

Catalogue 2019/2020





Catalogue 2018/2019

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The **WERMA product range** is completely tailored to the needs and applications of our customers from a range of industries. Compatibility, maintenance and optimisation, with a unique level of quality: This is what we call intelligent signal technology.

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HORNS & SIRENS

2006

This image shows a blank page with a light beige or off-white background. There are several small, dark specks scattered across the surface, which appear to be scanning artifacts or dust particles. No text, figures, or tables are present on this page.

**PRODUCT NUMBER
INDEX**

286



A red circular badge with a white border and a slight 3D effect. It contains the text 'EUROPE'S LEADER IN SIGNALLING' in white, bold, sans-serif capital letters, arranged in three lines.

**EUROPE'S
LEADER IN
SIGNALLING**

INTELLIGENT SIGNAL TECHNOLOGY

The products and solutions from WERMA make processes safe and keep them running efficiently. This saves you time and money and enables you to sustainably optimise your processes. Customers from various sectors all over the world have benefited from our expertise for years.

Basically, because we offer clever solutions that work.



WERMA BENELUX bvba
Wondelgem

WERMA (UK) Ltd.
Wellingborough

WERMA Signaltechnik
Rietheim-Weilheim

WERMA USA Inc.
East Syracuse

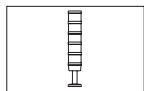
WERMA SARL
(France)
Mions

WERMA Signaltechnik
Neuhausen a. Rhf.

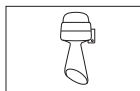
WERMA (Shanghai) Co., Ltd
Shanghai

General Information

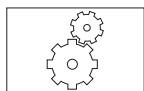
Key to Pictograms "Product Groups"



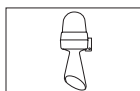
Product Group
"Signal Towers"



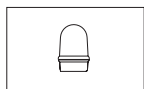
Product Group "Optical-audible
combinations"



Product Group
"Systems"



Product Group
"Horns and Sirens"



Product Group
"Signal beacons and Traffic lights"

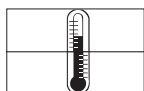
Key to Pictograms "Product Descriptions"



Protection rating according to
EN 60 529. Explanation page 318



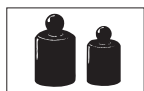
Number of possible tones



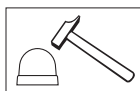
Working temperature in °C,
highest and lowest rating



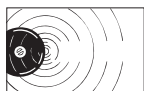
Flash energy in watt seconds (Joules)



Net weight excluding packaging,
in grams, ie. kgs



Impact resistance in Joules



Volume in decibels (dB (A))
measured at 1m distance



Suitable for triggering via PLC

Key to Pictograms "Marks of conformity and protection types"



All WERMA products bearing the CE mark
conform to current EU regulations and are
tested for adherence to EMC codes.



Products in compliance with the AS-Interface
specifications (EN 50295, IEC 62026-2) and
which have been certified by the AS Interna-
tional Association are marked with the AS-
Interface certification logo (shadowed logo).



This mark confirms that the product is suited to the intended application and conforms to the relevant standards and guidelines. In addition, the technical specifications provided by the manufacturer are certified by the TÜV.



Products with this mark have been tested and registered by UL for the North American market. This certification is also valid for Canada. The WERMA production facility is audited by UL.

Products with the addendum "Class 2" may only be used in electric circuits that have been constructed in accordance with UL Class 2.



The aim of EHEDG (European Hygienic Engineering and Design Group) is to prepare and publish guidelines for hygienic engineering in the manufacturing and packaging of foodstuffs. The certification by this consortium confirms compliance with strict design criteria for avoiding weaknesses in construction and for minimising the risk of contamination.



The Fraunhofer Institute certificate for production engineering and automation (IPA) is a test label for products which have been qualified according to recognised standards and guidelines as to their objective suitability for use in clean rooms.



Devices bearing this mark and number are authorised for use in hazardous areas. Ex devices guarantee a high level of resistance to extreme conditions.



The VdS guidelines contain the standards which signal devices must fulfil in order to be built into intruder and fire alarm systems.



The Eurasian conformity symbol EAC is granted by the customs union Russia/Belarus/Kazakhstan. The EAC symbol confirms that the product has undergone the conformity procedures and has met its technical requirements.



German Lloyd sets technical, quality and safety standards for the industrial and maritime sector.

In addition to the classification of ships of all types, German Lloyd is also active as a world-wide technical monitoring society.



The IECEx certification confirms that the product has been certified as suitable for use in explosion endangered applications. The product has been manufactured at a site which is continuously assessed by the responsible authorities. The certificate is recognised in all countries participating in the IECEx system.



The special organisation of the United Nations has given the ICAO (International Civil Aviation Organisation) the task of establishing and developing uniform regulations governing the safety and economic viability of civil aviation processes. The guidelines of the ICAO will only be applicable to all member states but must also be transferred into local statutes of law.

General Information

General notes on catalogue descriptions

Sound levels and frequencies

The specified sound levels are based on tests carried out in our factory. These levels are typical for the specific products and inevitably subject to variation. Mounting position and/or type can alter specifications.

The rated frequencies of buzzers are also dependent on the tolerances of the individual components and can vary up to 500 Hz from the quoted rating. No frequency rating can be stated for horns as the spectrum is so wide that any stated rating cannot be accurate. The fundamental frequency for AC devices is 100 Hz, for DC devices c. 200 - 500 Hz. This means that they emit a deeper tone than piezo devices which have values typically between 2000 and 3000 Hz.

Current consumption

The current consumption levels quoted are standard values. The ratings are based on the virtual value for AC, i.e. the average value for Dc.

The measured value is normally calculated over a period of 10 seconds. The highest current consumption rating can be considerably higher than the calculated rating.

The starting current of a product can be above the rated current by ten fold.

Assured values

The technical specifications of our products have been rigorously and thoroughly tested. A quality guarantee according to § 463 BGB is however only applicable where expressly stated.

WERMA is only liable for damage arising from the failure of guaranteed properties when the guarantee was expressly intended to protect the customer from this damage.

Measurements, weights, ratings and illustrations are subject to technical amendment.

Product descriptions

The product descriptions found in the price list and on all documents are made up of the following information:

Product type: Electronic Buzzer LED Permanent Beacon etc.	Fixing: BM = Base mounting BWM = Base/Bracket mounting EM = Installation mounting RM = Tube mounting WM = Bracket mounting	Tone type: 32 tones 4 tones etc. alternating cont./pulse continuous pulse	Voltage: 12 V 24 V 115 V 230 V etc.	Colour: BK = black BU = blue CL = clear GN = green GY = grey RD = red YE = yellow WH = white MC = multicolour
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Examples:

Electr. Buzzer EM Continuous tone 115 V UC
 LED Permanent Beacon EM 24 V DC RD

Note: Colour order of a signal tower from the bottom to the top

MTTF values

"MTTF" is the abbreviation for **Mean Time To Failure** and is also described as the average life cycle or "**MTTF_d**" (= the average time until failure leading to a dangerous situation).

The European Norm **EN ISO 13849-1** has caused a new significance to be attached to "MTTF" values, because they are used to evaluate machine safety within the conformity tests.

The MTTF is a statistical value, which is calculated by **means of testing or experience** of past values. It does not provide a guaranteed life duration or a guaranteed functional period.

MTTF values have been calculated for a variety of **WERMA products**. Please contact us for further details.

Protection ratings

Protection ratings for signal devices: Protection ratings for housings DIN EN 60529 (DIN VDE 0470 IEC 60529).

First digit: degree of protection against contact with dangerous parts and the intrusion of foreign particles.	Second digit: degree of protection against water.
IP 0X no protection	IP X0 no protection
IP 1X protection against contact with the back of the hand.	IP X1 protection against vertically falling water drops.
IP 2X protection against finger contact with live or moving parts in the appliance. The test finger with Ø 12 mm and 80 mm length must not come into contact with dangerous parts. A ball of 12.5 mm diameter should not be able to fully penetrate the housing.	IP X2 protection against water drops so long as the device is tilted to an angle of 15°.
IP 3X test bar Ø 2.5 mm may not penetrate the housing.	IP X3 protection against water spraying at any angle up to 60° to the vertical.
IP 4X a wire with Ø 1 mm may not penetrate the housing.	IP X4 protection against water spraying at any angle.
IP 5X complete protection against dust cannot be guaranteed, but dust is not able to accumulate in such a way as to impair the operation of the device.	IP X5 protection against jets of water directed from any angle at the appliance.
IP 6X total protection against dust (no penetration).	IP X6 protection against heavy seas. A strong jet of water may not harm the appliance.
	IP X7 protection against occasional immersion.
	IP X8 protection against permanent immersion.
	IP X9k protection against water during high pressure / steam cleaning.

Comparison between NEMA and IEC protection ratings - classification

NEMA Protection Type Number	Protection	IEC Protection Classification Designation
1	Falling dirt	IP 10
2	Dripping water and falling dirt	IP 11
3	Wind blown dust, rain and hail; no damage due to external ice formation	IP 54
3 R	Rain and hail; no damage due to external ice formation	IP 14
3 S	Wind blown dust, rain and hail; can be operated even with external ice formation	IP 54
4	Wind blown dust, rain, splashes and a direct jet of water; no damage due to external ice formation	IP 56
4 X	Wind blown dust, rain, splashes and a direct jet of water; no damage due to external ice formation, corrosion protection	IP 52
5	Dust, falling dirt, dripping non-corrosive liquids	IP 67
6	Direct jet of water, temporary submersion; no damage due to external ice formation	IP 67
6 P	Direct jet of water, longer periods of submersion; no damage due to external ice formation	IP 67
12 and 12 K	Circulating dust, falling dirt, dripping non-corrosive liquids	IP 52
13	Dust, splashes of water, oil, non-corrosive liquids	IP 54

Cannot be used to convert IEC Classification Designations to NEMA Type Numbers.

Note: This comparison is based on tests specified in IEC Publication 60529.

AS-Interface

AS-Interface, the Actuator Sensor Interface and its distinctive 'yellow cable' is one of the most innovative networking solutions in modern automation technology.

Conceived in 1990 as a cost-efficient, feature-rich alternative to conventional hard-wiring, AS-Interface has now been proven in hundreds of thousands of products and applications spanning the entire automation spectrum.

AS-Interface offers many of the benefits of more powerful and expensive fieldbuses, but at much lower cost and at much simpler application. The complete network is controlled automatically by a 'master' which polls the network sending and receiving data from each connected device in turn. It automatically senses and registers any connected devices, thus neither configuration nor application-specific software for the master is necessary.

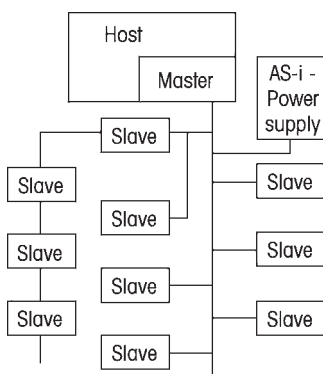
Unique technology

Due to the cable structure, AS-Interface offers a unique mounting technology. Without any cutting or removal of insulation, sharp pins penetrate the cable insulation making the electrical contact as the connection elements are closed. This technology ensures protection up to IP 65.

Cost savings

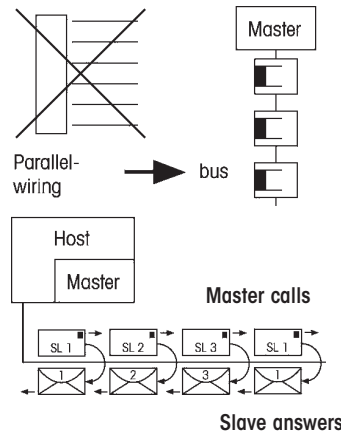
In general, applications from as few as ten sensors and actuators to very large systems can benefit, especially when the whole life cost advantages are taken into account. Distributing the input and output functionality is one starting point for cost savings, enabling point to point wiring systems to be reduced to a single cable, eliminating or reducing cable trees, service cabinets and multiple connectors. The special AS-Interface connection technology replaces labour-intensive wiring. The tree structure permits better optimised system design and improved layouts, bringing easier installation and maintenance. Network configuration is eliminated.

System Survey



- Single master-slave principle
- Up to 62 slaves with one master
- Per slave up to 4 digital inputs + 4 digital outputs
- Max. 248 digital inputs and outputs
- Additional 4 parameter bits/slave
- Also possible: analogue I/O
- Electronic addressing of slaves
- Free structure of the network

How AS-Interface® works



- AS-Interface® - a bus system, which substitutes parallel wired installation from pic to sensors and actuators
- Data and energy in the same cable
- 1 Master and max. 62 slaves
- Total cycle time < 10 ms - with max. number of 32 slaves
- Master-slave principle: The master calls and the slave answers immediately

Cable power

The yellow cable can carry up to 8 A, which means that no additional wiring is required in typical installations. Several hundred mA may be drawn by a single slave device on the network. Where higher power is needed, or for emergency stop situations, a black secondary DC or AC power cable offers complementary advantages. If round cable is preferred, a wide variety of screw and push-fit termination modules offer this, with no performance compromise.

Products with AS-Interface

WERMA Signaltechnik GmbH & Co. KG has been a member of the AS - Interface® Association since 1996.



WERMA's product range encompasses the LED Installation Beacon (Multicolour) 239 is available for AS-Interface®. This is suitable for the extended addressing (A/B engineering) of up to 62 modules. This beacon is provided with electricity via the bus.



WERMA's product range also contains products with AS-Interface® for KombiSIGN 71 as well as customised developments. The entire BUS electronic system is integrated in the element placed at the base of the signal tower. The KombiSIGN AS-Interface® elements offer the customer beneficial features such as an addressing socket and status LEDs. A user-friendly sliding switch inside the module can be used to provide the power supply required for the signal towers from an external 24 V auxiliary voltage or via the integrated bus bypass.

The generation of light - a summary of the possibilities

Light can be generated in various ways. In the field of signalling technology LEDs are used in the majority of applications.

✓ LED



Light emitting diodes are constructed using certain semiconductors. Foreign atoms are built into the semiconductor with the purpose of optimising the conductivity. Half of the semiconductor (n-region) is doped with foreign atoms that contain one bonding electron more than the semiconductor atom. This surplus atom can move freely and increases conductivity.

The other half (p-region) is doped with foreign atoms containing one electron less than the semiconductor. When the LED is switched on, these faults ("holes") fill up with free electrons (recombination). Energy in the form of radiant photons is hereby released. The energy and therefore the colour of the light emitted is determined by the material the semiconductor is made of; e.g. GaAsP (Gallium Arsenic Phosphide) results in red light.

✓ Bulbs



A tungsten filament is heated up to a high temperature, so radiating energy over a wide wavelength. This is perceived as light similar to sunlight. The tungsten filament evaporates with time. When the tungsten content falls below a certain level, the maximum life duration of the bulb is reached. As tungsten oxidises quickly and is destroyed when it comes into contact with air, the filament must be kept in a non-oxidising atmosphere such as vacuum. This leads us to the familiar light bulb with its sealed glass body.

✓ Halogen bulbs



These are bulbs wherein the tungsten filament is enclosed by a small amount of halogen. The resulting chemical reaction has the effect of lengthening the life of the tungsten and stabilising the light output throughout the entire life duration of the bulb.

✓ Electric discharge tubes



Xenon flash tubes are widely used in signalling technology. They consist of a glass tube filled with the inert gas xenon. A sufficiently high voltage leads to a discharge of energy with a spark gap and a flash of high intensity.

Light in Signalling technology

Fundamental units of light magnitude

The fields of lighting and signalling technology differentiate between fundamental units to define light itself. The most important of these are the units Lumen, Candela and Lux.

✓ Lumen (unit lm)

Light current is measured in Lumen; this is the unit for the entire visible light output of a light-emitting source. The light current is defined by the following formula known as the brightness characteristic:

Light current ϕ [in lm] = radiation capacity x brightness characteristic $V(\lambda)$

The brightness impression upon the human eye is based on a sensitivity curve $V(\lambda)$ which reproduces the sensation felt by the eye in relation to the wavelength. The maximum point on this curve is at about 555 nm; we see best at this wavelength; $V(555 \text{ nm}) = 1$.

✓ Candela (unit cd)

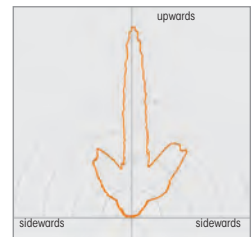
In signalling technology only the part of the light current that is emitted in a certain direction is of importance. This light intensity is measured in Candela. It is defined by the light current of a lamp and the steradian measure

$$\text{Light intensity [in cd]} = \frac{\text{Light current } \phi}{\text{Steradian measure } \Omega}$$

A complete sphere has a dihedral angle of $\Omega = 4 \pi \text{ sr}$. sr stands for the steradian and is the unit for the dihedral angle.

Example: a household candle emitting a light intensity of 12,566 Lumen has a light intensity in relation to the steradian measure $\frac{12,566 \text{ lm}}{4 \pi \text{ sr}} \approx 1 \text{ cd}$.

This explains the name: candela is the Latin word for candle.



✓ Lux (unit lx)

Illumination density is an important unit in lighting installations. It is the measure of the brightness with which an area is illuminated. Whereas light intensity (in cd) is a property of a light source, illumination density is calculated in regard to the area to be illuminated.

Where the light current emitted is constant, the following formula is applicable:

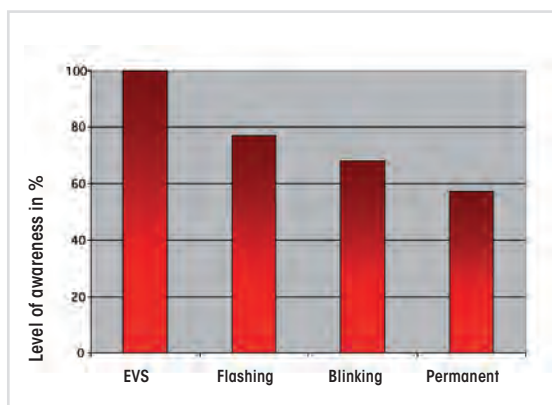
$$\text{Light density } E \text{ [in lux]} = \frac{\text{Light current } \phi}{\text{Surface } A}$$

Signalisation Index

The signalisation index provides an easy opportunity to select the correct WERMA product. Derived from the test measurements of the respective products and the subjective signal perception, this index quickly leads you to the appropriate product. In this way you can very easily find the optimal product for your individual application.

Why does WERMA incorporate the subjective signal perception into the signalisation index? ...

... because physical parameters alone are only conditionally comparable with regard to signal effect. For example, a dynamic light is generally more strongly perceived than a static light. A blinking light therefore has a greater signal effect than a permanent light - even though the light output is exactly the same. This effect is even stronger for an EVS/flickering light.



Permanent light and LED Permanent light

With the assistance of a permanent light or an LED permanent light the operator is made aware of a specific condition or is instructed to carry out a certain course of action.

For safety reasons signal beacons are increasingly equipped with light emitting diodes. The failure of optical signal devices is significantly reduced as a result of the longer life duration of LEDs. Furthermore, LEDs offer a range of advantages compared to conventional light bulbs for example lower current consumption, greater resistance to shocks, vibrations and other mechanical stress.

LED Beacons (Multicolour)

As well as offering traditional single coloured beacons, Werma has several multicolour LED products which give the user multiple colour choices in just one beacon.

The 816 LED beacon with USB connection uses RGB LED technology from which you can select up to 200,000 colour variants also in different light effects, such as permanent, blink or special flash.

The LED multicolour beacons 239 and 816 with M12 connectors offer up to 7 colours and enable you to signal several different status conditions with just one beacon.



Optical Signal Devices

Xenon Flashing Light

The deployment of a flashing signal can generate even more attention than a permanent light. The reason for this is to be found in the very short flash duration.

Inside each Xenon flashing beacon there is a capacitor which stores electrical energy. Within the space of a few milliseconds this energy is discharged within the flash tube, generating a very intense light impulse.

The life duration of a flash tube is heavily dependent on the respective load. The average life duration in permanent operation is 4×10^6 flashes.



(LED) Flashing or Blinking Light and LED EVS Signal Beacon

The deployment of a flashing or blinking signal can generate even more attention than a permanent light. Blinking and flashing beacons nowadays often employ long-life LED technology which has a significantly longer life duration of up to 50,000 hours with a considerably reduced power consumption.

The stochastic, random flickering light EVS (Enhanced Visibility System) has been developed by WERMA on a neurobiological basis. As deployed in LED Beacons, this technology succeeds in generating an optimal attention level never previously reached by existing signal devices.

WERMA employs LEDs for its EVS system. A microprocessor triggers random light signals, which make the light appear extremely "agitated", thus generating a continuously high attention level amongst those in the vicinity - even when viewed out the corner of the eye.



Rotating Mirror Beacon and LED Rotating Signal Beacon

Inside each rotating mirror beacon is a halogen bulb, and a mirror to deflect the light in one direction. This generates a rotating light beam.

In contrast to conventional Rotating Mirror Beacons, the LED version generates the rotating signal by means of a set of LEDs which are triggered in sequence.

As no mechanical components have been used at all, the beacon is completely maintenance-free.



LED Element „ultrabright“

Good visibility, even in direct sunlight, is a basic precondition for the reliable deployment of signal devices in outdoor areas. This is a standard feature of the signal towers and beacons from WERMA Signaltechnik. There are however applications which place even more extreme demands on the visibility of optical signalling.



Up to 20 times brighter

Thanks to its sophisticated triggering, the innovative LED element „ultrabright“ is up to 20 times brighter than conventional LED beacons - making it almost certainly the **brightest permanent light** that the world of signalling technology currently has to offer.

Furthermore, the **intelligent electronics** ensure that the LEDs operate at maximum brightness, depending on the ambient and operating temperatures. The „ultrabright“ LED element is therefore always working at its optimum, and the energy-saving LED technology ensures that power consumption is kept to a minimum.



EVS - Enhanced Visibility System



A groundbreaking innovation in LED technology opens up a completely new dimension in optical signalling. Enhanced Visibility System, or the electronic improvement of visibility, EVS for short, is the name WERMA has given to this latest development which promises to bring about a revolution in signal technology.

This technology is generally used when a particularly high level of awareness should be generated.

Irregular light impulses can circumvent the brain's filter function. Random light signals fail to generate an acclimatisation effect and the brain is unable to escape the stimulus, even when the flickering continues for an extended period.

EVS signal devices communicate highly urgent situations



As a result of the extremely powerful signal effect, the EVS light is especially suited to signalling acute or highly important conditions. The EVS element can also be deployed in hazardous situations or in areas where immediate action is required.

Integrated into KombiSIGN Signal Towers, the EVS LED Element generates a highly attention-grabbing signal (see page 32 and 39).

This innovative technology is also used in the 853 (page 165), 280 (page 158) and 829 series (page 148 onwards) and in the optical-audible combinations 444 (page 277 onwards) and 43x (page 270 onwards).



EVS - unique light effect using LED technology



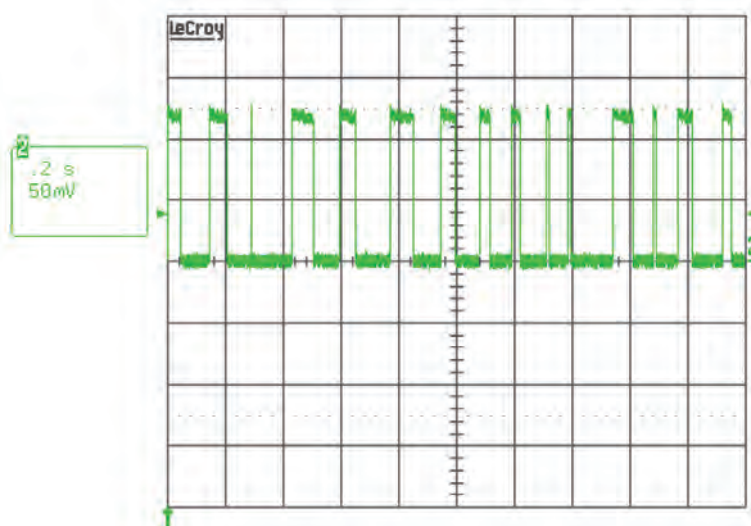
For the EVS system WERMA employs light emitting diodes. A microprocessor generates random light signals.

This gives the light a very "agitated" character which proves highly effective in drawing the attention of those in its vicinity - even when seen out of the corner of the eye.

Up to now LED signal devices have confined themselves to imitating the light effects of light bulbs or xenon flashes, EVS however utilises the strengths of light emitting diodes. LEDs are capable of generating the required high flickering frequency with ease - frequencies which xenon flashes are for example incapable of generating.

Further advantages of LEDs are the resistance to vibration, their long life duration as well as their low current consumption.

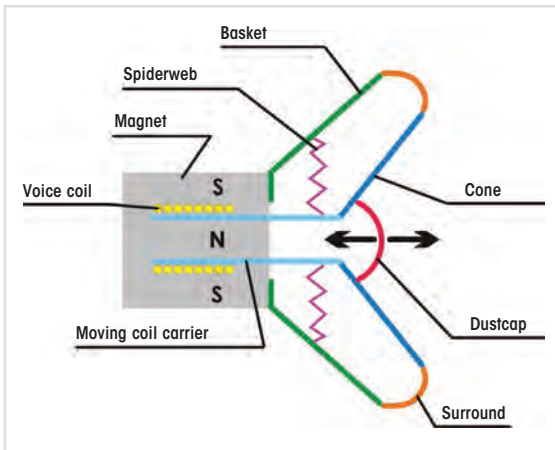
Typical 2 second section of an EVS LED element's illumination sequence



Acoustics in Signalling technology

✓ Loudspeakers (electro-dynamic sound generation)

A loudspeaker converts an alternating electric current into sound waves. This occurs by means of the interaction between the electric current and a permanent magnet. The coil is positioned within the magnetic field of the permanent magnet. When an electric current is applied to the coil, the Lorentz force generated leads to a deflection of the coil, causing the membrane to vibrate.



As a result of the centering spider this proceeds in an up and down motion. It centres the coil and, together with the bead, ensures that it returns to the resting position.

With the use of the appropriate size of membrane and material, as well as different drives (coils and permanent magnets), loudspeakers can be optimised for a variety of different frequency ranges.

✓ Acoustic capsule (electromagnetic sound generation)

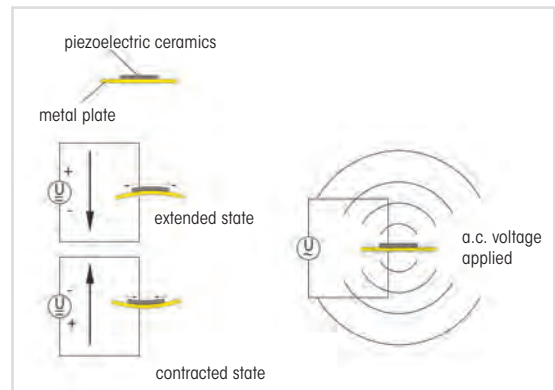
The acoustic capsule belongs to the group of electromagnetic sound generators. This principle was previously used for telephone earpieces. Within the capsule a permanent magnet serves to pre-magnetise the armature which is connected to the membrane. This is made to oscillate and these oscillations are then converted into audible tones. The acoustic capsule is characterized by a relatively simple construction and a compact form and displays a high degree of effectivity.



✓ Piezo disc

Piezoelectricity (also known as the piezoelectric effect, or for short: piezo effect) refers to the interaction of mechanical pressure (Greek piezein = to press) and electrical currents in solid bodies. It describes the phenomenon whereby the deformation of certain materials leads to the generation of an electric charge at the surface (direct piezoelectric effect).

In a reverse process these materials (predominately crystals) deform when a voltage is applied. The deflection is relatively small so they need to be transmitted to a membrane, from where the oscillations excite air molecules which are then perceived as sound.



Principle acoustic parameters

✓ Sound output level

The sound output level L_p refers to the logarithmic relationship of the square of the sound output of an acoustic event to the square of the reference value $p_0 = 20 \mu\text{P}$. The result is given in decibels (abbreviation dB).

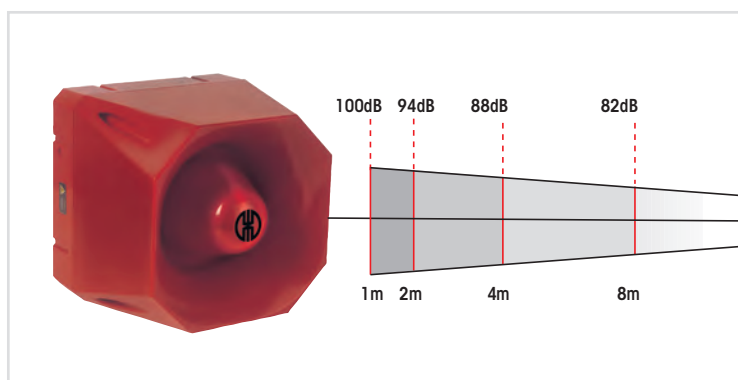
$$L_p = 10 \log_{10} \left(\frac{p_i^2}{p_0^2} \right) \text{ dB} = 20 \log_{10} \left(\frac{p_i}{p_0} \right) \text{ dB}$$

When indicating an absolute level (with reference to the standardized reference level p_0 the abbreviation "SPL" (sound pressure level) is added.

With intermediate to high levels and frequencies a sound output difference of 10 dB is heard as approximately twice as loud. Differences of 3 dB are clearly audible. The perceived sound level is not just dependent on the sound output level, but also on the spectrum of the sound signal and its temporal progression. Single tones are perceived as being considerably louder than a broadband audible signal with the same sound output level. Audible signals with sharply changing levels are also perceived as being significantly louder than uniform audible signals with the same average level.

