Bulb Overview

	PART NO.	DESCRIPTION	TOTAL LENGTH(mm)	VOLTAGE	FOR USE WITH:								
	**955 840 34**	Bulb BA15d 5 W	42	12 V	200	203	209	641	800	840	845		
	955 840 35	Bulb BA15d 5 W	42	24 V	200	203	209	641	800	840	845		
	955 840 32	Bulb BA15d 5 W	42	30 V	200	203	209	641	800	840	845		
	955 840 57	Bulb BA15d 5 W	42	115 V	200	203	209	641	800	840	845		
	955 840 38	Bulb BA15d 5 W	42	230 V	200	203	209	641	800	840	845		
	**955 015 34**	Bulb BA15d 7 W	52	12 V	210	213	219	220	480	580	815		850
	955 015 35	Bulb BA15d 7 W	52	24 V	210	213	219	220	480	580	815	826	850
	955 015 36	Bulb BA15d 7 W	52	48 V	210	213	219	220	480	580	815	monit.	850
	955 015 37	Bulb BA15d 7 W	52	115 V	210	213	219	220	480	580	815		850
	955 015 38	Bulb BA15d 7 W	52	230 V	210	213	219	220	480	580	815		850
	**955 826 35**	Bulb BA15d 15 W	45	24 V	826								
	955 826 38	Bulb BA15d 15 W	45	230 V	826								
	**955 827 35**	Bulb BA15d 25 W	55	24 V	827								
	955 827 37	Bulb BA15d 25 W	55	115 V	827								
	955 827 38	Bulb BA15d 25 W	55	230 V	827								
	**955 890 38**	Bulb E14 15 W	76	230 V	890	895							
	**955 880 66**	Bulb E14 40 W	76	48 V	881								
	955 880 67	Bulb E14 40 W	76	115 V	881								
	955 880 68	Bulb E14 40 W	76	230 V	881								

Minimal differences in form are possible within the different bulb models.

	PART NO.	DESCRIPTION	TOTAL LENGTH (mm)	VOLTAGE	FOR USE WITH:
	**955 890 55** **955 890 67** **955 890 68**	Bulb E27 25 W Bulb E27 25 W Bulb E27 25 W	100 100 100	24 V 115 V 230 V	890 895 890 895 890 895
	**955 883 34** **955 883 35**	Halogen bulb G 6.35 35 W Halogen bulb G 6.35 35 W	40 40	12 V 24 V	783 784 883 884 783 784 883 884
	**955 885 24** **955 885 25**	Halogen bulb G 6.35 20 W Halogen bulb G 6.35 20 W	40 40	12 V 24 V	783 885 783 885
	**955 880 34** **955 880 35**	Halogen bulb H 1 55 W Halogen bulb H 1 70 W	57 57	12 V 24 V	880 880
	**956 x00 75** **956 x00 67** **956 x00 68** x see page 182	LED bulb BA15d LED bulb BA15d LED bulb BA15d	42 42 42	24 V 115 V 230 V	200, 203, 206, 209, 210, 213, 216, 219, 220, 223, 641, 805, 840, 846, 850, 851, 852
	**956 x20 75** **956 x20 67** **956 x20 68** x see page 183	LED bulb E27 LED bulb E27 LED bulb E27	65 65 65	24 V 115 V 230 V	890 895 890 895 890 895

Minimal differences in form are possible within the different bulb models.

Overview Optical-Audible Signal Devices

LED/Buzzer Combination

150 Installation model

80 dB
Page 218

450 Installation model with acknowledgement funcition

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 Comb.

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, Vario*SIGN*, Flat*SIGN*, Clean*SIGN* 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

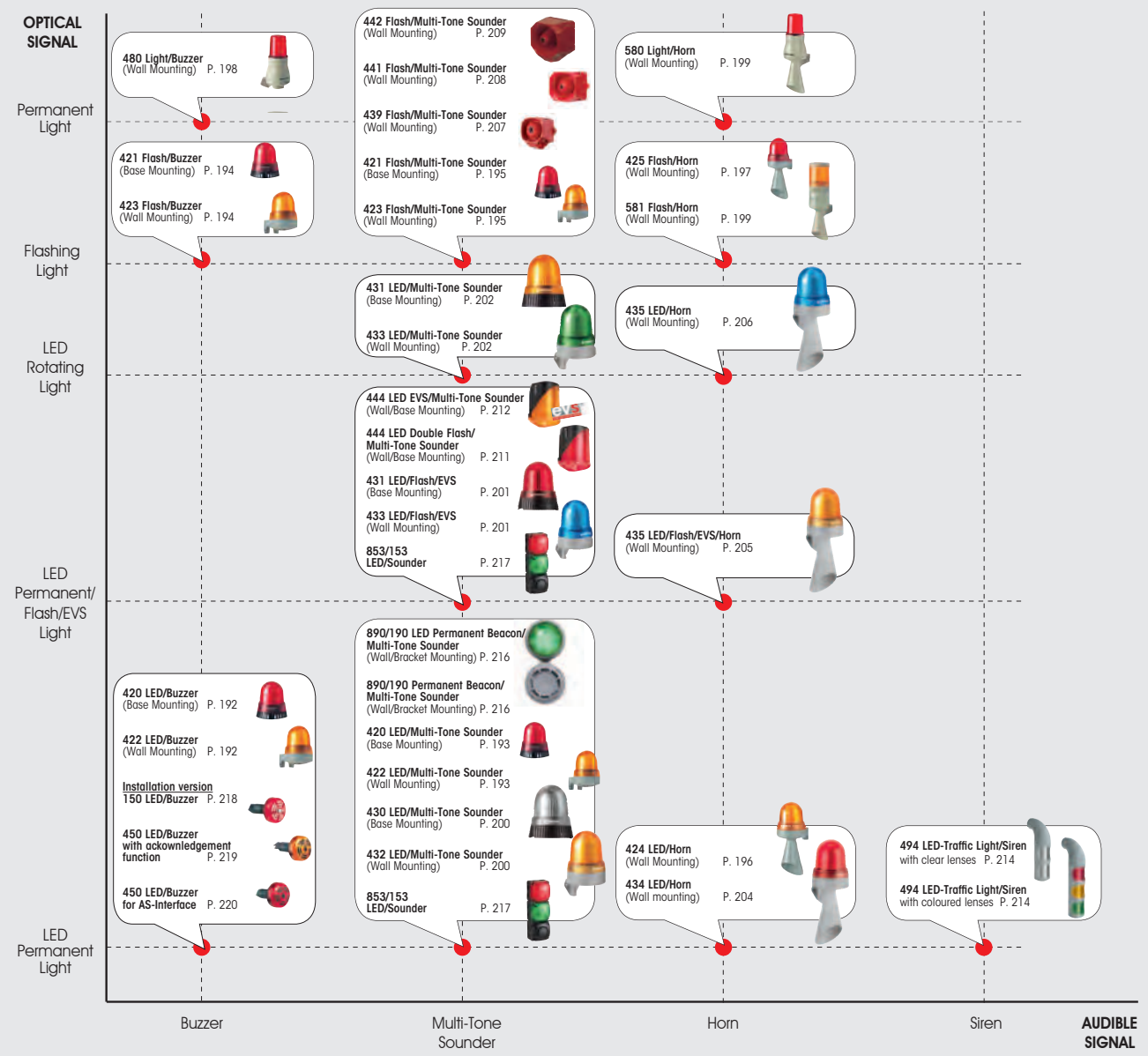
The WERMA 43x signal device range won the coveted iF product design award in 2012. With their innovative and unique design, the attractive signal devices stood out in a highly-qualified, internationally competitive field. For over 58 years the iF product design award has been a globally respected brand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

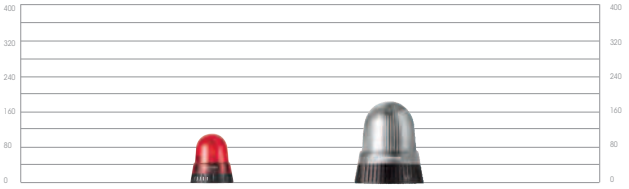
WERMA provides its customers with a comprehensive selection of Optical-Audible Signal Devices. A range of different light effects and signal tones are available.

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!



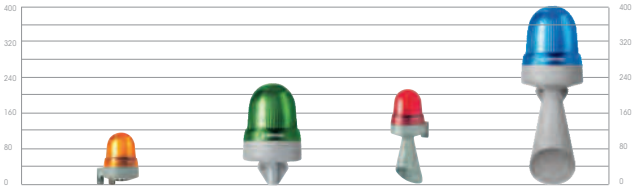
Size comparison

BASE MOUNTING



Series	420/421	430/431
L x H x W		
Ø	89 mm	146 mm
Height	100.5 mm	171 mm
Page	192 onwards	200 onwards

WALL MOUNTING



Series	422/423	432/433	424/425	434/435
L x H x W	83 x 120,5 x 91 mm		83 x 235 x 91 mm	
Ø		134 mm		134 mm
Height		235 mm		407 mm
Page	192 onwards	200 onwards	196 onwards	204 onwards

Comparison of sound output

442	Flash/Multi-Tone Sounder Combination	Page 209

120 dB

114 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

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)

WERMA SIGNALTECHNIK

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

100 dB

853/153	LED/Sounder Combination	Page 217

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)

420/422 LED/Buzzer Combination

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 mm²
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:

Play Sound www.werma.com

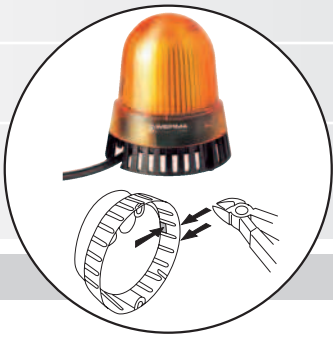
	12 V DC	24 V AC/DC	115 V AC	230 V AC
Voltage				
Current consumpt. LED	80 mA	45 mA	25 mA	25 mA
Current consumpt. Buzzer	40 mA	15 mA	15 mA	25 mA
Base/Tube mounting				
red	**420 110 54**	**420 110 75**	**420 110 67**	**420 110 68**
yellow	**420 310 54**	**420 310 75**	**420 310 67**	**420 310 68**
Wall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

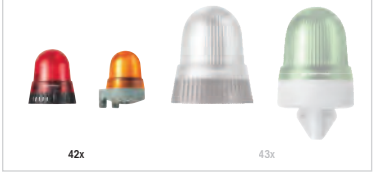
TECHNICAL DIAGRAMS:

see page 304



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

Size comparison



See note on page 347

CE EAC 110 g IP65 +50°C -20°C 92 dB 24 V PLC

WERMA SIGNALTECHNIK

420/422 LED/Multi-Tone Sounder Combination

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 mm²
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:

Play Sound www.werma.com

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

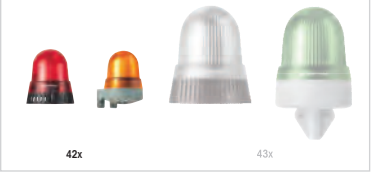
ORDER SPECIFICATIONS:

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.

Size comparison



TECHNICAL DIAGRAMS: see page 304

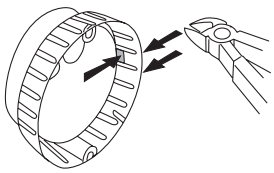
See note on page 347

CE EAC 110 g IP65 +50°C -20°C 105 dB 8

421/423 Flash/Buzzer Combination

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 mm²
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:

Play Sound www.werma.com

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

Size comparison

See note on page 347

CE EAC 120 g IP65 +50°C -20°C 1 Ws 92 dB

WERMA SIGNALTECHNIK

421/423 Flash/Multi-Tone Sounder Combination

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)

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:

Play Sound www.werma.com

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

Size comparison

See note on page 347

CE EAC 120 g IP65 +50°C -20°C 105 dB 1 Ws 8

424 LED/Horn Combination

- 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)

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 mm²
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

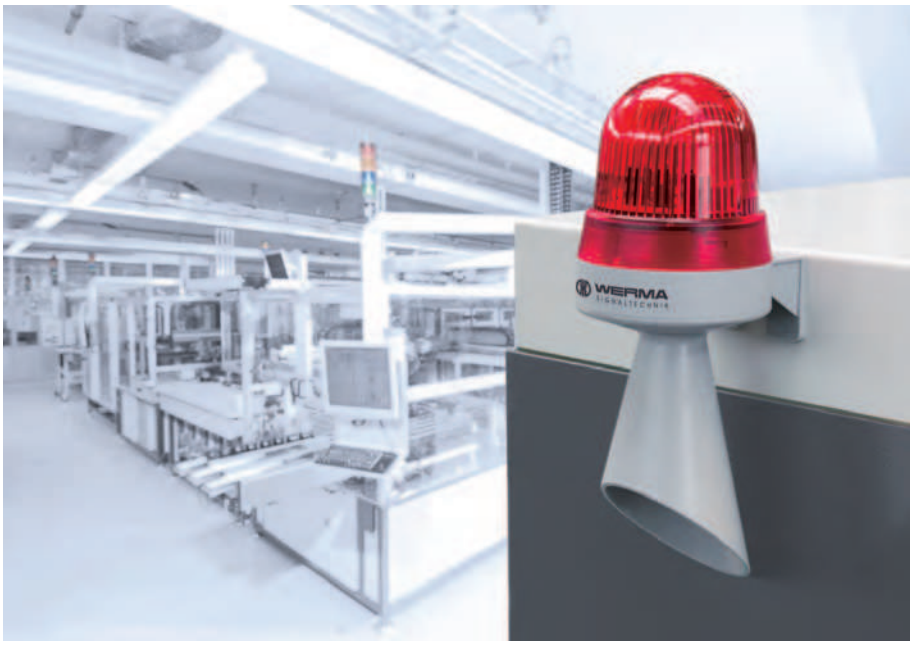
ORDER SPECIFICATIONS:

Play Sound www.werma.com

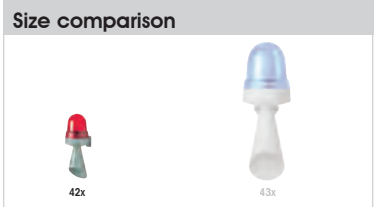
Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption LED	45 mA	25 mA	25 mA
Current consumption Horn	80 mA	70 mA	70 mA
red	**424 120 75**	**424 120 67**	**424 120 68**
yellow	**424 320 75**	**424 320 67**	**424 320 68**

TECHNICAL DIAGRAMS:

see page 304



Size comparison



See note on page 347

CE EAC 170 g IP65 +50°C -20°C 98 dB

WERMA SIGNALTECHNIK

425 Flash/Horn Combination

- 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)

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:

Play Sound www.werma.com

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

Size comparison

See note on page 347

CE EAC 190 g IP65 +50°C -20°C 98 dB 1 Ws

480 Light/Buzzer Combination

- 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 mm²
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:

Play Sound www.werma.com

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

CE EAC 200 g IP33 +50°C 0°C 90 dB

WERMA SIGNALTECHNIK

580 Light/Horn Combination

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

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 mm²
Cable entry:	Cable diameter max. 9 mm
Duty cycle:	100 %

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

ORDER SPECIFICATIONS:

Play Sound www.werma.com

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

CE EAC 270 g IP33 +50°C -20°C 92 dB

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

581 Flash/Horn Combination

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

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 mm²
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:

Play Sound www.werma.com

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

CE EAC 300 g IP33 +50°C -20°C 92 dB 2 Ws

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

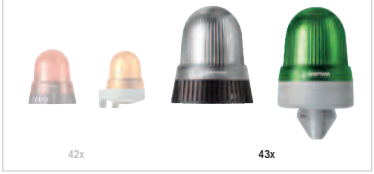
430/432 LED/Multi-Tone Sounder Combination

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

Size comparison



- 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			
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 230 mA (red)	700 mA 550 mA (red)	100 mA 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			
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 220 mA (red)	700 mA 550 mA (red)	100 mA 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

CE 515 g IP65 +50°C -30°C 108 dB 32

WERMA SIGNALTECHNIK

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 mm²
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 220 mA (red)	700 mA 530 mA (red)	100 mA 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 220 mA (red)	700 mA 530 mA (red)	100 mA 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**

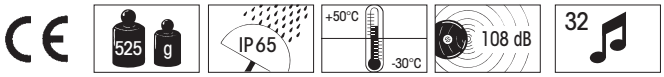
*Current consumption at 10 V / 115 V

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



431/433 LED Rotating/Multi-Tone Sounder Combination

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 mm²
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	220 mA 120 mA (red)	500 mA 300 mA (red)	70 mA 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 120 mA (red)	500 mA 300 mA (red)	70 mA 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:

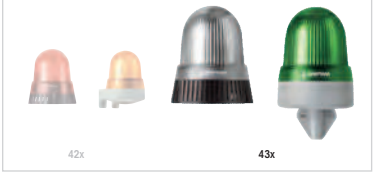
Adaptor for tube mounting, plastic, for tube Ø 25 mm	**975 430 01**

Intense rotating signal effect with low power consumption

TECHNICAL DIAGRAMS:

see page 304 + 305

Size comparison



CE 505 g IP65 +50°C -30°C 108 dB 32

WERMA SIGNALTECHNIK

43x Tone table for Multi-Tone Sounder

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

434 LED/Horn Combination

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
- Optical and audible warning can be separately triggered for two stage signalling
- Sound output can be set to meet the requirements of the application
- 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 mm²
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

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

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

Size comparison

WERMA SIGNALTECHNIK

435 LED Permanent/Flashing/EVS*/Horn Combination

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

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

Size comparison

- 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 mm²
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

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

CE 635 g IP65 +50°C -30°C 108 dB

435 LED Rotating/Horn Combination

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

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 mm²
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

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

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

Size comparison

WERMA SIGNALTECHNIK

439 Flash/Multi-Tone Sounder Combination

- 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

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	136 mm x 138 mm x 119 mm
Housing:	ABS
Connection:	Screw terminal max. 2.5 mm²
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:

Play Sound www.werma.com

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:

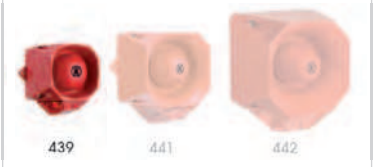
For further details see www.werma.com.

