305

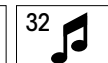
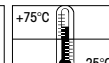


Multi-Tone Sounder
in combination with a
powerful Xenon Flash

Size comparison



See note
on page 347





- Multi-Tone Sounder in combination with Xenon Flash
- 4 different flash frequencies (24 V Version)
- 42 tones for a diverse range of applications
- Adjustable sound output up to 120 dB
- 3 tones can be triggered externally
- Duration of signal phase selectable
- Optical and audible signal can be triggered separately

i TECHNICAL SPECIFICATIONS:

| | |
|-----------------------------|--|
| Dimensions (L x H x W): | 168 mm x 211 mm x 155 mm |
| Housing: | PC/ABS-Blend |
| Connection: | Screw terminal max. 2.5 mm ² |
| Cable entry: | Cable gland M20 x 1.5 mm (not included in assembly) |
| Tone types and frequencies: | Selectable via DIP switch, see table on page 210 |

ORDER SPECIFICATIONS:

| | | |
|----------------------------------|--|---|
| Voltage | 18-30 V DC | 115 / 230 V AC |
| Current cons. Multi Tone Sounder | 450 mA | 130 / 65 mA |
| Current consumption Flash | 127-389 mA (dependent on voltage and flash frequency) | - / 15 mA (dependent on voltage and flash frequency) |
| Flash frequency | 0,75 Hz/1 Hz 1,25 Hz/2 Hz | 1 Hz (Flash can only be operated with 230 V) |
| Flash energy | 3,5 Ws 2 Ws | 2 Ws |
| Housing/Flash | | |
| red/red | 442 010 55 | 442 010 68 |
| red/yellow | 442 030 55 | 442 030 68 |
| grey/red | 442 110 55 | 442 110 68 |
| grey/yellow | 442 130 55 | 442 130 68 |

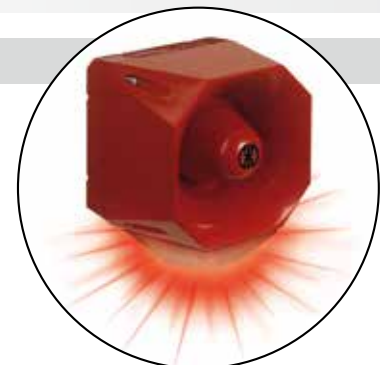


ACCESSORIES:

| | |
|--------------------------|------------|
| Cable gland M20 x 1.5 mm | 975 444 01 |
|--------------------------|------------|

TECHNICAL DIAGRAMS:

see page 305



Loud Multi-Tone Sounder in combination with a powerful Xenon Flash

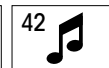
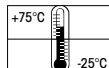
Size comparison



See note on page 347



442 XX0 55 442 XX0 68



The Flash/Multi-Tone Sounder Combination 442 offers a large choice of international signal tones for the widest spectrum of applications. 3 tones can be triggered externally. The first two tones can be freely chosen. The third tone is paired with the second tone.

🎵 TONE TYPES AND FREQUENCIES:



| Tone 1+2 No | Tone type | Use | Output (dBA) | Tone 3 |
|-------------|--|---|--------------|--------|
| 1 | alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms) | | 120 | 14 |
| 2 | rising 800/970 Hz in 7 Hz stroke (7/s) | | 120 | 14 |
| 3 | rising 800/970 Hz in 1 Hz stroke (1/s) | | 120 | 14 |
| 4 | continuous 2,850 Hz | | 111 | 9 |
| 5 | rising 2,400-2,850 Hz in 7 Hz stroke | | 109 | 4 |
| 6 | rising 2,400-2,850 Hz in 1 Hz stroke | | 110 | 4 |
| 7 | 500-1,200 Hz rising in 3 sec., 0.5 sec. OFF | Slow Whoop Holland | 119 | 14 |
| 8 | falling 1,200-500 Hz in 1 Hz stroke | DIN/PFEER (PAPA), DIN 33404-3, VDS tested | 119 | 14 |
| 9 | alternating 2,400/2,850 Hz in 2 Hz stroke (250 ms-250 ms) | | 113 | 4 |
| 10 | pulse 970 Hz in 0,5 Hz stroke (1 sec. ON / 1 sec. OFF) | PFEER Alarm | 117 | 14 |
| 11 | alternating 800/970 Hz in 1 Hz stroke (500 ms-500 ms) | | 118 | 14 |
| 12 | pulse 2,850 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF) | | 112 | 4 |
| 13 | 970 Hz pulse: 0.25 sec. ON / 1 sec. OFF | | 117 | 14 |
| 14 | continuous 970 Hz | PFEER - Toxic gas | 118 | 8 |
| 15 | 554 Hz/100 ms alternating 440 Hz/400 ms | French alarm signal AFNOR NFS 32S 32-001 | 115 | 14 |
| 16 | 660 Hz pulse: 150 ms ON, 150 ms. OFF | Swedish alarm signal | 114 | 14 |
| 17 | 660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF | Swedish alarm signal | 115 | 14 |
| 18 | 660 Hz pulse: 6.5 sec. ON, 13 sec. OFF | Swedish alarm signal | 115 | 14 |
| 19 | continuous 660 Hz | Swedish alarm signal | 116 | 1 |
| 20 | alternating 554/440 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF) | Swedish alarm signal | 115 | 19 |
| 21 | pulse 660 Hz in 1 Hz stroke (500 ms-500 ms) | Swedish alarm signal | 115 | 4 |
| 22 | pulse 2,850 Hz in 4 Hz stroke (150 ms ON / 100 ms OFF) | | 110 | 4 |
| 23 | rising 800-970 Hz in 50 Hz stroke | | 117 | 14 |
| 24 | rising 2,400-2,850 Hz in 50 Hz stroke | | 110 | 4 |
| 25 | 970 Hz puls.: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec. | ISO 8201 / US Temporal | 118 | 14 |
| 26 | 2,850 Hz puls.: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec. | ISO 8201 / US Temporal | 112 | 4 |
| 27 | continuous 4,000 Hz | | 105 | 6 |
| 28 | alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms) | | 118 | 14 |
| 29 | alternating 990/650 Hz in 2 Hz stroke (250 ms-250 ms) | | 117 | 14 |
| 30 | alternating 510/610 Hz in 2 Hz stroke (250 ms-250 ms) | | 116 | 14 |
| 31 | rising 300-1,200 Hz in 1 Hz stroke | | 118 | 14 |
| 32 | continuous Bell | | 117 | 3 |
| 33 | continuous Bell: 3x500 ms. Pulse, 1.5 sec. Silence, then repeat | Bell / US Temporal | 117 | 14 |
| 34 | alternating 1,000/2,000 Hz in 1 Hz stroke (500 ms-500 ms) | Singapore | 115 | 4 |
| 35 | pulse 420 Hz (0,625 sec.) | Australian alarm signal | 118 | 14 |
| 36 | 500-1,200 Hz rising in 3.75 sec., then 0,25 sec. OFF | Australian alarm signal (Evacuation) | 117 | 14 |
| 37 | rising 1,400-1,600 Hz in 1 sec., falling in 0.5 sec. | NF C 48-265 | 116 | 14 |
| 38 | 500-1,200 Hz rising and falling in 3 sec. | Siren | 117 | 14 |
| 39 | pulse 720 Hz: 0.7 sec. ON, 0.3 sec. OFF | German industrial alarm | 118 | 14 |
| 40 | rising 422-775 Hz in 0.85 sec., 1 sec. silence, then repeat | NFPA Whoop | 118 | 14 |
| 41 | continuous 470 Hz | Horn (USA) | 114 | 3 |
| 42 | continuous 370 Hz | Air Horn (USA) | 113 | 3 |



LED Double Flash/ Multi-Tone Sounder Combination



Base mounting



Wall mounting

- Multi-Tone Sounder in combination with LED Double Flash
- Sound output adjustable up to 114 dB (C)/110 dB (A)
- 32 tones
- 3 Tones can be triggered externally
- Optical and audible signal can be triggered separately

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|--|
| Dimensions (L x H x W): | 109 mm x 112.5 mm x 152 mm |
| Housing: | PC/ABS-Blend |
| Lens: | PC, transparent |
| Connection: | 24 V: Screw terminal with wire protection max. 1.5 mm ² 115/230 V: CAGE CLAMP® |
| Cable entry: | Membrane for cable diameter max. 13 mm |
| Fixing: | Wall, base and ceiling mounting |
| Life duration: | Up to 50,000 hrs (LED Double Flash) |
| Flash frequency: | C. 1 Hz |

ORDER SPECIFICATIONS:

| | 24 V AC/DC | 115 V AC | 230 V AC |
|---------------------|---------------------------------|-------------------|-------------------|
| Voltage | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumption | Optical 60 mA Audible 200 mA | 30 mA 55 mA | 30 mA 30 mA |
| red | 444 100 75 | 444 100 67 | 444 100 68 |
| yellow | 444 300 75 | 444 300 67 | 444 300 68 |