Weighting curves (A, B and C according to DIN EN 61672-1, formerly IEC/DIN 651) are the curves from weighting filters that are applied to the sound output signal. They are designed to reproduce a similar frequency response as that of the human ear for a specific sound level. However they are only able to achieve a rough approximation, the values obtained for the weighted sound output measurements do not exactly match those of the human ear.

Weighting levels are indicated by the corresponding letter of the frequency weighting, e.g. a C weighting sound output level is given in dB (C). In the field of technical acoustics the A weighting level is predominately employed. For this reason WERMA specifies levels in dB (A).



The sound output level is always dependent on the distance from the source of the sound. WERMA specifications are always based on a measuring distance of 1 m, unless otherwise stated.

In the case of point sound sources (generally applies for all sources radiating equally in all directions), the sound output level decreases by **6 dB with each doubling of the distance from the source.**

Acoustics in Signalling technology

Environmental factors

In addition to the sound output level, the tone frequency and the distance to the signal device, environmental factors are also decisive for the quality of the signal. Wind, humidity or even rain all have an effect on audibility. A very important factor is the ambient noise level.

In industrial environments in particular, the ambient noise level produced by machines is often very high. Accordingly, the signal devices must produce a sufficiently high sound output in order to be heard.

WERMA has developed loud signal horns and sirens for this purpose. With fluctuating ambient noise levels, the use of a siren with a self-adjusting sound level is recommended - a patented invention from WERMA.

Table of working range

		Distance in m												
		1	2	3	5	10	20	30	50	100	200	300	500	1000
Sound pressure level dB (A)	120	114	110	106	100	94	90	86	80	74	70	66	60	
	118	112	108	104	98	92	88	84	78	72	68	64	58	
	116	110	106	102	96	90	86	82	76	70	66	62	56	
	114	108	104	100	94	88	84	80	74	68	64	60	54	
	112	106	102	98	92	86	82	78	72	66	62	58	52	
	110	104	100	96	90	84	80	76	70	64	60	56	50	
	108	102	98	94	88	82	78	74	68	62	58	54	48	
	106	100	96	92	86	80	76	72	66	60	56	52	46	
	104	98	94	90	84	78	74	70	64	58	54	50	44	
	102	96	92	88	82	76	72	68	62	56	52	48	42	
	100	94	90	86	80	74	70	66	60	54	50	46	40	
	98	92	88	84	78	72	68	64	58	52	48	44	38	
	96	90	86	82	76	70	66	62	56	50	46	42		
	94	88	84	80	74	68	64	60	54	48	44	40		
	92	86	82	78	72	66	62	58	52	46	42	38		
	90	84	80	76	70	64	60	56	50	44	40			
	85	79	75	71	65	59	55	51	45	39				
	80	74	70	66	60	54	50	46	40					
	75	69	65	61	55	49	45	41						
	70	64	60	56	50	44	40	36						
	65	59	55	51	45	39	35							

Signalisation Index

The signalisation index provides an easy opportunity to select the correct WERMA product. Derived from the test measurements of the respective products and the subjective signal perception, this index quickly leads you to the appropriate product. In this way you can very easily find the optimal product for your individual application.

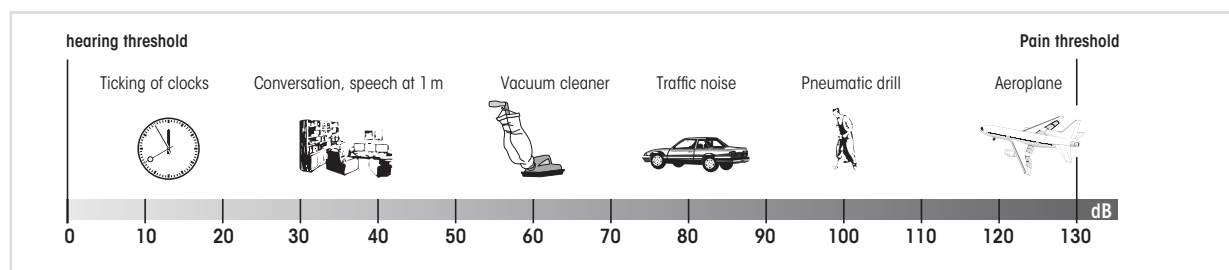
Why does WERMA incorporate the subjective signal perception into the signalisation index? ...

... because physical parameters alone are only conditionally comparable with regard to signal effect. The measured values take the perceptive faculty of the ear into account, but the psychological effect of various tones and frequencies is not reflected as it cannot be detected by the measuring equipment. This is why WERMA has introduced the signalisation index.

The audibility of an audible signal is dependent on a number of different factors:

- ✓ the sound output of the signal (in dB)
- ✓ the tone frequency (in Hz)
- ✓ the distance between signal device and recipient
- ✓ the noise level of the surrounding area
- ✓ other influences (for example air humidity, wind direction)

Examples of noise in everyday life



Tone frequency

Sound is a series of fluctuations in the air pressure at different amplitudes occurring at a specific rate per unit of time. This rate is termed frequency and is measured in the unit $1/s = 1\text{ Hz}$ (Hertz). It is named after the German physicist Heinrich Rudolf Hertz. A tone is generated by an oscillation at a certain frequency. The musical tone A for example, has a frequency of 440 Hz. Noise is the term used to describe a number of overlapping tones.

The human ear is only capable of hearing tones within a certain frequency range. In the case of children this range is between 20 and 20,000 Hz. This sensitivity declines with increasing age: by the age of 50 the limit is approximately 12,000 Hz, and with advanced age this is often as low as 5,000 Hz.

The human ear hears tones of different frequencies at different relative strengths. The limit of audibility and the pain threshold are therefore dependent on the respective frequency. For this reason audible signal devices generally operate at a frequency between 500 and 3,000 Hz.



Signal Towers



Overview Signal Towers

Whether they are used on machinery and equipment, manual workstations or for access control and point-of-sale systems, WERMA signal towers reliably signal different statuses, such as faults or material replenishment requests. Professional signalling provides your application with greater safety and security and considerably reduces response times. The urgency of the signal can be easily increased using different signal elements. This enables employees to immediately react to faults and quickly resolve any problems that arise.

Monitor your processes, make them reliable and keep them running - saving time and money.

We call this intelligent signalling technology.

Overview Signal Towers					
Product type		modular	modular	modular	pre-assembled
Technical details	Product range	KombiSIGN 40	KombiSIGN 72	KombiSIGN 71	KOMPAKT 37
Diameter*		40 mm	70 mm	70 mm	37,5 mm
Dimensions*					
Voltage	12 V				●
	24 V	●	●	●	●
	115 V			●	
	230 V			●	
Protection rating		IP 66	IP 65	IP 65	IP 65
Number of tiers possible		1-5	1-5	1-5	1-6
Optical Signalisation Index**		3-5	4-6	2-6	3
Audible Signalisation Index**		3-5	5-6	3-6	4
Interface			ASi, USB	ASi, USB	
Page		Page 26	Page 32	Page 38	Page 48

* Technical diagrams can be found on the product page

** Signalisation Index – see page 13 + 21



Modular Signal Towers

Optical and audible signal elements can be combined flexibly in the modular signal towers. The modular design also enables customers to add other elements separately when required. The mechanical and electrical connection of the signal tower elements takes mere seconds thanks to the bayonet fitting.

Completely pre-assembled Signal Towers

Completely pre-assembled WERMA Signal Towers can be ordered as a compact unit with a single part number, which reduces ordering and installation effort. Impressive features include their stylish design and diverse installation options, allowing them to be used in a wide range of areas.

					
pre-assembled	pre-assembled	pre-assembled	pre-assembled	pre-assembled	pre-assembled
deSIGN 42	ClearSIGN	CleanSIGN	FlatSIGN	VarioSIGN	Ex Signal Tower
42 mm	40 mm	70 mm	-	-	37,5 mm
	Ø 104 mm	112 mm x 125 mm	195 mm x 105 mm	62 mm x 90 mm	76 mm x 75 mm
●	●	●	●	●	●
			●		
			●		
IP 65	IP 66	IP 67/IP 69k	IP 65	IP 65	IP 65
2-3	3-4	3	3	3	2-3
3	3-4	3-5	2-3	3-5	3
	3	3	2	3	
	I/O-Link				
Page 52	Page 54	Page 56	Page 58	Page 60	Page 62



KombiSIGN 40 - Modular Signal Tower

Size comparison KombiSIGN 40/72



Signalisation Index

Optical		Audible	
LED Permanent Light	2	Continuous tone	3
LED Blinking Light	4	Pulse tone	4
LED Flashing Light	5	Multi tone	5
LED EVS Light	5		

Your benefits

There is no need to compromise with the KombiSIGN 40, because WERMA has combined quick installation, excellent visibility and the highest level of flexibility in this product. This saves time and money with regard to installation and order logistics.

- Save up to 50% on installation time thanks to self-explanatory connections and intuitive mechanics
- Maximum flexibility despite a small number of variants
- TwinLIGHT and TwinFLASH combine two easily selectable light effects in one element
- In ClassicLOOK or DesignLOOK to suit all machine surfaces
- Clearly visible from all positions thanks to the OmniVIEW lens with no blind spots
- Completely pre-assembled standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

Fault signalling

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry

Installation options

- Base mounting
- Tube mounting
- Single-hole mounting
- Additional Installation options using accessories

Features

- Multicolour element offers up to seven colours in a single element
- High IP66 protection rating prevents ingress of dust and water
- Compact and high-output 95 dB siren
- Optionally available with IO-Link technology



TwinLIGHT

TwinFLASH





How to assemble your KombiSIGN 40 signal tower

ClassicLOOK

► STEP 1

Select the required optical or audible elements.

Order numbers can be found on page 29.



Audible Signal Element

- 8 tone siren
- 2 tone siren

Optical Signal Elements

- TwinLIGHT
- TwinFLASH
- LED Permanent light element multicolour

► STEP 2

Select the terminal element and appropriate mounting solution for your application.



Terminal element
Order no.
630 800 75

► STEP 3

Optional:

Where appropriate, select the bracket.

Can be installed between the terminal element and the mounting adapter.



Extension tube
Order no.
960 630 03

Tube Mounting

Single Hole Mounting

Base Mounting



Adapter for tube mounting
Order no.
630 830 00



Adapter for single hole mounting
Order no.
630 820 00



Adapter for base mounting
Order no.
630 810 00

► STEP 4

Select tube extensions as required.

► STEP 5

Where appropriate, select the bracket and the contact box.

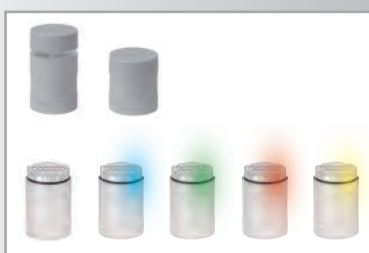


Bracket for assembly on aluminium profiles
Order no.
960 630 02

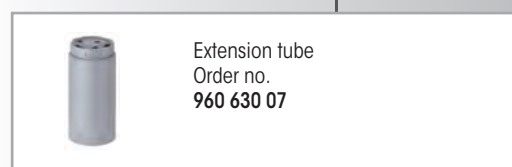


Bracket for concealed cable entry
Order no.
960 630 01

DesignLOOK



Terminal element
Order no.
630 700 75



Extension tube
Order no.
960 630 07

Tube Mounting

Single Hole Mounting

Base Mounting



Adapter for tube mounting
Order no.
630 730 00



Adapter for single hole mounting
Order no.
630 720 00



Adapter for base mounting
Order no.
630 710 00



Bracket for assembly on aluminium profiles
Order no.
960 630 06



Bracket for concealed cable entry
Order no.
960 630 05

Further accessories can be found in our main catalogue or at www.werma.com.



KombiSIGN 40 - Modular Signal Tower

Or use one of our pre-assembled signal towers. With just one part number you can obtain the most popular configurations.



KombiSIGN 40 Signal Tower
in ClassicLOOK



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Pre-assembled signal tower	ClassicLOOK	DesignLOOK
Dimensions (Ø x Height):	40 mm x 214 mm	
Voltage:	24 V AC/DC	
TwinLIGHT green/yellow/red	639 300 01	639 301 01
Consisting of:	 634 110 75 + 634 310 75 + 634 210 75 + 630 800 75 + 630 810 00	 634 130 75 + 634 330 75 + 634 230 75 + 630 700 75 + 630 710 00

Technical details are given on the relevant product page.

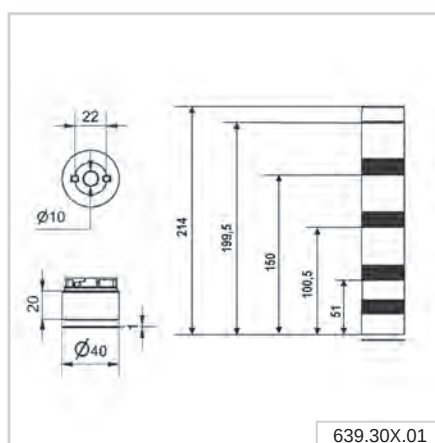


ACCESSORIES:

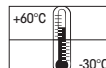
	ClassicLOOK	DesignLOOK
Bracket for concealed cable entry	960 630 01	960 630 05



TECHNICAL DIAGRAMS:



KombiSIGN 40 Signal Tower
in DesignLOOK



KombiSIGN 40 - Optical Signal Elements



KombiSIGN 40 Signal Tower
in ClassicLOOK



KombiSIGN 40 Signal Tower
in DesignLOOK



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	ClassicLOOK	DesignLOOK
Dimensions (Ø x Height):	40 mm x 58,6 mm	
Lens:	PC, transparent	
Life duration:	50,000 hrs	

TwinLIGHT

Light effects:	LED Permanent or Blinking light, adjustable via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 50 mA	
red	634 110 75	634 130 75
green	634 210 75	634 230 75
yellow	634 310 75	634 330 75
white	634 430 75	634 430 75
blue	634 510 75	634 530 75

TwinFLASH

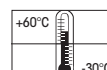
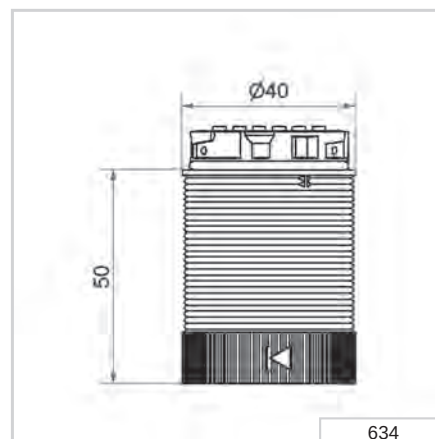
Light effect:	LED Flash light or EVS, adjustable via DIP-Switch	
Voltage:	24 V DC	
Current consumption:	< 65 mA	
red	634 120 55	634 140 55
green	634 220 55	634 240 55
yellow	634 320 55	634 340 55
white	634 440 55	634 440 55
blue	634 520 55	634 540 55

Multicolour

Light effect:	LED Permanent light	
Colours:	Red, yellow, green, blue, white, violet, turquoise controlled by binary inputs	
Voltage:	24 V DC	
Current consumption:	< 100 mA	
Order No.:	634 450 55	634 450 55



TECHNICAL DIAGRAMS:





KombiSIGN 40 - Audible Signal Elements



8 tone KombiSIGN 40 siren
in DesignLOOK



2 tone KombiSIGN 40 siren
in ClassicLOOK

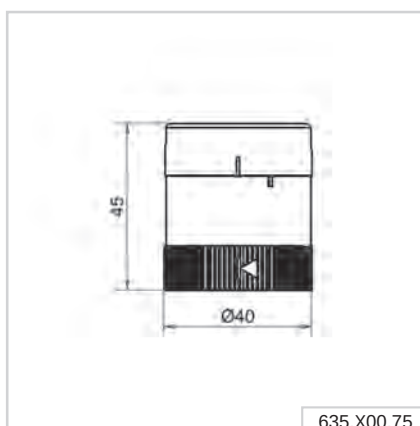


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

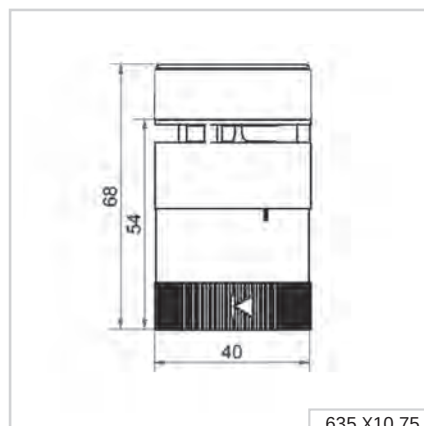
	ClassicLOOK	DesignLOOK
Housing:		PC
Life duration:		5,000 hrs
2 Tone Siren		
Dimensions (Ø x Height):	40 mm x 45 mm	
Sound output:	85 dB (A)	
Tone type:	Continuous or pulse tone, can be set via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 80 mA	
Order No.	635 800 75	635 700 75
8 Tone Siren		
Dimensions (Ø x Height):	40 mm x 68 mm	
Sound output:	89-95 dB (A), can be set via slide switch	
Tone type:	8 tones, can be set via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 200 mA	
Order No.	635 810 75	635 710 75



TECHNICAL DIAGRAMS:



635.X00.75



635.X10.75



635 X00 75



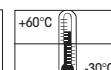
635 X10 75



635 X00 75



635 X10 75



KombiSIGN 40 - Terminal Elements



KombiSIGN 40 DesignLOOK
assembly adapter for
single hole mounting



KombiSIGN 40 ClassicLOOK
assembly adapter for
base mounting



KombiSIGN 40 DesignLOOK
assembly adapter for
tube mounting



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

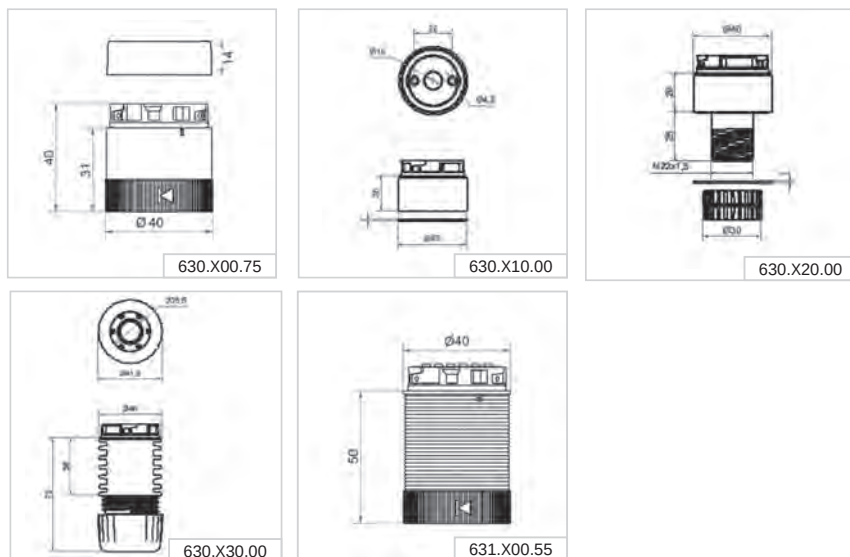
	ClassicLOOK	DesignLOOK
Housing:	PC	
Terminal element		
Dimensions (Ø x Height):	40 mm x 40 mm	
Cable entry:	Cable diameter max. 9 mm	
Connection:	Push-in terminal max. 1.5 mm ²	
Number of tiers possible:	Max. 5	
Voltage:	24 V AC/DC	
Order No.	630 800 75	630 700 75
IO Link Terminal element		
Dimensions (Ø x Height):	40 mm x 58.6 mm	
Cable entry:	Cable diameter max. 9mm	
Connection:	Push-in terminal max. 0.75 mm ²	
Number of tiers possible:	Max. 5	
Voltage:	24 V via IO-Link	
Current consumption:	10 mA	
Order No.	631 800 55	631 400 55
Adapter for base mounting		
Dimensions (Ø x Height):	40 mm x 30 mm	
Order No.	630 810 00	630 710 00
Adapter single hole mounting		
Dimensions (Ø x Height):	40 mm x 54 mm	
Order No.	630 820 00	630 720 00
Adapter tube mounting		
Dimensions (Ø x Height):	40 mm x 75 mm	
Order No.	630 830 00	630 730 00



ACCESSORIES: see page 27



TECHNICAL DIAGRAMS:



630



630 X00 75



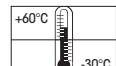
630 X10 00



630 X20 00



630 X30 00





KombiSIGN 72 - Signal Tower

Size comparison KombiSIGN 72 / 40



Signalisation Index

Optical		Audible	105 dB Siren
LED Permanent Light	4	Continuous tone	5
LED Blinking Light	5	Pulse tone	6
LED Flashing Light	6		
LED EVS	6		

Your benefits

There is no need to compromise with the KombiSIGN 72, because this product combines quick installation, excellent visibility and the highest level of flexibility. This saves time and money with regard to installation and order logistics.

- Smooth surfaces prevent dirt gathering and make cleaning easy
- Easy, intuitive installation - incorrect assembly is practically impossible (Poka Yoke)
- High-tech: the Signal Towers can easily be retrofitted with SmartMONITOR (smart MDE alternative) or AndonSPEED (call for action system)
- TwinLIGHT and TwinFLASH combine two easily selectable light effects in one element
- In ClassicLOOK or DesignLOOK to suit all machine surfaces
- Clearly visible from all positions thanks to the OmniVIEW lens with no blind spots
- Completely pre-assembled standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

The new definition of the industry standard to signal faults

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry
- on conveyor belts in production and logistics
- at manual workstations as a call for action system
- upgradeable to the wireless-based MDE alternative SmartMONITOR or to the call for action system AndonSPEED in logistics applications

Installation options

- Base mounting
- Tube mounting
- Additional installation options using accessories

Features

- Combine the KombiSIGN 72 light elements with special controller solutions such as USB or ASi, or integrate one of the versatile audible elements
- Can be combined and retrofitted with all the KombiSIGN 71 elements and accessories, as well as the SmartMONITOR and AndonSPEED wireless-based systems
- High-output 105 dB siren



TwinLIGHT

TwinFLASH

How to assemble your KombiSIGN 72 signal tower

ClassicLOOK

► STEP 1

Select the required optical or audible elements in the correct voltage (for details see page 41).



Audible Signal Element

- 2 tone siren

Optical Signal Elements

- TwinLIGHT
- TwinFLASH

► STEP 2

Select the appropriate mounting option for your application.

Base Mounting

Tube Mounting

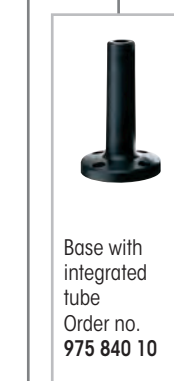
► STEP 3

Select the correct terminal element for your mounting option (for details see page 45).



► STEP 4

Where appropriate, select a base and the desired tube length (only for tube mounting) (For details see page 64).



Tube Ø 25 mm, all anodized
Order no.
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**

Base for Tube, plastic
Order no. **975 840 90**

Base for Tube, metal
Order no. **975 840 91**



► STEP 5

Where appropriate, select the bracket and the contact box (for details see page 64).



DesignLOOK



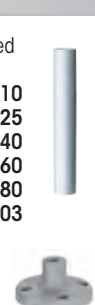
Base Mounting

Tube Mounting



Tube Ø 25 mm, all anodized
Order no.
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**

Base for Tube, plastic
Order no. **960 000 50**



Look at the signal device section on:

www.werma.com

With the new **signal tower configurator** you can put together your own individual signal tower.

Further accessories can be found in our main catalogue or at **www.werma.com**.





KombiSIGN 72 - Modular Signal Tower

Or use one of our pre-assembled signal towers. With just one part number you can obtain the most popular configurations.



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Pre-assembled signal tower	ClassicLOOK	DesignLOOK
Dimensions (Ø x Height):	70 mm x 211,5 mm	
Voltage:	24 V AC/DC	
TwinLIGHT green/yellow/red	649 000 01	649 001 01
Base/Bracket mounting		
Consisting of:	 647 110 75 + 647 310 75 + 647 210 75 + 640 800 00	 647 130 75 + 647 330 75 + 647 230 75 + 640 900 00
TwinLIGHT green/yellow/red	649 000 02	649 001 02
Dimensions (Ø x Height):	70 mm x 299 mm	
Tube mounting		
Consisting of:	 647 110 75 + 647 310 75 + 647 210 75 + 640 810 00 + 975 840 10	 647 130 75 + 647 330 75 + 647 230 75 + 640 910 00 + 975 000 51

Technical details are given on the relevant product page.

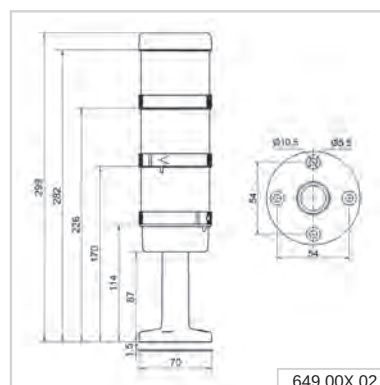
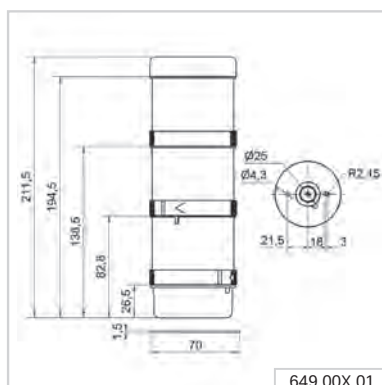


ACCESSORIES:

	ClassicLOOK	DesignLOOK
Bracket for 1-sided mounting	975 840 85	960 000 52
Bracket for base mounting	960 000 02	960 000 53
Bracket for tube mounting	960 000 01	960 000 54

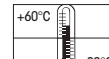


TECHNICAL DIAGRAMS:



649 00X 01

649 00X 02



KombiSIGN 72 - Optical Signal Elements



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

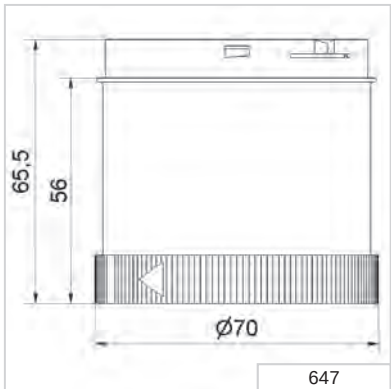
	ClassicLOOK	DesignLOOK
Dimensions (Ø x Height):	70 mm x 65,5 mm	
Lens:	PC, transparent	

TwinLIGHT		
Light effects:	LED Permanent light, LED Blinking light, adjustable via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 80 mA	
red	647 110 75	647 130 75
green	647 210 75	647 230 75
yellow	647 310 75	647 330 75
white	647 430 75	647 430 75
blue	647 510 75	647 530 75

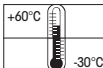
TwinFLASH		
Light effect:	LED Flashing light, LED EVS light, adjustable via slide switch	
Voltage:	24 V DC	
Current consumption:	< 80 mA	
red	647 120 55	647 140 55
green	647 220 55	647 240 55
yellow	647 320 55	647 340 55
white	647 440 55	647 440 55
blue	647 520 55	647 540 55



TECHNICAL DIAGRAM:



in preparation



KombiSIGN 72 - Audible Signal Elements



2 tone siren
KombiSIGN 72
DesignLOOK

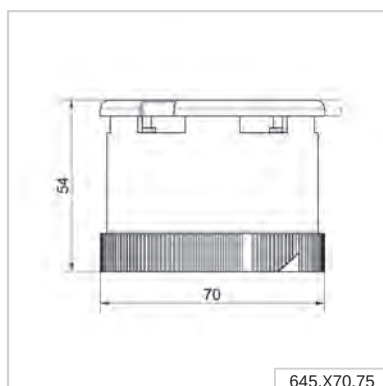


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

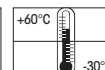
	ClassicLOOK	DesignLOOK
Housing:		PC
Life duration:		5.000 h
2 Tone Siren	645 870 75	645 770 75
Dimensions (Ø x Height):		70 mm x 54 mm
Sound output:		95-105 dB (A), adjustable by slide switch
Tone type:		Permanent tone or alternating tone, selectable by slide switch
Voltage:		24 V AC/DC
Current consumption:		< 40 mA



TECHNICAL DIAGRAMS:



in preparation



KombiS/IGN 72 - Terminal Elements



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	ClassicLOOK	DesignLOOK
Dimensions (Ø x Height):	70 mm x 42,5 mm	
Housing:	Terminal element: PA-GF Cap: PC	
Fixing:	Base mounting, Tube mounting for tube Ø 25 mm (accessory), Bracket mounting (accessory)	
Cable entry:	Cable diameter max. 11 mm	
Connection:	CAGE CLAMP® technology max. 1,5 mm²	
Protection rating:	IP 65	
Number of tiers possible:	Max. 5	
Voltage:	12-230 V AC/DC	
Base mounting	640 800 00	640 900 00
Tube mounting	640 810 00	640 910 00

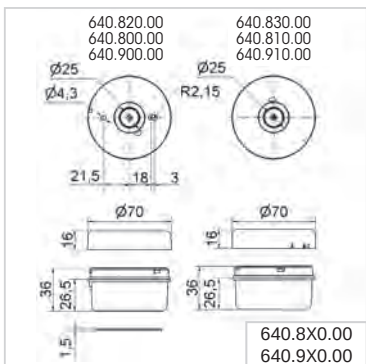
ACCESSORIES:

	ClassicLOOK	DesignLOOK
Base with integrated tube	975 840 10	960 000 51
Bracket for 1-sided mounting	975 840 85	960 000 52
Bracket for base mounting	960 000 02	960 000 53
Bracket for tube mounting	960 000 01	960 000 54
Bracket for base mounting with concealed cable entry	960 000 14	960 000 55
Base for tube Ø 25 mm, plastic	975 840 90	960 000 50

Additional accessoires can be found on page 64.