TECHNICAL DIAGRAMS:

see page 305

Multi-Tone Sounder in combination with a powerful Xenon Flash

Size comparison



See note on page 347

CE EAC 600 g IP66 +70°C -25°C 1,6 Ws 105 dB 32

441 Flash/Multi-Tone Sounder Combination

- 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

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 mm²
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:

Play Sound www.werma.com

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:

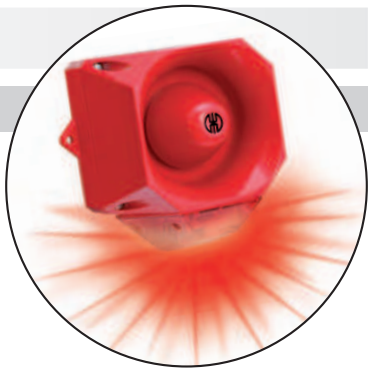
Cable gland M20 x 1.5 mm	**975 444 01**

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

CE EAC 800 g IP66 +75°C -25°C 2,5 Ws 110 dB 32

WERMA SIGNALTECHNIK

442 Flash/Multi-Tone Sounder Combination

- 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

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 mm²
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:

Play Sound www.werma.com

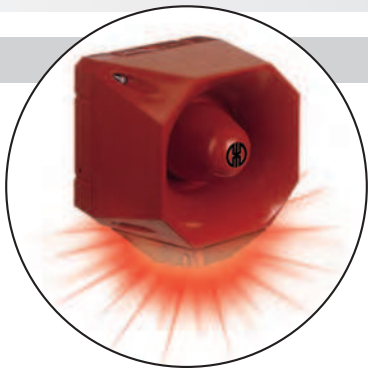
Voltage	18-30 V DC		115 / 230 V AC
Current cons. Multi Tone Sounder	450 mA		130 / 65 mA
Current consumption Flash	127-389 mA (dependent on voltage and flash frequency)		– / 15 mA (dependent on voltage and flash frequency)
Flash frequency	0,75 Hz/1 Hz	1,25 Hz/2 Hz	1 Hz (Flash can only be operated with 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

2,0 Kg | 2,2 Kg | IP66 | +75°C -25°C | 120 dB | 2/3,5 Ws | 42

442 Combination

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:

Play Sound www.werma.com

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

444

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

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

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 mm² 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:

Play Sound www.werma.com

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

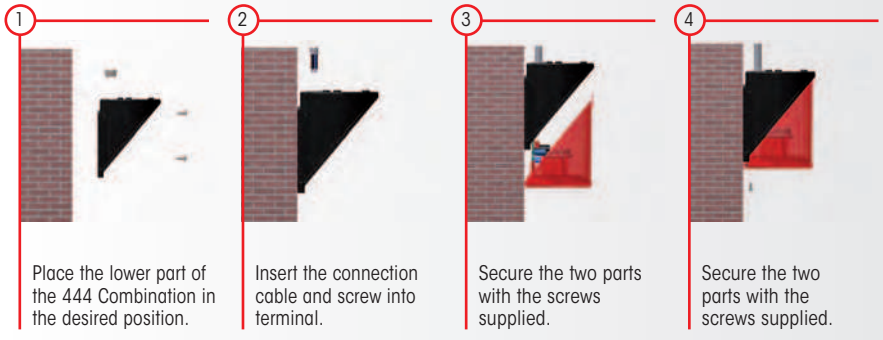
ACCESSORIES:

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

TONE TYPES AND FREQUENCIES:

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

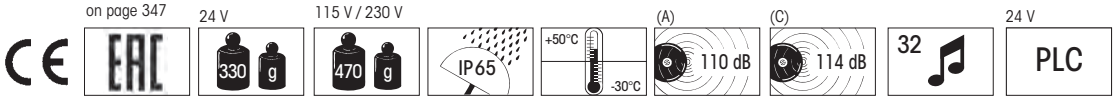
QUICK AND SIMPLE MOUNTING



1. Place the lower part of the 444 Combination in the desired position.
2. Insert the connection cable and screw into terminal.
3. Secure the two parts with the screws supplied.
4. Secure the two parts with the screws supplied.

TECHNICAL DIAGRAMS: see page 305

See note on page 347



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

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

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 mm²
	115/230 V: CAGE CLAMP®
Cable entry:	Membrane for cable diamter max. 13 mm
Fixing:	Wall, base and ceiling mounting
Life duration:	Up to 50,000 hrs (LED EVS)

ORDER SPECIFICATIONS:

Play Sound www.werma.com

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	

TONE 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

CE EAC

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

WERMA SIGNALTECHNIK

444 Combination

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 / Siren Combination

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 mm²
Cable entry:	Cable diameter max. 13 mm
Duty cycle:	100 %
Tone type:	Continuous tone

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage		24 V DC	115 to 230 V AC
Current Consumption	LED	60 mA (red/yellow) 120 mA (green)	30 mA per tier at 230 V/50 Hz
	Siren	20 mA	30 mA at 230 V/50 Hz
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 380 g

3 tier 410 g

IP65/ IP69k

+50°C -30°C

90 dB

WERMA SIGNALTECHNIK

LED Beacon / Siren Combination

product design award 2009

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

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 mm²	
Cable entry:	Cable diameter max. 13 mm	
Duty cycle:	100 %	
Tone type:	Continuous tone	

Play Sound www.werma.com

ORDER SPECIFICATIONS:

Voltage		24 V DC	115 to 230 V AC
Current Consumption	LED	60 mA (red/yellow) 120 mA (green)	30 mA per tier at 230 V/50 Hz
	Siren	20 mA	30 mA at 230 V/50 Hz
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:

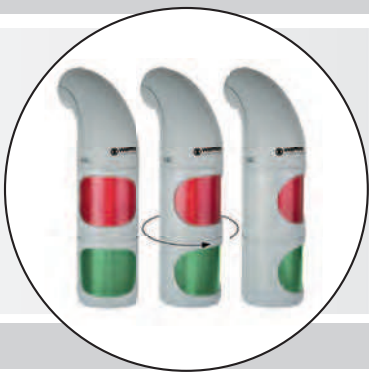
Adaptor for tube mounting (suitable for Ø 75 mm tubes)	**975 894 02**

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

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:

Play Sound www.werma.com

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**	**890 320 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

(A) (C)

CE EAC IP65 +50°C -30°C 110 dB 114 dB 32 PLC

WERMA SIGNALTECHNIK

853/153

LED Beacon 853/ Sounder 153 Combination

- 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

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

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 mm²
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**

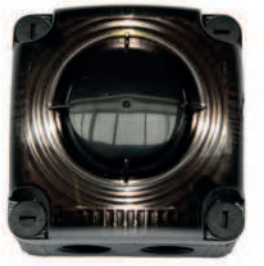
The technical specifications and order specifications of the LED Beacons can be found at www.werma.com or on page 135 (LED Permanant Beacon), page 152 (LED Double Flash Beacon) and page 153 (LED EVS Beacon).

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	Continous 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



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

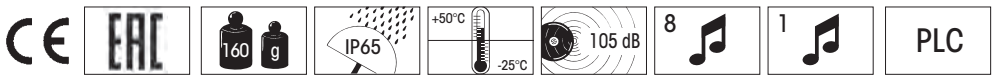
ADDITIONAL INFORMATION:

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



150 LED/Buzzer Combination

- 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 mm²
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:

Play Sound www.werma.com

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

c UL us CE EAC 30 g IP65 +50°C -20°C 80 dB 24 V PLC

450

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

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

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 mm²
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:

Play Sound www.werma.com

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

ADDITIONAL INFORMATION:

1

The occurrence of a malfunction or an error is indicated by means of an optical-audible signal.

2

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

3

The acknowledgement signal is sent to the control unit via an electronic switch and the malfunction is now only indicated by the optical signal.

TECHNICAL DIAGRAMS:

see page 306

See note on page 347

c UL us | CE | EAC | 35 g | IP65 | +50°C -20°C | 80 dB | PLC

450 LED/Buzzer Combination with acknowledgement function for AS-Interface

- 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

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 mm²
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:

Play Sound www.werma.com

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

Class 2 | See note on page 347

Approval No. 78701 | 35 g | IP65 | +50°C / -20°C | 80 dB | PLC

WERMA SIGNALTECHNIK

975 Surface Housing for Combinations

Surface housing double

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

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:

Play Sound www.werma.com

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

130 g | 200 g | 310 g | IP65

Signal Tower with Audible Element • modular

Signal tower Kombi*SIGN* 71 with base with integrated tube (accessory)

2-sided bracket (accessory) with Kombi*SIGN* 70 elements

Kombi*SIGN* 50 with buzzer

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

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (Ø x Height):	See Kombi*SIGN* 50, 70 and 71
Housing:	See Kombi*SIGN* 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:	Kombi*SIGN* 70 and 71: Max. 5 With 2-sided bracket: Max. 10 Kombi*SIGN* 50: Max. 4 The audible element is to be mounted at the top of the signal tower.

ORDER SPECIFICATIONS:

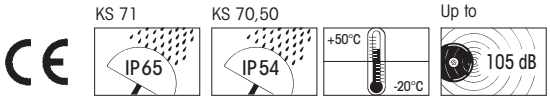
See Kombi*SIGN* 50, 70 and 71 (Pages 31, 47, 61 onwards)

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



WERMA SIGNALTECHNIK

Signal Tower with integrated buzzer • pre-assembled

KOMPAKT 37 with base with integrated tube

Flat*SIGN*

Vario*SIGN*

Clean*SIGN* for wall mounting

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

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (Ø x Height):	See KOMPAKT 37, Flat*SIGN*, Vario*SIGN*, Clean*SIGN*
Housing:	See KOMPAKT 37, Flat*SIGN*, Vario*SIGN*, Clean*SIGN*
Lens:	See KOMPAKT 37, Flat*SIGN*, Vario*SIGN*, Clean*SIGN*
Fixing:	Base mounting, wall mounting, tube mounting
Connection:	See KOMPAKT 37, Flat*SIGN*, Vario*SIGN*, Clean*SIGN*

ORDER SPECIFICATIONS:

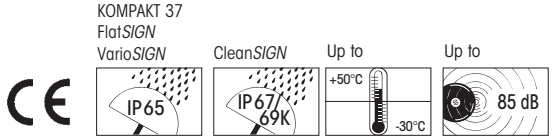
See KOMPAKT 37, Flat*SIGN*, Vari*SIGN* and Clean*SIGN* beginning on page 71.

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




WERMA
SIGNALTECHNIK
584 000 75
24V= IP65 to50°C

Overview Audible Signal Devices

Electronic Buzzers

107 Installation Buzzer

80 dB
Page 228

109 Installation Buzzer

80 dB
Page 229

111 Installation Buzzer

80 dB
Page 230

114 Installation Buzzer

85 dB
Page 231

118 Installation Buzzer

90 dB
Page 233

118 483 Buzzer

90 dB
Page 234

127 Buzzer

92 dB
Page 235

128 Buzzer

92 dB
Page 236

Electromechanical Buzzers

338 AC Installation Buzzer

65-75 dB
Page 232

382 Installation Buzzer

90 dB
Page 232

Sirens and Multi-Tone Sounders

110 Installation Multi-Tone Sounder

100 dB
Page 237

123 Electronic Siren

105 dB
Page 240

129 Multi-Tone Sounder

110 dB
Page 238

126 Multi-Tone Sounder

105 dB
Page 241

133 Multi-Tone Sounder

105 dB
Page 242

134 Multi-Tone Sounder

109 dB
Page 243

140 Multi-Tone Sounder

115 dB
Page 244

139 Multi-Tone Sounder

105 dB
Page 246

141 Multi-Tone Sounder

110 dB
Page 247

142 Multi-Tone Sounder

120 dB
Page 248

144 Multi-Tone Sounder

114 dB
Page 250

153 Sounder

105 dB
Page 252

190 Multi-Tone Sounder

110 dB
Page 253

Signal Horns

482

83/92 dB
Page 254

570

108 dB
Page 255

571

108 dB
Page 256

572

104 dB
Page 256

573

105 dB
Page 257

574

108 dB
Page 261

575

108 dB
Page 262

582

92 dB
Page 263

584

98 dB
Page 264

585

98 dB
Page 265

Alarm Bell

914

98 dB
Page 260

Sounds and Further Information

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

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

A Summary of Audible Signal Devices

120 dB	142	Multi-Tone Sounder	Page 248

110 dB	574	Horn	Page 261
	575	Horn	Page 262
	134	Multi-Tone Sounder	Page 243
	570	Signal Horn	Page 255
105 dB	571	Signal Horn	Page 256

100 dB	110	Installation Multi-Tone Sounder	Page 237

90 dB	127	Buzzer	Page 235
	128	Buzzer	Page 236
	582	Signal Horn	Page 263
85 dB	482	Signal Horn	Page 254

80 dB	111	Installiation Buzzer	Page 230
	109	Electronic Installation Buzzer	Page 229
65-75 dB	107	Electronic Installation Buzzer (80 dB at 10 cm distance)	Page 228

Sound output in db (measured at 1 m distance)

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

Play Sound www.werma.com

120 dB

110 dB

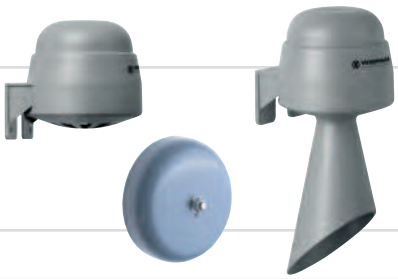
190	Multi-Tone Sounder	Page 253
144	Multi-Tone Sounder	Page 250
141	Multi-Tone Sounder	Page 247
129	Multi-Tone Sounder	Page 238
140	Multi-Tone Sounder	Page 244

105 dB

133	Multi-Tone Sounder	Page 242
126	Multi-Tone Sounder	Page 241
139	Multi-Tone Sounder	Page 246
153	Siren	Page 252
572	Horn	Page 256
573	Horn	Page 257

100 dB

584	Horn	Page 264
585	Horn	Page 265
914	Alarm Bell	Page 260



90 dB

118/119	Installation Buzzer	Page 233
382	Installation Buzzer	Page 232
118483/ 119483	Buzzer	Page 234

85 dB

114	Installation Buzzer	Page 231

80 dB

65-75 dB

Sound output in db (measured at 1 m distance)

338	AC Installation Buzzer	Page 232

107 Electronic Installation Buzzer

- For the 22.5 mm control panel programme
- Low current consumption
- High protection rating IP 65

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	28 mm x 12 mm (Protrusion from panel)
Housing:	PA fibreglass, high-impact
Tone frequency:	C. 2,400 Hz / c. 3,200 Hz (12 V)
Tone type:	Continuous tone or pulse tone with approx. 1 Hz
Fixing:	Installation mounting for Ø 22.5 mm (M22)
Connection:	Connector plug with screw terminal max. 1.5 mm²
Life duration:	> 5,000 hrs

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	12 V DC	24 V AC/DC	115 V AC/DC	230 V AC
Current Consumpt.	≤ 10 mA	≤ 8 mA	≤ 8 mA	≤ 8 mA
Continuous tone	**107 000 54**	**107 000 75**	**107 000 77**	**107 000 68**
Pulse tone	**107 010 54**	**107 010 75**	**107 010 77**	**107 010 68**

(12 V = / **107 000 54** and **107 010 54** without UL approval)

TECHNICAL DIAGRAMS:

see page 294

Simple connection by means of connector plug

High protection rating IP 65 for use in rough conditions

See note on page 347

WERMA SIGNALTECHNIK

Electronic Installation Buzzer

- For the 22.5 mm control panel programme
- High protection rating IP 65

Surface housing (accessory)

Surface housing (triple) for 2 beacons and 1 audible element (not included in assembly)

Life duration up to 5,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	52 mm x 35 mm (Protrusion from pan
Housing:	PC/ABS-Blend; Cap: PC
Tone frequency:	C. 2,100 Hz
Tone type:	Continuous tone or pulse tone with approx. 1 Hz
Fixing:	Install. mounting for Ø 22.5 mm (M22) with anti-twist device
Connection:	Connector plug with screw terminal max. 1.5 mm²
Life duration:	> 5,000 hrs

Play Sound www.werma.com

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption	25 mA	25 mA	25 mA
Continuous tone	**109 000 75**	**109 000 77**	**109 000 68**
Pulse tone	**109 010 75**	**109 010 77**	**109 010 68**

ACCESSORIES:

Bracket with protective cap (IP54)	**975 109 01** (see picture on page 237)
Single surface housing	**975 109 02**
Double surface housing	**975 109 03**
Triple surface housing	**975 109 04**

Assembly comprises of only the surface housing. Beacons 800-802 (page 107 onwards) or 815-817 (page 109 onwards) have to be ordered additionally.