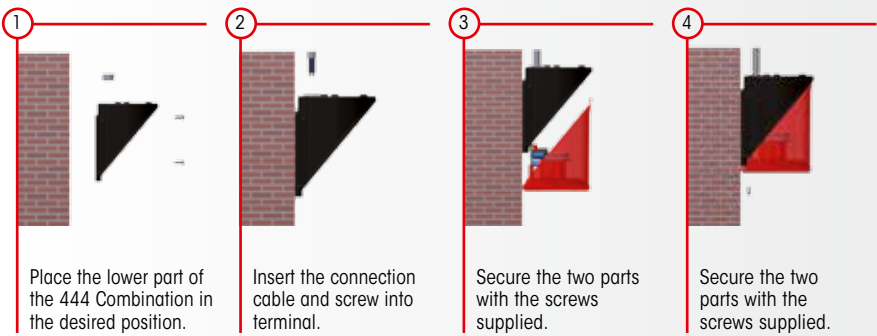
ACCESSORIES:

| | |
|--|------------|
| Cable gland M20 x 1.5 mm (for cable strain relief) | 975 444 01 |
| Protection rating IP 65 is provided even without cable gland | |

-tone TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 213.

QUICK AND SIMPLE MOUNTING



TECHNICAL DIAGRAMS: see page 305

See note on page 347

| | | | | | | | | | |
|----|-----|---------------|------------------------|------|----------------|------------|------------|----|-------------|
| CE | EAC | 24 V 330 g | 115 V / 230 V 470 g | IP65 | +50°C -30°C | (A) 110 dB | (C) 114 dB | 32 | 24 V PLC |
|----|-----|---------------|------------------------|------|----------------|------------|------------|----|-------------|



LED EVS*/Multi-Tone Sounder Combination



Base mounting



The „EVS“ light effect ensures a maximum attention-grabbing effect

- Multi-Tone Sounder in combination with LED EVS* signal
- Random sequence of light signals prevents acclimatisation effect
- 32 tones for a diverse range of applications
- Sound output adjustable up to 114 dB (C)/110 db (A)
- 3 tones can be triggered externally
- Optical and audible signal can be triggered separately

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

| | |
|-------------------------|--|
| Dimensions (L x H x W): | 109 mm x 112.5 mm x 152 mm |
| Housing: | PC/ABS-Blend |
| Lens: | PC, transparent |
| Connection: | 24 V: Screw terminal with wire protection max. 2.5 mm ² 115/230 V: CAGE CLAMP® |
| Cable entry: | Membrane for cable diameter max. 13 mm |
| Fixing: | Wall, base and ceiling mounting |
| Life duration: | Up to 50,000 hrs (LED EVS) |

ORDER SPECIFICATIONS:

| | | | | |
|---------------------|---------|-------------------|-------------------|-------------------|
| Voltage | | 24 V AC/DC | 115 V AC | 230 V AC |
| Current consumption | Optical | 60 mA | 30 mA | 30 mA |
| | Audible | 220 mA | 55 mA | 30 mA |
| red | | 444 110 75 | 444 110 67 | 444 110 68 |
| yellow | | 444 310 75 | 444 310 67 | 444 310 68 |



ACCESSORIES:

| | |
|--|-------------------|
| Cable gland M20 x 1.5 mm (for cable strain relief) | 975 444 01 |
| Protection rating IP 65 is provided even without cable gland | |

NOTE TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 213.

ADDITIONAL INFORMATION:

* EVS = Enhanced Visibility System.
Further Information can be found in the chapter "General Information" on page 352.
Please note the photosensitive epilepsy warning on page 352.

TECHNICAL DIAGRAMS:

see page 305

See note on page 347



| | | | | | | | | |
|------|---------------|------|----------------|--------|--------|----|------|-----|
| 24 V | 115 V / 230 V | IP65 | +50°C -30°C | 110 dB | 114 dB | 32 | 24 V | PLC |
| | | | | | | | | |



The 444 Combinations offer a large choice of international signal tones for the widest spectrum of applications. 3 tones can be triggered externally.



TONE TYPES AND FREQUENCIES:



| Tone 1 | Tone type | Frequency (Hz) | Description | Use | Tone 2 | Sound output (dbA) |
|--------|-------------|----------------|--|-------------------------------------|---------------|--------------------|
| 1 | continuous | 200 | | BS 5839-1:2002 | 440 Hz cont. | 97 |
| 2 | rising | 800 & 970 | 7 Hz | | 14 | 102 |
| 3 | rising | 800 & 970 | 1 Hz | | 14 | 103 |
| 4 | continuous | 2850 | | | 14 | 104 |
| 5 | rising | 2400 - 2850 | 7 Hz | | 4 | 109 |
| 6 | rising | 2400 - 2850 | 1 Hz | | 4 | 110 |
| 7 | rising | 500 - 1200 | 3 s, then 0.5 s OFF (then repeat) | | 14 | 106 |
| 8 | falling | 1200 - 500 | 1 Hz | DIN 33404-3 | 14 | 104 |
| 9 | alternating | 2400 & 2850 | 2 Hz | | 4 | 111 |
| 10 | pulse | 970 | 0.5 Hz (1 s On/1 s Off) | BS 5839 Part 1 1988 | 14 | 101 |
| 11 | alternating | 800 & 970 | 1 Hz | BS 5839 Part 1 1988 | 14 | 105 |
| 12 | pulse | 2850 | 0.5 Hz | | 4 | 104 |
| 13 | pulse | 970 | | 0,25 s On/1 s Off | 14 | 98 |
| 14 | continuous | 970 | | BS 5839-1:2002 PFEER - Toxic gas | 10 | 102 |
| 15 | alternating | 554 & 440 | | France NFS | 14 | 101 |
| 16 | pulse | 660 | 150 ms On/150 ms Off | Swedish | 16 | 96 |
| 17 | pulse | 660 | 1.8 s On/1.8 s Off | Swedish | 17 | 98 |
| 18 | pulse | 660 | 6.5 s On/13 s Off | Swedish | 18 | 98 |
| 19 | continuous | 660 | | Swedish | 19 | 98 |
| 20 | alternating | 554 & 440 | 0.5 Hz | | 20 | 102 |
| 21 | pulse | 660 | 1 Hz | Swedish | 21 | 97 |
| 22 | pulse | 2850 | 150 ms On/100 ms Off | GB | 14 | 104 |
| 23 | rising | 800 - 970 | 50 Hz (low) | BS 5839 Part 1 1988 | 14 | 102 |
| 24 | rising | 2400 - 2850 | 50 Hz (high) | | 4 | 109 |
| 25 | pulse | 970 | 3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (low) | ISO 8201 US Temporal | 26 | 101 |
| 26 | pulse | 2850 | 3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (high) | ISO 8201 US Temporal | 25 | 104 |
| 27 | continuous | 4000 | | | 27 | 92 |
| 28 | rising | 2000 - 2850 | 7 Hz | | 2000 Hz cont. | 111 |
| 29 | alternating | 988 & 645 | 2 Hz | | 988 Hz cont. | 102 |
| 30 | alternating | 510 & 610 | 2 Hz | | 510 Hz cont. | 102 |
| 31 | alternating | 800 & 970 | 2 Hz | 5839-1:2002 | 800 cont. | 105 |
| 32 | alternating | 800 & 1200 | 1 Hz | | 800 cont. | 105 |





LED Traffic Light with integrated siren (2 tier)



Integrated siren with high sound output



Clear lenses ensure signalling effect even in direct sunlight

- High visibility LED Traffic Light with independently triggerable integrated siren
- Unmistakable signalling even in direct sunlight thanks to clear lenses
- Simple mounting due to integrated mounting bracket
- The optical signal also offers very good sideward visibility
- Protection rating IP 65/IP 69k

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

| | |
|--------------------------------|--|
| Dimensions (L x H x W): | 2 tier: 85 mm x 309 mm x 136 mm |
| | 3 tier: 85 mm x 394 mm x 136 mm |
| Housing: | PC/ABS, grey |
| Lens: | PC, transparent |
| Fixing: | Wall mounting, tube mounting (accessory) |
| Installation position: | Vertical/hanging |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 13 mm |
| Duty cycle: | 100 % |
| Tone type: | Continuous tone |

ORDER SPECIFICATIONS:

| | | |
|----------------------|-------------------|--------------------------------------|
| Voltage | 24 V DC | 115 to 230 V AC |
| Current Consumption | LED | 60 mA (red/yellow) 120 mA (green) |
| | Siren | 20 mA |
| red / green | 494 160 55 | 494 160 68 |
| red / yellow / green | 494 180 55 | 494 180 68 |



ACCESSORIES:

Adaptor for tube mounting **975 894 02**
(suitable for Ø 75 mm tubes, see page 215)

ADDITIONAL INFORMATION:

"Small Traffic Light Series" wins "iF product design award 2009"
WERMA has won the prestigious "iF product design award" for the design and production of its "small traffic light series". Since its introduction in 1953, this design prize has been an enduring, renowned hallmark for "excellent" design.