TECHNICAL DIAGRAMS:



640.8X0.00



640.9X0.00
in preparation

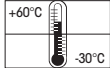


CE

EAC

Max.





KombiSIGN 71 - Signal Tower

Size comparison KombiSIGN 71/40



Signalisation Index

Optical		Audible	2 tone/8 tone	105 dB Siren	Vocal element
Permanent Light	2	Continuous tone	3	5	
LED Permanent Light	2	Pulse tone	3	6	
LED Blinking Light	3	Multi tone	5		
LED Permanent Light (ultrabright)	4	Vocal element			5
LED Rotating Light	5				
LED Flashing Light	6				
LED EVS Light	6				
Xenon Flash	5				

Your benefits

The KombiSIGN 71 has successfully established itself as the standard in industrial applications over recent years. The patented bayonet mechanism enables elements to be installed or removed in a matter of seconds.

- A wide range of accessories ensures maximum flexibility
- High-tech: The Signal Towers can easily be retrofitted with SmartMONITOR (intelligent MDE alternative) or AndonSPEED (call for action system)
- Completely pre-assembled standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

Signalling fault messages

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry
- in the building services industry

Installation options

- Base mounting
- Tube mounting
- Additional installation options using accessories

Features

- Different light effects are possible for individual signalling
- The Multicolour element offers up to seven colours in a single element
- The self-adjusting siren element automatically adapts to the ambient noise level
- Vocal element for your own mp3 or wav files
- Combine the KombiSIGN 71 light elements with special controller solutions such as USB or ASi, or integrate one of the versatile audible elements





How to assemble your KombiSIGN 71 signal tower

► STEP 1

Select the required optical or audible elements in the correct voltage (for details see page 41).



Audible Signal Elements

- Buzzer element
- Siren element
- Vocal element

Optical Signal Elements

- (LED) Permanent light
- LED Permanent light ultrabright
- (LED) Flashing light
- LED EVS element
- LED Blinking light
- LED Rotating light
- LED Permanent light element multicolour

► STEP 2

Select the appropriate mounting option for your application.

► STEP 3

Select the correct terminal element for your mounting option (for details see page 45).

Base Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 800 00**

Screw terminal
Order no. **640 820 00**

Terminal element M12
Order no. **640 850 55**

Tube Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 810 00**

Screw terminal
Order no. **640 830 00**

Terminal element M12
Order no. **640 860 55**

► STEP 4

Where appropriate, select a base and the desired tube length (only for tube mounting) (For details see page 64).



Tube with clamp
Order no. **960 000 18**



Adaptor for single hole mounting
Order no. **960 000 25**



Base with integrated tube
Order no. **975 840 10**

Tube Ø 25 mm, all anodized
Order no.
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**

Base for Tube, plastic
Order no. **975 840 90**

Base for Tube, metal
Order no. **975 840 91**

Foldaway Base
Order no. **960 000 30**

Foldaway Base
Order no. **960 009 12**

Tube Ø 25 mm, plastic, only for Foldaway Base, 45 mm long
Order no. **960 000 31**



► STEP 5

Where appropriate, select the bracket and the contact box (for details see page 64).

Look at the signal device section on:

www.werma.com

With the new **signal tower configurator** you can put together your own individual signal tower.



Contact box for cable exit at side
Order no. **975 840 01**



Bracket for base mounting
Order no. **960 000 02**



Bracket for 1-sided mounting
Order no. **975 840 85**



Bracket for 2-sided mounting
Order no. **975 840 86**



Corner fixing bracket
Order no. **960 000 41**



Contact box for cable exit at side
Order no. **975 840 01**



Contact box with magnetic base and cable exit at side
Order no. **975 840 04**



Bracket for base mounting with concealed cable entry
Order no. **960 000 14**



Bracket for tube mounting
Order no. **960 000 01**



Corner fixing bracket
Order no. **960 000 41**



KombiSIGN 71 - Signal Tower

Or use one of our pre-assembled signal towers. With just one part number you can obtain the most popular configurations.



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

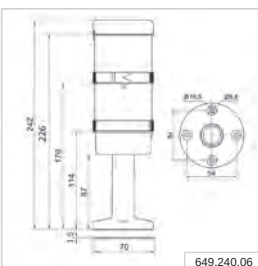
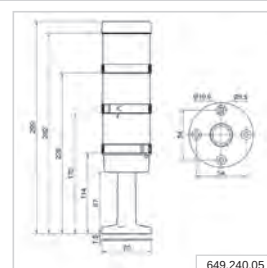
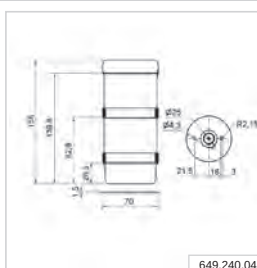
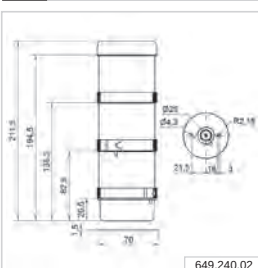
Pre-assembled signal tower	2 tier	3 tier
Dimensions (Ø x Height):	70 mm x 155 mm	70 mm x 211,5 mm
Voltage:	24 V AC/DC	
LED Permanent Light green/yellow/red	-	649 240 02
LED Permanent Light green/red	649 240 04	-
Base/Bracket mounting		
Consisting of:	 644 100 75 + 644 200 75 + 640 800 00	 644 100 75 + 644 300 75 + 644 200 75 + 640 800 00
Dimensions (Ø x Height):	70 mm x 242 mm	70 mm x 299 mm
LED Permanent Light green/yellow/red	-	649 240 05
LED Permanent Light green/red	649 240 06	-
Tube mounting		
Consisting of:	 644 100 75 + 644 200 75 + 640 810 00 + 975 840 10	 644 100 75 + 644 300 75 + 644 200 75 + 640 810 00 + 975 840 10

Technical details are given on the relevant product page.

ACCESSORIES:

Bracket for 1-sided mounting	975 840 85
Bracket for surface mounting	960 000 02
Bracket for base mounting	960 000 01

TECHNICAL DIAGRAMS:

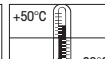


649 240 04

649 240 06

649 240 02

649 240 05



KombiSIGN 71 - Optical Signal Elements



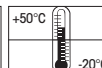
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 65.5 mm			
Lens:	PC, transparent			
Socket:	Bayonet, BA15d, for bulbs max. 5 W			
Protection rating:	IP 65			
Life duration:	50,000 hrs (LED)			
Permanent light element	12-240 V AC/DC			
red	641 100 00			
green	641 100 00			
yellow	641 300 00			
clear	641 400 00			
blue	641 500 00			
Life duration:	Dependent upon the bulbs used			
Bulb not included in assembly.				
LED Permanent light element	24 V AC/DC	115 V AC	230 V AC	
Current consumption:	< 30 mA	< 30 mA	< 40 mA	
red	644 100 75	644 100 67	644 100 68	
green	644 200 75	644 200 67	644 200 68	
yellow	644 300 75	644 300 67	644 300 68	
clear	644 400 75	644 400 67	644 400 68	
blue	644 500 75	644 500 67	644 500 68	
LED Permanent light element ultrabright	24 V DC			
Current consumption:	< 190 mA			
red	644 180 55			
green	644 280 55			
yellow	644 380 55			
clear	644 480 55			
blue	644 580 55			
Flashing light element (Xenon)	24 V DC (ASI)	24 V DC	115 V AC	230 V AC
Current consumption:	< 80 mA	< 125 mA	< 22 mA	< 15 mA
red	643 110 55	643 100 55	643 100 67	643 100 68
green	643 210 55	643 200 55	643 200 67	643 200 68
yellow	643 310 55	643 300 55	643 300 67	643 300 68
clear	643 410 55	643 400 55	643 400 67	643 400 68
blue	643 510 55	643 500 55	643 500 67	643 500 68
Life duration:	4 x 10 ⁶ flashes			
Flash frequency:	C. 1 Hz			
LED Flashing light element	24 V DC			
Current consumption:	< 35 mA			
red	644 120 55			
green	644 220 55			
yellow	644 320 55			
clear	644 420 55			
blue	644 520 55			
Flash frequency:	C. 1 Hz (Double Flash)			

643 X10 55
Class 2



Max.



24 V





KombiS/IGN 71 - Optical Signal Elements

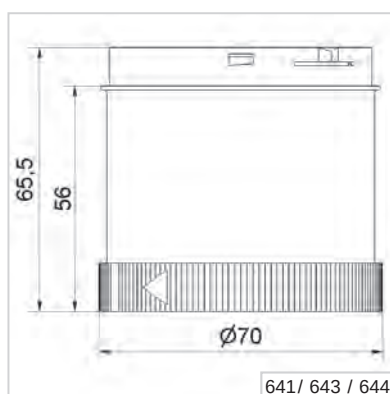


ORDER SPECIFICATIONS OPTICAL ELEMENTS:

LED EVS element	24 V AC/DC		
Current consumption:	350 mA		
red	644 140 55		
green	644 240 55		
yellow	644 340 55		
clear	644 440 55		
blue	644 540 55		
LED Blinking light element	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 30 mA	< 30 mA	< 40 mA
red	644 110 75	644 110 67	644 110 68
green	644 210 75	644 210 67	644 210 68
yellow	644 310 75	644 310 67	644 310 68
clear	644 410 75	644 410 67	644 410 68
blau	644 510 75	644 510 67	644 510 68
Blink frequency:	C. 1 Hz		
LED Rotating light element	24 V AC/DC		
Current consumption:	< 40 mA		
red	644 130 75		
green	644 230 75		
yellow	644 330 75		
clear	644 430 75		
blue	644 530 75		
Rotation frequency:	C. 120 r.p.m.		
LED Permanent light element multicolour	24 V DC		
Current consumption:	< 120 mA		
Multicolour	644 450 55		
Possible colours:	Red, yellow, green, white, blue, violet, turquoise controlled by binary inputs		
Number of modules possible:	Max. 3 (including multicolour element)		
Further voltages on request.			



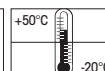
TECHNICAL DIAGRAMS:



643 X10 55
Class 2



Max.



24 V





Buzzer element



Siren element

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	See below		
Lens:	PC		
Protection rating:	IP 65		
Life duration:	5,000 hrs		

Buzzer element

Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	85 dB (A)		
Number/Tone type:	Continuous or pulse tone		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 35 mA	< 25 mA	< 25 mA
Order no.:	645 800 75	645 800 77	645 800 68

Siren element

Dimensions (Ø x Height):	70 mm x 54 mm		
Sound output:	95-105 dB (A), adjustable by slide switch		
Number/Tone type:	Continuous tone, alternating tone, selectable by slide switch		
Voltage:	24 V AC/DC		
Current consumption:	< 40 mA		
Order no.:	645 870 75		

Multi-functional Siren

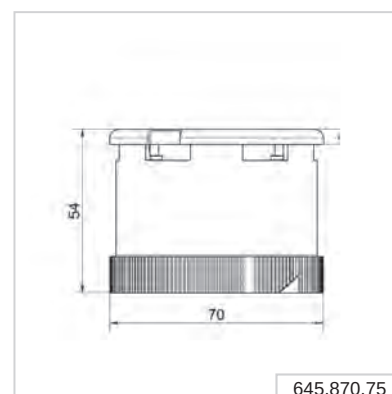
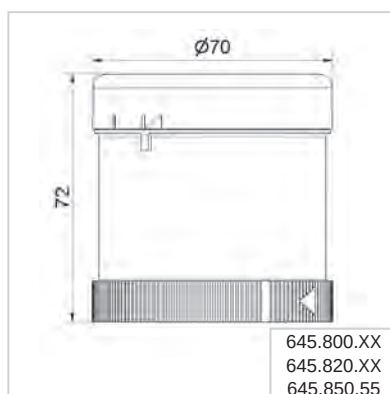
Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	100 dB (A), adjustable sound output		
Number/Tone type:	8 tones adjustable		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 80 mA	< 40 mA	< 40 mA
Order no.:	645 820 75	645 820 67	645 820 68

Multi-functional Siren, with external control

Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	100 dB (A), adjustable sound output		
Number/Tone type:	Number of tones dependent on the number of optical elements		
Tone triggering:	7 diff. tones can be triggered externally		
Voltage:	24 V DC		
Current consumption:	< 80 mA		
Order no.:	645 850 55		



TECHNICAL DIAGRAMS:



645.800.XX		645.870.75		645.820.XX		645.850.55		24 V	





KombiS/IGN 71 - Audible Elements



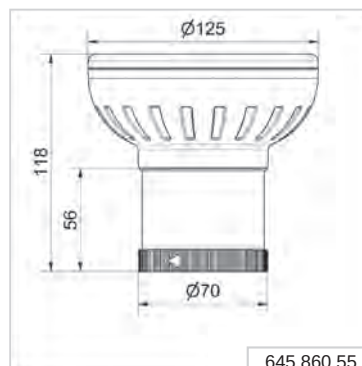
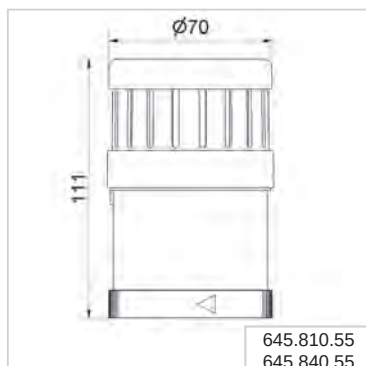
High output vocal element
with up to 102 dB

ORDER SPECIFICATIONS AUDIBLE ELEMENTS:

Dimensions (Ø x Height):	See below	
Lens:	PC	
Protection rating:	IP 65	
Life duration:	5,000 hrs	
Siren element with self-adjusting sound output		
Dimensions (Ø x Height):	70 mm x 111 mm	
Voltage:	24 V DC	
Current consumption:	< 150 mA	
Order no.:	645 810 55	
Tone type:	Pulse tone	
Tone frequency:	2.5 KHz	
Sound output:	80 dB (A) - max. 100 dB (A)	
Vocal element	88 dB (A)	102 dB (A)
Dimensions (Ø x Height):	70 mm x 111 mm	125 mm x 118 mm
Voltage:	24 V DC	24 V DC
Current consumption:	< 400 mA	< 400 mA
Order no.:	645 840 55	645 860 55
Number of tiers:	Max. 4 additional signal elements possible	
Sound output:	Adjustable, up to 88 dB (A)	Adjustable, up to 102 dB
File Transfer:	Via USB connection and provided software	
Possible data format:	Mp3 and wav files	
Number of sequences:	15 files can be remotely triggered depending on the number of signal elements used or one sequence with max. 50 files.	
Suitable for:	Windows®, System requirements – see Handbook	
Assembly:	Vocal element, USB connection cable and software	
Further Information:	No UL approval	



TECHNICAL DIAGRAMS:



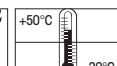
645.810.55



645.840.55



645.860.55



PLC

KombiS/GN 71 - Terminal Elements



Screw terminal with cap



Terminal element with practical M12 connection socket in base



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	See below
Housing:	Terminal element: PA fibreglass Cap: PC
Fixing:	Base mounting Tube mounting, for tube Ø 25 mm Bracket mounting (accessory)
Cable entry:	Cable diameter max. 11 mm
Protection rating:	IP 65
Number of modules possible:	Max. 5

	Tube mounting	Base mounting
Screw terminal		
Dimensions (Ø x Height):	70 mm x 42.5 mm	
Connection:	Screw terminal max. 1.5 mm ²	
Voltage:	12-240 V AC/DC	
Order no.:	640 830 00	640 820 00
	Incl. cap	Incl. cap and seal

CAGE CLAMP® technology		
Dimensions (Ø x Height):	70 mm x 42.5 mm	
Connection:	CAGE CLAMP® technology max. 1.5 mm ²	
Voltage:	12-240 V AC/DC	
Order no.:	640 810 00	640 800 00
	Incl. cap	Incl. cap and seal

Terminal element M12		
Dimensions (Ø x Height):	70 mm x 56 mm	70 mm x 50 mm
Connection:	M12 connector (8 pole)	
Voltage:	12-24 V DC	
Current carrying capacity:	≤ 2 A	
Order no.:	640 860 55	640 850 55
	Incl. cap	Incl. cap and seal
	No UL approval	



ACCESSORIES:

Base with integrated tube	975 840 10
Base for tube (metal)	975 840 91
Tube Ø 25 mm, Aluminium eloxiert	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
600 mm long	975 840 60
800 mm long	975 840 80
1000 mm long	975 840 03

Further accessories can be found on page 64.



TECHNICAL DIAGRAMS: see next page

640 8X0 00
x = 0,1,2,3



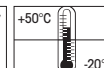
640.820.00
640.830.00
max.



640.800.00
640.810.00
max.



640.860.55
640.850.55



24 V



KombiS/GN 71 - USB Terminal Element



Direct triggering of the signal tower elements via USB Interface



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

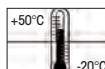
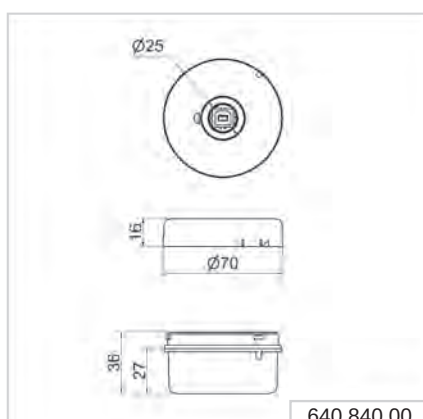
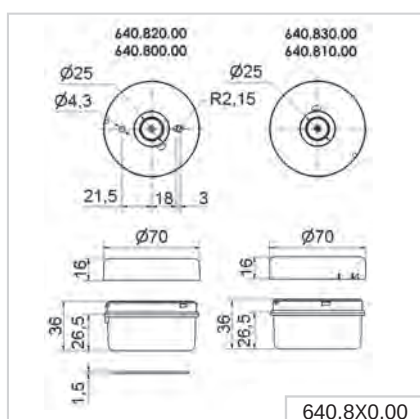
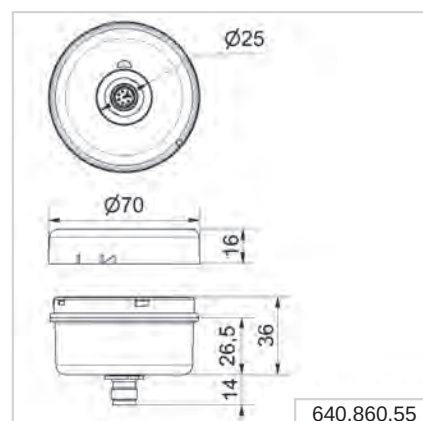
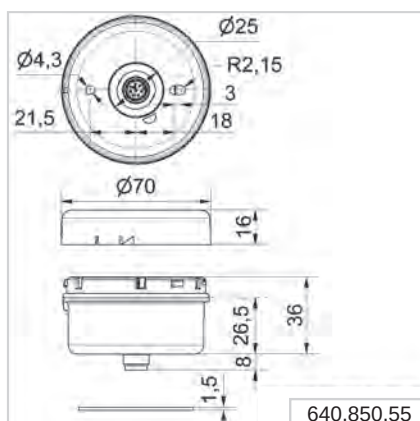
Terminal element with USB Interface

Dimensions (Ø x Height):	70 mm x 36 mm
Fixing:	Tube mounting
Connection:	Via USB
Voltage:	Terminal element: Via USB (5 V DC)
Voltage:	24 V DC
Current carrying cap. Σ I _{max} :	90 mA at 24 V
Order no.:	640 840 00
Assembly:	Assembly includes installation software, drivers, handbook and USB connection cable (length 1.8 m)
Suitable for:	Windows®, System requirements – see Handbook

- Direct triggering of signal tower elements via USB Interface
- Actuation via DLL (Dynamic Link Library) or VCP (Virtual-COM-Port)
- Simple integration into any customer-specific software
- No additional power supply or hardware necessary
- Up to five signal towers with a maximum of five tiers each can be connected



TECHNICAL DIAGRAMS:



KombiSIGN 71 - Terminal Element AS-Interface Element



Cable not included in assembly



LEDs display the current status

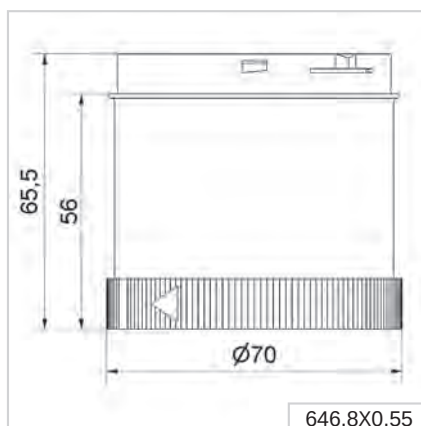


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Specif. Power supply	Via bus conduction	
AS-Interface Element:		
Operating voltage:	18.5 V ... 31.6 V according to the AS-Interface specification	
Reverse battery protection:	Integrated	
Watchdog:	Integrated	
	Standard Slave	A/B-Slave
Number of addresses:	Max. 31	Max. 62
Number of tiers:	Max 4	Max. 3
IO-Code:	8 _{Hex}	8 _{Hex}
ID-Code:	F _{Hex}	A _{Hex}
ID2-Code:	N/A	E _{Hex}
Outputs:	4 semiconductor relays	3 semiconductor relays
Approved in accordance with:	Spec. V 3.0	Spec. V 3.0
Order no.:	646 830 55	646 810 55
	With internal add. voltage	With external add. voltage
Additional external voltage:	24 V DC	
Current carrying cap. Σ I _{max} :	200 mA	200 mA per signal
Current consumption max:	210 mA	≤ 50 mA
Voltage at signal element:	20 V ... 30 V DC	24 V +/- 10%
Short circuit/overload protection:	Integrated	Pre-fuse M 1.6 A



TECHNICAL DIAGRAM:



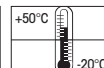
Class 2



Standard Slave



A/B-Slave





KOMPAKT 37 - pre-assembled Signal Tower

Size comparison KOMPAKT 37 / KombiSIGN 40



Signalisation Index

Optical		Audible	
LED Permanent Light	3	Pulse tone	4

Your benefits

The KOMPAKT 37 is a completely pre-assembled signal tower that can be easily ordered under a single part number. With 1-5 visual tiers, the slim signal tower can be installed quickly and easily. The compact and completely enclosed construction is ideal for use in all types of public areas because it is tamper-proof.

- Up to six levels of signal escalation possible – including an audible signal
- In ClassicLOOK or DesignLOOK to suit all machine surfaces
- Clearly visible from all positions thanks to the OmniVIEW lens with no blind spots

Typical applications

Fault signalling

- on smaller machines and equipment
- on point-of-sale and access control systems

Installation options

- Single-hole mounting
- Additional installation options using accessories

Features

- Pre-assembled with easy cable connection or M12 plug for plug & play use





How to select your KOMPAKT 37 signal tower

► STEP 1

Select the signal tower of your choice with or without buzzer, with the appropriate connection, housing colour, voltage and number of tiers.

Part numbers can be found on page 50.

ClassicLOOK



- 1-5 tiers
- With or without buzzer
- M12 plug or cable
- Black or silver finish

DesignLOOK



► STEP 2

Select up to two extension tubes.

optional:



Extension tube
Order no. **960 698 02**

optional:



Extension tube
Order no. **960 698 04**

► STEP 3

Select the appropriate fixing accessories for your application, using for example a tube and base or a bracket mount.

Single Hole Mounting

Bracket Mounting

Base Mounting

Single Hole Mounting

Bracket Mounting

Base Mounting



Bracket for base mounting
Order no. **960 630 02**



Base with integrated tube
Order no. **960 698 01**



Bracket for base mounting
Order no. **960 630 06**



Base with integrated tube
Order no. **960 698 03**

► STEP 4

Where appropriate, select the bracket and the contact box.



Bracket for base mounting with concealed cable entry
Order no. **960 000 14**



Contact box for cable exit at side
Order no. **975 840 01**



Bracket for tube mounting
Order no. **960 000 01**



Contact box with magnetic base and cable exit at side
Order no. **975 840 04**



Corner fixing bracket
Order no. **960 000 41**

Go to the signal devices page on: www.werma.com

Here you can 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.





KOMPAKT 37 - pre-assembled Signal Tower

ClassicLOOK



Two tier Kompakt 37 with
integral tube and base
(accessory)



Three tier Kompakt 37
with bracket (accessory)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimension (Ø x Height):	1 tier: 37.5 mm x 93,5 mm
	2 tier: 37.5 mm x 127.5 mm
	3 tier: 37.5 mm x 161.5 mm
	4 tier: 37.5 mm x 195.5 mm
	5 tier: 37.5 mm x 229.5 mm (Protrusion from panel)
Housing:	PC
Fixing:	Single hole mounting for Ø 22.5 mm (M22 x 1.5 mm) Base or bracket mounting (accessory)
Connection:	Cable connection: Cable, 2 m long, Plug connection: M12 Plug (1/2/3 tier: 5 pole; 4/5 tier: 8 pole)
Current consumption:	50 mA per tier / buzzer 24 V 125 mA per tier / buzzer 12 V

Nut and seal included in assembly.

ClassicLOOK with buzzer		Connection	24 V AC/DC
1 tier	red	Plug	699 610 75
	yellow	Plug	699 630 75
2 tier	green/red	Cable	699 120 75
	yellow/red	Cable	699 130 75
	green/red	Plug	699 220 75
	yellow/red	Plug	699 230 75
3 tier	green/yellow/red	Cable	699 110 75
	green/yellow/red	Plug	699 210 75
4 tier	clear/green/yellow/red	Cable	699 140 75
	blue/green/yellow/red	Cable	699 150 75
	clear/green/yellow/red	Plug	699 240 75
	blue/green/yellow/red	Plug	699 250 75
5 tier	blue/clear/green/yellow/red	Cable	699 160 75
	blue/clear/green/yellow/red	Plug	699 260 75

ClassicLOOK without buzzer		Connection	24 V AC/DC	12 V AC/DC
2 tier	green/red	Cable	698 120 75	698 120 74
	yellow/red	Cable	698 130 75	-
	green/red	Plug	698 220 75	-
	yellow/red	Plug	698 230 75	-
3 tier	green/yellow/red	Cable	698 110 75	698 110 74
	green/yellow/red	Plug	698 210 75	-
4 tier	clear/green/yellow/red	Cable	698 140 75	-
	blue/green/yellow/red	Cable	698 150 75	-
	clear/green/yellow/red	Plug	698 240 75	-
	blue/green/yellow/red	Plug	698 250 75	-
5 tier	blue/clear/green/yellow/red	Cable	698 160 75	-
	blue/clear/green/yellow/red	Plug	698 260 75	-

DesignLOOK with buzzer		Connection	24 V AC/DC
1 tier	red	Plug	699 810 75
	yellow	Plug	699 830 75
2 tier	green/red	Cable	699 320 75
	yellow/red	Cable	699 330 75
	green/red	Plug	699 420 75
	yellow/red	Plug	699 430 75
3 tier	green/yellow/red	Cable	699 310 75
	green/yellow/red	Plug	699 410 75

DesignLOOK



The height of the KOMPAKT 37 can be increased by max. 160 mm with the use of extension tubes, ensuring optimum visibility



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

DesignLOOK with buzzer

		Connection	24 V AC/DC
4 tier	clear/green/yellow/red	Cable	699 340 75
	blue/green/yellow/red	Cable	699 350 75
	clear/green/yellow/red	Plug	699 440 75
	blue/green/yellow/red	Plug	699 450 75
5 tier	blue/clear/green/yellow/red	Cable	699 360 75
	blue/clear/green/yellow/red	Plug	699 460 75

DesignLOOK without buzzer

		Connection	24 V AC/DC
2 tier	green/red	Cable	698 320 75
	yellow/red	Cable	698 330 75
	green/red	Plug	698 420 75
	yellow/red	Plug	698 430 75
3 tier	green/yellow/red	Cable	698 310 75
	green/yellow/red	Plug	698 410 75
4 tier	clear/green/yellow/red	Cable	698 340 75
	blue/green/yellow/red	Cable	698 350 75
	clear/green/yellow/red	Plug	698 440 75
	blue/green/yellow/red	Plug	698 450 75
5 tier	blue/clear/green/yellow/red	Cable	698 360 75
	blue/clear/green/yellow/red	Plug	698 460 75

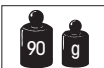
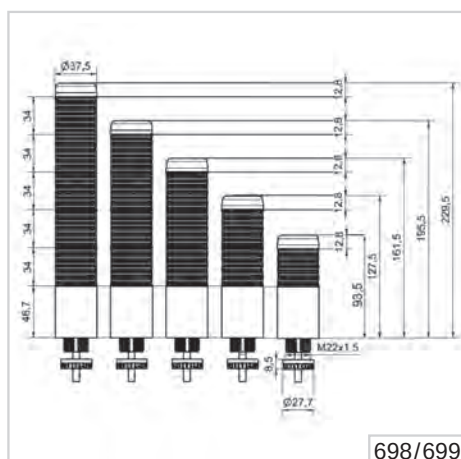


ACCESSORIES:

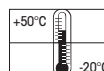
	ClassicLOOK	DesignLOOK
Base with integrated tube	960 698 01	960 698 03
Extension tube	960 698 02	960 698 04
Cable 5 m with M12 plug (5 pole)		960 693 05
Cable 5 m with M12 plug (8 pole)		960 000 47
Cable 5 m with M12 connector and plug (8 pole)		960 000 46
Bracket for assembly on aluminium profiles	960 630 02	960 630 06



TECHNICAL DIAGRAMS:



699



PLC





deSIGN 42 - pre-assembled Signal Tower

Size comparison deSIGN 42 / KombiSIGN 72



Signalisation Index

Optical	
LED Permanent Light	3

Your benefits

Thanks to its high-quality stainless steel housing, the deSIGN 42 signal tower is an ideal accompaniment to modern, design-oriented assembly lines, production facilities and machinery. The robust housing provides the key benefit of being tamper-proof for installations in public areas.