TECHNICAL DIAGRAMS:

see page 294

See note on page 347

c UL us CE EAC 50 g IP65 +50°C -20°C 80 dB

111 Installation buzzer

Thanks to its minimum level of protrusion the installation buzzer 111 is ideal for control panel applications

- Electronic buzzer for the 22.5 mm control panel and switch gear programme
- Simple connection via plug connection
- Positive and negative control logic
- Continuous or pulse tone can be triggered externally

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black; Cap: PC
Ton frequency:	C. 2.8 Khz
Ton type:	Continuous or pulse tone
Fixing:	Installation mounting for Ø 22,5 mm (M22 x 1,5 mm)
Connection:	Screw terminal max. 1.5 mm^2
Life duration:	> 5.000 hrs
Assembly:	Nut and seal included in assembly.

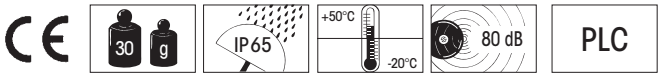
Simple installation with single hole mounting for M22

ORDER SPECIFICATIONS:

Voltage	24 V DC	230 V AC
Current consumption	20 mA	20 mA
Continuous tone	**111 000 55**	**111 000 68**

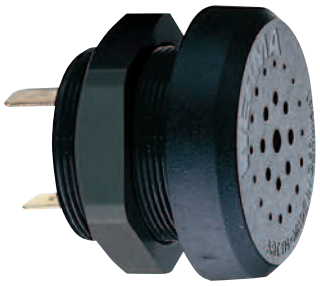
TECHNICAL DIAGRAMS:

see page 294



WERMA SIGNALTECHNIK

114 Electronic Installation Buzzer



- **Installation buzzer for use in control panels**

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	42.5 mm x 10 mm (Protrusion from panel)
Housing:	PC/ABS-Blend; Nut: PA fibreglass, high-impact
Connection:	Spades 6.3 x 0.8 mm, finger proof model according to BGV A2, when used with insulated spades
Tone frequency:	C. 2,400 Hz
Fixing:	Installation mounting for Ø 30.5 mm (M30)

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V DC (12-30 V)	230 V AC (110-240 V)
Current consumption	20 mA	20 mA
	114 068 15	**114 068 28**

TECHNICAL DIAGRAMS:

see page 294

See note on page 347

CE EAC 50 g IP30 +60°C -20°C 85 dB

338 AC Installation Buzzer

338 373

338 323

- **AC buzzer for use in electrical appliances**

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	23 mm x 18.5 mm x 40 mm (338 273)
Tone frequency:	100 Hz
Mounting:	As required
Fixing:	M3 or M4 thread

Play Sound www.werma.com

ORDER SPECIFICATIONS:

230 V AC, c. 75 dB, spades, fixing: M3	**338 273 28**
230 V AC, c. 75 dB, solder lugs for printed circuits, fixing: M3	**338 323 28**
230 V AC, c. 75 dB, spades, 6.3 x 0.8 mm, fixing: M3	**338 373 28**
230 V AC, c. 75 dB, spades, 6.3 x 0.8 mm, fixing: M4	**338 374 28**

Further voltages on request.

TECHNICAL DIAGRAMS: see page 303

See note on page 347

EAC 30 g 65-75 dB

382 Installation Buzzer

- **All-purpose installation buzzer**
- **Low current consumption**

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	54.5 mm x 36.5 mm
Housing:	Steel, passivated
Connection:	AC: 2 wires, 215 mm long DC: 2 wires, 50 mm long The housing of the DC version is current-carrying
Fixing:	M3 thread

Play Sound www.werma.com

ORDER SPECIFICATIONS:

AC Version		
Voltage	230 V AC	
Current consumption	15 mA	
	382 013 68	
DC Version		
Voltage	6 V DC	24 V DC
Current consumption	100 mA	70 mA
	382 013 53	**382 013 55**

Further voltages on request.

TECHNICAL DIAGRAMS: see page 304

See note on page 347

CE EAC 50 g 90 dB

WERMA SIGNALTECHNIK

118/119 Electronic Installation Buzzer

- Low current consumption
- IP 43 with cap
- Type 118 continuous tone
- Type 119 continuous tone and pulse tone
- NEW • Version with three externally triggerable tones

Cap

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	43 mm x 13 mm (Protrusion from panel)
Housing:	ABS
Connection:	Spades 6.3 x 0.8 mm, finger proof model according to BGV A2, when used with insulated spades
Tone frequency:	C. 2,400 Hz
Tone type:	Type 118 Continuous tone Type 119 Continuous tone and pulse tone, c. 1 Hz, selectable via plug-in terminal Version with 3 tones: see table
Fixing:	Installation mounting for Ø 28 mm (M28)

Play Sound www.werma.com

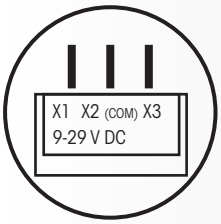
ORDER SPECIFICATIONS:

Voltage	12 V DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC
Current consumpt.	20 mA	20 mA	20 mA	20 mA	20 mA
Continuous tone	**118 068 14**	**118 068 15**	**118 068 26**	**118 068 27**	**118 068 28**
Continuous/pulse tone	-	**119 068 15**	**119 068 26**	**119 068 27**	**119 068 28**

NEW

Voltage	24 V DC (9-29 V DC)
Current consumpt.	< 30 mA (at tone 1)
3 tones	**119 004 55**

ADDITIONAL INFORMATION:



PIN			
Tone 1	X1	X3 (COM)	2,7 kHz
Tone 2	X2	X3 (COM)	270 Hz
Tone 3	X1 + X2	X3 (COM)	337 Hz

ACCESSORIES:

Cap	**975 118 00**

TECHNICAL DIAGRAMS:

see page 294 + 295

The Installation Buzzer 118/119 is also available in an Ex version (see page 288)

See note on page 347

With cap

With cap

118 483/119 483 Electronic Buzzer

- For wall mounting
- Type 118 483 continuous tone
- Type 119 483 continuous and pulse tone

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 79.5 mm x 77 mm
Housing:	ABS
Connection:	Spades 6.3 x 0.8 mm, Finger proof model according to BGV A2, when used with insulated spades
Cable entry:	Cable diameter max. 9 mm
Tone frequency:	C. 2,400 Hz
Tone type:	Type 118 483 Continuous tone Type 119 483 Continuous tone and pulse tone, c. 1 Hz selectable via plug-in terminal
Fixing:	Bracket mounting, Sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V AC/DC (12-30 V)	230 V AC (110-240 V)
Current consumption	20 mA	20 mA
Continuous tone	**118 483 15**	**118 483 28**
Continuous / pulse tone	**119 483 15**	**119 483 28**

Further voltages on request.

ADDITIONAL INFORMATION:

Please also see Buzzer 128 with additional advantages (see page 236)

- Continuous or pulse tone selectable
- Modern design

TECHNICAL DIAGRAMS:

see page 295

See note on page 347

CE EAC 94 g IP33 +60°C 0°C 90 dB

WERMA SIGNALTECHNIK

Buzzer

Base mounting

- Continuous or pulse tone selectable
- Cable entry from the side possible
- Easy to mount
- High protection rating IP 65
- Adaptor for tube mounting (accessory)

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	89 mm x 64 mm
Housing:	PC, black
Fixing:	Base mounting, tube mounting (accessory)
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Continuous or pulse tone, selectable
Tone frequency:	2.3 kHz
Life duration:	> 5,000 hrs
Duty cycle:	100 %

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	≤ 15 mA	≤ 15 mA	≤ 15 mA
	127 000 75	**127 000 67**	**127 000 68**

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

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 295

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

Buzzer in combination with Xenon Flash or LED Permanent Light see 194 and 192

See note on page 347

24 V

128 Buzzer

- Continuous or pulse tone selectable
- Integrated mounting bracket
- Modern design

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	83 mm x 84 mm x 91 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Bracket mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Continuous or pulse tone, selectable
Tone frequency:	2.3 kHz
Life duration:	> 5,000 hrs
Duty cycle:	100 %

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	≤ 15 mA	≤ 15 mA	≤ 15 mA
	128 000 75	**128 000 67**	**128 000 68**

TECHNICAL DIAGRAMS:

see page 296

Buzzer in combination with Xenon Flash or LED Permanent Light
see pages 192 and 194

See note on page 347

CE EAC 90 g IP65 +50°C -20°C 92 dB 24 V PLC

WERMA SIGNALTECHNIK

Electr. Installation Multi-Tone Sounder

- For the 22.5 mm control panel programme
- High protection rating IP 65
- 8 different tones selectable
- Adjustable sound output

Surface housing (accessory)

Bracket (accessory)

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	72 mm x 40 mm (Protrusion from panel)
Housing:	PC/ABS-Blend; Cap: PC
Sound output:	Max. 100 dB (sound output is adjustable on rear side when mounted)
Fixing:	Installation mounting for Ø 22.5 mm (M22) with anti-twist device
Connection:	Connector plug with screw terminal max. 1.5 mm²
Life duration:	> 5,000 hrs

TONE TYPES AND FREQUENCIES:

Play Sound www.werma.com

8 tones selectable on rear side of the housing

position 0	420 Hz	1.6 kHz	86 dB (A)
position 1	1 Hz	1.6 kHz	86 dB (A)
position 2	20 Hz	1.6 kHz	86 dB (A)
position 3		1.6 kHz	88 dB (A)
position 4	420 Hz	3.4 kHz	90 dB (A)
position 5	1 Hz	3.4 kHz	100 dB (A)
position 6	20 Hz	3.4 kHz	96 dB (A)
position 7		3.4 kHz	100 dB (A)

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	80 mA	40 mA	40 mA
	110 000 75	**110 000 67**	**110 000 68**

ACCESSORIES:

Bracket with protective cap (IP 54)	**975 109 01**
Surface housing IP 65 (single)	**975 109 02**
Surface housing IP 65 (double) for 1 installation beacon and 1 audible element	**975 109 03**
Surface housing IP 65 (triple) for 2 installation beacons and 1 audible element	**975 109 04**

Further information see page 221.

TECHNICAL DIAGRAMS:

see page 294

See note on page 347

129 Electronic Multi-Tone Sounder

- Multi-Tone Sounder in die-cast aluminium housing
- German Lloyd Approval
- Salt water resistant
- 31 different tones available
- High protection rating IP 67

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	133 mm x 161 mm x 143 mm
Housing:	Die-cast aluminium
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable diameter M20 x 1.5 mm
	Cable diameter 8-12 mm
Tone types and frequencies:	Selectable via DIP switch, see table on the right

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V DC	115 V AC	230 V AC
Current consumption	420 mA	120 mA	60 mA
	129 052 55	**129 052 67**	**129 052 68**

ADDITIONAL INFORMATION:

Multi-Tone Sounder 129 approved according to German Lloyd - Ship Classification and Technical Monitoring

German Lloyd sets technical, quality and safety standards for the industry and the maritime sectors. In addition to the classification of ships of all types, German Lloyd is also active as a worldwide technical monitoring authority.

TECHNICAL DIAGRAMS:

see page 296

See note on page 347

24 V 230 V

IP67 +55°C -40°C 110 dB 31

WERMA SIGNALTECHNIK

129 Tone table

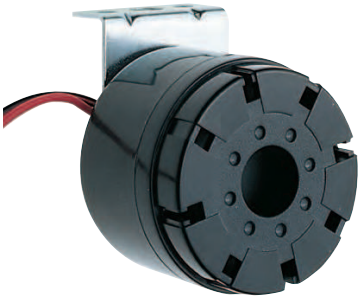
The 129 Multi-Tone Sounder offers a large choice of international signal tones for the widest spectrum of applications.

TONE TYPES AND FREQUENCIES:

Tone 1	Tone type	Description
1	falling 1,200-500 Hz in 1 Hz stroke	DIN 33404
2	950 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201
3	alternating 825 Hz/1,025 Hz in 2 Hz stroke	
4	continuous 950 Hz	
5	950 Hz pulse: 1 sec. ON, 1 sec. OFF	
6	500-1.200 Hz rising and falling in 3 sec.	Siren
7	554 Hz/100 ms alternating 440 Hz/400 ms	French fire alarm signal AFNOR NFS 32 S 32-001
8	pulse 700 Hz: 150 ms ON, 150 ms OFF, Dauer 1 Min.	
9	pulse 800 Hz: 4 ms ON, 4 ms OFF	
10	continuous 500 Hz	
11	continuous 725 Hz	
12	continuous 825 Hz	
13	continuous 1,250 Hz	
14	continuous 1,500 Hz	
15	pulse 500 Hz: 500 ms ON, 500 ms OFF	
16	pulse 825 Hz: 500 ms ON, 500 ms OFF	
17	pulse 725: 0.7 sec. ON, 0.3 sec. OFF	
18	pulse 800 Hz: 0.25 sec. ON, 1 sec. OFF	
19	alternating 800 Hz/1,000 Hz in 2 Hz stroke	
20	pulse 825 Hz: 2.5 sec. ON, 2.5 sec OFF x 7, dann 7 sec. PULS	
21	pulse 950 Hz: 1 sec. ON, 1 sec. OFF, 3 sec. ON, 1 sec. OFF	
22	rising 500-1,200 Hz in 3 sec., 0.5 sec OFF	
23	rising 500-2,400 Hz in 3 sec.	
24	alternating 825 Hz/1,075 Hz in 1 Hz stroke	
25	alternating 500 Hz/900 Hz in 2 Hz stroke	
26	alternating 1,200 Hz/1,400 Hz in 25 Hz stroke	
27	rising 300-1,200 Hz in 3 sec.	
28	700-1,500 Hz rising and falling in 3 sec.	
29	rising 150-1,000 Hz in 10 sec., 40 sec. ON, falling in 10 sec.	
30	pulse 680 Hz: 0.875 sec. ON, 0.875 sec. OFF	
31	rising 1,400-1,600 Hz in 1 sec., falling in 0.5 sec.	NF C 48-265

123 Electronic Siren

- Loud compact siren



TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	54 mm x 66.5 mm x 67 mm
Housing:	ABS
Tone frequency:	2,700 - 3,500 Hz
Tone type:	Alternating
Connection:	2 wires, c. 450 mm long
Fixing:	Metal bracket

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	12 V DC	24 V DC
Current consumption:	150 mA	100 mA
	123 100 54	**123 200 55**

TECHNICAL DIAGRAMS:

see page 295

See note on page 347

CE EAC 80 g IP54 +70°C -30°C 105 dB

126 Electronic Multi-Tone Sounder

- **4 different tones can be triggered externally**

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 79.5 mm x 77 mm	
Housing:	ABS	
Tone types and frequencies:	Continuous tone:	c. 2,700 Hz
	Continuous tone:	c. 530 Hz
	Bell:	c. 2,700 Hz (pulse 20 Hz)
	Pulse tone:	c. 2,700 Hz (pulse 1 Hz)
Connection:	Screw terminal with wire protection max. 2.5 mm²	
Cable entry:	Cable diameter max. 9 mm	
Fixing:	Bracket mounting, sound outlet facing downwards	

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	12-24 V DC
Current consumption:	80 mA
	126 052 15

ADDITIONAL INFORMATION:

Please also see Multi-Tone Sounder 134 with additional advantages (see page 243)

- Choice of 8 different tones
- Extremely high sound output up to 109 dB
- Adjustable sound output

TECHNICAL DIAGRAMS:

see page 295

See note on page 347

CE EAC 140 g IP33 +50°C -20°C 105 dB 4 PLC

133 Multi-Tone Sounder

Base mounting

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

Top view: Mounting holes integrated into the product rim allow easy mounting without having to remove the cap

- Choice of 8 different tones
- Adjustable sound output
- Cable entry from the side possible
- Easy to mount
- Adaptor for tube mounting (accessory)

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	89 mm x 64 mm
Housing:	PC, black
Fixing:	Base mounting, tube mounting (accessory)
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Selectable, see table
Tone frequencies:	See table
Life duration:	> 5,000 hrs
Duty cycle:	100 %

TONE TYPES AND FREQUENCIES:

Play Sound www.werma.com

Tone	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	≤ 80 mA
	133 000 75

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 296

Multi-Tone Sounder in combination with Xenon Flash or LED Permanent Light see pages 193 and 195

See note on page 347

CE EAC 80 g IP65 +50°C -20°C 105 dB 8 PLC

WERMA SIGNALTECHNIK

134 Multi-Tone Sounder

- Choice of 8 different tones
- Extremely high sound output up to 109 dB
- Adjustable sound output
- Integrated mounting bracket

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	83 mm x 84 mm x 91 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Bracket mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Selectable, see table
Tone frequencies:	See table
Life duration:	> 5,000 hrs
Duty cycle:	100 %

TONE TYPES AND FREQUENCIES:

Play Sound www.werma.com

Tone	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	≤ 80 mA
	134 000 75

TECHNICAL DIAGRAMS:

see page 296

Multi-Tone Sounder in combination with Xenon Flash or LED Permanent Light
see pages 193 and 195

See note on page 347

CE EAC 100 g IP65 +50°C -20°C 109 dB 8 PLC

140 Multi-Tone Sounder

- 32 tones for a diverse range of applications
- Adjustable sound output to 115 dB
- Direct external setting of two tones possible with low voltage version

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	100 mm x 100 mm (IP 54)
Housing:	PC-ABS
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1,5 mm Cable gland not included in assembly.
Tone types and frequencies:	Selectable via DIP switch, see table on opposite page

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	9-28 V DC
Current consumption	≤ 120 mA
red	**140 150 50**
white	**140 950 50**

Products with EN54-3 (VdS) approval for fire call point applications

Voltage	9-28 V DC
Current consumption	≤ 120 mA
red	**140 160 50**
white	**140 960 50**

Voltage	110-240 V AC
Current consumption	≤ 40 mA
red	**140 150 60**
white	**140 950 60**

ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

TECHNICAL DIAGRAMS:

see page 296

140.X60.XX

See note on page 347 | 9-28 V | 110-240 V | with use of rear cable entry | IP54 | IP65 | +70°C / -40°C | 115 dB | 32

WERMA SIGNALTECHNIK

140 Tone table

The 140 Multi-Tone Sounder offers a large choice of international signal tones for the widest spectrum of applications. The low voltage version allows two tones to be triggered externally.