TECHNICAL DIAGRAMS:

see page 306

See note on page 347

| | | | | | | |
|--|--|--------|--------|--|--|--|
| | | 2 tier | 3 tier | | | |
|--|--|--------|--------|--|--|--|





LED Beacon with integrated Siren (1 tier)



Integrated siren with high sound output



The adaptor (accessory) allows quick and simple mounting on tubes (Ø 75 mm)

- High visibility LED Traffic Light with independently triggerable integrated siren
- Colour intensive light effect thanks to LEDs in the same colour as the lenses
- Simple mounting due to integrated mounting bracket
- The optical signal also offers very good sideward visibility
- Protection rating IP 65/IP 69k

Life duration up to 50,000 hrs

i TECHNICAL SPECIFICATIONS:

| | | |
|--------------------------------|--|-------------------------|
| Dimensions (L x H x W): | 1 tier: | 85 mm x 224 mm x 136 mm |
| | 2 tier: | 85 mm x 309 mm x 136 mm |
| | 3 tier: | 85 mm x 394 mm x 136 mm |
| Housing: | PC/ABS, grey | |
| Lens: | PC, transparent | |
| Fixing: | Wall mounting, Tube mounting (accessory) | |
| Installation position: | Vertical | |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² | |
| Cable entry: | Cable diameter max. 13 mm | |
| Duty cycle: | 100 % | |
| Tone type: | Continuous tone | |

ORDER SPECIFICATIONS:

| | | |
|----------------------------|-------------------|--------------------------------------|
| Voltage | 24 V DC | 115 to 230 V AC |
| Current Consumption | LED | 60 mA (red/yellow) 120 mA (green) |
| | Siren | 20 mA |
| red | 494 010 55 | 494 010 68 |
| green | 494 020 55 | 494 020 68 |
| yellow | 494 030 55 | 494 030 68 |
| red / green | 494 060 55 | 494 060 68 |
| red / yellow / green | 494 080 55 | 494 080 68 |

ACCESSORIES:

| | |
|--|-------------------|
| Adaptor for tube mounting (suitable for Ø 75 mm tubes) | 975 894 02 |
|--|-------------------|

ADDITIONAL INFORMATION:

Maximum flexibility
Thanks to the innovative bracket, the direction of the signal can be individually adjusted. After the bracket has been mounted, the customer can adjust the direction to suit his requirements.

The LED traffic light can be turned through 360 degrees guaranteeing optimum visibility from all angles.



The direction of the optical signal can be individually adjusted

TECHNICAL DIAGRAMS:

see page 306

See note on page 347

| | | | | | | | |
|-----------|------------|-----------------|-----------------|-----------------|--------------|----------------|-------|
| CE | EAC | 1 tier 350 g | 2 tier 380 g | 3 tier 410 g | IP65 / IP69k | +50°C -30°C | 90 dB |
|-----------|------------|-----------------|-----------------|-----------------|--------------|----------------|-------|

890/190

(LED) Beacon 890/Multi-Tone Sounder 190 Combination



Light intensive and loud traffic light combination



The fixing bracket can be mounted pointing inwards or outwards (accessory)

- 32 tones for a diverse range of applications
- Sound output adjustable up to 114 dB (C)/110 dB (A)
- 3 tones can be triggered externally
- Fixing bracket for easy combination with (LED) Permanent Beacon/Traffic Light 890

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|--|
| Dimensions (Ø x Height): | 150 mm x 154 mm (890) 150 mm x 127 mm (190) |
| Housing: | PC/ABS-Blend, grey |
| Lens: | PC, transparent |
| Fixing: | Base mounting, fixing bracket (accessory) |
| Connection: | Screw terminal |
| Cable entry: | From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber grommet Ø 6-12 mm, included in assembly |

ORDER SPECIFICATIONS:

| Multi-Tone Sounder 190 | | | |
|------------------------|-------------------|-------------------|-------------------|
| Voltage | 10-30 V DC | 115 V AC | 230 V AC |
| Current consumption | < 180 mA | < 55 mA | < 30 mA |
| grey | 190 000 55 | 190 000 67 | 190 000 68 |

| LED Beacon 890 | | | |
|---------------------|-------------------|-------------------|-------------------|
| Voltage | 12-24 V DC | 115 V AC | 230 V AC |
| Current consumption | < 200 mA | < 35 mA | < 35 mA |
| red | 890 120 55 | 890 120 67 | 890 120 68 |
| green | 890 220 55 | 890 220 67 | 890 220 68 |
| yellow | 890 320 55 | 890 320 67 | 890 220 68 |

| Permanent Beacon 890 | |
|----------------------|-------------------|
| Voltage | 12-240 V AC/DC |
| red | 890 100 00 |
| green | 890 200 00 |
| yellow | 890 300 00 |
| clear | 890 400 00 |
| blue | 890 500 00 |

ACCESSORIES:

Fixing bracket, tube adaptor and connecting grommet see page 176.

TONE TYPES AND FREQUENCIES:

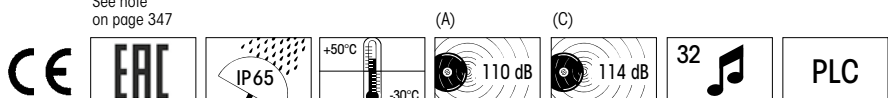
Selectable via DIP switch, see tone table on page 251.