- Elegant industrial design
- Tamper-proof for public areas

Typical applications

Fault signalling

- on machinery and equipment

Access control

- on control points in public areas

Installation options

- Single-hole mounting
- Bracket mounting using accessories

Features

- High-quality, robust stainless-steel housing
- Award-winning design

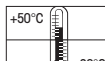
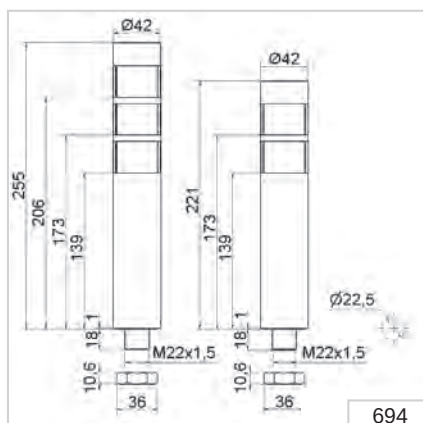


**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	2 tier	3 tier
Dimensions (Ø x Height):	42 mm x 220 mm	42 mm x 254 mm
Housing:	Stainless steel, brushed	
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)	
Connection:	Cable, 2 m long, included in assembly	
Voltage:	24 V DC	24 V DC
Current consumption:	50 mA per tier	50 mA per tier
red/green	694 010 55	-
red/yellow	694 020 55	-
red/yellow/green	-	694 000 55

**ACCESSORIES:**

Surface housing single	975 109 02
Bracket, stainless steel (Protection rating IP 33)	960 694 01

**TECHNICAL DIAGRAMS:**



ClearSIGN - pre-assembled Signal Tower

Size comparison ClearSIGN / KombiSIGN 72



Signalisation Index

Optical		Audible	
LED Permanent Light	3	Continuous tone	3
LED Blinking Light	3		
LED Flashing Light	4		
LED EVS Light	4		

Your benefits

The pre-assembled ClearSIGN signal tower combines an appealing industrial design with the latest cutting-edge LED technology and an innovative interface. The version with IO-Link interface offers maximum flexibility and various light effects. The signal tower is ideally suited to modern industrial environments.

- Maximum range of colours using RGB Technology
- Visual display of fill levels and temperature conditions
- Set colours and light effects according to your needs with the IO-Link version

Typical applications

Fault signalling

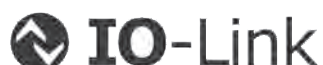
- on machines and equipment (with optional IO-Link interface)
- on small equipment in production areas or the building services industry

Installation options

- Base mounting
- Bracket mounting using accessories

Features

- IO-Link control enables more than 1 million colours and various light effects
- Available with 3 or 4 tiers





4 tier ClearSIGN



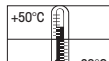
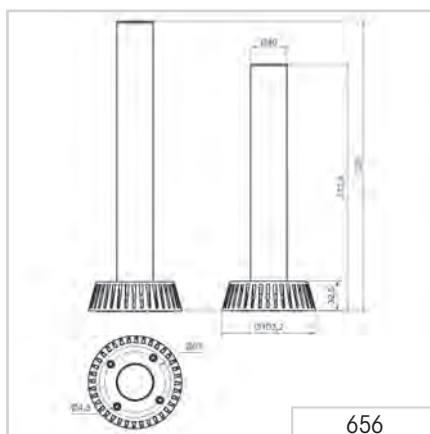
3 tier ClearSIGN

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	3 tier	4 tier
Dimensions (Ø x Height):	103,2 mm x 273 mm	103,2 mm x 320 mm
Housing:	PC; PC/ABS	
Fixing:	Base mounting	
Connection:	Push-In terminal max. 0,5 mm ² M12 (4 pin) - IO version	
Cable entry:	Cable diameter max. 11 mm	
Light effects:	LED Permanent light or EVS (except RGB Version) or other variants possible with IO Link	
Tone type:	Continuous tone or other variants possible with IO Link	
Voltage:	24 V DC	24 V DC
Current consumption:	105 mA	130 mA
red/yellow/green	656 000 04	-
red/yellow/green/blue	-	656 000 03
RGB		
Voltage:	-	24 V DC
Current consumption:	-	385 mA
with up to 7 colours per tier	-	656 100 01
IO Link without buzzer		
Current consumption:	-	385 mA
Over 1m colour variants possible	-	656 100 02
IO Link with buzzer		
Current consumption:	-	425 mA
Over 1m colour variants possible	-	656 100 03
Buzzer module		
Sound output:	Max. 85 dB (A)	
Voltage:	24 V DC	
Order no.:	656 000 55	

**ACCESSORIES:**

Bracket for base mounting **975 656 01**

**TECHNICAL DIAGRAMS:**

656.000.04



656.000.03



656.100.01



656.100.02



656.100.03



656.000.55





CleanSIGN - pre-assembled Signal Tower

Size comparison CleanSIGN / KombiSIGN 72



Signalisation Index

Optical		Audible	
LED Permanent Light	3	Continuous tone	3
LED Blinking Light	3		
LED EVS Light	5		

Your benefits

The CleanSIGN signal tower has been specifically developed and certified for use in clean rooms, food and hygiene areas as well as the pharmaceutical industry. The signal tower ensures maximum safety in these environments by reducing the risk of contamination.

- Reliable signalling even in clean rooms
- Easy-to-clean, hygienic design for optimal cleaning and disinfection
- Ensures food safety through the absence of uneven surfaces, elevated or countersunk elements where dirt can accumulate
- Use of food safe materials and resistant to cleaning agents (FDA approved)
- Application-specific selection of colours and light effects for maximum flexibility

Typical applications

Fault signalling

- in clean rooms, e.g. semiconductor and solar industries
- in the food and beverage industry
- in pharmaceutical and cosmetic industries

Installation options

- Base mounting
- Ceiling mounting
- Wall mounting

Features

- EHEDG and Fraunhofer IPA approval
- Bracket mounting fulfills Air Cleanliness Class 1 for Cleanroom applications in accordance with DIN EN ISO 14644-1
- Base or Ceiling mounting fulfills Air Cleanliness Class 1
- Electronic modularity of the individual tiers (colour and light effects individually adjustable/ can be externally triggered)





Fixed, three tier colour distribution
in red, yellow and green



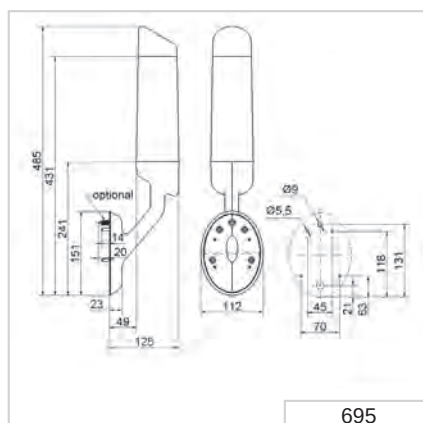
The "EVS" light effect ensures
a maximum attention-grabbing
effect (can be set with complete
illumination)

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

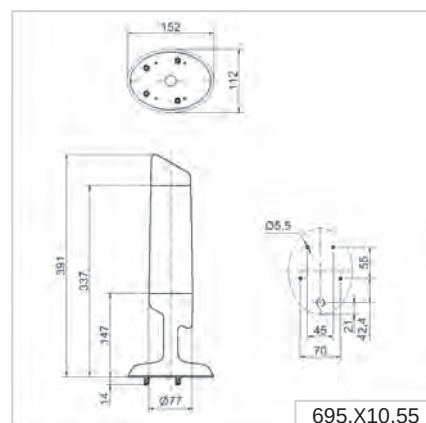
	Wall mounting	Base/Ceiling mounting
Dimensions (L x H x W):	112 mm x 485 mm x 125 mm	112 mm x 391 mm x 125 mm
Housing:	PA, black	
Lens:	PA, transparent	
Fixing:	Wall mounting, integrated mounting bracket Base mounting, Ceiling mounting	
Sound output:	85 dB (A)	
CleanSIGN red/green/yellow		
Connection:	Cable, 2 m long, included in the assembly	
Colours:	Pre-set colours: red/yellow/green	
Voltage:	24 V DC	
Current consumption:	Optical: < 120 mA per tier Buzzer: < 20 mA	
Order no.:	695 300 55	695 310 55
CleanSIGN RGY		
Connection:	Screw terminal max. 1.5 mm²	
Colours:	Coulours selectable by dip-switch: red/yellow/green	
Voltage:	24 V DC	
Current consumption:	Optical: < 240 mA Buzzer: < 20 mA	
Order no.:	695 200 55	695 210 55
CleanSIGN RGB		
Connection:	Screw terminal max. 1.5 mm²	
Colours:	Red, yellow, green, white, blue, violet, turquoise Coulours selectable by dip-switch	
Light effects:	Tier-by-tier illumination: Blinking light Complete illumination: EVS	
Voltage:	24 V DC	
Current consumption:	Optical: < 240 mA Buzzer: < 20 mA	
Order no.:	695 000 55	695 010 55



TECHNICAL DIAGRAMS:



695



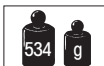
695.X10.55



695.300.55



695.310.55



695.200.55



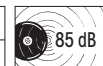
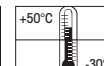
695.210.55



695.000.55



695.010.55





FlatSIGN - pre-assembled Signal Tower

Size comparison FlatSIGN / KombiSIGN 72



Signalisation Index

Optical		Audible	
LED Permanent Light	2	Continuous tone	2
LED Blinking Light	3	Multi-tone Sounder	4

Your benefits

The curved front of the FlatSIGN signal tower housing enables it to blend in uniformly with machine and building service applications. The 160-degree visibility angle ensures exceptional visibility even from the side.

- Easy to install – also on flush-mount enclosures
- TwinLIGHT combines two easily selectable light effects

Typical applications

Fault signalling or Access control

- in building service applications (e.g. server and equipment rooms)
- at access points in public areas

Installation options

- Wall mounting
- Additional installation options using accessories

Features

- Permanent or blinking light selectable
- Available with transparent housing or in metal design
- Optional integrated audible signal



TwinLIGHT



In its inactive state, the signal tower blends into the background thanks to its colourless, translucent housing



FlatSIGN in metallic finish



The fixing kit consists of two tube clamps and an adaptor (accessory)

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	195 mm x 105 mm x 48,2 mm
Lower part:	PC-ABS, black
Upper part:	PC, transparent or silver
Fixing:	Wall mounting
Cable entry:	Cable diameter max. 11 mm
Connection:	Screw terminal max. 1.5 mm ²
Light effects:	Permanent or blinking light selectable
Audible signal:	Buzzer or multi-tone sounder (8 tones)
Sound output:	Max. 80 dB (A)
Colours:	Green, yellow, red

	Multi-tone Sounder	Buzzer (Continuous tone)
Voltage:	24 V DC	115-230 V AC
Current consumption:		Optical: 30 mA per tier Audible: 30 mA

FlatSIGN with transparent housing

FlatSIGN without audible signal	691 100 55	691 100 68
FlatSIGN with audible signal	691 200 55	691 200 68

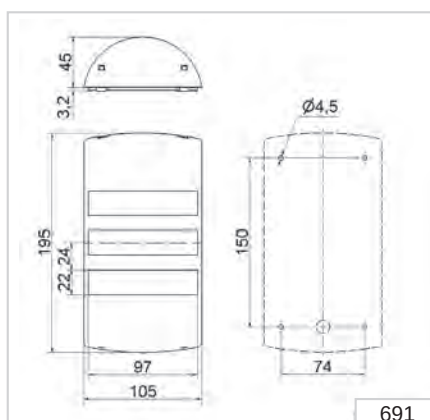
FlatSIGN in Metal Design

FlatSIGN without audible signal	691 300 55	691 300 68
FlatSIGN with audible signal	691 400 55	691 400 68

ACCESSORIES:

Fixing kit	975 691 01
------------	------------

TECHNICAL DIAGRAM:



691.X00.55



VarioSIGN - pre-assembled Signal Tower

Size comparison VarioSIGN/KombiSIGN 72



Signalisation Index

Optical		Audible	
LED Permanent Light	3	Continuous tone	3
LED Blinking Light	3		
LED EVS Light	5		

Your benefits

With the VarioSIGN light effects and colours can be individually set and adjusted via dip-switches at any time - depending on the variant. The eye-catching illumination of the entire lighting body ensures an exceptional appearance and visibility.

- Flexible selection of colours and light effects
- Award-winning design

Typical applications

Fault signalling

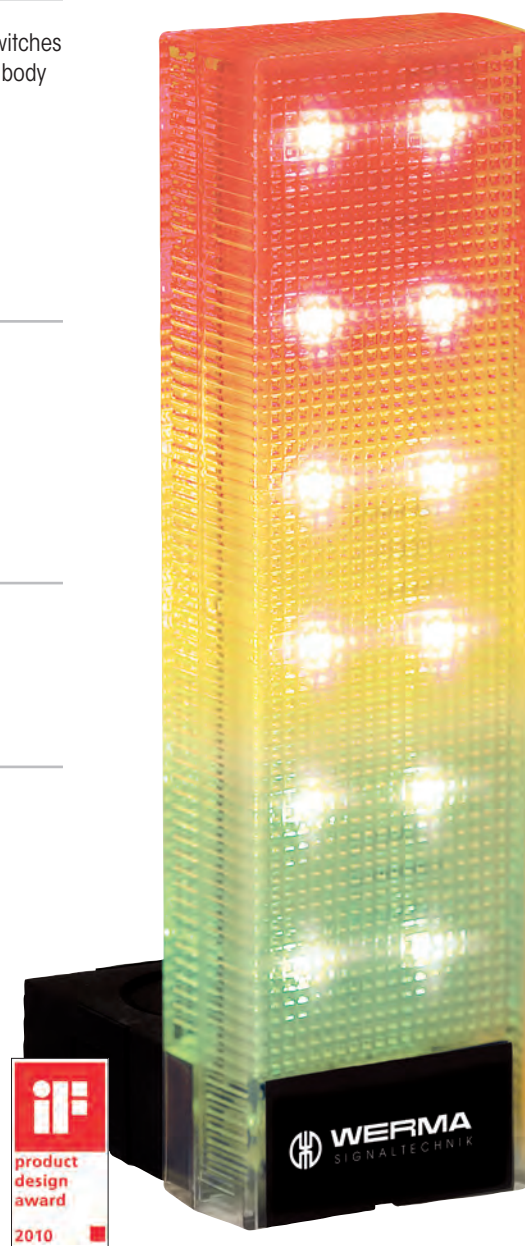
- on machinery and equipment
- on automation systems

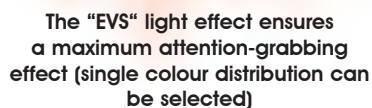
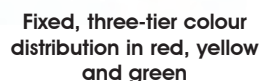
Installation options

- Base mounting

Features

- Optional integrated sounder
- Electronic modularity: i.e. colours and light effects are adjustable for each tier





Dimensions (L x H x W):	62 mm x 220 mm x 90 mm
Housing:	PC/ABS-Blend, black
Lens:	PC, transparent
Fixing:	Base mounting
Cable entry:	Cable diameter max. 11 mm
Connection:	Screw terminal max. 1,5 mm ²

VarioSIGN - red/yellow/green	With buzzer	Without buzzer
Colours:	Pre-set colours (red/yellow/green)	
Voltage:	24 V DC	
Current consumption:	Optical: < 55 mA per tier Buzzer: < 20 mA	
2-sided	690 300 55	690 320 55
VarioSIGN - RGY		
Colours:	Red, yellow, green Colours selectable by Dip-switch	
Voltage:	24 V DC	
Current consumption:	Optical: < 120 mA Buzzer: < 20 mA	
2-sided	690 200 55	690 220 55
VarioSIGN - RGB		
Colours:	Red, yellow, green, white, blue, violet, turquoise Colours selectable by Dip-switch	
Light effects:	Tier-by-tier illumination: Flashing light Complete illumination: EVS	
Voltage:	24 V DC	
Current consumption:	Optical: < 300 mA Buzzer: < 20 mA	
2-sided	690 000 55	-

Ex LED Signal Tower - pre-assembled Signal Tower

Size comparison Ex signal tower/KombiSIGN 72



Signalisation Index

Optical		Audible	
LED Permanent Light	 3	Pulse tone	 4

Your benefits

The Ex Signal Tower is designed for use in explosive gas and vapour atmospheres (zones 1 and 2). No additional zener barrier is required.

- Light and compact Ex signal tower
- Many years of proven use in Ex-applications

Typical applications

Fault signalling

- in the processing and storage of highly flammable substances

Installation options

- Wall mounting

Features

- Combination of encapsulation "m" and intrinsic safety "ib" with connection area "e"
- For Gas applications: Zones 1 and 2



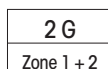
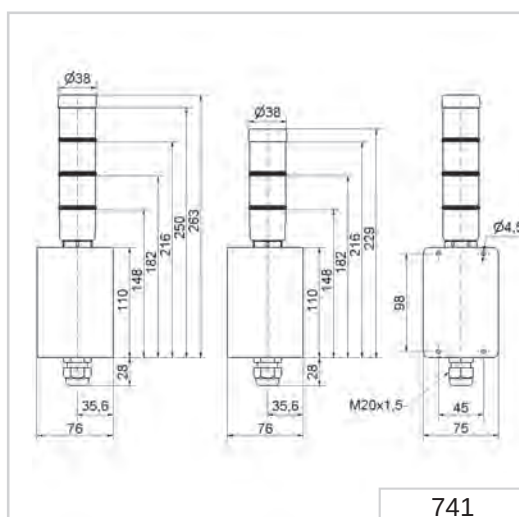


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions of the Zener Barrier (L x H x W):	76 mm x 110 mm x 75 mm
Dimensions total:	2 tier (L x H x W): 76 mm x 229 mm x 75 mm 3 tier (L x H x W): 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:	Ex II 2G Ex e mb [ib] IIC T6 Gb
Approval:	PTB 06 ATEX 2005
Voltage:	24 V DC
Current consumption:	< 90 mA
red/green	741 110 55
red/yellow	741 120 55
red/yellow/green	741 130 55



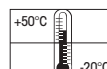
TECHNICAL DIAGRAM:



2 tier



3 tier





Overview Accessories for Signal Towers

Overview Accessories for Signal Towers			Classic-LOOK	Design-LOOK	Classic-LOOK	Design-LOOK	Classic-LOOK	Design-LOOK	
Accessory		KombiSIGN 71	KombiSIGN 72		KombiSIGN 40		KOMPAKT 37		Page
Cable, 5m									66
LED Bulb BA15d									66
Bulb BA15d									66
Bracket for surface mounting, incl. cable grand M16 x 1.5									66 + 68
Bracket for 1-sided mounting, incl. rubber seal									66 + 68
Bracket for 2-sided mounting, incl. rubber seal									66
Bracket for tube mounting, incl. cable gland M16 x 1.5									72 + 73
Bracket for base mounting, with concealed cable entry, incl. rubber seal									72 + 73
Corner fixing bracket									72
Bracket for assembly on aluminium profiles, incl. cable gland M12 x 1.5									74 + 75
Bracket for concealed cable entry									74
Tube Ø 25 mm plastic, for direct mounting of the terminal element onto the Foldaway Base									66
Tube Ø 25 mm, all anodized aluminium									68 + 69
Tube with clamp Ø 25 mm, 250 mm long, incl. cable gland									69
Base with integrated tube Ø 25 mm, 110 mm long, plastic, incl. rubber seal									69 + 71
Base fot tube Ø 25 mm, plastic, incl. rubber seal									69 + 71
Base fot tube Ø 25 mm, metal, incl. rubber seal									69
Base with integrated tube									75



Overview Accessories for Signal Towers				Classic-LOOK	Design-LOOK	Classic-LOOK	Design-LOOK	Classic-LOOK	Design-LOOK	
Accessory		KombiSIGN 71		KombiSIGN 72		KombiSIGN 40		KOMPAKT 37		Page
Cable gland for surface mounting, M16 x 1,5		•	•	•						66 + 68
Adaptor for single hole mounting, Ø 25 mm, M18		•	•	•						66 + 68
Adaptor for tube mounting Ø 25 mm		•	•	•						66 + 68
Indication board		•	•	•						66
Foldaway Base, Signal Tower can be folded away, incl. rubber seal		•	•		•					69
Foldaway Base, Signal Tower can be folded away, incl. rubber seal		•	•		•					69
Contact box for cable exit at side		•	•		•		•			72
Contact box with magnetic base and cable exit at side		•	•		•		•			72
Extension tube								•	•	75

Overview Accessories for Signal Towers					
Accessory		deSIGN 42	ClearSIGN	FlatSIGN	Page
Surface housing single		●			76
Bracket, stainless steel		●			76
Bracket for base mounting			●		76
Fixing kit				●	77



Overview Accessories for Signal Towers

KombiSIGN 71

Cable 5 m with M12 connector and plug

Order no. 960 000 46

Cable 5 m with M12 plug

Order no. 960 000 47

Cable 5 m with M12 connector

Order no. 960 860 01



LED bulb BA15d

total length max. 42 mm

Colours: red, yellow, green, clear, blue

Voltage 24 V, 115 V, 230 V

Order specifications see page 133



Bulb BA15d,

total length max. 42 mm

12 V, 5 Watt **955 840 34**

24 V, 5 Watt **955 840 35**

30 V, 5 Watt **955 840 32**

115 V, 5 Watt **955 840 57**

230 V, 5 Watt **955 840 38**



KombiSIGN 71 and 72 - ClassicLOOK

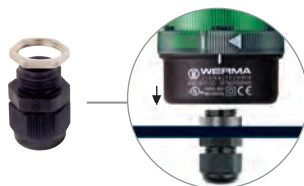
Bracket for surface mounting
incl. cable gland M16 x 1.5

Order no. 960 000 02



Cable gland for surface
mounting, M16 x 1.5

Order no. 960 000 04



Indication board
(for tube mounting)

Order no. 960 000 05

Dimensions of indication board (W x H):
153 x 345 mm

Surface area per section (W x H):
c. 144 x 54 mm, e.g.

Zweckform 3424 (105 x 48 mm),

Herma 4281 (105 x 50.8 mm)

(not included in assembly)

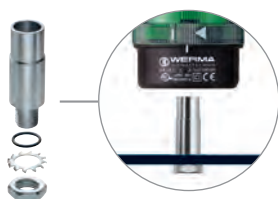
Material: PMMA



- For one to five modules
- Simple mounting onto signal tower tube
- Ample space for written information
- Simply break off unwanted segments

Adaptor for single hole mounting
Ø 25 mm, M18

Order no. 960 000 25



Tube Ø 25 mm, plastic,
45 mm long, for direct mounting
of the Terminal Element onto the
Foldaway Base

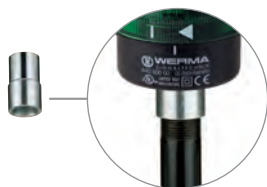
(only for KombiSIGN 71 and 72)

Order no. 960 000 31



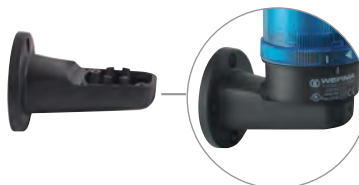
Adaptor for tube mounting
Ø 25 mm / 1/2" NPT thread

Order no. 975 840 02



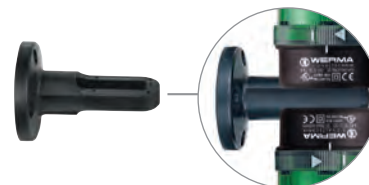
Bracket for 1-sided mounting,
incl. rubber seals

Order no. 975 840 85



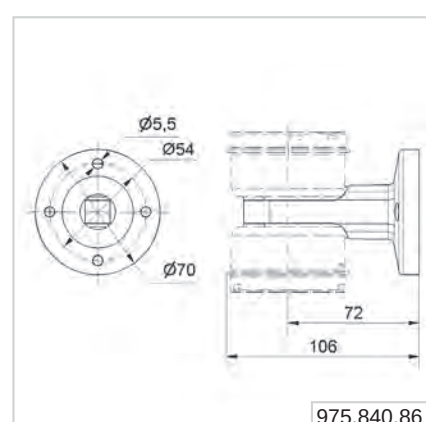
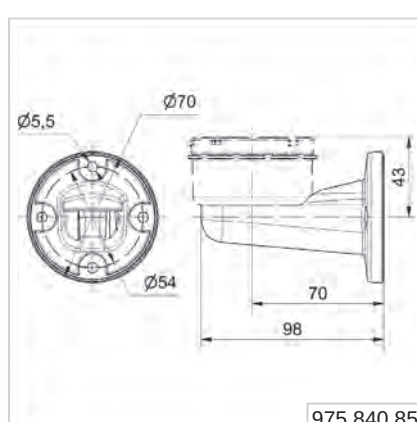
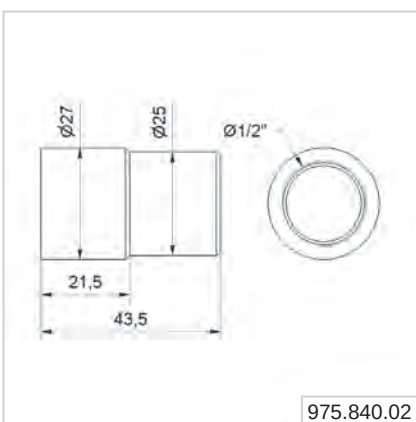
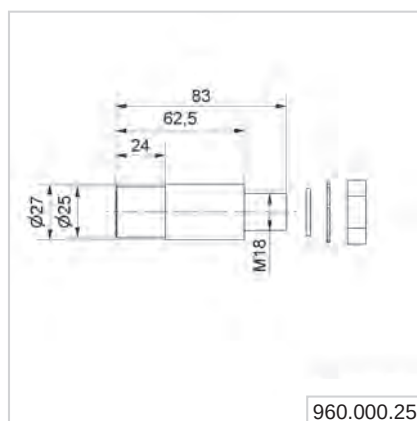
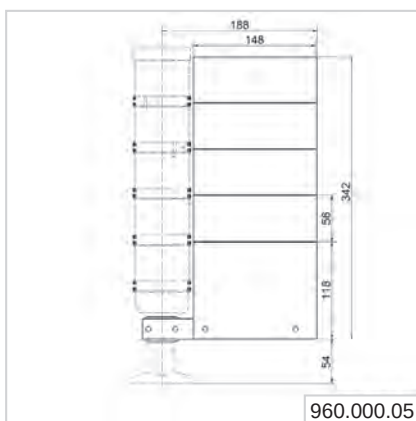
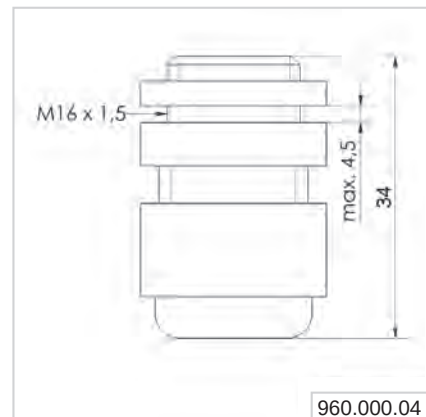
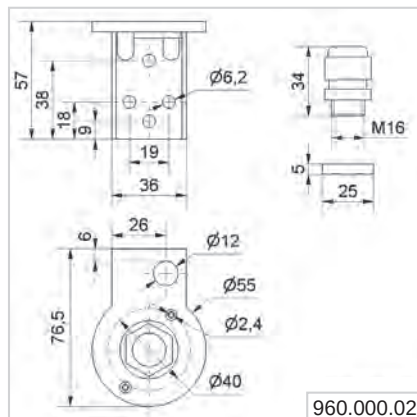
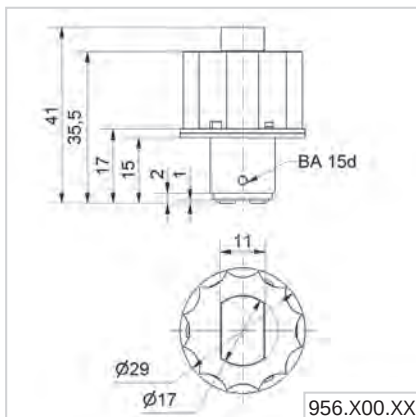
Bracket for 2-sided mounting,
incl. rubber seals

Order no. 975 840 86





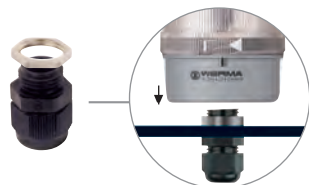
TECHNICAL DIAGRAMS:



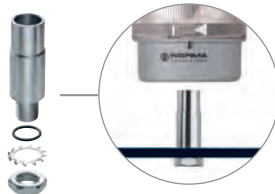
Overview Accessories for Signal Towers

KombiSIGN 72 - DesignLOOK

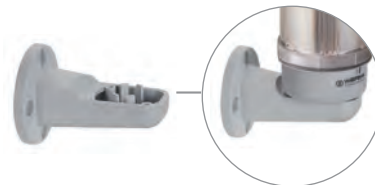
Cable gland for surface mounting, M16 x 1.5
Order no. 960 000 04