TONE TYPES AND FREQUENCIES:

Play Sound www.werma.com

Selectable via DIP switch

Tone 1 No.	Tone type	Description	Sound output (dBA) (12 V)	(24 V)	Tone 2 Low voltage version
1	alternating 800/970 Hz in 2 Hz stroke	BS 5839-1: 2002	101	105	14
2	rising 800/970 Hz in 7 Hz stroke		103	107	14
3	rising 800/970 Hz in 1 Hz stroke	BS 5839-1: 2002	104	108	14
4	continuous 2,850 Hz		110	115	14
5	rising 2,400-2,850 Hz in 7 Hz stroke		108	114	4
6	rising 2,400-2,850 Hz in 1 Hz stroke		109	115	4
7	500-1,200 Hz rising in 3 sec., 0.5 sec OFF		100	104	14
8	falling 1,200-500 Hz in 1 Hz stroke	DIN 33404	99	104	14
9	alternating 2,400/2,850 Hz in 2 Hz stroke		108	115	4
10	pulse 970 Hz in 0.5 Hz stroke	Back-up-alarm BS 5839 Part 1 1988	98	105	14
11	alternating 800/970 Hz in 1 Hz stroke	BS5839 Part 1 1988	100	105	14
12	pulse 2,850 Hz in 0.5 Hz stroke		107	114	4
13	970 Hz pulse: 0.25 sec. ON / 1 sec. OFF		96	105	14
14	continuous 970 Hz	BS 5839-1: 2002	101	105	15
15	554 Hz/100 ms alternating 440 Hz/400 ms	French alarm signal AFNOR NFS 32 S 32-001	97	102	14
16	660 Hz pulse: 150 ms ON, 150 ms OFF	Swedish alarm signal	97	101	17
17	660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF	Swedish alarm signal	97	103	16
18	660 Hz pulse: 6.5 sec. ON, 13 sec. OFF	Swedish alarm signal	99	103	14
19	continuous 660 Hz	Swedish alarm signal	99	103	21
20	alternating 554/440 Hz in 0.5 Hz stroke		99	103	21
21	pulse 660 Hz in 1 Hz stroke	Swedish alarm signal	98	104	19
22	2,850 Hz pulse: 150 ms ON, 100 ms OFF	Pedestrian crossing GB	109	115	14
23	rising 800/970 Hz in 50 Hz stroke	Low frequency BS 5839 Part 1 1988	101	106	14
24	rising 2,400-2,850 Hz in 50 Hz stroke	High frequency	106	112	4
25	970 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 Low frequency: Evacuation	101	105	26
26	2,850 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 High frequency	109	115	25
27	970/800 Hz alternating: 1.5 s ON, 0.5 s OFF		96	105	17
28	alternating 800/970 Hz in 2 Hz stroke	FP 1063.1-Telecoms/BS 5839-1: 2002	99	105	10
29	alternating 988/645 Hz in 2 Hz stroke		99	104	988 Hz cont. tone
30	alternating 510/610 Hz in 2 Hz stroke		97	102	510 Hz cont. tone
31	falling 1,200-300 Hz in 1 Hz stroke		99	104	13
32	alternating 510/610 Hz in 1 Hz stroke		97	102	510 Hz cont. tone

139 Multi-Tone Sounder

- Adjustable sound output up to 105 dB
- 32 tones for a diverse range of applications
- 2 tones can be triggered externally (24 V)
- High protection rating IP 66

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (L x H x W):	136 mm x 108 mm x 119 mm
Housing:	ABS
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)
Tone types and frequencies:	Selectable via DIP switch

ORDER SPECIFICATIONS:

Voltage	9-60 V DC	115/230 V AC
Current consumption	13 mA (24 V)	20 mA (230 V)
red	**139 000 55**	**139 000 68**
grey	**139 100 55**	**139 100 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 296

Multi-Tone Sounder 139 in combination with a powerful Xenon Flash
see page 207

Size comparison

See note on page 347

CE EAC 500 g IP66 +70°C -25°C 105 dB 32

WERMA SIGNALTECHNIK

141 Multi-Tone Sounder

- Adjustable sound output up to 110 dB
- 32 tones for a diverse range of applications
- 2 tones can be triggered externally
- High protection rating IP 66

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (L x H x W):	165 mm x 136 mm x 132 mm
Housing:	PC/ABS-Blend
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)
Tone types and frequencies:	Selectable via DIP switch

ORDER SPECIFICATIONS:

Voltage	9-60 V DC	115/230 V AC
Current consumption	120 mA (24V)	22 mA (230 V)
red	**141 000 55**	**141 000 68**
grey	**141 100 55**	**141 100 68**

ACCESSORIES:

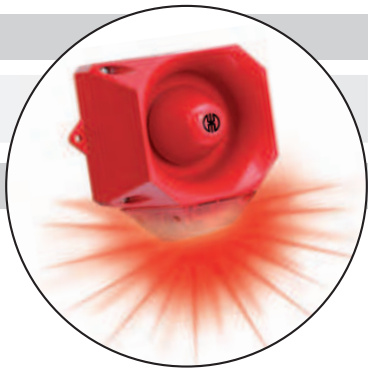
Cable gland M20 x 1.5 mm	**975 444 01**

TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

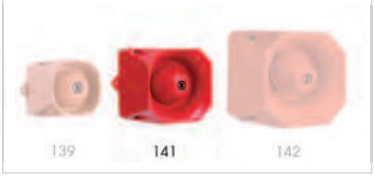
TECHNICAL DIAGRAMS:

see page 297



Multi-Tone Sounder 141 in Combination with a powerful Xenon Flash
see page 208

Size comparison



See note on page 347

CE EAC 800 g IP66 +70°C -25°C 110 dB 32

142 Electronic Multi-Tone Sounder

- Adjustable sound output up to 120 dB
- 42 tones for a diverse range of applications
- 3 tones can be triggered externally
- Duration of signal phase selectable
- High protection ration IP 66

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (L x H x W):	168 mm x 168 mm x 155 mm
Housing:	PC/ABS-Blend
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)
Tone types and frequencies:	Selectable via DIP switch, see table on the opposite page

ORDER SPECIFICATIONS:

Voltage	18-30 V DC	115/230 V AC
Current consumption	450 mA	130 mA (115 V) / 65 mA (230 V)
red	**142 000 55**	**142 000 68**
grey	**142 100 55**	**142 100 68**

ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

TECHNICAL DIAGRAMS:

see page 297

The Electronic Multi-Tone Sounder 142 is also available with a Xenon Flash
see page 209

Size comparison

See note on page 347

142 X00 68 | 142 X00 55

WERMA SIGNALTECHNIK

142 Tone table

The 142 Multi-Tone Sounder offers a large choice of international signal tones for the widest spectrum of applications. 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 32 S 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 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

Multi-Tone Sounder

Base Mounting

- Sound output adjustable up to 114 dB (C), 110 dB (A)
- 32 tones for a diverse range of applications
- 3 Tones can be triggered externally

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	109 mm x 112.5 mm x 152 mm
Housing:	PC/ABS-Blend
Connection:	24 V: Screw terminal with wire protection max. 1.5 mm²
	115/230 V: CAGE CLAMP®
Cable entry:	Membrane for cable diameter max. 13 mm
Fixing:	Wall, base and ceiling mounting
Tone types and frequencies:	Selectable via DIP switch, see table on the opposite page

Wall mounting

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	200 mA	55 mA	30 mA
	144 000 75	**144 000 67**	**144 000 68**

ACCESSORIES:

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

QUICK AND SIMPLE MOUNTING:

1. Place the lower part of the 444 Combination in the desired position.
2. Insert the connection cable and screw into terminal.
3. Snap the upper housing into place.
4. Secure the two parts with the screws supplied.

ADDITIONAL INFORMATION:

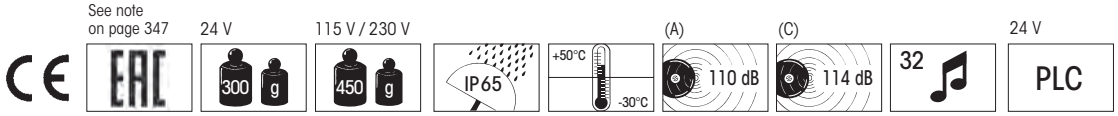
The various mounting options (wall, base or ceiling) maximise the sound output of the Multi-Tone Sounder.

TECHNICAL DIAGRAMS:

see page 297

Multi-Tone Sounder in combination with LED Double Flash (Page 211) or LED EVS Signal (Page 212)

See note on page 347



144 Tone table

The 144 Multi-Tone Sounder offers 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	Description	Use	Tone 2	Tone 3	Output (dBA)
1	continuous	200		BS 5839-1:2002	440 Hz cont.	554 Hz cont.	97
2	rising	800 & 970	7 Hz		14	800 Hz cont.	102
3	rising	800 & 970	1 Hz		14	800 Hz cont.	103
4	continuous	2850			14	9	104
5	rising	2400 - 2850	7 Hz		4	2400 Hz cont.	109
6	rising	2400 - 2850	1 Hz		4	2400 Hz cont.	110
7	rising	500 - 1200	3 s, then 0.5 s OFF (then repeat)		14	8	106
8	falling	1200 - 500	1 Hz	DIN 33404-3	14	7	104
9	alternating	2400 & 2850	2 Hz		4	2400 Hz cont.	111
10	pulse	970	0.5 Hz (1 s On/1 s Off)	BS 5839 Part 1 1988	14	800 Hz cont.	101
11	alternating	800 & 970	1 Hz	BS 5839 Part 1 1988	14	800 Hz cont.	105
12	pulse	2850	0.5 Hz		4	22	104
13	pulse	970		0,25 s On/1 s Off	14	800 Hz cont.	98
14	continuous	970		BS 5839-1:2002 PFEER - Toxic gas	10	8	102
15	alternating	554 & 440		France NFS	14	800 Hz cont.	101
16	pulse	660	150 ms On/150 ms Off	Swedish	16	14	96
17	pulse	660	1.8 s On/1.8 s Off	Swedish	17	14	98
18	pulse	660	6.5 s On/13 s Off	Swedish	18	14	98
19	continuous	660		Swedish	19	31	98
20	alternating	554 & 440	0.5 Hz		20	19	102
21	pulse	660	1 Hz	Swedish	21	4	97
22	pulse	2850	150 ms On/100 ms Off	GB	14	4	104
23	rising	800 - 970	50 Hz (low)	BS 5839 Part 1 1988	14	800 Hz cont.	102
24	rising	2400 - 2850	50 Hz (high)		4	2400 Hz cont.	109
25	pulse	970	3 x 500 ms ON/500 ms OFF / 1,5 s silence, then repeat (low)	ISO 8201 US Temporal	26	14	101
26	pulse	2850	3 x 500 ms ON/500 ms OFF / 1,5 s Pause, then repeat (low)	ISO 8201 US Temporal	25	4	104
27	continuous	4000			27	6	92
28	rising	2000 - 2850	7 Hz		2000 Hz cont.	4	111
29	alternating	988 & 645	2 Hz		988 Hz cont.	645 Hz cont.	102
30	alternating	510 & 610	2 Hz		510 Hz cont.	610 Hz cont.	102
31	alternating	800 & 970	2 Hz	5839-1:2002	800 cont.	14	105
32	alternating	800 & 1200	1 Hz		800 cont.	1200 Hz cont.	105

153 Sounder

- 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
- Ideal addition to LED Beacon 853
- Innovative connector to create traffic light combinations
- Easy assembly due to quick-release screws
- Ideal addition to LED Beacon 853

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

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm
Housing:	PP-GF, black
Lens:	PC, tinted black
Connection:	Screw terminal with wire protection, max. 1.5 mm²
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)
Assebly:	Incl. snap-on fixing bracket (optional use)

ORDER SPECIFICATIONS:

Play Sound www.werma.com

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 853 LED Beacons can be found at www.werma.com or on page 135 (LED Permanent Beacon), page 152 (LED Double Flash Beacon) and on page 153 (LED EVS Beacon).
Traffic light configurator at **www.werma.com**

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	Ton 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

TECHNICAL DIAGRAMS:

see page 297

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

CE 160 g IP66 +50°C -25°C 105 dB 8 1

WERMA SIGNALTECHNIK

190 Multi-Tone Sounder

- 32 tones for a diverse range of applications
- Adjustable sound output 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:

Play Sound www.werma.com

Dimensions (Ø x Height):	150 mm x 128 mm
Housing:	PC/ABS-Blend, grey
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:

Voltage	10-30 V DC	115 V AC	230 V AC
Current consumption	< 180 mA	< 55 mA	< 30 mA
	190 000 55	**190 000 67**	**190 000 68**

The fixing bracket can be mounted pointing inwards or outwards

ACCESSORIES:

FIXING BRACKET

Fixing bracket for one beacon	**975 890 33**
Fixing bracket for two beacons	**975 890 34**
Fixing bracket for three beacons	**975 890 35**
Fixing bracket for four beacons	**975 890 37**

Mounting material and connecting grommet included in assembly.

Further information can be found on page 178.

CONNECTION GROMMET

Connection grommet for traffic light combinations **975 890 25**

TUBE ADAPTOR

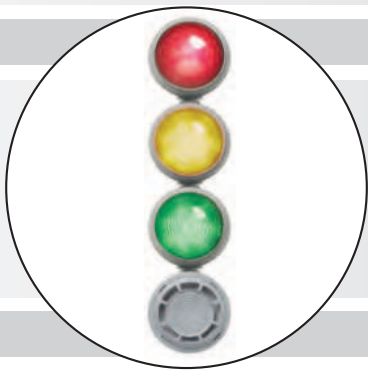
Adaptor for tube mounting **975 890 36**
(suitable for Ø 75 mm tubes, see page 176)

TONE TYPES AND FREQUENCIES:

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

ADDITIONAL INFORMATION:

An easy addition to an optical solution
The multi-tone sounder 190 has been designed in the same housing as the 890 series (LED) beacons (see page 175 and 176). The sounder can therefore be effortlessly combined with up to three beacons, available in the colours red, yellow, green, blue and clear.
Traffic light configurator at **www.werma.com**



Loud Multi-Tone Sounder in combination with (LED) Beacon 890

TECHNICAL DIAGRAMS:

see page 298

See note on page 347 | 24 V | 115 V / 230 V | (A) | (C) | 24 V

CE EAC 450 g 590 g IP65 +50°C -30°C 110 dB 114 dB 32 PLC

482 Signal Horn

- **Also available with low current-consumption for use as lift alarm**

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 79.5 mm x 77 mm
Housing:	ABS
Connection:	Screw terminal with wire protection, 1.0-1.5 mm² fine strand, 1.0-2.5 mm² single wire
Cable entry:	Cable diameter 9 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

AC Version			
Voltage	24 V AC	42 V AC	230 V AC
Current consumption	190 mA	75 mA	15 mA
	482 052 65	**482 052 66**	**482 052 68**
DC Version			
Voltage	12 V DC	24 V DC	
Current consumption	150 mA	70 mA	
	482 052 54	**482 052 55**	
Lift Alarm			
Voltage	6 V DC	12 V DC	
Current consumption	80 mA	130 mA	
	482 347 13	**482 347 14**	

Further voltages on request.