ADDITIONAL INFORMATION:

Traffic light configurator at www.werma.com

TECHNICAL DIAGRAMS: see page 298 + 326

See note on page 347





The innovative connector (accessory) enables traffic light combinations to be created in a matter of seconds



"Status Light" function to generate additional awareness of the audible signal

- Up to 8 different tones (12 V; 24 V)
- 3 tones can be triggered externally (12 V; 24 V)
- Externally adjustable sound output (-10 dB)
- „Status Light“ to emphasise the audible warning signal
- Innovative connector to create traffic light combinations
- Easy assembly due to quick-release screws

i TECHNICAL SPECIFICATIONS:

| | |
|--------------------------------|---|
| Dimensions (L x H x W): | 85 mm x 85 mm x 72 mm |
| Housing: | PP-GF, black |
| Lens: | LED Beacon 853: PC, transparent Sounder 153: PC, tinted black |
| Connection: | Screw terminal with wire protection, max. 1.5 mm ² |
| Cable entry: | Cable diameter max. 8 mm, optional cable gland M20 (accessory) |
| Fixing: | Wall, base and ceiling mounting |
| Equipment: | Eight self-sealing membranes for cable entry without tools. Eight integrated M20 threads, no nuts required. Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory) |
| Assembly: | Incl. snap-on fixing bracket (optional use) |

🛒 ORDER SPECIFICATIONS:

| | | | | |
|---------------------|-------------------|-------------------|-------------------|---------------------------------|
| Voltage | 12 V DC | 24 V DC | 48 V AC | 115-230 VAC |
| Current consumption | 150 mA | 100 mA | 150 mA | 75 mA (115 V) 150 mA (230 V) |
| | 153 000 54 | 153 000 55 | 153 000 66 | 153 000 60 |

The technical specifications and order specifications of the LED Beacons can be found at www.werma.com or on page 135 (LED Permanent Beacon), page 152 (LED Double Flash Beacon) and page 153 (LED EVS Beacon).

🏠 ACCESSORIES:

| | |
|--|-------------------|
| Connector for traffic light combinations | 975 853 01 |
| Cable gland M20 x 1.5 mm, 8 mm thread length | 975 853 02 |

🎵 TONE TYPES AND FREQUENCIES:

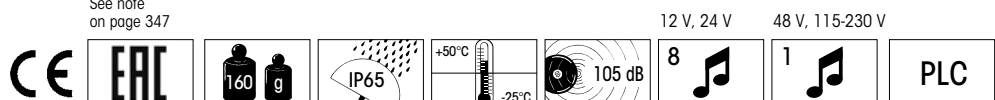
| Tone | Tone type | Tone | Tone type |
|------|----------------------------------|------|--------------------------------------|
| 1 | Continuous tone (ca. 3000 Hz) | 5 | 800 - 970 Hz rising @ 1 Hz |
| 2 | Horn tone (ca. 110 Hz) | 6 | 2400 - 2850 Hz rising @ 7 Hz |
| 3 | 1 Hz tone (ca. 3,0 kHz) | 7 | 1200 - 500 Hz falling @ 1 Hz |
| 4 | 20 Hz whistle tone (ca. 3,0 kHz) | 8 | Alternating tone 800 Hz/1200 Hz@1 Hz |

⚠️ ADDITIONAL INFORMATION:

Traffic light configurator at www.werma.com

📐 TECHNICAL DIAGRAMS: see page 297 + 321

See note on page 347



12 V, 24 V 48 V, 115-230 V





- LED Permanent light
- Continuous tone can be additionally activated
- Simple connection by means of connector plug

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

| | |
|--------------------------|---|
| Dimensions (Ø x Height): | 50 mm x 22 mm (Protrusion from panel) |
| Housing: | PC/ABS-Blend |
| Lens: | PC, transparent |
| Connection: | Connector plug with screw terminal max. 1.5 mm ² |
| Tone type: | Continuous |
| Tone frequency: | C. 2.8 kHz |
| Duty cycle: | 100 % |
| Fixing: | Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device |

Nut and seal included in assembly.