Adaptor for single hole mounting
Ø 25 mm, M18
Order no. 960 000 25



Bracket for 1-sided mounting,
incl. rubber seals
Order no. 960 000 52



Bracket for surface mounting
incl. cable gland
M16 x 1.5
Order no. 960 000 53



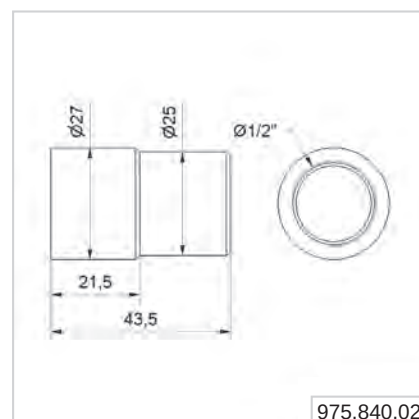
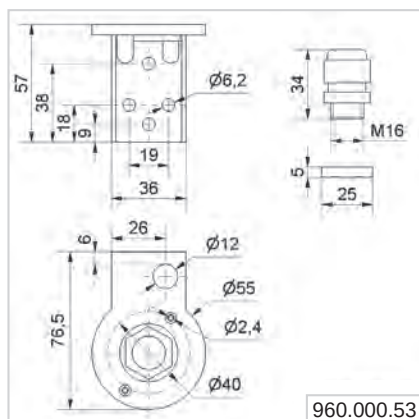
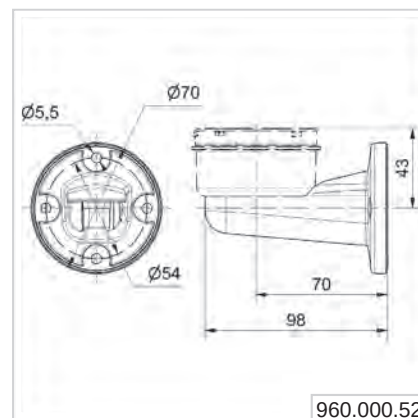
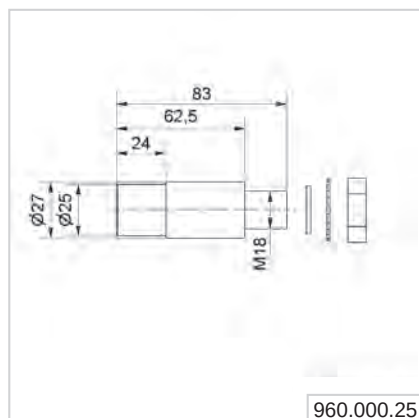
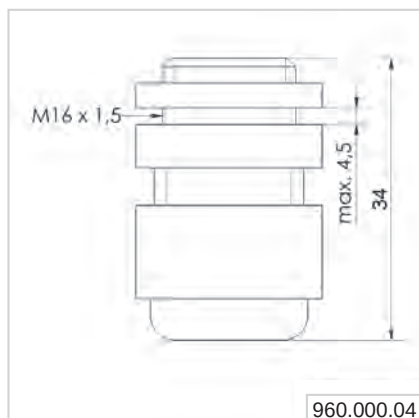
Adaptor for tube mounting
Ø 25 mm / 1/2" NPT thread
Order no. 975 840 02



Tube Ø 25 mm, all anodized aluminium
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**
Technical Diagrams see page 70



TECHNICAL DIAGRAMS:



KombiSIGN 71, 72 and 40 - ClassicLOOK

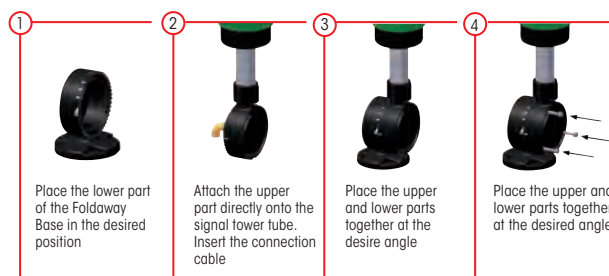
Foldaway Base - Signal Tower can be folded away, including rubber seal, for tube (all anodized aluminium) Ø 25 mm (not included in assembly)

Order no. 960 000 30



Dimensions (Ø x Height): 70 mm x 117 mm
Material: PA-GF
Cable diameter: Max. 14 mm
Fixing: Vertical, horizontal, Positioning in 7.5° steps

QUICK AND SIMPLE MOUNTING:



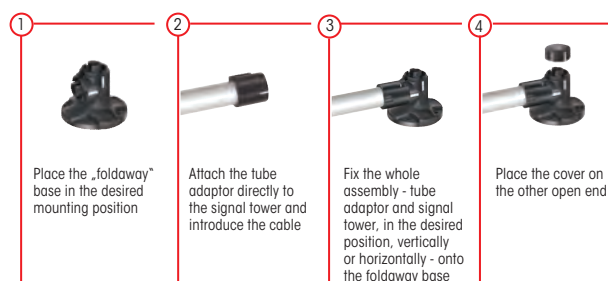
Foldaway Base - Signal Tower can be folded away, including rubber seal, for tube (all anodized aluminium) Ø 25 mm (not included in assembly)

Order no. 960 009 12

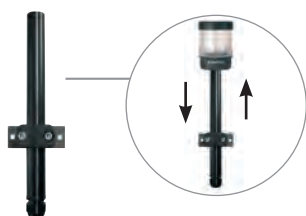


Dimensions (Ø x Height): 70 mm x 85 mm
Material: PA-GF
Cable diameter: Max. 8 mm
Fixing: Vertical, horizontal, Positioning in 0° and 90°

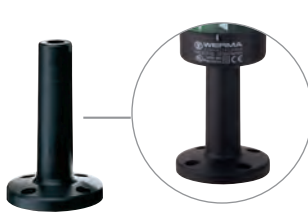
QUICK AND SIMPLE MOUNTING:



Tube with clamp, Ø 25 mm, 250 mm long, incl. cable gland
 Order no. 960 000 18



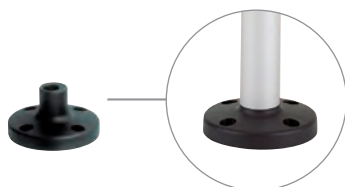
Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal
 Order no. 975 840 10



Tube Ø 25 mm, all anodized aluminium
 100 mm long **975 845 10**
 250 mm long **975 840 25**
 400 mm long **975 840 40**
 600 mm long **975 840 60**
 800 mm long **975 840 80**
 1000 mm long **975 840 03**



Base for tube mounting, Ø 25 mm, plastic, incl. rubber seal
 Order no. 975 840 90



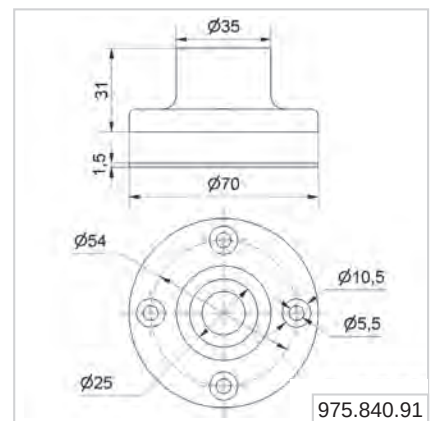
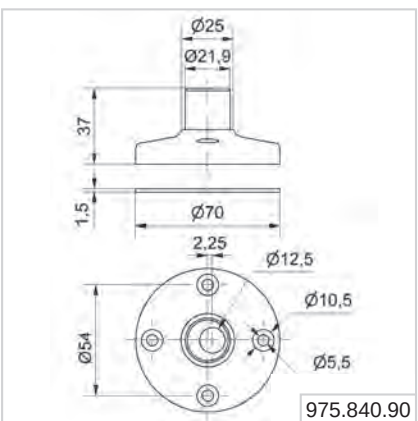
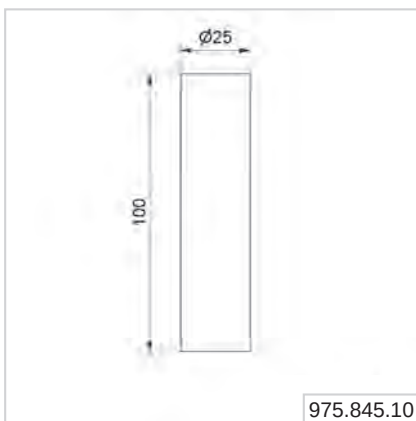
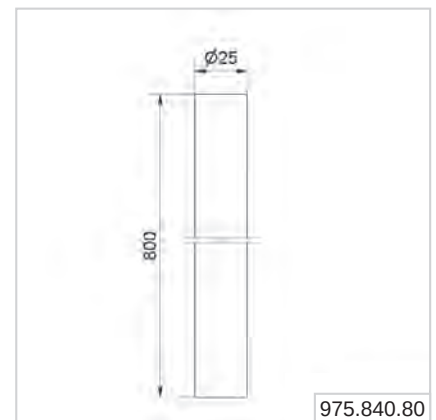
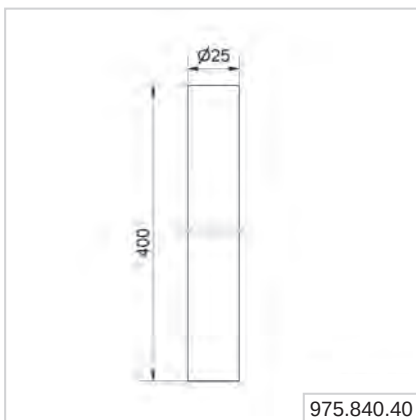
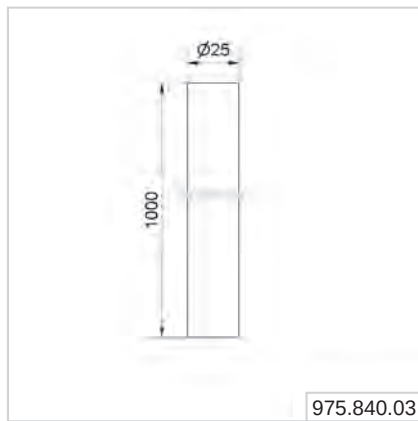
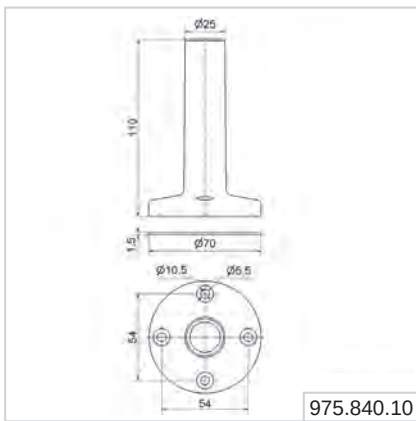
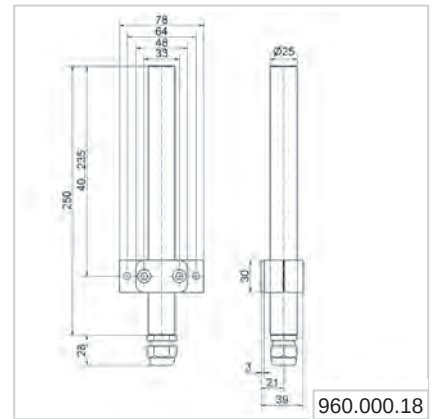
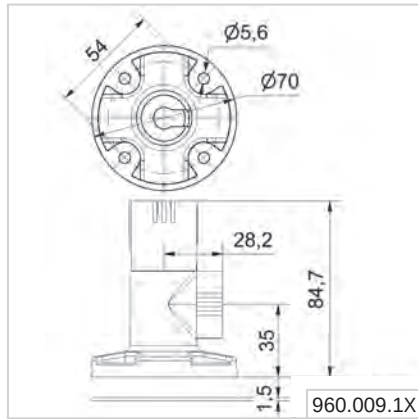
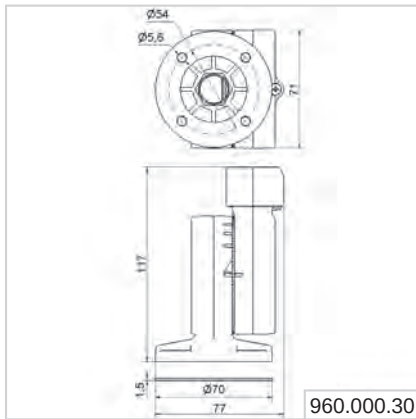
Base for tube Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer
 Order no. 975 840 91



Overview Accessories for Signal Towers

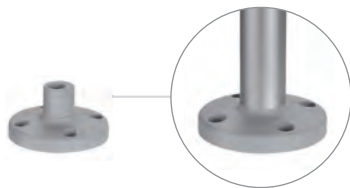


TECHNICAL DIAGRAMS:

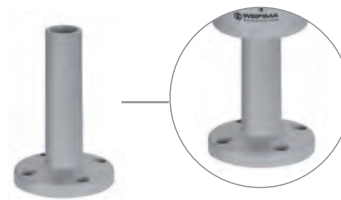


KombiSIGN 72 and 40 - DesignLOOK

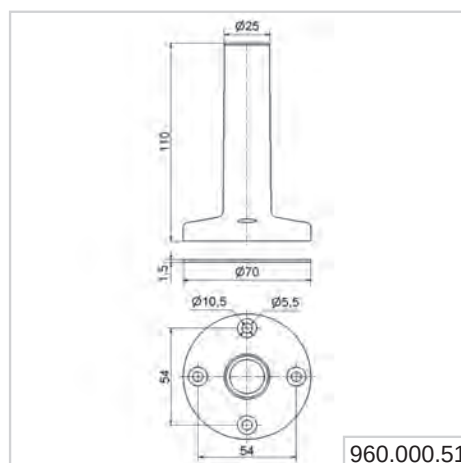
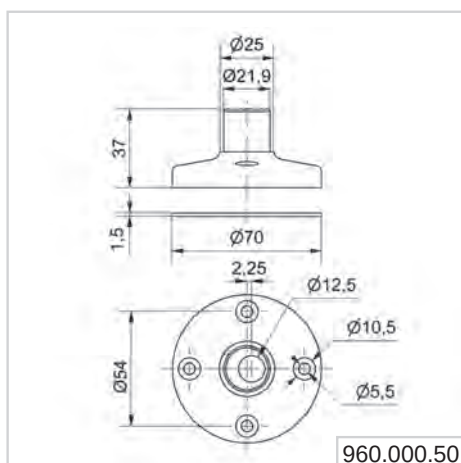
Base for tube mounting, Ø 25 mm,
plastic, incl. rubber seal
Order no. 960 000 50



Base with integrated tube,
Ø 25 mm, 110 mm long,
plastic, incl. rubber seal
Order no. 960 000 51

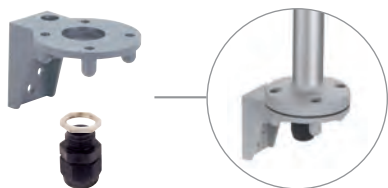


TECHNICAL DIAGRAMS:

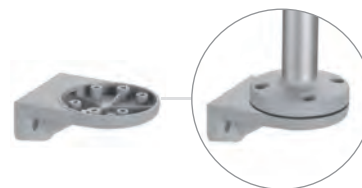


KombiSIGN 72, 40 and KOMPAKT 37 - DesignLOOK

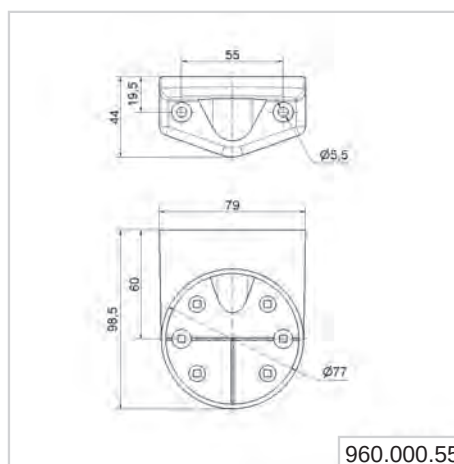
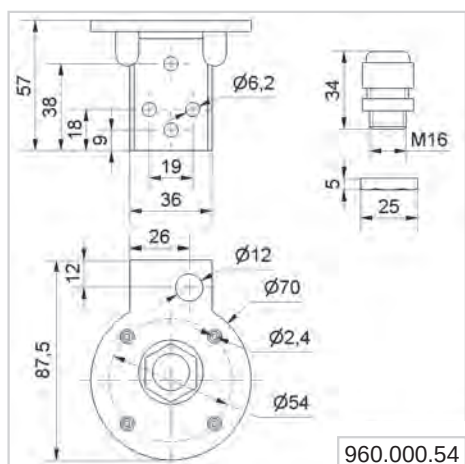
Bracket for tube mounting,
incl. cable gland M16 x 1.5
Order no. 960 000 54



Bracket for base mounting,
with concealed cable entry,
incl. rubber seals
Order no. 960 000 55

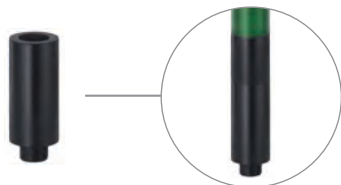


TECHNICAL DIAGRAMS:



KOMPAKT 37 - ClassicLOOK

Extension tube
Order no. 960 698 02



Base with integrated tube
Order no. 960 698 01

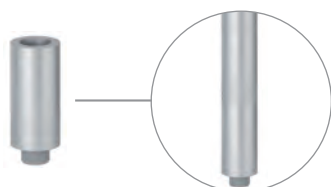


Bracket for assembly on aluminium
profiles
Order no. 960 630 02

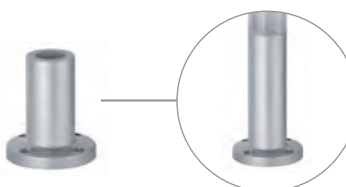


KOMPAKT 37 - DesignLOOK

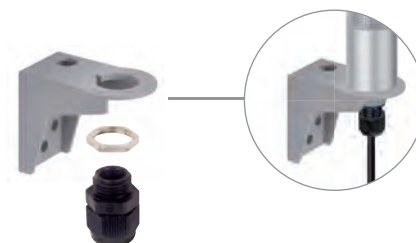
Extension tube
Order no. 960 698 04



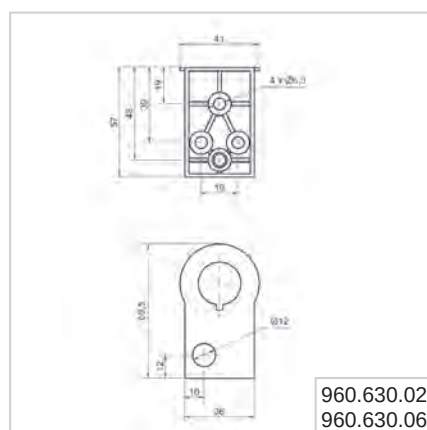
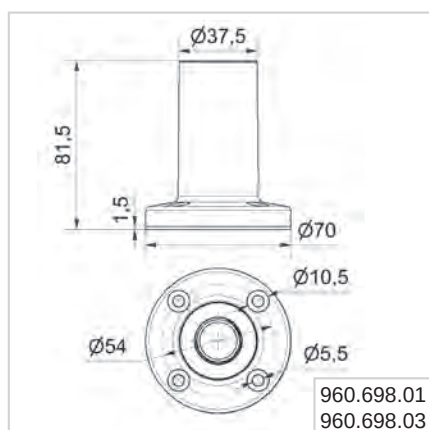
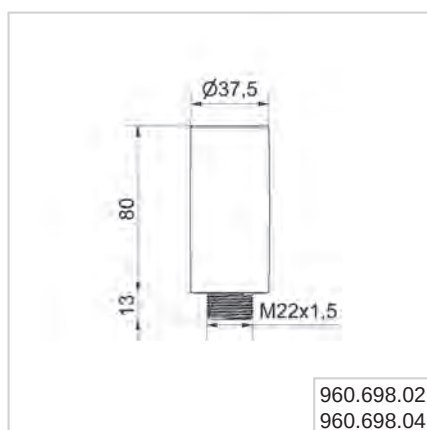
Base with integrated tube
Order no. 960 698 03



Bracket for assembly on aluminium
profiles
Order no. 960 630 06



TECHNICAL DIAGRAMS:



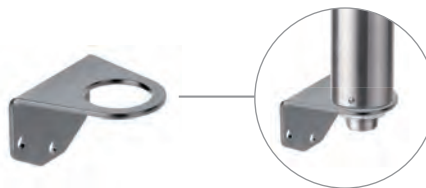
Overview Accessories for Signal Towers

deSIGN 42

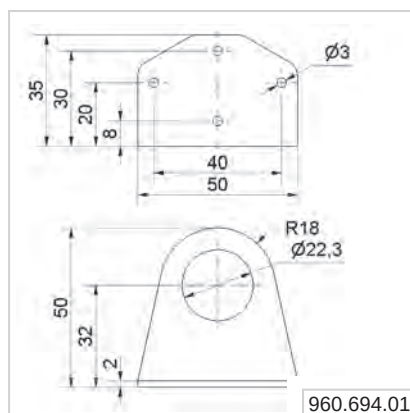
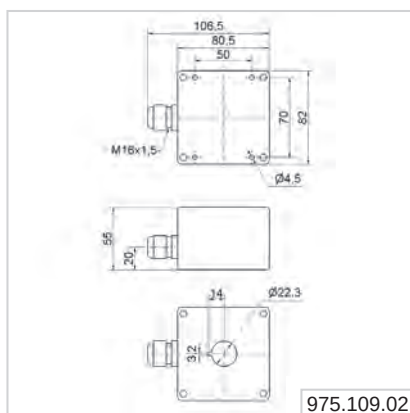
Surface housing single
Order no. 975 109 02



Bracket, stainless steel (Protection rating IP33)
Order no. 960 694 01

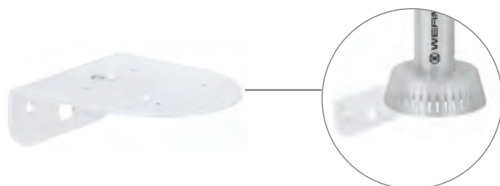


TECHNICAL DIAGRAMS:

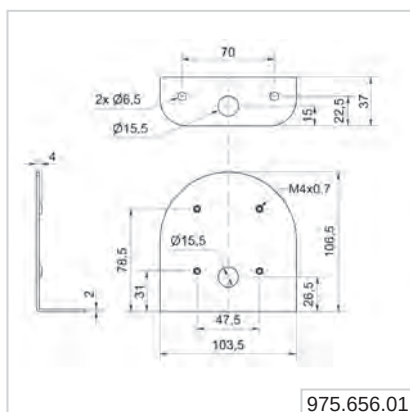


ClearSIGN

Bracket for base mounting
Order no. 975 656 01

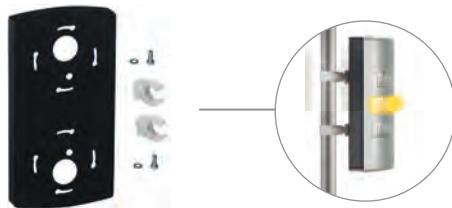


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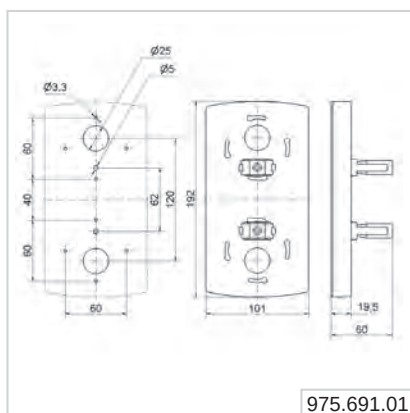


FlatSIGN

Fixing kit
Order no. 975 691 01



TECHNICAL DIAGRAMS:





Systems for optimising production and logistics areas



Systems for optimising production and logistics areas

Why network signal towers?

To discover hidden optimisation potential in your manufacturing, logistics or shipping processes, you need a system that measures unproductive time - whether it be at manual workstations, packing stations or in automated production areas.

Networked WERMA signal towers offer specific benefits in this regard. By using the signal tower as an interface, you are not dependent on other systems and it is easy to retrofit the system - either on workstations or in entire plants. Our wireless WIN solution (Wireless Information Network) makes time-consuming cabling effort obsolete. It allows you to collect reliable data, immediately identify weak points and optimise your processes based on these findings, thus increasing productivity. The stand-alone software displays the status of all integrated workstations or machines centrally in the control station module, provides information via the email notification function, documents faults and generates easy-to-read reports.

SmartMONITOR - The smart MDE alternative for manufacturing companies

SmartMONITOR (see page 82) is the smart MDE alternative for industrial companies looking for a way to quickly and easily gather reliable data to optimise their manufacturing processes. SmartMONITOR provides all of the relevant data for machines, systems and manual workstations easily at the touch of a button. Unlike conventional, complex MDE systems, SmartMONITOR is a simple, wireless-based retrofit solution for signalling and analysing your entire production facility - at a glance.





AndonSPEED - The solution for packaging and shipping workstations

Would you like to reduce costs in your shipping processes? AndonSPEED (see page 84) is the ideal call-for-action system, because it makes permanent time-savings possible. In contrast to conventional Andon tools, AndonSPEED not only signals faults but it also documents and analyses unproductive downtime. This enables you to reduce wait times by up to 50% - for more "units per hour".



AndonLIGHT - Manual Call for Action System without Networking

Do you simply need a manual call for action system for a small designated area - and local, clear signalling is sufficient? If so, then AndonLIGHT (see page 92) is the ideal introduction to our professional call for action systems. And it is easy to network these products at a later date.

KombiSIGN reflect - Simple "Reflection" of Signal Towers

The simple KombiSIGN reflect solution wirelessly "reflects" machine statuses to a WERMA Signal Tower within your line of sight. This allows you to keep track of machines not in your direct vicinity.

Your benefits

SmartMONITOR is the smart MDE alternative for industrial companies looking for a way to quickly and easily gather reliable data to optimise manufacturing processes. Intelligent networking of signal towers creates a simple, low-cost retrofit alternative to conventional, complex MDE systems.

- Identifies and documents faults and unproductive time more quickly
- Reduces response times and prevents downtime
- Works regardless of the manufacturer, age or function of the machine
- Provides all relevant data of machines, systems and manual workstations at a glance
- Reports show opportunities for process and productivity improvements
- Modular and expandable with no cabling required

Typical applications

- Discover hidden optimisation potential
- Signal a production stoppage
- Manage the supply of material to machines and workstations
- As a control station for manufacturing companies
- Production reporting

Initial startup

- Install software
- Connect and configure receiver on the computer
- Connect and configure transmitter on the computer
- Integrate transmitter into signal tower (no tools necessary)

Features

- Robust and proven wireless network for manufacturing environments
- Licence-free software is included
- Integrated analytics and reporting tools
- WIN slave control enables you to trigger simple logical rules for example to activate an additional signal tower as a head-of-line function

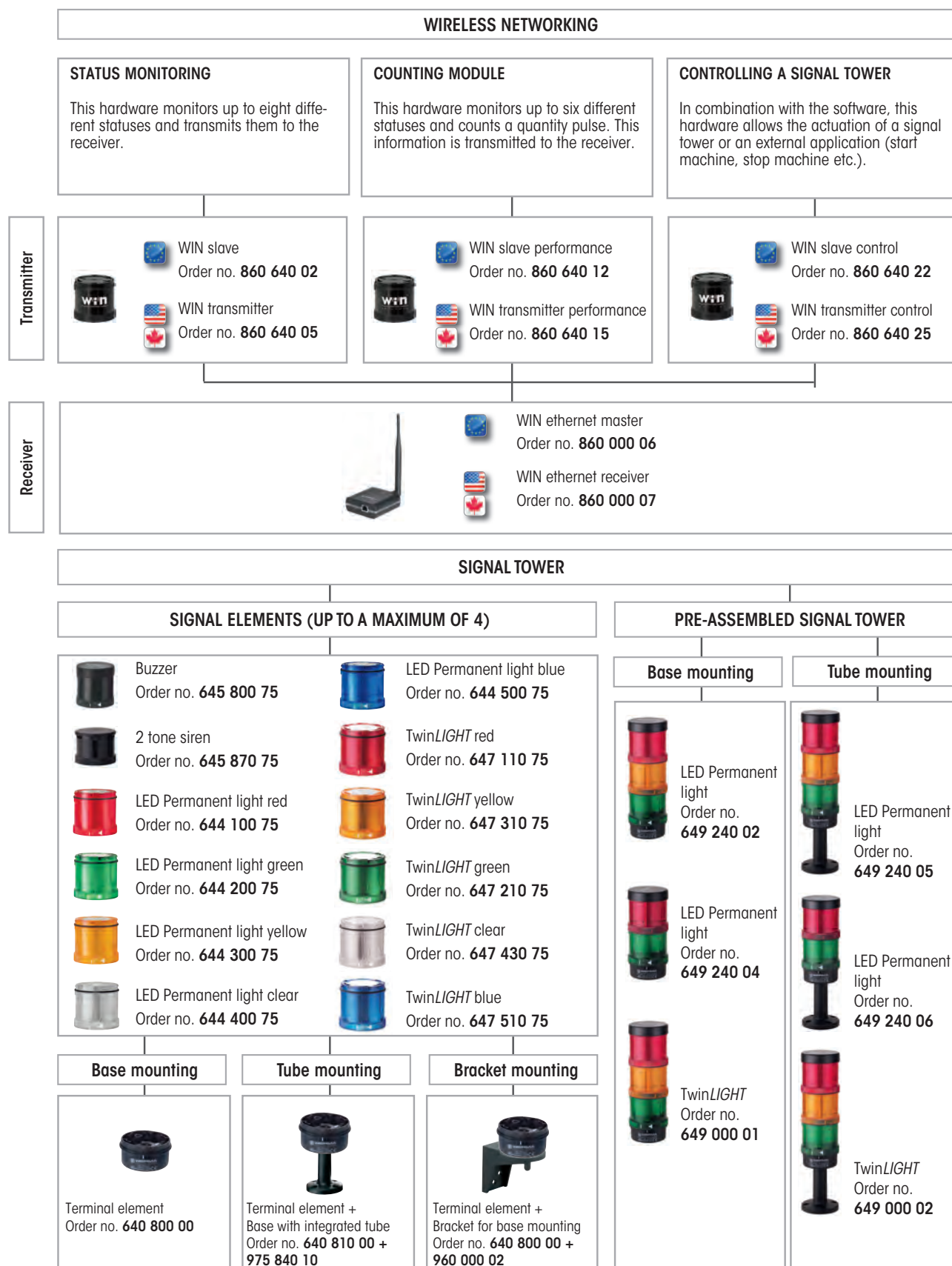
Free test kit

Discover the optimisation potential in your company. Order your free test box today. It contains everything you need for one machine, including a full version of the software.

www.werma.com/systeme



This is how you put together your SmartMONITOR system



Your benefits

AndonSPEED optimises your processes at packaging and shipping stations - because AndonSPEED provides a visual notification of where problems have arisen. Permanent time savings are possible because of quick fault repairs. The wireless network sends signals the workstation or the central control station and can send an email notification if required.