ADDITIONAL INFORMATION:

Please also see Horn 585 with additional advantages (see page 265)

- High protection rating IP 65
- Loud electronic horn
- High life duration up to 5,000 hrs
- Sound output 98 dB

TECHNICAL DIAGRAMS:

see page 306

See note on page 347

Lift alarm

WERMA SIGNALTECHNIK

570 Signal Horn

- Suitable for indoor and outdoor applications
- Pulse tone available

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	148 mm x 350 mm x 152 mm
Housing:	ABS
Connection:	Screw terminal max. 2.5 mm
Cable entry:	Rubber squeeze grommet Ø 7-10 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Continuous tone (AC)

Voltage	24 V AC (50 Hz)	42-48 V AC (50 Hz)	115 V AC (50/60 Hz)	230 V AC (50 Hz)
Current consumpt.	500 mA	250 mA	200 mA	70 mA
	570 052 65	**570 052 66**	**570 052 67**	**570 052 68**

Pulse tone (AC)

Voltage	230 V AC (50 Hz)
Current consumpt.	≤ 70 mA
	570 100 68

Continuous tone (DC)

Voltage	24 V DC	115 V DC	230 V DC
Current consumpt.	350 mA	150 mA	100 mA
	570 052 55	**570 052 57**	**570 052 58**

Further voltages on request.

TECHNICAL DIAGRAMS:

see page 306

The Horn 570 is also available in an Ex version (see page 290)

See note on page 347

CE EAC 1 kg IP55 +60°C -20°C 108 dB

571 Signal Horn

- Suitable for maritime applications
- Corrosion-proof aluminium housing

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	132 mm x 340 mm x 139 mm
Housing:	Aluminium alloy, corrosion-proof
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm
	Cable diameter 10-12 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V AC (50 Hz/60 Hz)	230 V AC
Current consumption	350 mA	200 mA	70 mA
	571 052 55	**571 052 67**	**571 052 68**

TECHNICAL DIAGRAMS: see page 307

See note on page 347

CE EAC 1,7 kg IP55 +60°C -20°C 108 dB

572 Signal Horn

- High Protection rating IP 65

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	156 mm x 118 mm x 223 mm
Housing:	Aluminium, grey varnish
	Cap: ABS
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland at side, M20 x 1.5 mm
	Cable diameter 10-12 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V AC (50 Hz/60 Hz)	230 V AC
Current consumption	350 mA	200 mA	70 mA
	572 000 55	**572 000 67**	**572 000 68**

Further voltages on request.

TECHNICAL DIAGRAMS: see page 307

See note on page 347

CE EAC 1,8 kg IP65 +60°C -20°C 104 dB

WERMA SIGNALTECHNIK

573 Signal Horn

- Modern design
- Cable gland for strain relief
- Concealed fixing screws
- High protection rating IP 65

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	178 mm x 104 mm x 207 mm
Fixing dimensions (L x H):	130 mm x 160 mm
Housing:	PC/ABS-Blend
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 5-10 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V DC	24 V AC (50 Hz)	42-48 V AC (50/60 Hz)	115 AC (50/60 Hz)	230 V AC (50 Hz)
Current consumpt.	350 mA	500 mA	250 mA	200 mA	70 mA
	573 000 55	**573 000 65**	**573 000 66**	**573 000 67**	**573 000 68**

TECHNICAL DIAGRAMS:

see page 307

The Horn 573 is also available in an Ex version (see page 291)

See note on page 347

CE EAC 1,25 Kg IP65 +50°C -30°C 105 dB

170 Three Tone Gong

- Melodious A-major three tone sound output
- Adjustable sound output
- Continuous operation possible
- Multiple Gongs can be operated in parallel
- Frequency set by manufacturer
- Triggering by means of time relay or timer switch

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	148 mm x 350 mm x 152 mm
Housing:	ABS
Connection:	Screw terminal with wire protection max. 25 mm²
Cable entry:	Rubber squeeze grommet Ø 7-10 mm
Tone type:	A-major 3 tone
Sound output duration:	C. 8 seconds
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V DC	230 V AC
Current consumption	200 mA	35 mA
	170 000 55	**170 000 68**

ADDITIONAL INFORMATION:

Product no longer available.

For further advice please contact your WERMA sales contact.

TECHNICAL DIAGRAMS:

see page 297

See note on page 347

CE EAC 820 g IP55 +50°C -20°C 100 dB

WERMA SIGNALTECHNIK

172 Three Tone Gong

- Innovative, modern design
- Melodious A-major three tone sound output
- Adjustable sound output
- Multiple Gongs can be operated in parallel
- Frequency set by manufacturer
- Triggering by means of time relay or timer switch

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	178 mm x 104 mm x 207
Housing:	PC/ABS-Blend
Connection:	Screw terminal with wire protection 0.5-2.5 mm^2
Cable entry:	Cable gland M16 x 1.5 mm
	Cable diameter 5-10 mm
Duty cycle:	Max. 5 min
Tone type:	A-major three tone
Sound output duration:	C. 8 seconds
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	12-24 V AC/DC	230 V AC
Current consumption	250 mA	40 mA
	172 000 75	**172 000 68**

ADDITIONAL INFORMATION:

Product no longer available

For further advice please contact your WERMA sales contact.

TECHNICAL DIAGRAMS:

see page 298

See note on page 347

CE EAC 1 kg IP65 +50°C -20°C 100 dB

914 Alarm Bell

- Robust alarm bell
- High protection rating IP 66

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Depth):	167 mm x 76 mm
Housing:	Steel bell, epoxy dust enamelled
Connection:	Screw terminal max. 1.5 mm²
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 5-10 mm

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V DC	110 V AC (50/60 Hz)	230 V AC
Current consumption	300 mA	90 mA	55 mA
	914 052 55	**914 052 67**	**914 052 68** (50 Hz) **914 053 68** (60 Hz)

Further voltages on request.

TECHNICAL DIAGRAMS:

see page 326

See note on page 347

CE EAC 1 kg IP66 +50°C -30°C 98 dB

at DC - 98 dB(A)
at AC - 100 dB(A)

574 Signal Horn

- 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 up to 108 dB
- Integrated bracket for simple wall mounting without additional accessories

TECHNICAL SPECIFICATIONS:

Life duration up to 5,000 hrs

Dimensions (Ø x Height):	134 mm x 340 mm
Housing:	PC/ABS-Blend, grey
Fixing:	Wall mounting, integrated mounting bracket
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 11 mm
Tone frequency:	C. 110 Hz

ORDER SPECIFICATIONS:

Play Sound www.werma.com

Voltage	24 V AC/DC	10-48 V AC/DC*	115-230 V AC
Current consumption	55 mA	210 mA	30 mA
	574 000 75	**574 000 70**	**574 000 60**

* Current consumption at 10 V / 115 V

ADDITIONAL INFORMATION:

State-of-the-art technology is used in the signal horns to guarantee an extremely long life of up to 5,000 hours: the high-volume horn tone is emitted with the aid of sophisticated electronics.

WERMA has intentionally avoided the use of electromechanical components which are susceptible to wear and tear, and has in this way ensured that the long-life horns can be used up to ten times longer than similar conventional electromechnanical products.

TECHNICAL DIAGRAMS:

see page 307

CE 535 g IP65 +50°C -30°C 108 dB

575 Signal Horn

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

- 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 up to 108 dB
- Integrated bracket for simple wall mounting without additional accessories

TECHNICAL SPECIFICATIONS:

Life duration up to 5,000 hrs

Dimensions (L x H x W):	134 mm x 169 mm x 144 mm
Housing:	PC/ABS-Blend, grey
Fixing:	Wall mounting, integrated mounting bracket
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 11 mm
Tone frequency:	C. 110 Hz

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	10-48 V AC/DC*	115-230 V AC
Current consumption	55 mA	210 mA	30 mA
	575 000 75	**575 000 70**	**575 000 60**

* Current consumption at 10 V / 115 V

TECHNICAL DIAGRAMS:

see page 307

WERMA SIGNALTECHNIK

582 Signal Horn

- Small horn with trumpet

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 172 mm x 77 mm
Housing:	ABS
Connection:	Screw terminal with wire protection, 1.0-1.5 mm² fine strand, 1.0-2.5 mm² single wire
Cable entry:	Cable diameter 9 mm
Fixing:	Wall mounting, sound outlet facing downwards

ORDER SPECIFICATIONS:

Play Sound www.werma.com

AC Version

Voltage	12 V AC	24 V AC	42 V AC	115 V AC	230 V AC
Current consumpt.	330 mA	190 mA	75 mA	15 mA	15 mA
	582 052 64	**582 052 65**	**582 052 66**	**582 052 67**	**582 052 68**

DC Version

Voltage	12 V DC	24 V DC
Current consumpt.	150 mA	70 mA
	582 052 54	**582 052 55**

Further voltages on request.

ADDITIONAL INFORMATION:

Please also see Horn 584 with additional advantages (see page 264)

- High protection rating IP 65
- Loud electronic horn
- High life duration up to 5,000 hrs
- Sound output 98 dB

TECHNICAL DIAGRAMS:

see page 308

See note on page 347

CE EAC 160 g IP33 +60°C -20°C 92 dB

584 Signal Horn

- Loud electronic horn
- High life duration up to 5,000 hrs
- Integrated mounting bracket
- High protection rating IP 65

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	83 mm x 198 mm x 91.5 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Wall mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone frequency:	C. 110 Hz
Life duration:	> 5,000 hrs
Duty cycle:	100 %

ORDER SPECIFICATIONS:

Play Sound

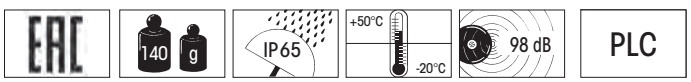
Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	≤ 80 mA	≤ 70 mA	≤ 70 mA
	584 000 75	**584 000 67**	**584 000 68**

TECHNICAL DIAGRAMS:

see page 308

Horn in combination with Xenon Flash or LED Permanent Light see page 196 and 197

See note on page 347



WERMA SIGNALTECHNIK

585 Signal Horn

- Loud electronic horn
- High life duration up to 5,000 hrs
- Integrated mounting bracket
- High protection rating IP 65

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	83 mm x 84 mm x 91.5 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Wall mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm²
Cable entry:	Cable diameter max. 9 mm
Tone frequency:	C. 110 Hz
Life duration:	> 5,000 hrs
Duty cycle:	100 %

ORDER SPECIFICATIONS:

Play Sound

Voltage	24 V AC/DC	115 V AC	230 V AC
Current consumption	≤ 80 mA	≤ 70 mA	≤ 70 mA
	585 000 75	**585 000 67**	**585 000 68**

ADDITIONAL INFORMATION:

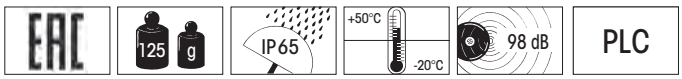
Thanks to the use of the most modern technology, the 584 and 585 horns have life duration of up to 5,000 hours (10 times longer than conventional horns).

The sound output can be adjusted up to 98 dB.

TECHNICAL DIAGRAMS:

see page 308

See note on page 347



Ex Signal Devices Overview

Ex (LED) Signal Towers

741 Ex LED Signal Tower

Zone 1 + 2
Page 275

Optical Ex Signal Devices

729 Ex LED Permanent Beacon

Zone 2 + 22
Page 276

782 Ex LED Permanent Beacon

Zone 1, 2, 21, 22
Page 277

785 Ex Rotating Mirror Beacon

Zone 1, 2, 21, 22
Page 278

783 Ex Rotating Mirror Beacon

Zone 1, 2, 21, 22
Page 279

729 Ex LED Rotating Beacon

Zone 1, 2, 21, 22
Page 280

782 Ex LED Rotating Beacon

Zone 1, 2, 21, 22
Page 281

784 Ex Rotating Beacon

Zone 1, 2, 21, 22
Page 282

729 Ex LED EVS Beacon

Zone 1, 2, 21, 22
Page 283

729 Ex LED Double Flash Beacon

Zone 1, 2, 21, 22
Page 284

728 Ex Flashing Beacon

Zone 1, 2, 21, 22
Page 286

738 Ex Double Flash Beacon

Zone 1, 2, 21, 22
Page 285

Audible Ex Signal Devices

718 Ex Electronic Installation Buzzer

Zone 1 + 2
Page 288

714 Ex Multi-Tone Sounder

Zone 0, 1, 2
Page 289

750 Ex Signal Horn

Zone 1 + 2
Page 290

761 Ex Signal Horn

Zone 1, 2, 21, 22
Page 291

Regulations and Requirements

Page 268 onwards

Signal devices in areas with explosion hazard

Avoidance of explosion - explosion protection

Safety in explosive areas can only be secured by close co-operation between all parties involved. Close co-operation between manufacturer, operator, safety inspector and safety authority is indispensable.

Three types of explosion protection can be defined:

Primary explosion protection

Primary explosion protection entails preventing the formation of an explosive atmosphere by, for example, adequate ventilation.

Secondary explosion protection

If it is not possible to prevent the build up of an explosive atmosphere through primary explosion protection, possible sources of ignition must be countered through secondary explosion protection.
WERMA can supply devices which are not sources of ignition.

Tertiary explosion protection methods

Tertiary explosion protection is used when the operator cannot completely eradicate ignition sources. Such measures are designed to reduce the vulnerability of explosion to non dangerous proportions.

Responsibilities of operator/contractor:

The operator or responsible contractor must first of all secure all areas against primary explosion. Other potentially explosive areas need then to be risk assessed. Areas will be designated by „zone", an explosion class defined and the max surface temperature defined.

Areas liable to explosion: Zone definitions

Zone definition is carried out according to EC Guideline 1999/92/EG.

The basis for the scope of protective measures required by the operator is the probability of a potentially explosive atmosphere occuring.

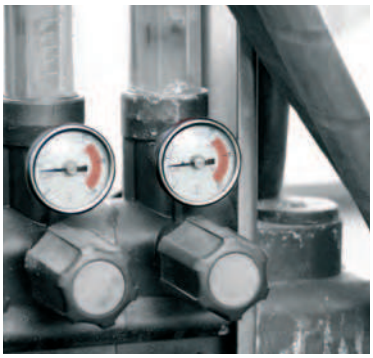
	Probability of occurance		
Explosion endangered zone through:	**Frequent, long term or regular**	**Occasional**	**Usually not, but if then only rarely and for a short period**
Inflammable gas, steam or mist	Zone 0	Zone 1	Zone 2
Inflammable dust or air	Zone 20	Zone 21	Zone 22

Explosion groups for gases, vapours and dusts

The **explosion group** is defined by the potentially explosive material and its flammability:

AREA	EXPLOSION GROUP	FLAMMABLE SUBSTANCES	FLAMMABILITY
Mining	I	Pit gas (Methane), coal dust	
Gas	IIA	Acetone, Petrol, Methanol, Propane, Toluene	relatively low
	IIB	Ethylene, City Gas	high
	IIC	Hydrogen, Acetylene, Carbon Sulphide	very high
Dust	IIIA	Flammable Lint	relatively low
	IIIB	Non-Conductive Dusts	high
	IIIC	Conductive Dusts	very high

All WERMA signal devices have been approved for use in the highest explosion groups IIC and IIIC and are thus suitable for use in those areas.



Surface temperature

Explosive materials define the max. **surface temperature** permissible by their ignition temperature.

Explosion protected components are to be specified so that no ignition can take place because of surface temperature.

IGNITION TEMPERATURES AND TEMPERATURE CLASSES OF EXPLOSION-ENDANGERED GAS AND VAPOUR ATMOSPHERES

Temperature classes	Ignition temp of gas/vapour atmosphere	Permissible surface temp of components
T1	≥ 450°C	≤ 450°C
T2	≥ 300 … ≤ 450°C	≤ 300°C
T3	≥ 200 … ≤ 300°C	≤ 200°C
T4	≥ 135 … ≤ 200°C	≤ 135°C
T5	≥ 100 … ≤ 135°C	≤ 100°C
T6	≥ 85 … ≤ 100°C	≤ 85°C

Dust is not temperature classified. Instead the max. permissible surface temperature is given in celcius.

WERMA can offer a variety of products for the different **temperature classes** of gas and vapour and **max. surface temperature**.

Signal devices in areas with explosive hazard

Device categories and EPL protection level

The ATEX directive divides the electrical components into 6 device categories. The IEC standards and the EN standards divide the devices into 6 protection levels or EPLs (Equipment Protection Levels). The device category and EPL are equivalent and indicate the zones in which the device may be used.

Material Group	Gas			Dust		
Equipment category	1G	2G	3G	1D	2D	3D
Protection level EPL	Ga	Gb	Gc	Da	Db	Dc
Suitable for zones	0,1,2	1,2	2	20,21,22	21,22	22

Manufacturers' obligations

Manufactures of equipment for use in explosive areas are obliged according to EC Guideline 94/9/EC to clearly mark the devices according to the permissible areas of use.