ORDER SPECIFICATIONS:

| | | | |
|---------------------|-------------------|-------------------|-------------------|
| Voltage | 24 V DC | 115 V AC | 230 V AC |
| Current consumption | < 50 mA | < 20 mA | < 20 mA |
| red | 150 100 55 | 150 100 67 | 150 100 68 |
| yellow | 150 300 55 | 150 300 67 | 150 300 68 |



TECHNICAL DIAGRAMS:

see page 297



See note on page 347

LED/Buzzer Combination with acknowledgement function



- LED permanent light with additional continuous tone
- Silence the audible signal by lightly pressing the frontal area
- Potential-free output for transmission of the acknowledgement signal to the control unit
- Positive and negative logic

Life duration up to 50,000 hrs

i TECHNICAL SPECIFICATIONS:

| | | |
|---------------------------------|---|--|
| Dimensions (Diameter x Height): | 50 mm x 22 mm (Protrusion from panel) | |
| Housing: | PC/ABS-Blend | |
| Lens: | PC, transparent | |
| Connection: | Screw terminal max. 0.5 mm ² | |
| Signal input: | 24 V DC | |
| Acknowledgement output: | Semiconductor-Relay $U_{max} = 30 V$ $I_{max} = 100 mA$ $R_{ON max} = 25 Ohm$ | |
| Tone type: | Continuous | |
| Tone frequency: | C. 2.8 kHz | |
| Duty cycle: | 100 % | |
| Fixing: | Installation mounting for Ø 22,5 mm (M22 x 1.5 mm) with anti-twist device | |

Nut and seal included in assembly.



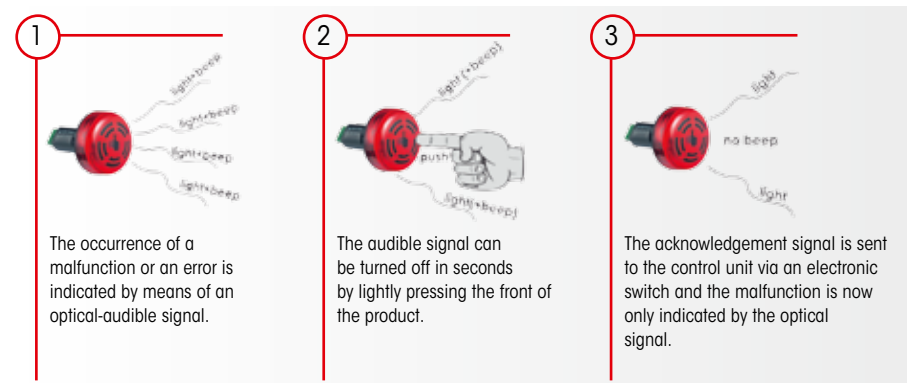
The audible signal can be turned off in seconds by lightly pressing the front of the product

ORDER SPECIFICATIONS:

| | |
|---------------------|------------|
| Voltage | 24 V DC |
| Current consumption | 40-80 mA |
| red | 450 100 55 |
| yellow | 450 300 55 |



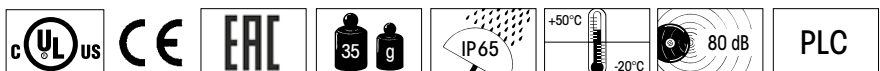
! ADDITIONAL INFORMATION:



TECHNICAL DIAGRAMS:

see page 306

See note on page 347



Patent
approved

- LED Permanent light with additional continuous tone
- Silence the audible signal by lightly pressing the frontal area
- Acknowledgement signal fed back to the Master via AS-Interface Bus

Life duration
up to 50,000 hrs

i TECHNICAL SPECIFICATIONS:

| | |
|----------------------------|--|
| Dimensions (Ø x Height): | 50 mm x 22 mm (Protrusion from panel) |
| Housing: | PC, black |
| Lens: | PC, transparent |
| Connection: | Screw terminal with wire protection max. 1.5 mm ² |
| Power supply AS-Interface: | Via bus conduction |
| Operating voltage: | 25 V ... 31.6 V according to the AS-Interface specification |
| IO-Code: | B _{hex} |
| ID-Code: | A _{hex} |
| ID2-Code: | E _{hex} |
| Tone type: | Continuous |
| Tone frequency: | C. 2.8 kHz |
| Duty cycle: | 100 % |
| Fixing: | Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device |

Nut and seal included in assembly.



ORDER SPECIFICATIONS:

| | |
|---------------------|-------------------|
| Voltage | via AS-Interface |
| Current consumption | ≤ 80 mA |
| red | 450 110 55 |
| yellow | 450 310 55 |



ADDITIONAL INFORMATION:



Unique acknowledgement function with feedback signal via AS-Interface Bus

The addition of the LED/Buzzer Combination 450 with acknowledgement function expands WERMA's range of products with integrated AS-Interface®. The combination unites a very bright light signal with the powerful sound of a buzzer.

This product also features a unique acknowledgement function: by gently pressing the front surface of the product the audible signal can be turned off in a matter of seconds (see page 219). This acknowledgement signal is fed back to the master via the AS-Interface Bus and the malfunction is only indicated by means of the optical signal.