- Rapid assistance reduces wait times
- Reduces response times and prevents shutdowns
- Quick fault repair for more "units per hour"
- Intelligent reporting for lasting improvements
- Optimisation potential is made transparent

Typical applications

- Report stoppages on chutes or conveyor belts
- Manage the supply of materials to packaging stations
- Report missing items at the shipping station
- Process improvement in shipping areas

Initial startup

- Install software
- Connect and configure receiver on the computer
- Connect and configure transmitter on the computer
- Integrate signal transmitter into signal tower (no tools necessary)
- Connect Andon SmartBOX

Features

- Robust, proven wireless network for production environments
- Licence-free software is included
- Integrated analytics and reporting tools
- Ability to implement a head-of-line function, for example, with slave control

Free test kit

Discover the optimisation potential in your company. Order your free test box today. It contains everything you need for one workstation, including a full version of the software.

www.werma.com/andonspeed



This is how you put together your AndonSPEED system

ANDON PRODUCT									
Base mounting	Aluminium profile mounting/Wall mounting								
 Andon <i>CONTROL</i> Order no. 860 640 07	 Andon Smart <i>BOX</i> incl. Power Supply Order no. 860 000 09								
Wireless Networking									
Transmitter	 WIN slave Order no. 860 640 02	 WIN transmitter Order no. 860 640 05							
Receiver	 WIN ethernet master Order no. 860 000 06	 WIN ethernet receiver Order no. 860 000 07							
SIGNAL TOWER									
SIGNAL ELEMENTS (UP TO A MAXIMUM OF 4)		PRE-ASSEMBLED SIGNAL TOWER							
		Base mounting	Tube mounting						
 Buzzer Order no. 645 800 75	 LED Permanent light blue Order no. 644 500 75	 LED Permanent light Order no. 649 240 02	 LED Permanent light Order no. 649 240 05						
 2 tone siren Order no. 645 870 75	 Twin <i>LIGHT</i> red Order no. 647 110 75			 LED Permanent light Order no. 649 240 04	 LED Permanent light Order no. 649 240 06				
 LED Permanent light red Order no. 644 100 75	 Twin <i>LIGHT</i> yellow Order no. 647 310 75					 Twin <i>LIGHT</i> Order no. 649 000 01	 Twin <i>LIGHT</i> Order no. 649 000 02		
 LED Permanent light green Order no. 644 200 75	 Twin <i>LIGHT</i> green Order no. 647 210 75								
 LED Permanent light yellow Order no. 644 300 75	 Twin <i>LIGHT</i> clear Order no. 647 430 75								
 LED Permanent light clear Order no. 644 400 75	 Twin <i>LIGHT</i> blue Order no. 647 510 75								
Base mounting	Tube mounting	Bracket mounting							
 Terminal element Order no. 640 800 00	 Terminal element + Base with integrated tube Order no. 640 810 00 + 975 840 10	 Terminal element + Bracket for base mounting Order no. 640 800 00 + 960 000 02							



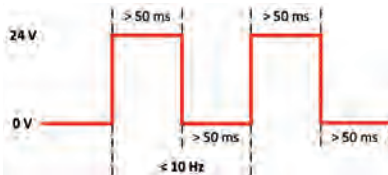


WIN slave,
WIN slave performance and
WIN slave control



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

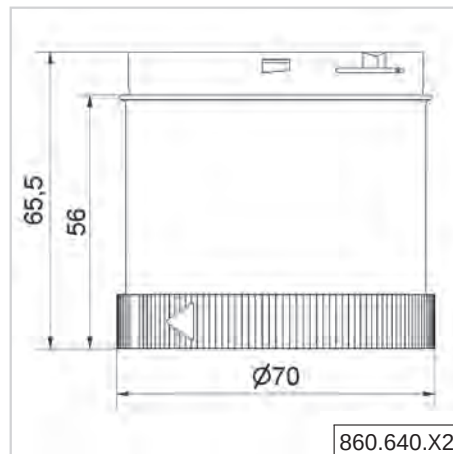
	WIN slave	WIN slave performance	WIN slave control
Dimensions (Ø x Height):	70 mm x 65,5 mm	70 mm x 65,5 mm	70 mm x 65,5 mm
Housing:	PC, black	PC, black	PC, black
Function:	Status monitoring	Status monitoring + Counting	Switching + controlling
Counter input:	-	Max. 10 Hz	-
Max. current output continuous:	-	-	750 mA
Peak current output 10 ms:	-	-	3,6 A
Min. current:	-	-	0,1 mA
Max. current per tier:	-	-	250 mA
Wireless connection ISM frequency:	868 MHz (WIN conforms to the EU's EN 300220 harmonised standard and can thus be used in all EU member countries.) Further countries upon request		
Transmission range:	Up to 300 m (unobstructed line of sight) Every transmitter simultaneously functions as a "repeater", enabling the transmission range to be significantly increased.		
Operating voltage:	24 V AC/DC	24 V AC/DC	24 V AC/DC
Current consumption:	40 mA, max. 430 mA	40 mA, max. 430 mA	70 mA, max. 2 A
Order no.:	860 640 02	860 640 12	860 640 22



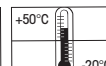
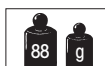
The counter impulse of the
WIN slave performance is max. 10 Hz



TECHNICAL DIAGRAMS:



Expandable at any time: With
additional "WIN slaves"
up to 50 machines can be
integrated into the network



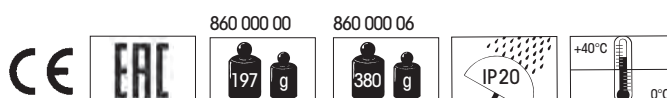
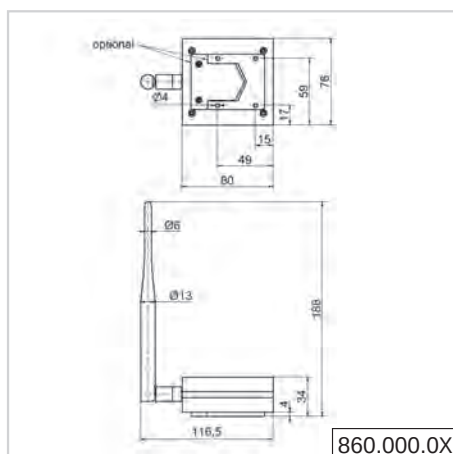


The software package allows you to monitor a production area or individual workstations from the comfort of the PC

 TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:	
WIN ethernet master	
Dimensions (L x H x W):	76 mm x 30 mm x 80 mm (without antenna)
Housing:	ABS, black
Function:	Data collection
Connection data transmission:	RJ45 Ethernet (10Base-T/100Base-TX nach IEEE 802,3)
Connection configurator:	Via USB
Wireless connection ISM frequency:	868 MHz (WIN conforms to the EU's EN 300220 harmonised standard and can thus be used in all EU member countries.) Further countries upon request
Suitable for:	Windows®, System requirements - see Handbook
Assembly:	Receiver, USB power supply, Ethernet Cable (3 m), Software, Adapter supplied (EU, UK, North America)
Operating voltage:	Via Power supply (115-230 V AC, 50-60-Hz)
Peak current output:	2,1 A
Max. power output:	10,5 W
Current consumption:	< 160 mA (max. 800 mA)
Order no.:	860 000 06

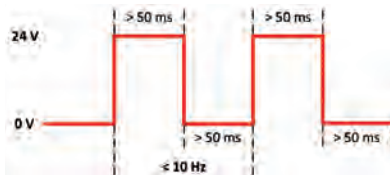


TECHNICAL DIAGRAMS:





WIN transmitter,
WIN transmitter performance and
WIN transmitter control



The counter impulse of the
WIN transmitter performance
is max. 10 Hz



Expandable at any time: With
additional "WIN transmitter"
up to 50 machines can be
integrated into the network

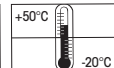
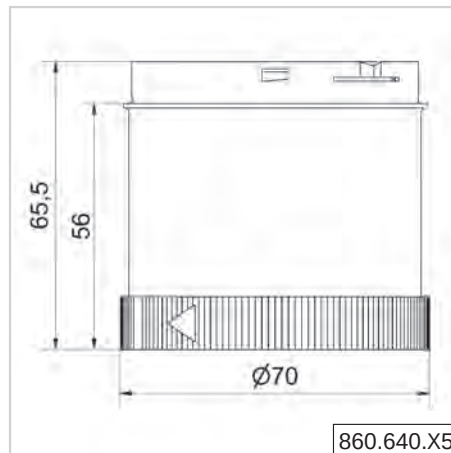


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	WIN transmitter	WIN transmitter performance	WIN transmitter control
Dimensions (Ø x Height):	70 mm x 65,5 mm	70 mm x 65,5 mm	70 mm x 65,5 mm
Housing:	PC, black	PC, black	PC, black
Function:	Status monitoring	Status monitoring + Counting	Switching + controlling
Counter input:	-	Max. 10 Hz	-
Max. current output continuous:	-	-	750 mA
Peak current output 10 ms:	-	-	3,6 A
Min. current:	-	-	0,1 mA
Max. current per tier:	-	-	250 mA
Wireless connection ISM frequency:	868 MHz (WIN conforms to the EU's EN 300220 harmonised standard and can thus be used in all EU member countries.) Further countries upon request		
Transmission range:	Up to 300 m (unobstructed line of sight) Every transmitter simultaneously functions as a "repeater", enabling the transmission range to be significantly increased.		
Operating voltage:	24 V AC/DC	24 V AC/DC	24 V AC/DC
Current consumption:	40 mA, max. 430 mA	40 mA, max. 430 mA	70 mA, max. 2 A
Order no.:	860 640 05	860 640 15	860 640 25



TECHNICAL DIAGRAMS:





The software package allows you to monitor a production area or individual workstations from the comfort of the PC

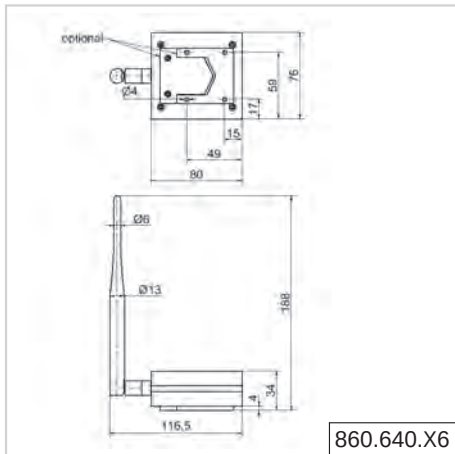


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	WIN ethernet receiver
Dimensions (L x H x W):	76 mm x 30 mm x 80 mm (without antenna)
Housing:	ABS, black
Function:	Data collection
Connection data transmission:	RJ45 Ethernet (10Base-T/100Base-TX by IEEE 802.3)
Connection configurator:	Via USB
Wireless connection ISM frequency:	915 MHz (only for use in North America) Further countries upon request
Suitable for:	Windows®, System requirements - see Handbook
Assembly:	Receiver, USB power supply, Ethernet Cable (3 m), Software, Adapter supplied (EU, UK, North America)
Operating voltage:	Via Power supply (115-230 V AC, 50-60-Hz)
Peak current output:	2,1 A
Max. power output:	10,5 W
Current consumption:	< 160 mA (max. 800 mA)
Order no.:	860 000 07



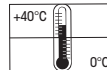
TECHNICAL DIAGRAMS:



860 000 00



860 000 06



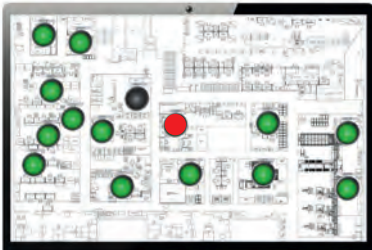
Software modules and functions

WIN is the stand-alone software for our wireless networked Smart*MONITOR* and Andon*SPEED* solutions and stands for "Wireless Information Network". **It is included in the product assembly.**

Technical Details

Suitable for:	Windows®, System requirements – see Handbook
Language:	German, English, French, Chinese and Polish
Included in the delivery with the items:	860 000 00, 860 000 01, 860 000 06, 860 000 07

Overview of the software modules and functions:



React quickly with the Control Station

You can quickly see if a machine is in an error condition or running normally. This module helps you to quickly take action to reduce downtime.

The messaging function keeps you in touch at all times

It is no problem for WIN to keep you informed anytime anywhere about condition changes. For example a condition change can trigger an email to be sent automatically to a PC or smart phone. You can select for which machines and which condition changes an email is generated and also set a time delay before the email is sent.

Include a range of users with the Multiple Operator Access

The software uses a structure based on a database and can be used by any number of users. The database needs to be copied over to a shared drive on your network to allow multiple users access to the system.



Increase efficiency with the Productivity Module

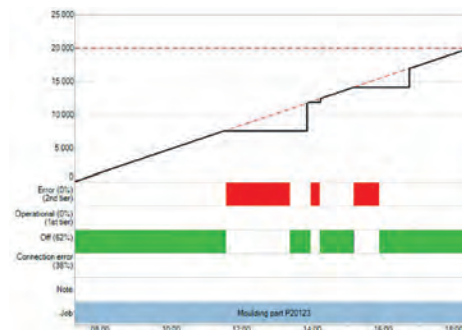
Using the Productivity Module you can check the productivity of your machines and workstations over any time period. You can look for example at the last working day, or define specific time periods such as shift patterns.



Production transparency in the Runtime module

The run-time module provides an overview of the operating time and downtime of the stations monitored. You can use the module to lower your error rates, because the duration and number of faults is consistently recorded.

Compare different workstations or machines to gain insight into optimising your processes.



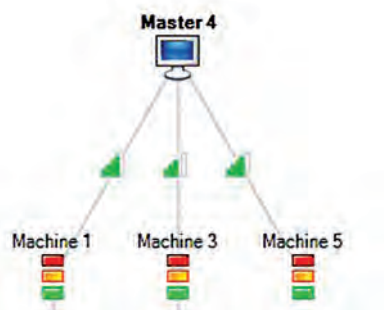
Description	Status	Fulfillment level
Part 21	Completed	100%
Part 78	Completed	100%
Part 43	Completed	100%
Part 500	Completed	100%
Moulding part P20123	Completed	100%
Tool 556	Running	39%
Tool 25	Running	49%
Part 677	Waiting	0%
Part 322	Waiting	0%
Part 456	Waiting	0%

Overview of jobs being run

The module gives you a comprehensive overview of which job is running on which machine and how the job is progressing.

Simple reporting with the Report and Export Function

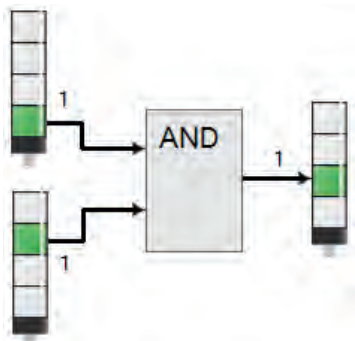
The user friendly report creation function allows you to convert all data into individual reports in tabular or graphic form. The report is created and displayed for printing and can be individually amended and saved in various formats (pdf, HTML, Excel, CSV, jpg).



Stability of the Network with the Routing Module

All transmitters automatically form a network. The Routing Module assists in setting up or adjusting the best network for WIN.

The route network graphic shows the current set up of the WIN network and the signal strength of each "WIN slave/transmitter" or WIN slave performance/transmitter performance" and mainly serves diagnostic purposes.



Control and switch with the "Control" Module

Define simple logic rules in the "control" module to link the statuses of all connected signal towers and transmit them on to the "WIN slave control" hardware.

This allows you to implement a head-of-line function, for example, or to switch devices on and off.



Your benefits

The introduction to professional call for action systems: the easy-to-retrofit Andon products in combination with WERMA KombiSIGN 71 and KombiSIGN 72 signal towers. With these products it is easy to improve safety and efficiency in the workplace.

- Rapid assistance reduces wait times
- Reduces response times and prevents shutdowns
- Intuitive and self-explanatory light system
- More reliability and efficiency (no running about, calling out, etc.)
- It can be expanded to a networked system at any time

Typical applications

- Professionally signal problems at workstations
- Manage supply of materials to workstations
- Optimise processes

Initial startup

- Simply connect AndonLIGHT with mains plug

Features

- Enables up to eight different statuses to be activated
- Signal directly on the signal tower with AndonCONTROL
- Activate signals on the signal tower with Andon SmartBOX



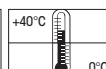
This is how you put together your AndonLIGHT system

ANDON PRODUCT									
Base mounting		Aluminium profile mounting/Wall mounting							
 Andon<i>CONTROL</i> Order no. 860 640 07		 Andon Smart<i>BOX</i> incl. Power supply Order no. 860 000 09							
SIGNAL TOWER									
SIGNAL ELEMENTS (UP TO A MAXIMUM OF 4)		PRE-ASSEMBLED SIGNAL TOWER							
		Base mounting	Tube mounting						
 Buzzer Order no. 645 800 75	 LED Permanent light blue Order no. 644 500 75	 LED Permanent light Order no. 649 240 02	 LED Permanent light Order no. 649 240 05						
 2 tone siren Order no. 645 870 75	 Twin<i>LIGHT</i> red Order no. 647 110 75			 LED Permanent light Order no. 649 240 04	 LED Permanent light Order no. 649 240 06				
 LED Permanent light red Order no. 644 100 75	 Twin<i>LIGHT</i> yellow Order no. 647 310 75					 Twin<i>LIGHT</i> Order no. 649 000 01	 Twin<i>LIGHT</i> Order no. 649 000 02		
 LED Permanent light green Order no. 644 200 75	 Twin<i>LIGHT</i> green Order no. 647 210 75								
 LED Permanent light yellow Order no. 644 300 75	 Twin<i>LIGHT</i> clear Order no. 647 430 75								
 LED Permanent light clear Order no. 644 400 75	 Twin<i>LIGHT</i> blue Order no. 647 510 75								
Base mounting	Tube mounting	Bracket mounting							
 Terminal element Order no. 640 800 00	 Terminal element + Base with integrated tube Order no. 640 810 00 + 975 840 10	 Terminal element + Bracket for base mounting Order no. 640 800 00 + 960 000 02							





+ 860 000 09



Andon SmartBOX for Signal Towers

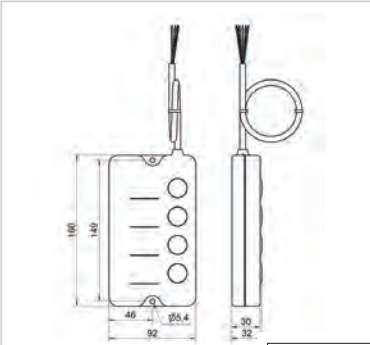


Andon SmartBOX for use in industrial applications



Interchangeable adaptors (included in assembly) and wide input voltage range make the Power Supply suitable for worldwide use

 TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:	
Dimensions (B x H xT):	161 mm x 79 mm x 138 mm
Housing:	PA-GF
Fixing:	Switches: PC
Connection:	Base mounting, Wall mounting
Number of signal elements:	Via 5 m cable
Assembly:	Max. 4 additional signal elements possible
	Andon SmartBOX, power supply unit with connection cable (length 1.8 m), USB power supply, Adapter supplied (EU, UK, North America)
Voltage power supply unit:	100-240 V AC
Voltage signal elements:	24 V DC
Current consumption:	Max. 1 A
Order no.:	860 000 09

 TECHNICAL DIAGRAMS:	
	
860.000.09	



AndonCONTROL / Connection Set for KombiSIGN 72 and 71



AndonCONTROL is a simple call system for a wide variety of applications



The four push buttons can be individually labelled



With the aid of the connection set, the master/receiver from KombiSIGN reflect can be used wherever an electrical socket is available (see next page)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	136 mm x 45,5 mm	
Housing:	Base: PC/ABS	
Fixing:	Terminal element: PA-GF, shock resistant	
Number of signal elements:	Base mounting, Bracket mounting (accessory)	
Assembly:	Max. 4 additional signal elements possible	
	AndonCONTROL, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet, cable connection	Connection Set, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet, cable connection
Voltage power supply unit:	100-240 V AC	
Voltage signal elements:	24 V DC	
Current consumption:	Max. 1 A	
Order no.:	860 640 07	860 640 08

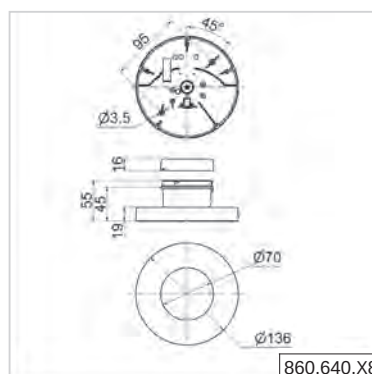
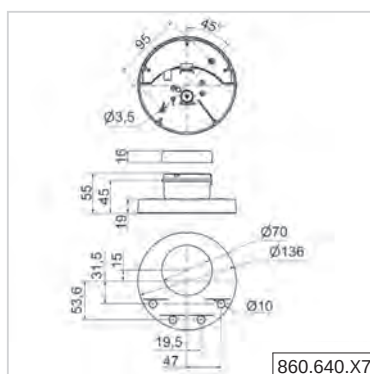


ACCESSORIES:

Mounting bracket, metal	975 883 01
-------------------------	------------



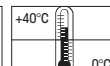
TECHNICAL DIAGRAMS:



860 640 07



860 640 08



KombiSIGN reflect for KombiSIGN 72 and 71



Your benefits

Do you have a machine or a workstation that is out of your line of sight? KombiSIGN reflect offers a simple solution that "reflects" the machine status to a KombiSIGN signal tower in your vicinity. The two elements are paired and ready for immediate use.

- Keep track of machines that are out of view
- Reduce response times and prevent shutdowns
- Repair faults quickly
- Monitor machines/areas that are not yet networked

Typical applications

- Report stoppages in complex production areas
- Manage the supply of materials where visibility is restricted
- Improve processes in complex production areas

Initial startup

- Integrate transmitter and receiver into the signal towers (no tools necessary)

Features

- Pre-configured for plug & play
- Simple reflection of machine statuses
- Large transmission range thanks to robust wireless network for production environments





The slave sends the status directly to the master, and reflects the status of the signal tower installed on the machine



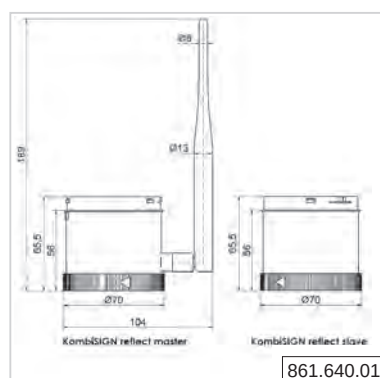
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Slave	Master
Dimensions (Ø x Height):	70 mm x 65,5 mm	70 mm x 65,5 mm (without antenna)
Housing:	Polycarbonat, black	
Connection:	Bayonet	
Wireless connection ISM frequency:	868 MHz (conforms to the EU's EN 300220 harmonised standard and can thus be used in all EU member countries) Further countries upon request	
Transmission range:	Up to 300 m (unobstructed line of sight)	
Operating voltage:	24 V AC/DC	24 V DC
Current consumption:	40 mA	40-900 mA
Order no.:	861 640 01	

Please check the wireless frequency. In Europe the version with 868 MHz is used. Please enquire about use in other countries.



TECHNICAL DIAGRAMS:

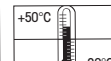


Simple monitoring of signal towers out of view



Simply fit the KombiSIGN reflect slave to the signal tower on the machine

861 X40 02
receiver: class 2





The transmitter sends the status directly to the receiver, and reflects the status of the signal tower installed on the machine



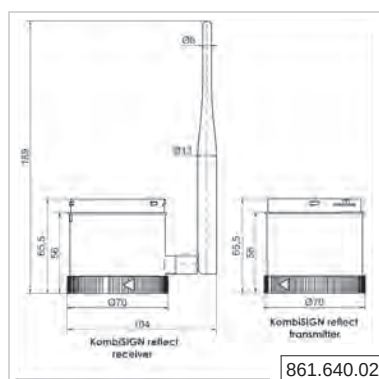
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Transmitter	Receiver
Dimensions (Ø x Height):	70 mm x 65,5 mm	70 mm x 65,5 mm (without antenna)
Housing:		Polycarbonat, black
Connection:		Bayonet
Wireless connection		915 MHz (only for use in North America)
ISM frequency:		Further countries upon request
Transmission range:		Up to 300 m (unobstructed line of sight)
Operating voltage:	24 V AC/DC	24 V DC
Current consumption:	40 mA	40-900 mA
Order no.:	861 640 02	

In North America the version with 915 MHz is used. Please enquire about use in other countries.



TECHNICAL DIAGRAMS:



861.640.02

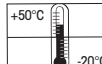


Simple monitoring of signal towers out of view



Simply fit the KombiSIGN reflect transmitter to the signal tower on the machine

861 X40 02
receiver: class 2





Signal Beacons & Traffic Lights



Overview Signal Beacons & Traffic Lights

WERMA's beacons and traffic lights help you indicate risks and imminent danger promptly and clearly. The urgency of the required action can be indicated by the colour of the light and by the type and duration of the signal.

This allows you to make your processes safe and efficient. Simply safe. Simply better. This is what we call intelligent signal technology.

Overview Signal Beacons & Traffic Lights						
		Installation	Installation	Installation/ Surface mounting	Surface mounting	Surface mounting
Product range		Micro Installation Beacons	Mini Installation Beacons	Mini Signal Beacons	Midi Signal Beacons	Maxi Signal Beacons
Dimensions (Ø x Height)*		See comparison of sizes table on page 104				
Voltage	12 V	•		•	•	•
	24 V	•	•	•	•	•
	48 V			•	•	•
	115 V	•		•	•	•
	230 V	•		•	•	•
Optical	LED Permanent Light	•		•	•	•
	LED Permanent Light (multicolour)		•	•		
	LED Blinking Light			•	•	
	LED Rotating Light			•	•	•
	LED Flashing Light				•	•
	LED EVS Light				•	•
	Permanent Light			•	•	
	Blinking Light				•	
	Xenon Flashing Light	•		•	•	•
	Rotating Mirror/Rotating Light				•	•
Protection		IP65	IP65	IP65	IP65	IP65
Signalisation index**		2-4	3	2-4	4-8	6-10
Page		Page 106	Page 110	Page 113	Page 143	Page 154

* Technical diagrams can be found on the product page

** Signalisation index – see page 13 + 21



Installation beacons

Installation beacons are used for installing in M20/M22 drilled holes. The beacon is fixed from the back, in control panels for example, using a locking nut. This prevents subsequent tampering.

Surface mounted beacons

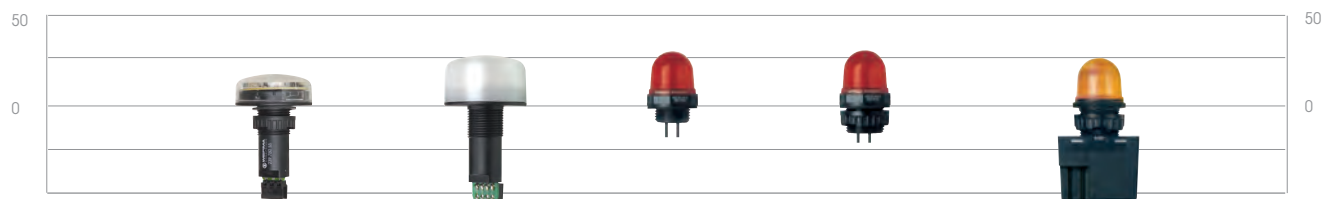
Surface mounted beacons are fixed directly onto the surface of the relevant object (machines). The basic mounting options are base, bracket or tube installation.