The procedure demands that all requirements for the awarding of the CE mark be tested by an independent approved authority. Devices in category 3 are excluded.

This will be confirmed by the EC type examination certificate. In addition the manufacturer must have an appropriate QA system approved by an EC certificate.

Minimum product marking of explosion-protected components

EC Guideline 94/9/EC and associated norms define the appearance of the symbol.

As norms have changed frequently in recent years so has the the appearance of the symbol. It has only been possible to adapt and update the appearance of the symbol which requires approval by the testing authority on a gradual basis. It is therefore possible that devices do not display the latest symbol but this does **not influence** their use in explosive areas.

There is a separate symbol for gas and explosive dust areas.

Further information below:

	Symbol - see Guideline 94/9/EC					Symbol according to norm classification				
GAS	CE	0102	Ex	II	2G	Ex	de	IIC	T6	Gb
DUST	CE	0102	Ex	II	2D	Ex	tb	IIIC	T80°C	Db
	1	2	3	4	5	6	7	8	9	10

1	CE Conformity symbol
2	Number of the named test authority Test Authority for evaluating the device
3	Ex Hexagon Symbol indicating suitable for use in explosive areas.
4	Group I = pit gas, coal dust II = all other explosion endangered areas
5	Device category Defines in which zones the device may be used
6	Ex symbol acc. to norm Relevant Ex norms will apply
7	Spark protection for electrical devices. Each letter represents an ignition protection level A, b or c shows the EPL. If all ignition protection levels have EPL the symbol need not be used after point 10
8	Explosion group Component is suitable for all low explosion groups.
9	Gas temp. class Max surface temp. for dust.
10	Protection level Defines in which zones the device can be used

Quick-Finder

Quick-Finder - the fastest way to find the right signal device for your application!

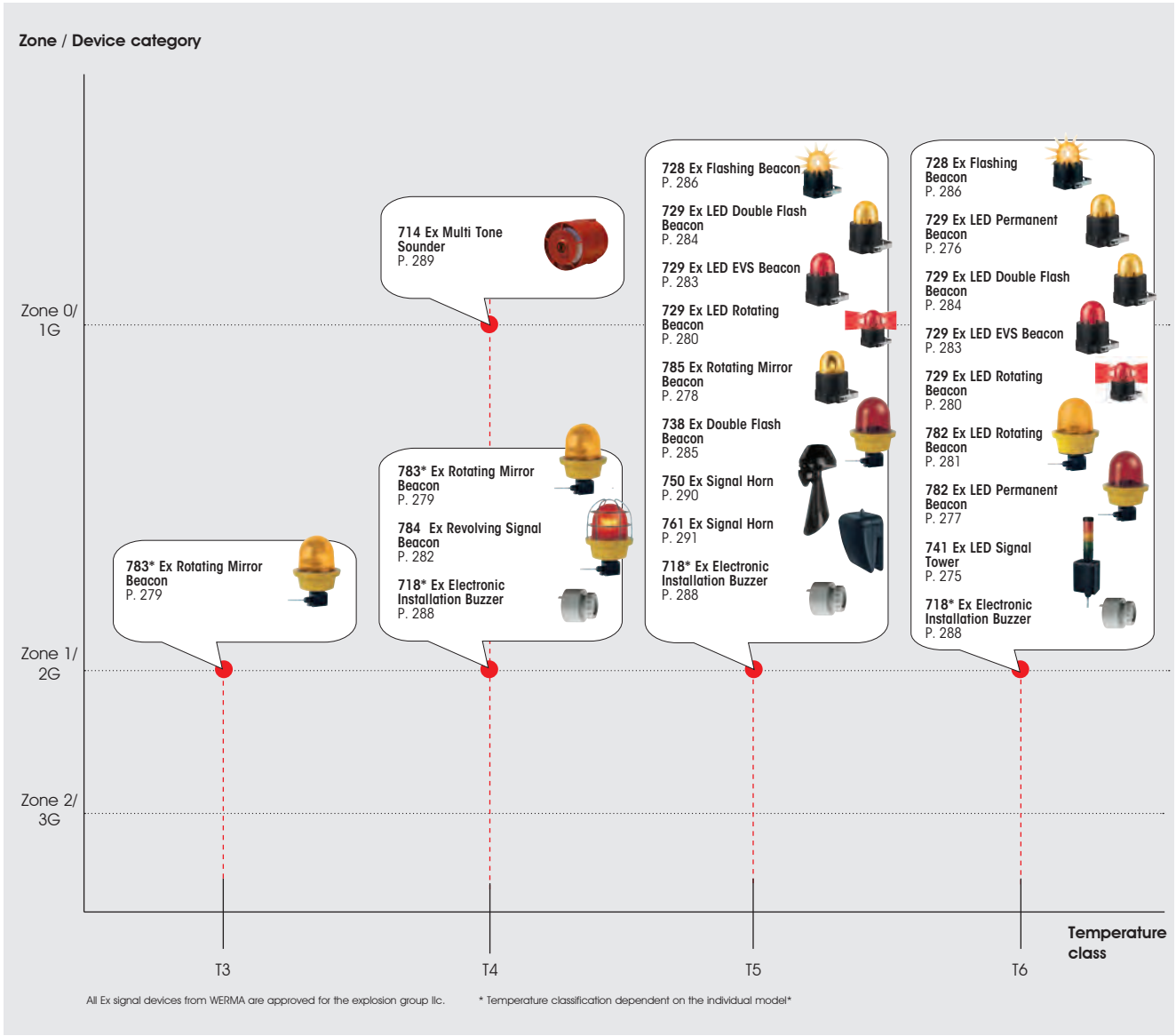
WERMA offers a comprehensive range of explosion protected signal devices. These are suitable for deployment in gas, vapour and dust atmospheres. With our Quick-Finder you can quickly and easily locate the correct signal device for your application.

How to proceed:
Choose the appropriate quick-finder for gas/vapour or dust atmospheres. Then select the zone and temperature or temperature class for the product you are seeking.

You can use any device which is:

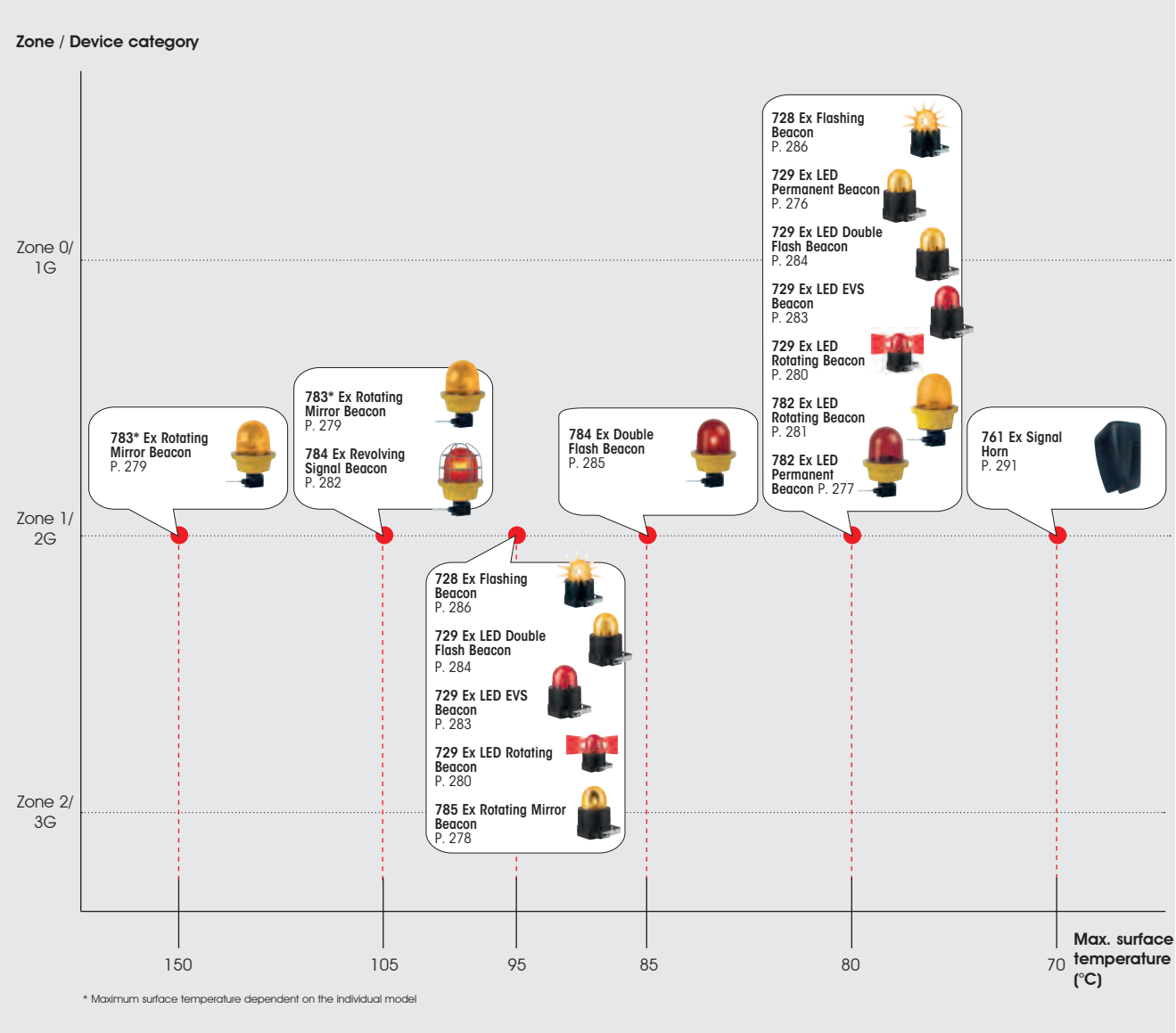
- directly on the „red mark",
- to the right of the point and
- listed above the point.

Signal Devices for Gas or Vapour Atmospheres



All Ex signal devices from WERMA are approved for the explosion group IIc. * Temperature classification dependent on the individual model*

Signal Devices for Dust Atmospheres



Should you require further help in selecting the appropriate device just give us a call.
Further information can be found on page 268 or on **www.werma.com**.

740 Ex Signal Tower

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Signal tower Kombi*SIGN* in flame-proof enclosure
- Available with up to 3 light elements
- Also available as LED version

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	154 mm x 431 mm x 201 mm
Housing:	Aluminium, glass
Connection:	Screw terminal max. 2.5 mm² incl. approved pressure resistant cable gland NPT 3/4"
Explosion protection:	Ex II 2G Ex d IIC T6 Ex II 2D Ex tD A21 IP68 T85°C
Approval:	L.C.I.E. 97 EX 6012

Technical specifications of signal tower Kombi*SIGN* 70 see page 47.

ORDER SPECIFICATIONS:

Voltage	12-230 V Bulb	24 V DC LED
red / green	**740 210 00**	**740 210 55**
red / yellow / green	**740 231 00**	**740 231 55**

ACCESSORIES:

Bulb BA15d, 5 W, 24 V	**955 840 35**
Bulb BA15d, 5 W, 230 V	**955 840 38**

ADDITIONAL INFORMATION:

Please replace with the series 741, see page 275.

TECHNICAL DIAGRAMS:

see page 313

CE Ex | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 6,3 kg | IP66/IP67 | +40°C -20°C | 24 V PLC

WERMA SIGNALTECHNIK

741 Ex LED Signal Tower

- Gas applications: Zones 1 and 2
- No additional zener barrier required
- Combination of encapsulation "m" and intrinsic safety "ib" with connection area "e"

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions of the Zener Barrier (L x H x W):	76 mm x 110 mm x 75 mm
Dimensions total:	2 tier (L x B x H): 76 mm x 229 mm x 75 mm 3 tier (L x B x H): 76 mm x 263 mm x 75 mm
Housing:	Polyamide, black
Signal tower:	PC
Connection:	Screw terminal max. 2.5 mm^2 incl. approved cable gland "e"
Explosion protection:	Ⓔx II 2G Ex e mb [ib] IIC T6 Gb
Approval:	PTB 06 ATEX 2005

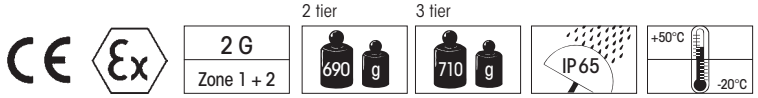
ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	< 90 mA
red / green	**741 110 55**
red / yellow	**741 120 55**
red / yellow / green	**741 130 55**

TECHNICAL DIAGRAMS:

see page 313

The Ex LED Signal Tower 741 warns of imminent danger in gas explosion endangered areas, e.g. in the chemical industry and paint shops



729 Ex LED Permanent Beacon

The maintenance-free LEDs have a life duration of up to 50,000 hours

Additional protection with the robust wire guard (accessory)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Connection area "e" for simple connection and cabling to power source
- Salt water resistant
- Integral wire guard (VA stainless steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® max. 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Explosion protection:	Ex II 2G Ex d e IIC T6 Gb Ex II 2D Ex tb IIIC T80°C Db
Approval:	BVS 11 ATEX E 107 IECEx_BVS_11.0082
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V/230 V AC
Current consumption	130 mA	30 mA at 230 V AC
red	**729 100 55**	**729 100 68**
yellow	**729 300 55**	**729 300 68**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm	**975 729 02**
Ex cable gland M20 x 1.5 mm For connecting to an additional beacon	**975 729 01**

TECHNICAL DIAGRAMS:

see page 313

CE Ex IECEx 2 G Zone 1 + 2 2 D Zone 21 + 22 2,9 kg IP66 +50°C -40°C

WERMA SIGNALTECHNIK

782 Ex LED Permanent Beacon

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Connection area "e" for simple connection
- Extremely high light intensitiy
- Can be mounted as required
- Salt water resistant

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	209 mm x 315 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Mounting Plate:	VA stainless steel
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm
Connection area:	Increased Safety "e"
Installation position:	As required
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Duty cycle:	100 %
Explosion protection:	Ex II 2G Ex d e IIC T6 Gb Ex II 2D Ex tb IIIC T80°C Db
Approval:	PTB 06 ATEX 1039

ORDER SPECIFICATIONS:

Voltage	24 V DC	115-230 V AC
Current consumption	200 mA	25-60 mA
red	**782 100 55**	**782 100 68**
yellow	**782 300 55**	**782 300 68**

Wire guard (accessory)

ACCESSORIES:

Wire guard	**975 783 01**
Mounting plate	**975 783 02**
Clamp for tube mounting 1¼"	**975 783 03**
Clamp for tube mounting 1½"	**975 783 04**
Clamp for tube mounting 2"	**975 783 05**
Bracket	**975 783 06**

Clamp for tube mounting (accessory)

TECHNICAL DIAGRAMS:

see page 314

Mounting plate (accessory)

Bracket (accessory)

Excellent light intensity and long life duration

CE Ex | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 4,4 kg | IP66 | +50°C -20°C

785 Ex Rotating Mirror Beacon

Long life duration thanks to low wear wheel and disc drive

Additional protection with the robust wire guard (accessory)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Extreme durability thanks to low wear wheel and disc drive
- Salt water resistant
- Integrated mounting bracket (VA steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)
- Connection area "e" for simple connection and cabling to power source

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® max. 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Drive:	Wheel and disc drive, motor in centre of gravity
Mirror rotation rate:	180 r.p.m.
Service life of drive:	> 5,000 hours
Explosion protection:	Ⓔx II 2G Ex d e IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
Approval:	BVS 11 ATEX E 107
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V/230 V AC/DC
Current consumption	1.0 A	130 mA at 230 V AC/350 mA at 115 V AC
red	**785 100 75**	**785 100 70**
yellow	**785 300 75**	**785 300 70**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm	**975 729 02**
Ex cable gland M20 x 1.5 mm For connection to an additional beacon	**975 729 01**

SPARE PARTS:

Halogen bulb 20 W/24 V for 24 V AC/DC	**955 885 25**
Halogen bulb 20 W/12 V for 115 V/230 V AC/DC	**955 885 24**

TECHNICAL DIAGRAMS:

see page 314

CE Ⓔx IECEx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2,9 kg | IP66 | +50°C -30°C

WERMA SIGNALTECHNIK

783 Ex Rotating Mirror Beacon

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Connection area "e" for simple connection
- High life duration thanks to low wear wheel and disc drive
- Can be mounted as required
- Salt water resistant

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	209 mm x 315 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Mounting Plate:	VA stainless steel
Connection:	Screw terminal max. 2.5 mm²
Cable gland:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm
Connection area:	Increased Safety "e"
Drive:	Wheel and disc drive, motor in centre of gravity
Installation position:	As required
Mirror rotation rate:	180 r.p.m.
Service life of drive:	> 5,000 hrs
Duty cycle:	100 %
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Explosion protection:	Ex II 2G Ex d e IIC T3-T4 Gb (depending on version) Ex II 2D Ex tb IIIC 105 °C - 150 °C Db (depending on version)
Approval:	PTB 06 ATEX 1039
Accesory:	Halogen bulb. Bulb overview beginning on page 184.