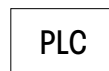
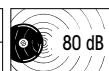
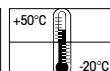
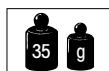
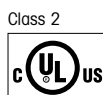
Expanded addressing and a sound output of 80 dB

The 450 Combination for AS-Interface enables an expanded addressing (A/B technology) of up to 62 modules. The power required is drawn from the Bus voltage.



TECHNICAL DIAGRAMS:

see page 306





Surface housing double

- Various combinations possible
- High protection rating IP 65
- Versatile range of applications thanks to cable exit at side

i TECHNICAL SPECIFICATIONS:

| | | |
|--------------------------------|---|-------------------------|
| Dimensions (W x H x D): | single: | 80.5 mm x 55 mm x 82 mm |
| | double: | 160 mm x 55 mm x 78 mm |
| | triple: | 240 mm x 60 mm x 80 mm |
| Housing: | ABS and PC/ABS-Blend | |
| Cable entry: | Cable gland M16 x 1.5 mm for circular cable Ø 5-10 mm | |

ORDER SPECIFICATIONS:



| | |
|--|-------------------|
| Single surface housing | 975 109 02 |
| Double surface housing for 1 beacon and 1 buzzer | 975 109 03 |
| Triple surface housing for 2 beacons and 1 buzzer | 975 109 04 |

Assembly comprises of only the surface housing. Beacons 800-802, 815-817 (p. 107/109) and buzzers 109 and 110 (pages 229/237) have to be ordered additionally.



Single surface housing

TECHNICAL DIAGRAMS:

see page 330



| | | | | |
|-----------|--------|--------|--------|--|
| | single | double | triple | |
| CE | | | | |



Signal Tower with Audible Element • modular



Signal tower KombiSIGN 71 with base with integrated tube (accessory)

- KombiSIGN Signal Tower with audible element
- Sound output up to 105 dB
- Can be combined with all optical elements
- Can be triggered separately

TECHNICAL SPECIFICATIONS:



| | |
|------------------------------------|--|
| Dimensions (Ø x Height): | See KombiSIGN 50, 70 and 71 |
| Housing: | See KombiSIGN 50, 70 and 71 |
| Lens: | Polycarbonate transparent |
| Fixing: | Base mounting, wall mounting, tube mounting (accessory) |
| Connection: | Screw terminal or CAGE CLAMP® |
| Seal: | Pre-mounted with each element |
| Number of modules possible: | KombiSIGN 70 and 71: Max. 5 With 2-sided bracket: Max. 10 KombiSIGN 50: Max. 4 |
| | The audible element is to be mounted at the top of the signal tower. |

ORDER SPECIFICATIONS:

See KombiSIGN 50, 70 and 71 (Pages 31, 47, 61 onwards)

ADDITIONAL INFORMATION:

With our "Configurator" you can put together a signal tower quickly and easily according to your requirements.

The configurator interactively guides the user through a series of pictures and questions to create an individual signal tower solution in just a few clicks.

TECHNICAL DIAGRAMS:

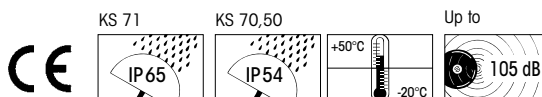
see pages 309 + 318 onwards



2-sided bracket (accessory) with KombiSIGN 70 elements



KombiSIGN 50 with buzzer



Signal Tower with integrated buzzer • pre-assembled



KOMPAKT 37 with base with integrated tube

- Completely pre-assembled
- Can be triggered separately
- Sound output up to 85 dB

TECHNICAL SPECIFICATIONS:



| | |
|--------------------------|--|
| Dimensions (Ø x Height): | See KOMPAKT 37, FlatSIGN, VarioSIGN, CleanSIGN |
| Housing: | See KOMPAKT 37, FlatSIGN, VarioSIGN, CleanSIGN |
| Lens: | See KOMPAKT 37, FlatSIGN, VarioSIGN, CleanSIGN |
| Fixing: | Base mounting, wall mounting, tube mounting |
| Connection: | See KOMPAKT 37, FlatSIGN, VarioSIGN, CleanSIGN |

ORDER SPECIFICATIONS:

See KOMPAKT 37, FlatSIGN, VarioSIGN and CleanSIGN beginning on page 71.

ADDITIONAL INFORMATION:

On the signal tower pages of www.werma.com use the selection tool „Configurator“ to select the Kompakt 37 signal tower according to your requirements. With the help of intuitive questions and pictures you will be able to make your choice with just a few mouse clicks.

TECHNICAL DIAGRAMS:

see Pages 311 + 312



FlatSIGN



VarioSIGN



CleanSIGN for wall mounting