					
Surface mounting	Surface mounting	Surface mounting	Surface mounting	Surface mounting	Surface mounting
FlexSQUARE	Heavy Duty Beacons	Obstruction Light	Traffic Lights	Monitorable Beacon	Ex Signal Beacons
See comparison of sizes table on page 104					
•	•	•	•		
•	•	•	•	•	•
•	•	•			
•	•		•		•
•	•	•	•		•
•	•	•	•	•	•
•			•		
	•				•
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•					•
			•	•	
	•		•		•
	•				•
IP67	IP67	IP65 / IP66/68	IP65/IP69k	IP65	IP66
5-8	6-9	Legal requirement	4-9	4-5	4-9
Page 162	Page 168	Page 173	Page 176	Page 189	Page 193

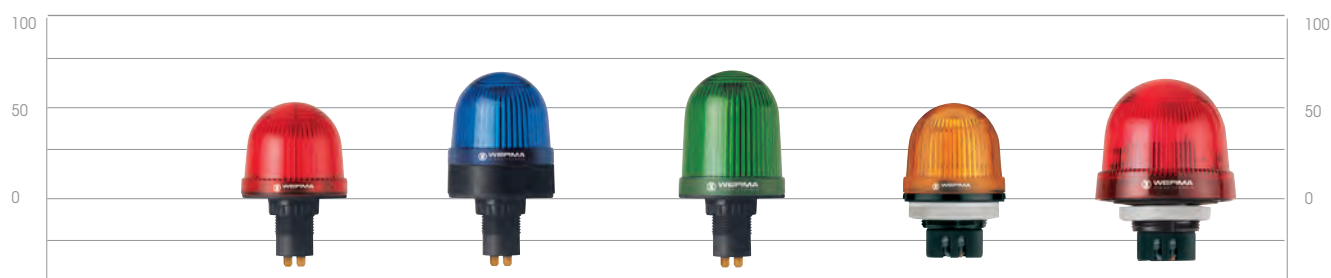


Sizes

COMPARISON OF WERMA SIGNAL BEACONS AND TRAFFIC LIGHTS



Series	239	239	230	231	232
Thread	M22	M22	M20	M22	M22
Ø	50 mm	50 mm	29 mm	29 mm	29 mm
Height (Protrusion from panel)	22 mm	31 mm	32 mm	32 mm	32 mm
Page	103	102	98	100	113

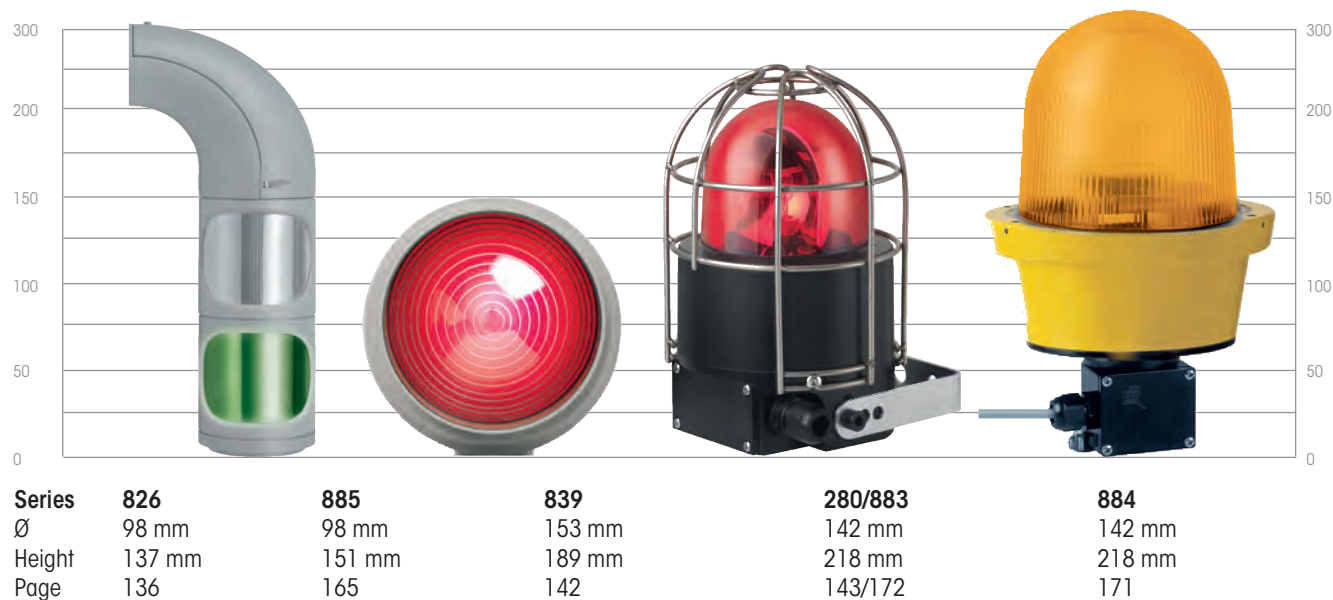


Series	206	207/208	216	800/801/802	815/816/817
Thread	M22	M22	M22	PG29	PG29
Ø	57 mm	58 mm	57 mm	57 mm	75 mm
Height (Protrusion from panel)	53 mm	69 mm	69 mm	54 mm	66 mm
Page	104	105/114	106	107/108/115	109/116/117/111/112



Series	200	220	210	209	219	853
Ø	57 mm	75 mm	57 mm	57 mm	57 mm	85 mm
Height	65.5 mm	79 mm	81 mm	87 mm	103 mm	85 mm
Page	122	132	126	148	150	135





Micro Installation Beacons - 230/231/232

Size comparison Micro/Mini



Signalisation index

Optical	
LED Permanent Light	2
Xenon Flashing Light	4

Your benefits

Despite their size, micro installation beacons from the 230 / 231 / 232 range will provide good all-round visibility. The range includes control panel indicator lights.

- The industry standard for control panels
- Easy to install, even where space is restricted

Typical applications

Signalling faults and statuses

- On small machines and equipment
- In building technology

Installation options

- M22 single-hole mounting including nut
- M20 for direct installation, in safety switches, for example

Features

- Available with a permanent light
- Powerful xenon flash light for increased visibility





Mainly sideways illumination



The LED Installation Beacon 230 can for example be used in applications with cable-operated switches or limit switch devices

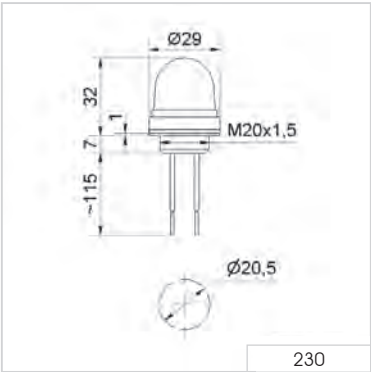
i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	29 mm x 32 mm (Protrusion from panel)
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Connection:	2 wires, c. 115 mm long
Fixing:	Installation mounting for Ø 20.5 mm (M20 x 1.5 mm)
Life duration:	Up to 100,000 hrs
Seal included in assembly.	

Voltage:	12 V DC	24 V DC	115 V AC	230 V AC
Current consumption:	80 mA	45 mA	15 mA	20 mA
red	230 100 54	230 100 55	230 100 67	230 100 68
yellow	230 300 54	230 300 55	230 300 67	230 300 68
clear	-	230 400 55	-	-

Further colours on request.

1 2 3 TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light

2

UL

US

CE

EAC

12g

IP65

+50°C

-20°C

24 V

PLC



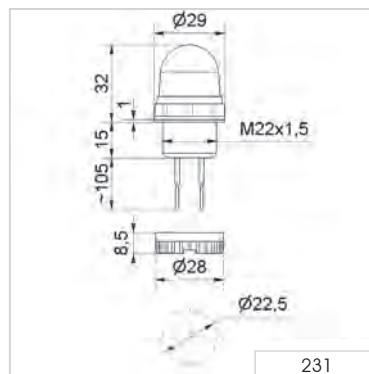


Mainly sideways illumination

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:****Dimensions** (Ø x Height): 29 mm x 32 mm (Protrusion from panel)**Housing:** PC/ABS-Blend**Lens:** PC, transparent**Connection:** 2 wires, c. 105 mm long**Fixing:** Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)**Life duration:** Up to 100,000 hrs

Nut and seal included in assembly.

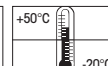
Voltage:	12 V DC	24 V DC	115 V AC	230 V AC
Current consumption:	80 mA	45 mA	15 mA	20 mA
red	231 100 54	231 100 55	231 100 67	231 100 68
green	231 200 54	231 200 55	231 200 67	231 200 68
yellow	231 300 54	231 300 55	231 300 67	231 300 68
clear	231 400 54	231 400 55	231 400 67	231 400 68
blue	231 500 54	231 500 55	231 500 67	231 500 68

**TECHNICAL DIAGRAM:****Signalisation index**

LED Permanent Light



2



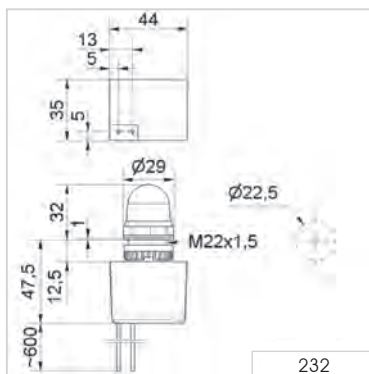
24 V



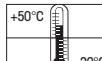
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	29 mm x 32 mm (Protrusion from panel)
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Connection:	2 wires, c. 600 mm long
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device
Flash frequency:	1.5 Hz
Flash energy:	1 Ws
Life duration:	4 x 10 ⁶ flashes
Nut and seal included in assembly.	

Voltage:	24 V AC/DC (10-100 V DC) (20-72 V AC)	115 V AC	230 V AC
Current consumption:	140 mA	30 mA	20 mA
red	232 100 55	232 100 67	232 100 68
yellow	232 300 55	232 300 67	232 300 68

**TECHNICAL DIAGRAM:****Signalisation index**

Xenon Flashing Light



24 V



Mini Installation Beacons - 239

Size comparison Mini 239/Mini



Signalisation index

Optical		
LED Permanent Light (multicolour)		3

Your benefits

WERMA's 239 mini installation beacon is perfect for use on machinery, and control panels. The colours can be set quite simply by means of binary inputs.

- Up to five different colours with just one light
- Low lens, where space is restricted
- Raised lens for best visibility also from the side

Typical applications

Signalling faults and statuses

- On control consoles of machinery
- In machine housings
- On control panels



Installation options

- M22 single-hole mounting

Features

- Bit-encoded actuation allows the three basic colours green, yellow and red to be displayed using just two PLC outputs. With a third output, white and blue can also be activated.
- With Spec. V 3.0, the special AS interface version is suitable for addressing (A/B mode) up to 62 modules – without an external power supply



LED Installation Beacon
(Multicolour)



LED Installation Beacon
(Multicolour) with raised lens



Five colours in one beacon:
red, yellow, green, white and blue



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel) 50 mm x 31 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black
Lens:	PC, transparent
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)
Connection:	Screw terminal max. 0.5 mm ² (239 480 55) Push In max. 1.5 mm ² (239 482 55)
Colour options:	Red, yellow, green, white, blue (multicolour)
Life duration:	Up to 50,000 hrs
Nut and seal included in assembly.	

Voltage:	24 V DC
Current consumption:	Max. 75 mA
Low lens, clear	239 480 55
Raised lens, opaque	239 482 55



ADDITIONAL INFORMATION:

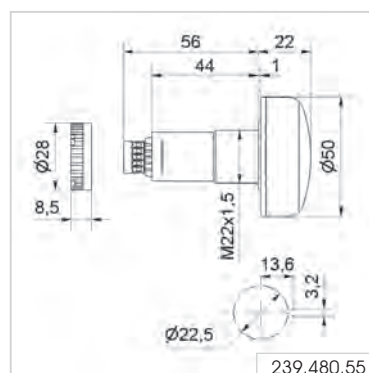
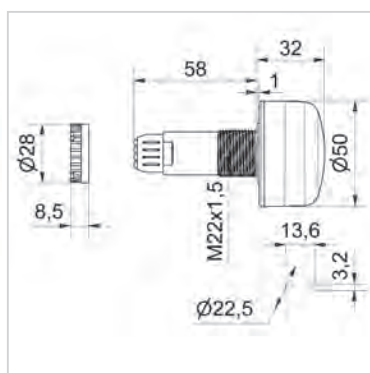
The LED beacon 239 is suitable for applications on machines or in control panels.

The LED installation beacon (multicolour) can be single-hole mounted with ease thanks to its M22 installation dimensions.

X1	X2	X3	X4	X5	Colour
		24V DC	nc	COM	OFF
	24V DC		nc	COM	RD
	24V DC	24V DC	nc	COM	GN
24V DC			nc	COM	YE
24V DC	24V DC	24V DC	nc	COM	BU
24V DC	24V DC		nc	COM	WH



TECHNICAL DIAGRAMS:

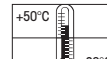


239.480.55

239.482.55

Signalisation index

LED Permanent Light
(multicolour)



239

LED Installation Beacon (Multicolour) for AS-Interface



i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:	
Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black
Lens:	PC, transparent
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device
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
Current consumption:	≤ 100 mA
Specification:	V3.0
IO-Code:	8 _{HEX}
ID-Code:	A _{HEX}
ID2-Code:	E _{HEX}
Colour options:	Red, yellow, green, white, blue
Life duration:	Up to 50,000 hrs
Nut and seal included in assembly.	
LED Installation Beacon (multicolour) for AS-Interface	
239 780 55	

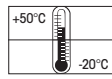


Five colours in one beacon:
red, yellow, green, white and blue

239.780.55

Signalisation index

LED Permanent Light (multicolour)  3



Mini Signal Beacons - 2xx and 800/801/802/815/816/817 families

Size comparison Mini 239/Mini



Signalisation index

Optical	
LED Permanent Light 2xx + 8xx	3
LED Blinking Light 8xx	3
LED Rotating Light 8xx	4
Permanent Light 2xx + 8xx	2
Xenon Flashing Light 2xx + 8xx	4

Your benefits

The Mini Signal Beacons are used wherever space is restricted.

The beacons are easy to install and connect, even in tight spaces, thanks to convenient connection terminals and easily accessible mounting holes.

- Reliable signalling at close quarters
- Available as a permanent light or as a bright Xenon flash light to attract attention

The 8xx range:

- Robust and tamper-proof

Typical applications

Signalling of faults

- On small machines and equipment
- In building technology

Installation options

- Base mounting
- M22/PG29 single-hole mounting
- Bracket mounting
- Tube mounting

Features

- High protection rating IP65 for both indoor and outdoor use

The 815 / 816 / 817 family:

- Robust and shock-resistant up to 20 joules

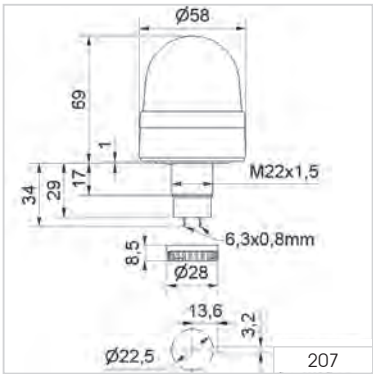




i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

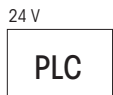
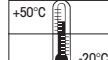
Dimensions (Ø x Height): 58 mm x 69 mm (Protrusion from panel)			
Housing:	PA-GF, high impact		
Lens:	PC, transparent		
	Ring: PC		
Connection:	Spades 6.3 x 0.8 mm		
	Finger-proof model according to BGV A2, when used with insulated spades		
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device		
Life duration:	Up to 100,000 hrs		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	207 100 75	207 100 67	207 100 68
green	207 200 75	207 200 67	207 200 68
yellow	207 300 75	207 300 67	207 300 68

1 2 3 TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light 3



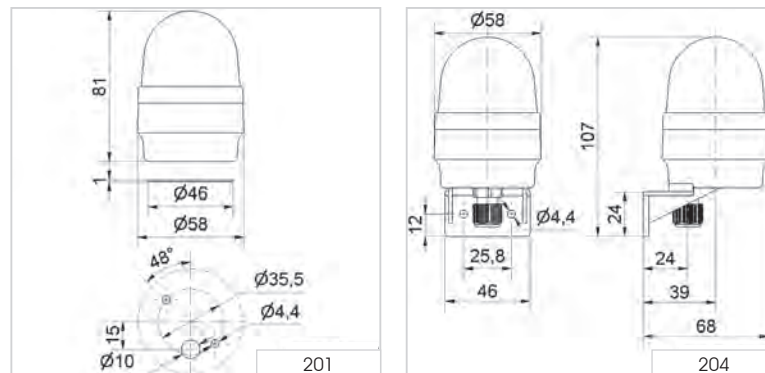
LED Permanent Beacon - Base/Bracket mounting



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Base mounting 201			
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	201 100 75	201 100 67	201 100 68
green	201 200 75	201 200 67	201 200 68
yellow	201 300 75	201 300 67	201 300 68
Bracket mounting 204			
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	204 100 75	204 100 67	204 100 68
green	204 200 75	204 200 67	204 200 68
yellow	204 300 75	204 300 67	204 300 68

TECHNICAL DIAGRAMS:



LED Permanent Light





Base with integrated tube
(accessory)

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 58 mm x 103 mm

Housing: PA-GF, high impact

Lens: PC, transparent; Ring: PC

Connection: CAGE CLAMP® technology max. 1.5 mm²

Cable entry: Cable diameter max. 11 mm

Fixing: Tube mounting M25 x 1.5 mm

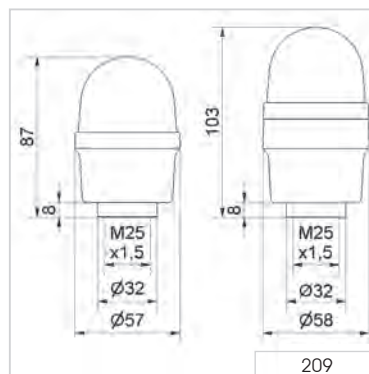
Life duration: Up to 100,000 hrs

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	209 110 75	209 110 67	209 110 68
green	209 210 75	209 210 67	209 210 68
yellow	209 310 75	209 310 67	209 310 68

ACCESSORIES:

Base with integrated tube, 100 mm long, M25 x 1.5 mm	975 209 01
Cable gland M25 x 1.5 mm	975 209 02

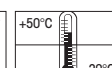
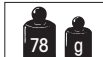
TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light

3



24 V

PLC



LED Permanent Beacon 211
(base mounting)



LED Permanent Beacon 214 with
integrated mounting bracket



Housing with
CAGE CLAMP® connection



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 211	Bracket mounting 214
Dimensions (Ø x Height):	58 mm x 97 mm	58 mm x 123 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Life duration:	Up to 100,000 hrs	

Base mounting 211

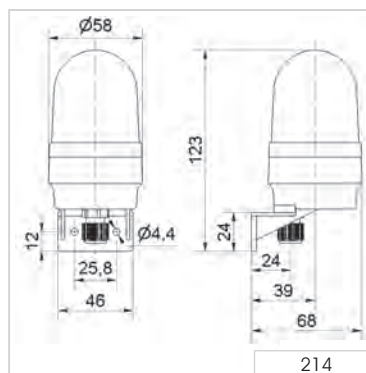
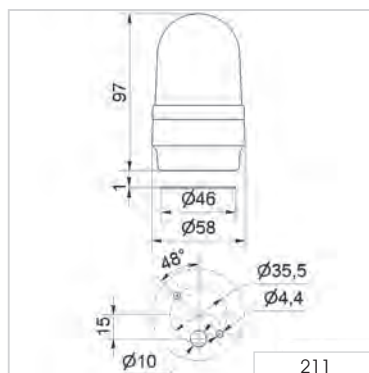
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	211 100 75	211 100 67	211 100 68
green	211 200 75	211 200 67	211 200 68
yellow	211 300 75	211 300 67	211 300 68

Bracket mounting 214

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	214 100 75	214 100 67	214 100 68
green	214 200 75	214 200 67	214 200 68
yellow	214 300 75	214 300 67	214 300 68



TECHNICAL DIAGRAMS:

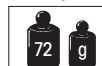


Signalisation index

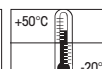
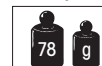
LED Permanent Light 3



Base
mounting



Bracket
mounting



24 V

PLC





Base with integrated tube
(accessory)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 58 mm x 103 mm

Housing: PA-GF, high impact

Lens: PC, transparent; Ring: PC

Connection: CAGE CLAMP® technology max. 1.5 mm²

Cable entry: Cable diameter max. 11 mm

Fixing: Tube mounting, M25 x 1.5 mm

Life duration: Up to 100,000 hrs

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	219 110 75	219 110 67	219 110 68
green	219 210 75	219 210 67	219 210 68
yellow	219 310 75	219 310 67	219 310 68

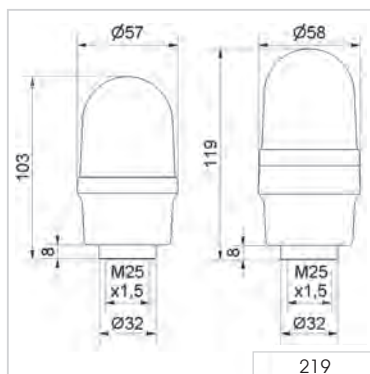


ACCESSORIES:

Base with integrated tube, 110 mm long, M25 x 1.5 mm	975 209 01
Cable gland M25 x 1.5 mm	975 209 02



TECHNICAL DIAGRAM:

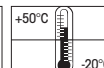


Signalisation index

LED Permanent Light



3



24 V





LED Permanent Beacon 221
(base mounting)



LED Permanent Beacon 224 with
integrated mounting bracket



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 221	Bracket mounting 224
Dimensions (Ø x Height):	75 mm x 79 mm	75 mm x 105 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC /ABS-Blend	
Connection:	CAGE CLAMP® technology max. 1.5 mm ²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Life duration:	Up to 100,000 hrs	

Base mounting 221

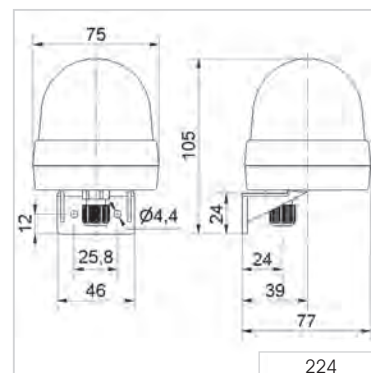
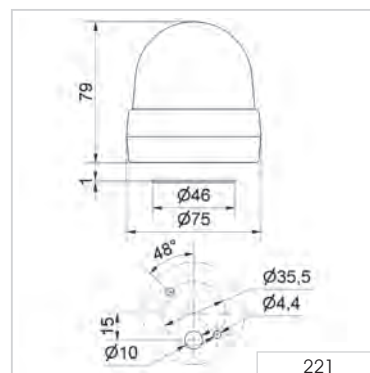
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	221 100 75	221 100 67	221 100 68
green	221 200 75	221 200 67	221 200 68
yellow	221 300 75	221 300 67	221 300 68

Bracket mounting 224

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	224 100 75	224 100 67	224 100 68
green	224 200 75	224 200 67	224 200 68
yellow	224 300 75	224 300 67	224 300 68



TECHNICAL DIAGRAMS:



Signalisation index

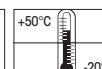
LED Permanent Light



Base
mounting



Bracket
mounting



24 V





Bulb change via removal of lens
(LED bulb as accessory)



Accessories



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 57 mm x 53 mm (Protrusion from panel)

Housing: PA-GF, high impact

Lens: PC, transparent

Fixing: Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device

Connection: Spades 6.3 x 0.8 mm

Finger-proof model according to BGV A2, when used with insulated spades

Operating voltage: Max. 48 V

Bulb socket: BA15d 5 Watt max.

Bulb change: Via removal of lens

Nut and seal included in assembly. Bulb not included in assembly.

Voltage: 12-48 V

red **206 100 00**

green **206 200 00**

yellow **206 300 00**

clear **206 400 00**

blue **206 500 00**

Further colours and voltages on request.



ACCESSORIES:

LED bulb BA15d, 5 W, total length 42 mm

Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC
	955 840 34	955 840 35	955 840 32

LED bulb BA15d total length 42 mm

Voltage: 24 V AC/DC

Current consumption: < 45 mA

red **956 100 75**

green **956 200 75**

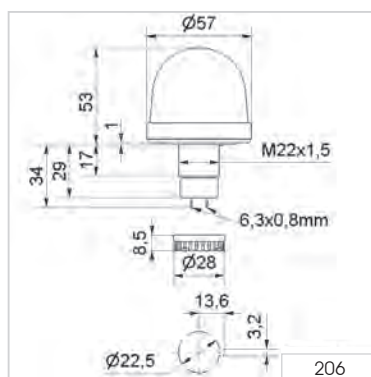
yellow **956 300 75**

white **956 400 75**

blue **956 500 75**

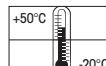
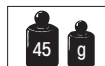


TECHNICAL DIAGRAM:



Signalisation index

Permanent Light





Permanent Beacon 200 (base mounting)



Permanent Beacon 203 with integrated mounting bracket

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 200	Bracket mounting 203
Dimensions (Ø x Height):	57 mm x 65.5 mm	57 mm x 91 mm
Housing:		PA-GF, high impact
Lens:		PC, transparent
Connection:	CAGE CLAMP® technology max. 1.5 mm ²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M 12 x 1.5 mm
Operating voltage:		12-230 V
Bulb socket:		BA15d, 7 Watt max.
Bulb change:		Via removal of lens
Bulb not included in assembly.		

Voltage:	12-230 V	12-230 V
red	200 100 00	203 100 00
green	200 200 00	203 200 00
yellow	200 300 00	203 300 00
clear	200 400 00	203 400 00
blue	200 500 00	203 500 00

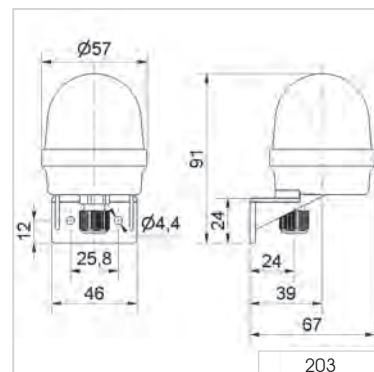
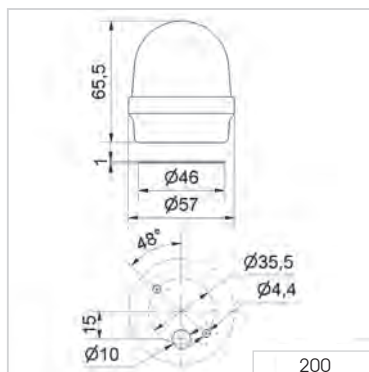
 ACCESSORIES:

Bulb BA15d, 5 W total length 42 mm					
Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC	115 V AC/DC	230 V AC/DC
	955 840 34	955 840 35	955 840 32	955 840 57	955 840 38

LED bulb BA15d, total length 42 mm				
Voltage:	24 V AC/DC		115 V AC	230 V AC
Current consumption:	< 45 mA		< 15 mA	< 15 mA
red	956 100 75		956 100 67	956 100 68
green	956 200 75		956 200 67	956 200 68
yellow	956 300 75		956 300 67	956 300 68
white	956 400 75		956 400 67	956 400 68
blue	956 500 75		956 500 67	956 500 68

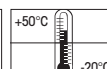
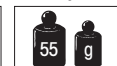
 TECHNICAL DIAGRAMS:

Accessoires



Signalisation index

Permanent Light





Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	57 mm x 87 mm
Housing:	PA-GF, high impact
Lens:	PC, transparent
Connection:	CAGE CLAMP® technology max. 1.5 mm ²
Cable entry:	Cable diameter max. 11 mm
Fixing:	Tube mounting M25 x 1.5 mm
Operating voltage:	12-230 V
Bulb socket:	BA15d, 7 Watt max.
Bulb change:	Via removal of lens

Bulb not included in assembly.

Voltage:	12-240 V
red	209 100 00
green	209 200 00
yellow	209 300 00
clear	209 400 00
blue	209 500 00

**ACCESSORIES:**

Base with integrated tube **975 209 01**
110 mm long, M25 x 1.5 mm

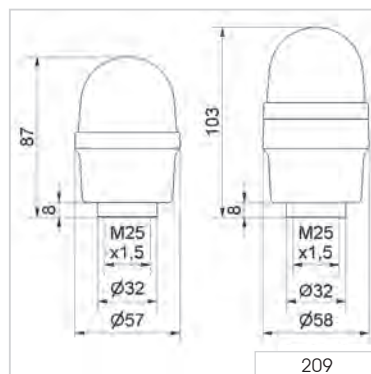
Cable gland **975 209 02**
M25 x 1.5 mm

Bulb BA15d, 5 W, total length 42 mm

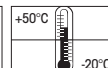
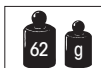
Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC	115 V AC/DC	230 V AC/DC
	955 840 34	955 840 35	955 840 32	955 840 57	955 840 38

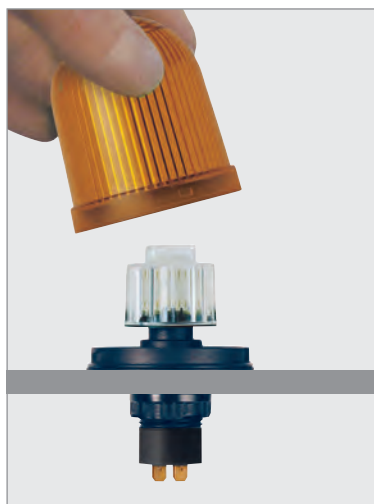
LED bulb BA15d total length 42 mm

Voltage:	24 V AC/DC			115 V AC	230 V AC
Current consumption:	< 45 mA			< 15 mA	< 15 mA
red	956 100 75			956 100 67	956 100 68
green	956 200 75			956 200 67	956 200 68
yellow	956 300 75			956 300 67	956 300 68
white	956 400 75			956 400 67	956 400 68
blue	956 500 75			956 500 67	956 500 68

**TECHNICAL DIAGRAM:****Signalisation index**

Permanent Light





Bulb change via removal of lens
(LED bulb as accessory)



Accessories



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	57 mm x 69 mm (Protrusion from panel)
Housing:	PA-GF, high impact
Lens:	PC, transparent Ring: PC
Connection:	Spades 6.3 mm x 0.8 mm Finger-proof model according to BGV A2, when used with insulated spades
Fixing:	Installation mounting for Ø22.5 mm (M22 x 1.5 mm) with anti-twist device
Operating voltage:	Max. 48 V
Bulb socket:	BA15d, 7 Watt max.
Bulb change:	Via removal of lens
Nut and seal included in assembly. Bulb not included in assembly.	