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	24 V AC/DC	115 V AC/DC	230 V AC	230 V AC
Halogen bulb	20 W/24 V	35 W/24 V	35 W/12 V	20 W/12 V	35 W/12 V
Current consumption	900 mA	1,6 A	350 mA	110 mA	170 mA
Temperature Class (gas)	T4	T3	T3	T4	T3
Surface Temperature (dust)	105°C	150°C	150°C	105°C	150°C
red	**783 110 75**	**783 100 75**	**783 100 77**	**783 110 68**	**783 100 68**
yellow	**783 310 75**	**783 300 75**	**783 300 77**	**783 310 68**	**783 300 68**

Wire guard (accessory)

Clamp for tube mounting (accessory)

Mounting plate (accessory)

Bracket (accessory)

ACCESSORIES:

Wire guard	**975 783 01**
Mounting plate	**975 783 02**
Clamp for tube mounting 1¼"	**975 783 03**
Clamp for tube mounting 1½"	**975 783 04**
Clamp for tube mounting 2"	**975 783 05**
Bracket	**975 783 06**

SPARE PARTS:

Halogen bulb 20 W/24 V for 24 V AC/DC	**955 885 25**
Halogen bulb 20 W/12 V for 230 V AC	**955 885 24**
Halogen bulb 35 W/24 V for 24 V AC/DC	**955 883 35**
Halogen bulb 35 W/12 V for 115 V AC, 230 V AC	**955 883 34**

TECHNICAL DIAGRAMS:

see page 314

CE Ex | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 4,6 kg | IP66 | +40°C -20°C

729 Ex LED Rotating Beacon

Intense rotating signal effect with low power consumption

Innovative solution: The universal mounting bracket (included in assembly)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Intense rotating signal effect with low power consumption
- Integrated mounting bracket (VA steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)
- Connection area "e" for simple connection and cabling to power source
- Salt water resistant

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® bis 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Rotation rate:	C. 180 r.p.m.
Duty cycle:	100 %
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V/230 V AC
Current consumption	< 170 mA	150 mA at 230 V AC
Explosion protection	Ⓔx II 2G Ex d e IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db	Ⓔx II 2G Ex d e IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
Approval	BVS 11 ATEX E 107 IECEx_BVS_11.0082	BVS 11 ATEX E 107 IECEx_BVS_11.0082
red	**729 120 55**	**729 120 68**
yellow	**729 320 55**	**729 320 68**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm	**975 729 02**
Ex cable gland M20 x 1.5 mm For connection to an additional beacon	**975 729 01**

TECHNICAL DIAGRAMS:

see page 313

CE Ex IECEx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2,9 kg | IP66 | +50°C -40°C

WERMA SIGNALTECHNIK

782 Ex LED Rotating Beacon

Ex LED Rotating Beacon
with wire guard (accessory)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Wear-free due to the absence of any moving mechanical components
- Intense rotating signal effect with low power consumption
- Connection area "e" for simple connection
- Can be mounted as required
- Salt water resistant

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	209 mm x 315 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Mounting Plate:	VA stainless steel
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm
Connection area:	Increased Safety "e"
Installation position:	As required
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Rotation rate:	C. 180 r.p.m.
Duty cycle:	100 %
Explosion protection:	Ⓔx II 2G Ex d e IIC T6 Gb Ⓔx II 2D Ex tb T 80 °C Db
Approval:	PTB 06 ATEX 1039

ORDER SPECIFICATIONS:

Voltage	24 V DC	115-230 V AC
Current consumption	150 mA	70-180 mA
red	**782 120 55**	**782 120 68**
yellow	**782 320 55**	**782 320 68**

ACCESSORIES:

Wire guard	**975 783 01**
Mounting plate	**975 783 02**
Clamp for tube mounting 11/4"	**975 783 03**
Clamp for tube mounting 11/2"	**975 783 04**
Clamp for tube mounting 2"	**975 783 05**
Bracket	**975 783 06**

(Accessories see page 279)

TECHNICAL DIAGRAMS:

see page 314

Generates a distinctive rotating signal by triggering high output LEDs in sequence

CE Ⓔx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 4,4 kg | IP66 | +50°C -20°C

784 Ex Revolving Signal Beacon

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- 3 Fresnel lenses effect light convergence and optimise visibility
- Can be mounted as required
- Low rotation rate and long life duration thanks to low wear wheel and disc drive
- Connection area "e" for simple connection
- Salt water resistant

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	209 mm x 315 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Mounting Plate:	VA stainless steel
Connection:	Screw terminal max. 2.5 mm²
Cable gland:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm
Connection area:	Increased Safety "e"
Drive:	Wheel and disc drive, motor in centre of gravity
Installation position:	As required
Halogen bulb:	GY 6.35 35 W 12 V/24 V
Lens rotation rate:	60 r.p.m.
Service life of drive:	> 5,000 hrs
Duty cycle:	100 %
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Explosion protection:	Ex II 2G Ex d e IIC T4 Gb Ex II 2D Ex tb IIIC 105°C Db
Approval:	PTB 06 ATEX 1039

Halogen bulb included in assembly. Bulb overview see pages 184 + 201.

Wire guard (accessory)

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption	1,6 A	350 mA	170 mA
red	**784 100 75**	**784 100 77**	**784 100 68**
yellow	**784 300 75**	**784 300 77**	**784 300 68**

Clamp for tube mounting (accessory)

ACCESSORIES:

Wire guard	**975 783 01**
Mounting plate	**975 783 02**
Clamp for tube mounting 1¼"	**975 783 03**
Clamp for tube mounting 1½"	**975 783 04**
Clamp for tube mounting 2"	**975 783 05**
Bracket	**975 783 06**

Mounting plate (accessory)

SPARE PARTS:

Halogen bulb 35 W/24 V for 24 V AC/DC	**955 883 35**
Halogen bulb 35 W/12 V for 115 V AC, 230 V AC	**955 883 34**

Bracket (accessory)

TECHNICAL DIAGRAMS:

see page 314

CE Ex | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 4,6 kg | IP66 | +40°C -20°C

WERMA SIGNALTECHNIK

729 Ex LED EVS* Beacon

The LED EVS* Beacon generates an attention-grabbing light effect

The LED EVS* Beacon generates an attention-grabbing light effect

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Connection area "e" for simple connection and cabling to power source
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect
- For signalling extremely hazardous situations and the need for immediate action

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® max. 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V/230 V AC
Current consumption	< 240 m A	140 mA at 230 V AC
Explosion protection	Ⓔx II 2G Ex d e IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db	Ⓔx II 2G Ex d e IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
Approval	BVS 11 ATEX E 107 IECEx_BVS_11.0082	BVS 11 ATEX E 107 IECEx_BVS_11.0082
red	**729 160 55**	**729 160 68**
yellow	**729 360 55**	**729 360 68**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm For connection to an additional beacon	**975 729 02** **975 729 01**

ADDITIONAL INFORMATION:

***EVS** = Enhanced Visibility System.
For further info see page 352.
Please note the photosensitive epilepsy warning on page 352.

TECHNICAL DIAGRAMS:

see page 313

CE Ex IECEx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2,9 kg | IP66 | +50°C -40°C

729 Ex LED Double Flash Beacon

Intense double flash with low power consumption

Additional protection with the robust wire guard (accessory)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Intense double flash with low power consumption
- Integrated mounting bracket (VA steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)
- Connection area "e" for simple connection and cabling to power source
- Salt water resistant

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® max. 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6 -13 mm
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V/230 V AC
Current consumption	< 140 m A	140 mA at 230 V AC
Explosion protection	Ex II 2G Ex d e IIC T6 Gb Ex II 2D Ex tb IIIC T80°C Db	Ex II 2G Ex d e IIC T5 Gb Ex II 2D Ex tb IIIC T95°C Db
Approval	BVS 11 ATEX E 107 IECEx_BVS_11.0082	BVS 11 ATEX E 107 IECEx_BVS_11.0082
red	**729 150 55**	**729 150 68**
yellow	**729 350 55**	**729 350 68**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm	**975 729 02**
Ex cable gland M20 x 1.5 mm For connection to an additional beacon	**975 729 01**

TECHNICAL DIAGRAMS:

see page 313

CE Ex IECEx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2,9 kg | IP66 | +50°C -40°C

738 Ex Double Flash Beacon

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Connection area "e" for simple connection
- High flash power from two consecutive flashes
- Can be mounted as required
- Salt water resistant

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	209 mm x 315 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Mounting Plate:	VA stainless steel
Connection:	Screw terminal max. 2.5 mm^2
Cable gland:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm
Connection area:	Increased Safety "e"
Installation position:	As required
Flash energy:	C. 15 Ws
Flash frequency:	C. 1 Hz
Life duration:	4 x 10^6 flashes
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Explosion protection:	Ⓔx II 2G Ex d e IIC T5 Gb Ⓔx II 2D Ex tb IIIC 85°C - T 90°C Db (depending on the voltage)
Approval:	PTB 06 ATEX 1039

ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V AC	230 V AC
Current consumption	700 mA	300 mA	200 mA
Surface Temp. (dust)	85 °C	90 °C	85 °C
red	**738 100 55**	**738 100 67**	**738 100 68**
yellow	**738 300 55**	**738 300 67**	**738 300 68**

Wire guard (accessory)

Clamp for tube mounting (accessory)

Mounting plate (accessory)

Bracket (accessory)

ACCESSORIES:

Wire guard	**975 783 01**
Mounting plate	**975 783 02**
Clamp for tube mounting 1¼"	**975 783 03**
Clamp for tube mounting 1½"	**975 783 04**
Clamp for tube mounting 2"	**975 783 05**
Bracket	**975 783 06**

TECHNICAL DIAGRAMS:

see page 313

The Ex Double Flash Beacon 738 provides signalling in a range of different explosion protected areas

CE Ⓔx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 4,4 kg | IP66 | +40°C -20°C | 15 Ws

728 Ex Flashing Beacon

Ex Flashing Beacon for use in gas and dust explosion-endangered areas

Innovative solution: The universal mounting bracket (included in assembly)

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Ex Flashing Beacon in compact housing
- Salt water resistant
- Integrated mounting bracket (VA steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)
- Connection area "e" for simple connection and cabling to power source

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Connection:	CAGE CLAMP® max. 2.5 mm²
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Flash energy:	C. 5 Ws
Flash frequency:	C. 1 Hz
Life duration:	4 x 10^6 flashes
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm

ORDER SPECIFICATIONS:

Voltage	24 V DC	230 V AC
Current consumption	300 m A	150 mA
Explosion Protection	Ⓔx II 2G Ex d e IIC T6 Gb Ⓔx II 2D Ex tb IIIC T80°C Db	Ⓔx II 2G Ex d e IIC T5 Gb Ⓔx II 2D Ex tb IIIC T95°C Db
Approval	BVS 11 ATEX E 107 IECEx_BVS_11.0082	BVS 11 ATEX E 107 IECEx_BVS_11.0082
red	**728 100 55**	**728 100 68**
yellow	**728 300 55**	**728 300 68**

ACCESSORIES:

Ex wire guard, VA steel, stainless	**975 729 03**
Ex cable gland M20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	**975 729 04**
Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm For connection to an additional beacon	**975 729 02** **975 729 01**

TECHNICAL DIAGRAMS:

see page 313

CE Ⓔx IECEx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2,9 kg | IP66 | +50°C -40°C | 5 Ws

WERMA SIGNALTECHNIK

720 Ex Flashing Beacon

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Compact flashing beacon
- Improved temperature range

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	110 mm x 285 mm x 129 mm
Housing:	Aluminium
Lens:	Reinforced borosilicate glass
Wire guard:	Rust-proof steel, powder-coated
Connection:	Screwable 1.5 mm² fine-strand, 2.5 mm² single-wire
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-9 mm
Life duration:	5 x 10^6 flashes
Explosion protection:	Ex II 2G Ex d e IIC T5/T6 Gb T6: -55 °C ≤ Ta ≤ +40 °C T5: -55 °C ≤ Ta ≤ +55 °C Ex II 2D Ex tb IIIC T95°, T80° C Db
Approval:	PTB 01 ATEX 1057
Fixing:	Bracket mounting
Flash energy:	C. 15 Ws
Flash frequency:	1 Hz

ORDER SPECIFICATIONS:

Voltage	24 V DC	230 V AC
Current consumption	1 A	200 mA
red	**720 101 55**	**720 101 68**
yellow	**720 301 55**	**720 301 68**

ADDITIONAL INFORMATION:

Please replace with the series 741, see page 286.

TECHNICAL DIAGRAMS:

see page 313

CE Ex | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 2 kg | IP67 | +40°C -55°C | 15 Ws

718 Ex Electronic Installation Buzzer

Cap (accessory)

Zener Barrier (accessory)

- Gas applications: Zones 1 and 2
- Intrinsically safe Ex installation buzzer
- For use with a Zener Barrier
- IP 43 with cap
- Low current consumption
- Continuous tone

Play Sound www.werma.com

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	43 mm x 13 mm (Protrusion from panel)
Housing:	ABS
Connection:	Spades 6.3 x 0.8 mm
Audio frequency:	C. 2,400 Hz
Duty cycle:	100 %
Explosion protection:	Ⓔx II 2G Ex ib IIC T4 / T5 / T6 Gb
Approval:	DMT 98 ATEX E 005 X
Maximum values of the Zener barrier:	Ui: 40 V DC, Ii: 660 mA
Minimum values of the Zener barrier:	For 24 V DC 15 V DC/20 mA

Maximum Input Power Pi:

Temp.-classes	Max. surrounding temperature + 40°C	+ 50°C	+ 60°C
T4	Pi = 1.3 W	Pi = 1.2 W	Pi = 1.0 W
T5	Pi = 0.82 W	Pi = 0.66 W	Pi = 0.52 W
T6	Pi = 0.6 W	Pi = 0.45 W	Pi = 0.3 W

ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	20 mA
	718 000 55

ACCESSORIES:

PC/ABS-Blend Cap (IP 43)	**975 118 00**
Zener Barrier	**975 714 01**

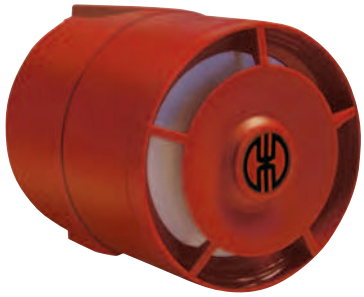
TECHNICAL DIAGRAMS:

see page 312

with cap

WERMA SIGNALTECHNIK

714 Ex Multi-Tone Sounder



- Gas applications: Zone 0, 1 and 2
- 26 tones for a diverse range of applications
- For use with a Zener Barrier
- Adjustable sound output to 103 dB
- High protection rating IP 65
- Direct external setting of two tones possible

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	93 mm x 103 mm
Housing:	ABS
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable diameter max. 12 mm
Duty cycle:	100%
Tone types and frequencies:	Selectable via DIP switch, see table below
Fixing:	Wall mounting, base mounting
Installation position:	Sound outlet must not face upwards
Explosion protection:	Ⓔx II 1G EEx ia IIC T4 Ga
Approval:	BASEEFA 06 ATEX 0161

ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	14 mA
	714 000 55

Zener Barrier (accessory)

ACCESSORIES:

Zener Barrier	**975 714 01**

TONE TYPES AND FREQUENCIES:

Play Sound www.werma.com

selectable via DIP switch

Ton A No.	Tone type	Ton A No.	Tone type
1	alternating 800/970 Hz in 2 Hz stroke	14	continuous 970 Hz
2	rising 800/970 Hz in 7 Hz stroke	15	554 Hz/100 ms alternating 440 Hz/400 ms
3	rising 800/970 Hz in 1 Hz stroke	16	660 Hz pulse: 150 ms ON, 150 ms OFF
4	continuous 2,850 Hz	17	660 Hz pulse: 1.8 sec. ON, 1.8 sec OFF
5	rising 2,400-2,850 Hz in 7 Hz stroke	18	660 Hz pulse: 6.5 sec. ON, 13 sec OFF
6	rising 2,400-2,850 Hz in 1 Hz stroke	19	continuous 660 Hz
7	500-1,200 Hz rising in 3 sec., 0.5 sec OFF	20	alternating 554/440 Hz in 0.5 Hz stroke
8	falling 1,200-500 Hz in 1 Hz stroke	21	pulse 660 Hz in 1Hz stroke
9	alternating 2,400/2,850 Hz in 2 Hz stroke	22	2,850 Hz pulse: 150 ms ON / 100 ms OFF
10	pulse 970 Hz in 0.5 Hz stroke	23	rising 800/970 Hz in 50 Hz stroke
11	alternating 800/970 Hz in 1 Hz stroke	24	rising 2,400-2,850 Hz in 50 Hz stroke
12	pulse 2,850 Hz in 0.5 Hz stroke	25	970 Hz pulse: 3 x 500 ms ON, 500 ms OFF, 1.5 sec. pause
13	970 Hz pulse: 0.25 sec. ON / 1 sec. OFF	26	2,850 Hz pulse: 3 x 500 ms ON, 500 ms OFF, 1.5 sec. pause

TECHNICAL DIAGRAMS:

see page 312

Up to

1 G Zone 0, 1 + 2 | 300 g | IP65 | +55°C -20°C | 103 dB | 26

750 Ex Signal Horn

- Gas applications: Zone 1 and 2
- Fully encapsulated
- Silicone free

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (L x H x W):	148 mm x 350 mm x 152 mm
Housing:	PC/ABS-Blend
Connection:	Cable 3 m, 2 x 0.75 mm²
Fixing:	Bracket mounting, sound outlet facing downwards
Explosion protection	Ex II 2G Ex mb IIC T5 Gb
Approval:	BVS 03 ATEX E 118X

ORDER SPECIFICATIONS:

Voltage	24 V DC	24 V AC	42-48 V AC	115 V AC		230 V AC
Voltage range	21,6 V ... 26,4 V	21,6 V ... 26,4 V	37,8 V ... 52,8 V	102,5 V ... 126,5 V (50 Hz)	108 V ... 131 V (60 Hz)	208 V ... 250 V (50 Hz)
Current consumpt.	350 mA	450 mA	220 mA	205 mA		70 mA
	750 000 55	**750 000 65**	**750 000 66**	**750 000 67**		**750 000 68**

TECHNICAL DIAGRAMS:

see page 314

The Ex Signal Horn 750 warns of imminent danger in the chemical industry and paint shops

CE Ex | 2 G Zone 1 + 2 | 1,3 kg | IP55 | +50°C -40°C | 105 dB

WERMA SIGNALTECHNIK

761 Ex Signal Horn

- Gas applications: Zone 1 and 2
- Dust applications: Zone 21 and 22
- IP 65 for indoor and outdoor applications
- Flexible mounting possibilities
- Connection area "e" for simple connection

TECHNICAL SPECIFICATIONS:

Play Sound www.werma.com

Dimensions (L x H x W):	178 mm x 104 mm x 207 mm
Fixing dimensions (L x H):	130 mm x 160 mm
Housing:	PC
Connection:	CAGE CLAMP® max. 2.5 mm^2
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 6.5-9.5 mm
Fixing:	Wall mounting, base mounting
Explosion protection:	Ⓔx II 2G Ex e mb IIC T5 Gb Ⓔx II 2D Ex tb IIIC T 70°C Db
Approval:	BVS 03 ATEX E 118X

ORDER SPECIFICATIONS:

Voltage	24 V DC	24 V AC	48 V AC	115 V AC		230 V AC
Voltage range	21.6 V ... 26.4 V	21.6 V ... 26.4 V	37.8 V ... 52.8 V	102.5 V ... 126.5 V (50 Hz)	108 V ... 131 V (60 Hz)	208 V ... 250 V (50 Hz)
Current consumpt.	350 mA	450 mA	220 mA	205 mA		70 mA
	761 000 55	**761 000 65**	**761 000 66**	**761 000 67**		**761 000 68**

TECHNICAL DIAGRAMS:

see page 314

The Ex signal horn 761 can be used for a range of applications in gas and dust explosion endangered areas, e.g. in joinery and wood processing plants

CE Ⓔx | 2 G Zone 1 + 2 | 2 D Zone 21 + 22 | 1,3 kg | IP65 | +50°C -40°C | max. 105 dB

Our Technical Diagrams

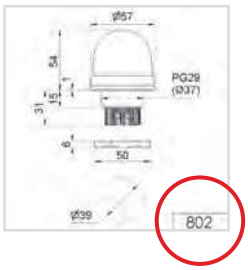
On the following pages you will find the technical diagrams for our products.
The dimensions are always stated in millimetres. Please note that the diagrams are not to scale.

Reference on the product page

In order to be able to find the technical diagrams for your desired product even more quickly, there is a reference on the relevant product page stating the page number for the corresponding diagram located in the "Technical diagrams" section

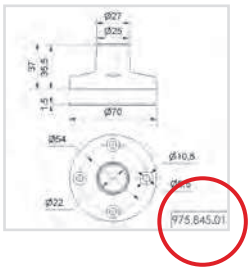
Layout of the technical diagrams

The technical diagrams are in numerical order of the first three digits of the article number.



Technical diagrams for accessories

The technical diagrams for our extensive accessories are in numerical order of the full article number (from page 294 onwards).

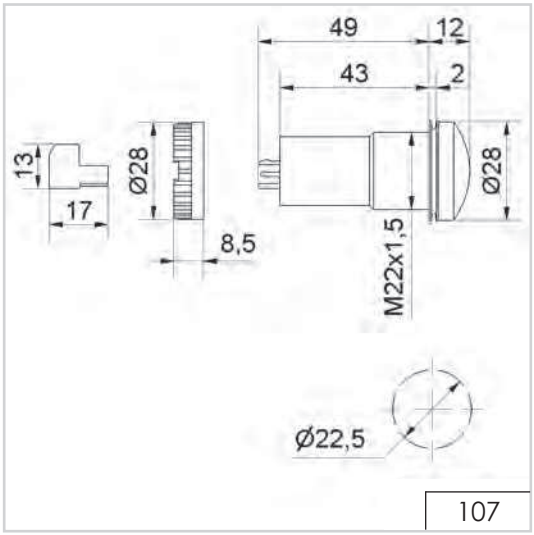


Digital data

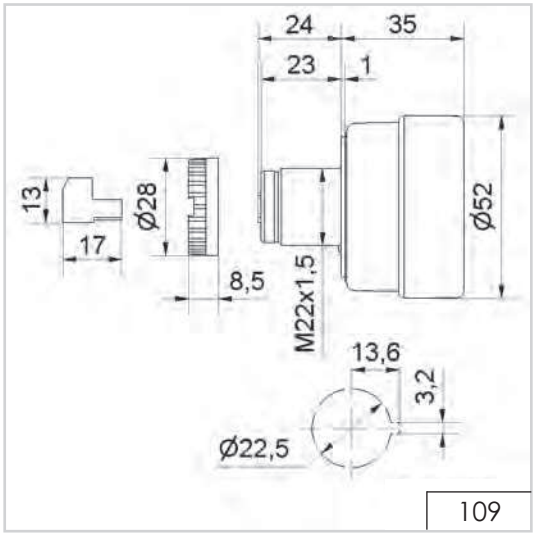
You are welcome to request the technical diagrams in digital form.
The relevant 3D models, instruction leaflets and connection diagrams can be obtained from us or downloaded from our homepage at any time.

Select the required product or search with the aid of the part number, go to "downloads" and click on "drawing" and save the file.

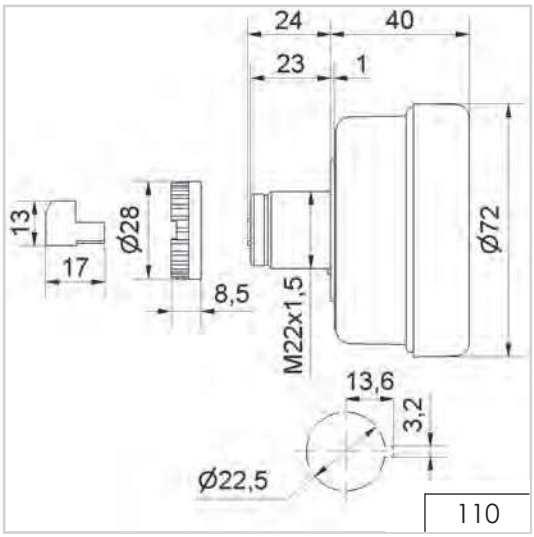
Technical Diagrams



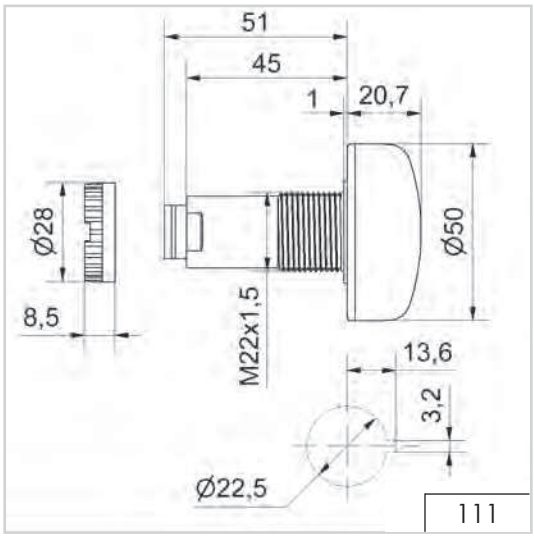
107



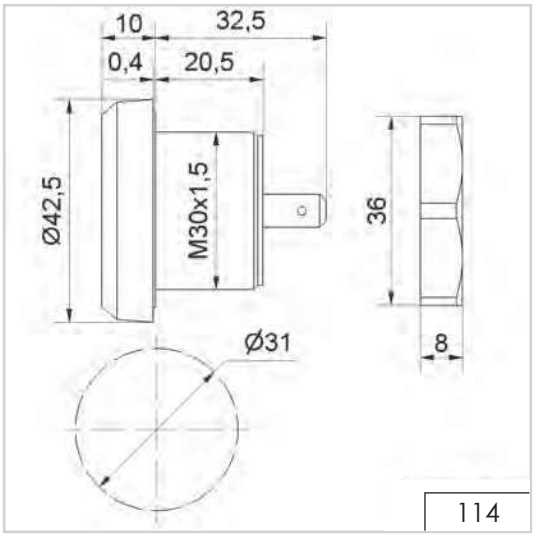
109



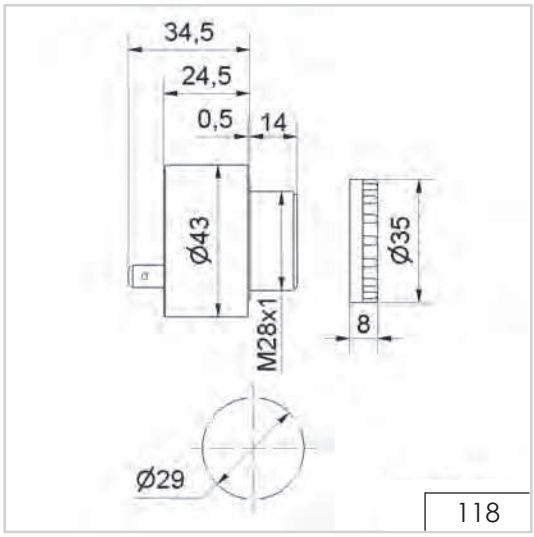
110



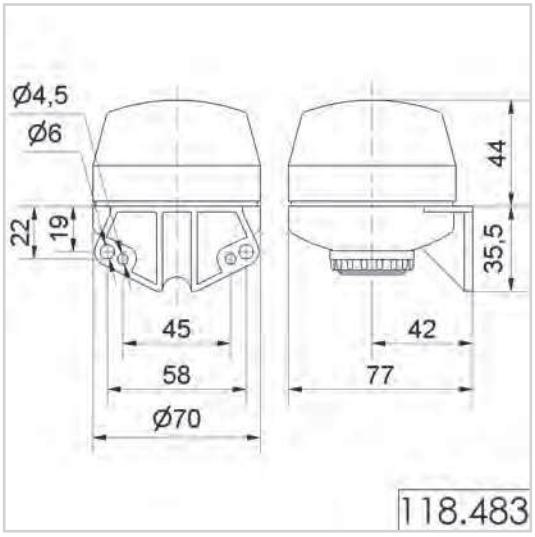
111

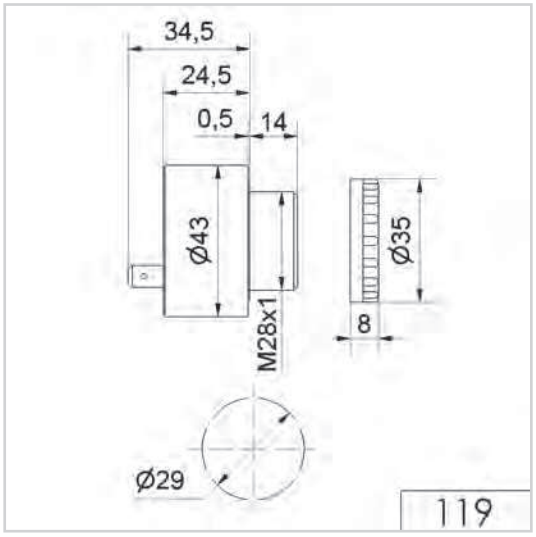


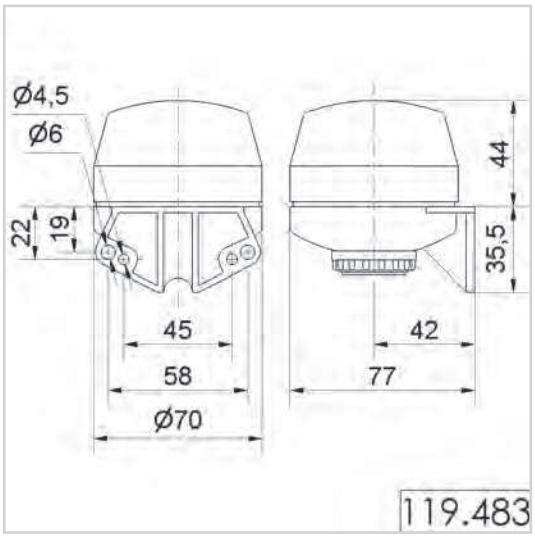
114

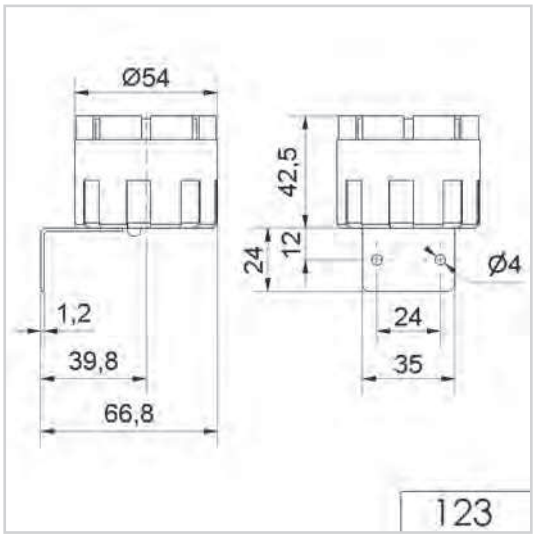


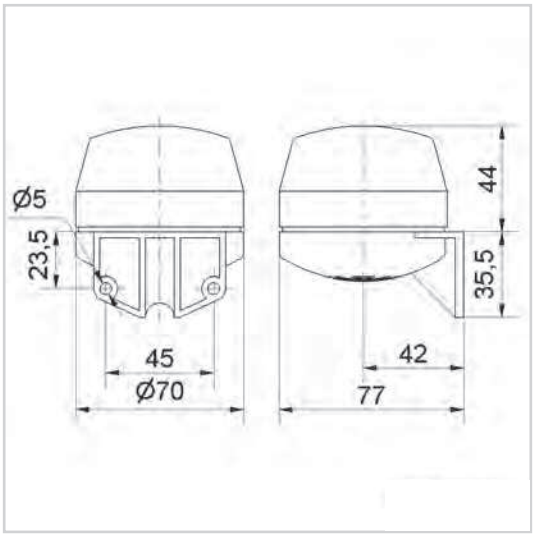
118

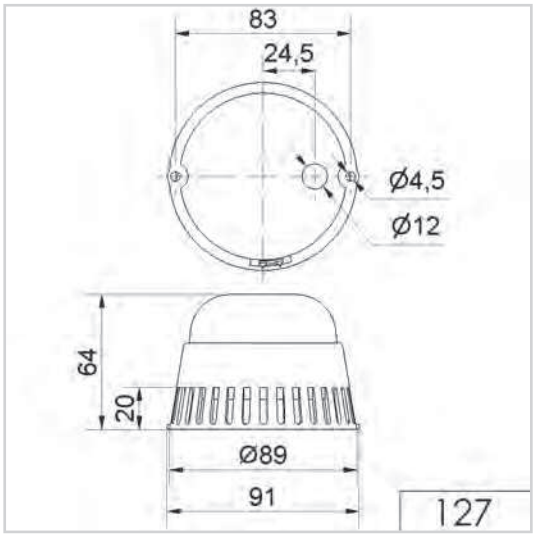

Ø4,5
Ø6
22
19
45
58
Ø70
44
35,5
42
77
118.483


34,5
24,5
0,5
14
Ø43
M28x1
Ø35
8
Ø29
119


Ø4,5
Ø6
22
19
45
58
Ø70
44
35,5
42
77
119.483


Ø54
42,5
24
12
Ø4
1,2
39,8
66,8
24
35
123


Ø5
23,5
45
Ø70
44
35,5
42
77


83
24,5
Ø4,5
Ø12
64
20
Ø89
91
127

ERROR: undefined
OFFENDING COMMAND: WAGWWP+CenturyGothic

STACK:


```
[/.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef
 /zero /one /two /.notdef /four /.notdef /six /.notdef /eight /nine /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /.notdef /
.notdef /.notdef /.notdef /.notdef /.notdef /.notdef ]
/WAGWWP+CenturyGothic*1
```