Voltage:	12-48 V
red	216 100 00
green	216 200 00
yellow	216 300 00
clear	216 400 00
blue	216 500 00



ACCESSORIES:

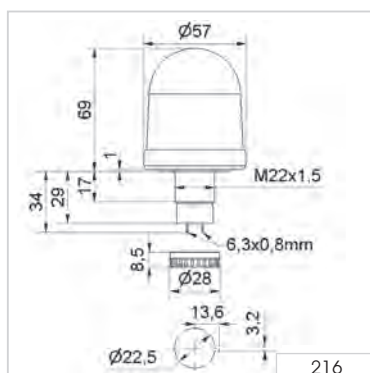
Bulb BA15d, total length 54 mm			total length 42 mm
Voltage:	12 V AC/DC (7 W)	24 V AC/DC (7 W)	30 V AC/DC (5 W)
	955 015 34	955 015 35	955 840 32

LED bulb BA15d, total length 42 mm

Voltage:	24 V AC/DC		
Current consumption:	< 45 mA		
red	956 100 75		
green	956 200 75		
yellow	956 300 75		
clear	956 400 75		
blue	956 500 75		

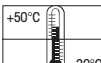


TECHNICAL DIAGRAM:



Signalisation index

Permanent Light



210/213

Permanent Beacon - Base/Bracket mounting

Permanent Beacon 210
(base mounting)Permanent Beacon 213 with
integrated mounting bracket

Accessories



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 210	Bracket mounting 213
Dimensions (Ø x Height):	57 mm x 81 mm	57 mm x 107 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Operating voltage:	12-230 V	
Bulb socket:	BA15d, 10 Watt max.	
Bulb change:	Via removal of lens	
Bulb not included in assembly.		
Voltage:	12-230 V	12-230 V
red	210 100 00	213 100 00
green	210 200 00	213 200 00
yellow	210 300 00	213 300 00
clear	210 400 00	213 400 00
blue	210 500 00	213 500 00



ACCESSORIES:

Bulb BA15d, 7 W, total length 54 mm

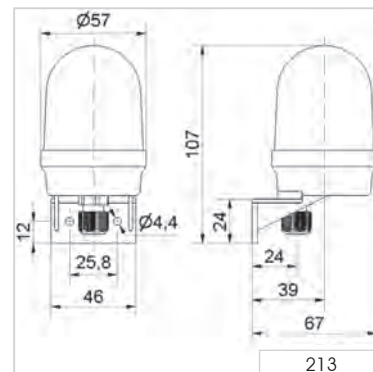
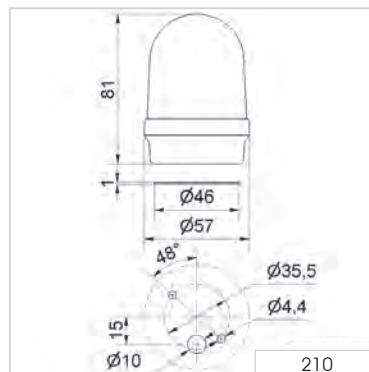
Voltage:	12 V AC/DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC/DC
	955 015 34	955 015 35	955 015 36	955 015 37	955 015 38

LED bulb BA15d, total length 42 mm

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 45 mA	< 15 mA	< 15 mA
red	956 100 75	956 100 67	956 100 68
green	956 200 75	956 200 67	956 200 68
yellow	956 300 75	956 300 67	956 300 68
clear	956 400 75	956 400 67	956 400 68
blue	956 500 75	956 500 67	956 500 68



TECHNICAL DIAGRAMS:

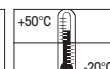


Signalisation index

Permanent Light



2

Base
mountingBracket
mounting



Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height): 57 mm x 103 mm

Housing: PA-GF, high impact

Lens: PC, transparent

Ring: PC

Connection: CAGE CLAMP® technology max. 1.5 mm²

Cable entry: Cable diameter max. 11 mm

Fixing: Tube mounting, M25 x 1.5 mm

Operating voltage: 12-230 V

Bulb socket: BA15d, 10 Watt max.

Bulb change: Via removal of lens

Bulb not included in assembly.

Voltage: 12-230 V

red **219 100 00**

green **219 200 00**

yellow **219 300 00**

clear **219 400 00**

blue **219 500 00**

**ACCESSORIES:**

Base with integrated tube, M25 x 1.5 mm **975 209 01**

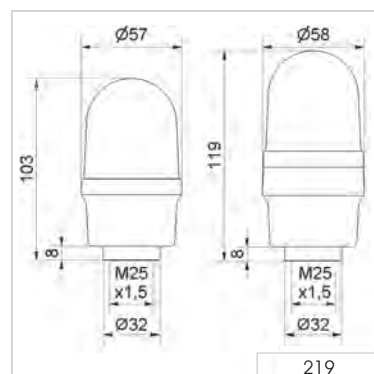
Cable gland M25 x 1.5 mm **975 209 02**

Bulb BA15d, 7 W, total length 54 mm

Voltage:	12 V AC/DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC/DC
	955 015 34	955 015 35	955 015 36	955 015 37	955 015 38

LED bulb BA15d, total length 42 mm

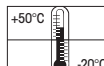
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 45 mA	< 15 mA	< 15 mA
red	956 100 75	956 100 67	956 100 68
green	956 200 75	956 200 67	956 200 68
yellow	956 300 75	956 300 67	956 300 68
clear	956 400 75	956 400 67	956 400 68
blue	956 500 75	956 500 67	956 500 68

**TECHNICAL DIAGRAM:****Signalisation index**

Permanent Light



2





Permanent Beacon 220
(base mounting)



Permanent Beacon 223 with
integrated mounting bracket



Housing with
CAGE CLAMP® connection



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 220	Bracket mounting 223
Dimensions (Ø x Height):	75 mm x 79 mm	75 mm x 105 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC/ABS-Blend	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Operating voltage:	12-230 V	
Bulb socket:	BA15d, 7 Watt max.	
Bulb change:	Via removal of lens	
Bulb not included in assembly.		
Voltage:	12-230 V	12-230 V
red	220 100 00	223 100 00
green	220 200 00	223 200 00
yellow	220 300 00	223 300 00
clear	220 400 00	223 400 00
blue	220 500 00	223 500 00



ACCESSORIES:

Bulb BA15d, 7 W total length 54 mm

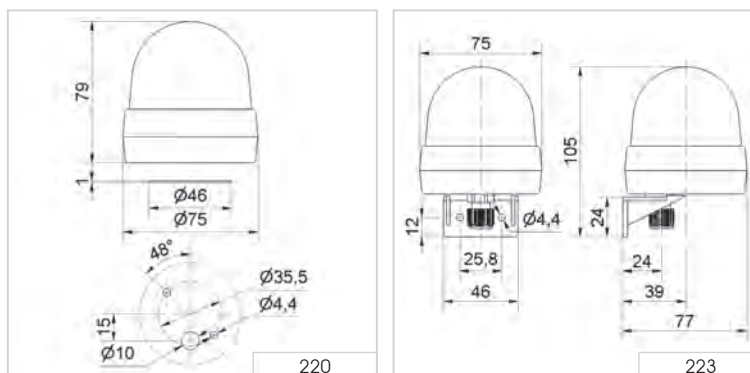
Voltage:	12 V AC/DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC/DC
	955 015 34	955 015 35	955 015 36	955 015 37	955 015 38

LED bulb BA15d total length 42 mm

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 45 mA	< 15 mA	< 15 mA
red	956 100 75	956 100 67	956 100 68
green	956 200 75	956 200 67	956 200 68
yellow	956 300 75	956 300 67	956 300 68
clear	956 400 75	956 400 67	956 400 68
blue	956 500 75	956 500 67	956 500 68



TECHNICAL DIAGRAMS:



Signalisation index

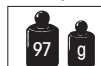
Permanent Light



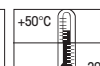
2



Base
mounting



Bracket
mounting



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height): 58 mm x 69 mm (Protrusion from panel)

Housing: PA-GF, high impact

Lens: PC, transparent; Ring: PC

Connection: Spades 6.3 x 0.8 mm

Finger-proof model according to BGV A2,
when used with insulated spades

Fixing: Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)
with anti-twist device

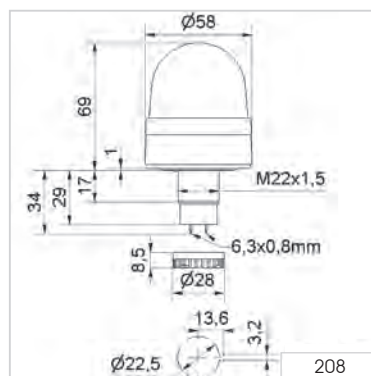
Flash frequency: C. 0.75 Hz

Flash energy: 1 Ws

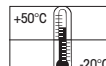
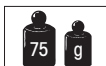
Life duration: 4 x 10⁶ flashes

Nut and seal included in assembly.

Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	100 mA	25 mA	30 mA
red	208 100 55	208 100 67	208 100 68
yellow	208 300 55	208 300 67	208 300 68

**TECHNICAL DIAGRAM:****Signalisation index**

Xenon Flashing Light





Flashing Beacon 202
(base mounting)



Flashing Beacon 205 with
integrated mounting bracket



Housing with
CAGE CLAMP® connection



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 202	Bracket mounting 205
Dimensions (Ø x Height):	58 mm x 81 mm	58 mm x 107 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting ncl. cable gland M12 x 1.5 mm
Flash frequency:	C. 0.75 Hz	
Flash energy:	1 Ws	
Life duration:	4 x 10 ⁶ flashes	

Base mounting 202

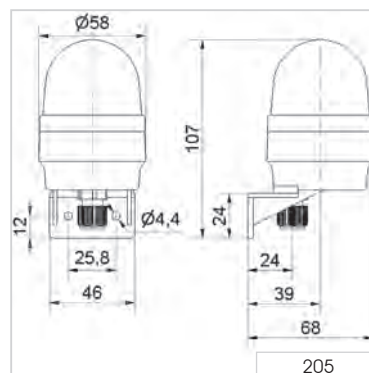
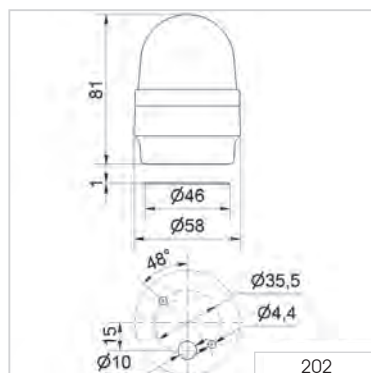
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	202 100 55	202 100 67	202 100 68
yellow	202 300 55	202 300 67	202 300 68

Bracket mounting 205

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	205 100 55	205 100 67	205 100 68
yellow	205 300 55	205 300 67	205 300 68



TECHNICAL DIAGRAM:



Signalisation index

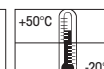
Xenon Flashing Light



Base
mounting



Bracket
mounting





Base with integrated tube
(accessory)

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 58 mm x 103 mm

Housing: PA-GF, high impact

Lens: PC, transparent

Ring: PC

Connection: CAGE CLAMP® technology max 1.5 mm²

Cable entry: Cable diameter max. 11 mm

Fixing: Tube mounting M25 x 1.5 mm

Flash frequency: C. 0.75 Hz

Flash energy: 1 Ws

Life duration: 4 x 10⁶ flashes

Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	209 120 55	209 120 67	209 120 68
yellow	209 320 55	209 320 67	209 320 68

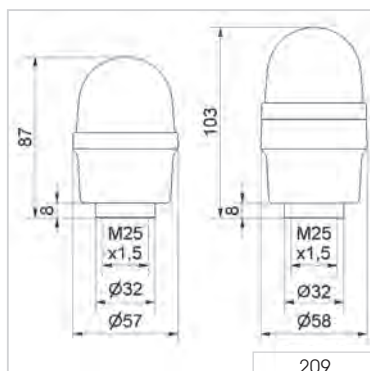


ACCESSORIES:

Base with integrated tube, 110 mm long, M25 x 1.5 mm	975 209 01
Cable gland M25 x 1.5 mm	975 209 02

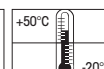


TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light



212/215 Xenon Flashing Beacon - Base/Bracket mounting



Flashing Beacon 212
(Base mounting)



Flashing Beacon 215 with
integrated mounting bracket



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 212	Bracket mounting 215
Dimensions (Ø x Height):	58 mm x 97 mm	58 mm x 123 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC	
Connection:	CAGE CLAMP® technology max. 1.5 mm ²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Flash frequency:	C. 0.75 Hz	
Flash energy:	1 Ws	
Life duration:	4 x 10 ⁶ flashes	

Base mounting 212

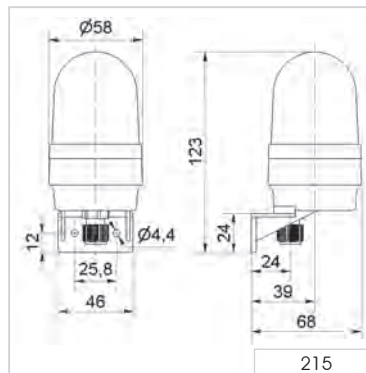
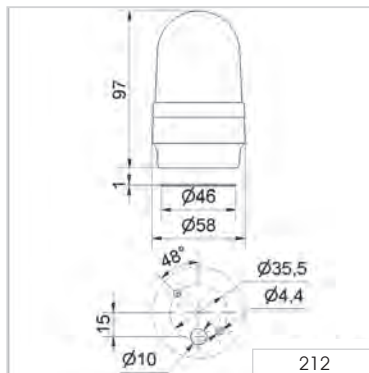
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	212 100 55	212 100 67	212 100 68
yellow	212 300 55	212 300 67	212 300 68

Bracket mounting 215

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	215 100 55	215 100 67	215 100 68
yellow	215 300 55	215 300 67	215 300 68



TECHNICAL DIAGRAMS:



Signalisation index

Xenon Flashing Light



Base
mounting



Bracket
mounting





Base with tube (accessory)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height): 58 mm x 119 mm

Housing: PA-GF, high impact

Lens: PC, transparent

Ring: PC

Connection: CAGE CLAMP® technology max. 1.5 mm²

Cable entry: Cable diameter max. 11 mm

Fixing: Tube mounting M25 x 1.5 mm

Flash frequency: C. 0.75 Hz

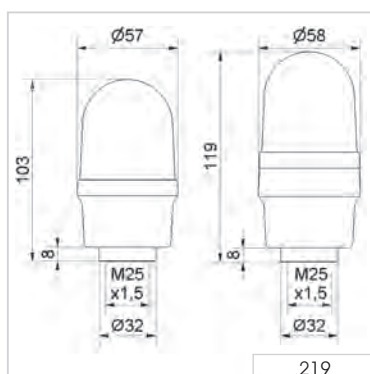
Flash energy: 1 Ws

Life duration: 4 x 10⁶ flashes

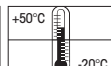
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	219 120 55	219 120 67	219 120 68
yellow	219 320 55	219 320 67	219 320 68

**ACCESSORIES:**

Base with integrated tube, 110 mm long, M25 x 1.5 mm	975 209 01
Cable gland M25 x 1.5 mm	975 209 02

**TECHNICAL DIAGRAM:****Signalisation index**

Xenon Flashing Light





Flashing Beacon 222
(base mounting)



Flashing Beacon 225 with
integrated mounting bracket



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting 222	Bracket mounting 225
Dimensions (Ø x Height):	75 mm x 79 mm	75 mm x 105 mm
Housing:	PA-GF, high impact	
Lens:	PC, transparent; Ring: PC/ABS-Blend	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Cable entry:	Cable diameter max. 10 mm	Cable diameter 3-6 mm
Fixing:	Base mounting with flat seal	Bracket mounting incl. cable gland M12 x 1.5 mm
Flash frequency:	C. 0.75 Hz	
Flash energy:	1 Ws	
Life duration:	4 x 10⁶ flashes	

Base mounting 222

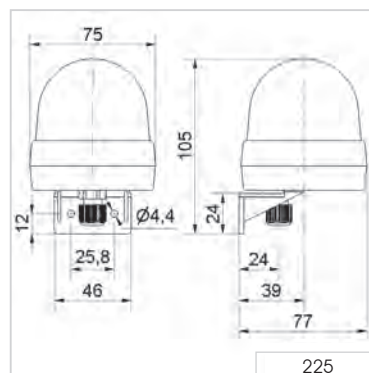
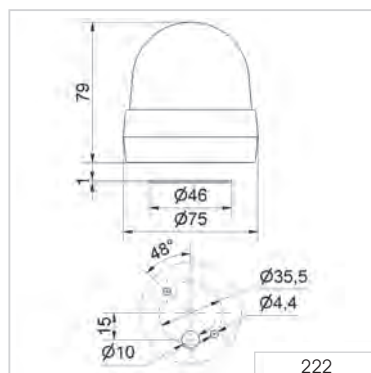
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	222 100 55	222 100 67	222 100 68
yellow	222 300 55	222 300 67	222 300 68

Bracket mounting 225

Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	100 mA	20 mA	30 mA
red	225 100 55	225 100 67	225 100 68
yellow	225 300 55	225 300 67	225 300 68
blue	225 500 55	225 500 67	225 500 68



TECHNICAL DIAGRAMS:



Signalisation index

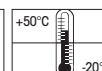
Xenon Flashing Light



Base
mounting



Bracket
mounting

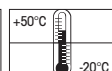
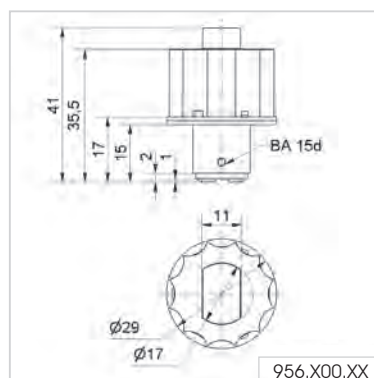


**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Housing:	PA-GF, high-impact
Lens:	PC, transparent
Socket:	BA15d
Life duration:	Up to 50,000 hrs
For use with:	200, 203, 206, 209, 210, 213, 216, 219, 220, 223, 641, 805, 840, 846, 850, 851, 852

Slight deviations in the form of the bulbs are possible.

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 45 mA	≤ 15 mA	≤ 15 mA
red	956 100 75	956 100 67	956 100 68
green	956 200 75	956 200 67	956 200 68
yellow	956 300 75	956 300 67	956 300 68
white	956 400 75	956 400 67	956 400 68
blue	956 500 75	956 500 67	956 500 68

**TECHNICAL DIAGRAM:**

801 LED Installation Permanent Beacon - PG29 (Ø 37 mm)



Tube adaptor as accessory



Accessories

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 57 mm x 54 mm (Protrusion from panel)

Housing: PC/ABS-Blend
Socket: PA-GF, high impact

Lens: PC, transparent

Fixing: Installation mounting for Ø 37 mm (PG29)

Connection: Screw terminal 0.5 - 1.5 mm²
flex radial or axial laid

Life duration: Up to 100,000 hrs

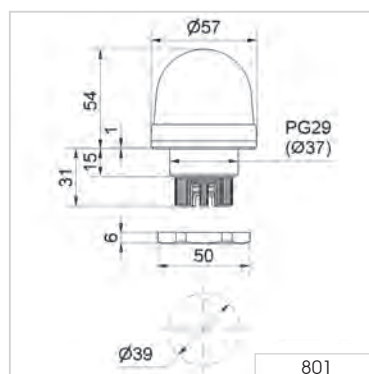
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	801 100 75	801 100 67	801 100 68
green	801 200 75	801 200 67	801 200 68
yellow	801 300 75	801 300 67	801 300 68

Further colours and voltages on request.

ACCESSORIES:

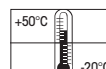
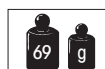
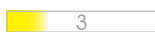
Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05

TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light



24 V



816 LED Installation Permanent Beacon - PG29 (Ø 37 mm)



Tube adaptor as accessory



Surface housing as accessory

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 75 mm x 66 mm (Protrusion from panel)

Housing: PC/ABS-Blend
Socket: PA-GF, high impact

Lens: PC, transparent
Shock resistance 20 Joules according to EN 60079-0

Fixing: Installation mounting for Ø 37 mm (PG29)

Connection: Screw terminal 0.5 - 1.5 mm²
flex radial or axial laid

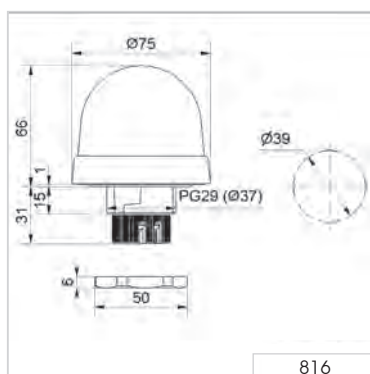
Life duration: Up to 100,000 hrs

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	816 100 55	816 100 67	816 100 68
green	816 200 55	816 200 67	816 200 68
yellow	816 300 55	816 300 67	816 300 68
clear	816 400 55	816 400 67	816 400 68

ACCESSORIES:

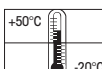
Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05
Accessories see page 140	

TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light 3



24 V





Tube adaptor as accessory



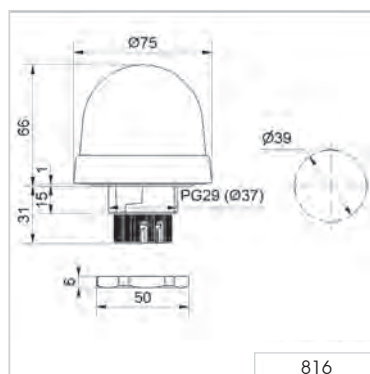
Surface housing (accessory)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)
Housing:	PC/ABS-Blend
	Socket: PA-GF, high impact
Lens:	PC, transparent
	Shock resistance 20 Joules according to EN 60079-0
Fixing:	Installation mounting for Ø 37 mm (PG29)
Connection:	Screw terminal 0.5 - 1.5 mm ²
	flex radial or axial laid
Blink frequency:	C. 1 Hz
Life duration:	Up to 50,000 hrs
Voltage:	24 V AC/DC
Current consumption:	25 mA
red	816 110 55
yellow	816 310 55
Further colours and voltages on request.	

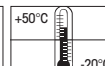
**ACCESSORIES:**

Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05
Accessories see page 140	

**TECHNICAL DIAGRAM:****Signalisation index**

LED Blinking Light

3



816 LED Permanent Beacon Multicolour - PG29 (Ø 37 mm)



816 Multicolour
with clear lens



816 Multicolour
with opaque lens



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)
Housing:	ABS/PC-Blend, black
Lens:	PC, transparent
Fixing:	Shock resistance 20 Joules according to EN 60079-0
Connection:	Installation mounting for Ø 37 mm (PG29)
Colour options:	M12 plug (4 pole)
Life duration:	Red, yellow, green, white, blue, violet, turquoise (multicolour)
	Up to 50,000 hrs
Voltage:	24 V DC
Current consumption:	max. 120 mA
clear lens	816 480 55
opaque lens	816 780 55



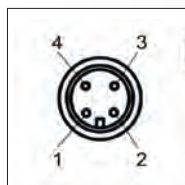
ACCESSORIES:

Cable 5m with M12 plug	960 693 05
Base for base mounting	975 812 02
Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Base for tube mounting, metal	975 840 91
Anti-twist device	975 815 22



ADDITIONAL INFORMATION:

Easy triggering



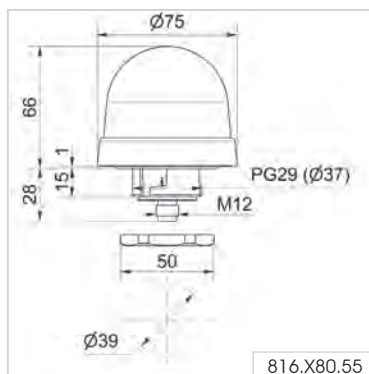
PIN	1	2	3	4	Colour
24 V	-	-	GND	-	rd
-	24 V	GND	-	-	gn
24 V	24 V	GND	-	-	ye
-	-	GND	24 V	-	bu
24 V	24 V	GND	24 V	-	wh
24 V	-	GND	24 V	-	vt
-	24 V	GND	24 V	-	tg



7 colours in one beacon:
red, yellow, green, white, blue,
violet and turquoise



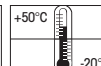
TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light
(multicolour)

3



PLC



816 LED Beacon (Multicolour) with USB Interface - PG29 (Ø 37 mm)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)
Housing:	ABS/PC-Blend, black
Lens:	PC, transparent
	Shock resistance 20 Joules according to EN 60079-0
Fixing:	Installation mounting for Ø 37 mm (PG29)
	Base and wall mounting possible (accessories)
Connection:	Mini USB 2.0 downward cable outlet
Power supply:	Via USB
Colour options:	More than 200,000 colours (RGB LED)
Suitable for:	Windows®, System requirements – see Handbook
Assembly:	LED beacon, demo software, driver and USB connection cable included, 1.8 m long
Life duration:	Up to 50,000 hrs
Voltage:	5 V (USB-Connection)
Current consumption:	≤ 500 mA
clear lens	816 480 53
opaque lens	816 780 53



ACCESSORIES:

You will find the appropriate accessories for base or tube mounting on page 140 or under www.werma.com



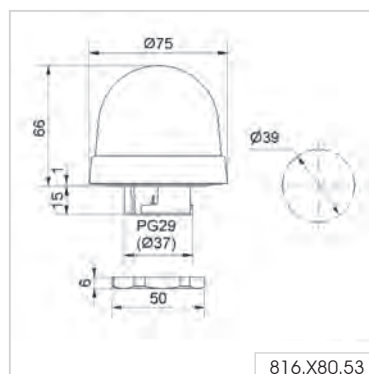
ADDITIONAL INFORMATION:

The installation LED Beacon with USB interface is compatible with USB 2.0 and 1.1.

A wide range of colours and light effects can be quickly and simply programmed by the customer and altered at any time.



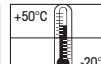
TECHNICAL DIAGRAM:



816.X80.53

Signalisation index

LED Permanent Light
(multicolour)





Bulb change via rear access with bayonet holder



Accessories

Signalisation index

Permanent Light



2



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 57 mm x 54 mm (Protrusion from panel)

Housing: PC/ABS-Blend

Socket: PA-GF, high impact

Lens: PC, transparent

Connection: Screw terminal 0.5 - 1.5 mm²

Flex radial or axial laid

Fixing: Installation mounting for Ø 37 mm (PG29)

Operating voltage: 12-230 V

Bulb socket: BA15d, 5 Watt max.

Bulb change: Via rear access with bayonet mechanism

Bulb not included in assembly.

Voltage: 12-230 V

red 800 100 00

green 800 200 00

yellow 800 300 00

white 800 400 00

blue 800 500 00



ACCESSORIES:

Bulb BA15d, 5 W total length 42 mm

Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC	115 V AC/DC	230 V AC/DC
	955 840 34	955 840 35	955 840 32	955 840 57	955 840 38

Tube adaptor 975 812 01

Base with integrated tube, Ø 25 mm, 110 mm long, plastic 975 840 10

Base for tube mounting 975 840 90

Base for base mounting 975 812 02

Tube Ø 25 mm, all anodized aluminium

100 mm long 975 845 10

250 mm long 975 840 25

400 mm long 975 840 40

Anti-twist device 975 815 22

Surface housing IP 65

for 1 Installation Beacon 975 815 03

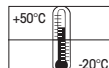
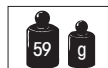
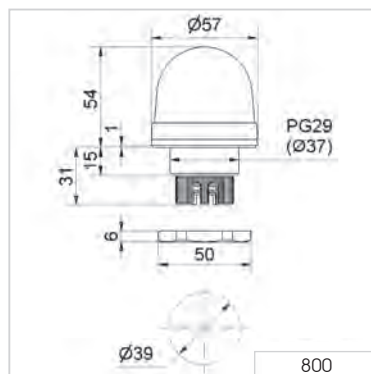
for 2 Installation Beacons 975 815 07

for 3 Installation Beacons 975 815 08

for 4 Installation Beacons 975 109 05



TECHNICAL DIAGRAM:





Vandal-proof construction



Accessories

Signalisation index

Permanent Light

2



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, Socket: PA-GF, high impact
Lens:	PC, transparent
	Shock resistance 20 Joules according to EN 60079-0
Connection:	Screw terminal 0.5 -1.5 mm ²
	flex radial or axial laid
Fixing:	Installation mounting for Ø 37 mm (PG29)
Operating voltage:	12-230 V
Bulb socket:	BA15d, 5 Watt max.
Bulb change:	Via rear access with bayonet mechanism
	Bulb not included in assembly.

Voltage:	12-230 V
red	815 100 00
green	815 200 00
yellow	815 300 00
white	815 400 00
blue	815 500 00



ACCESSORIES:

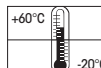
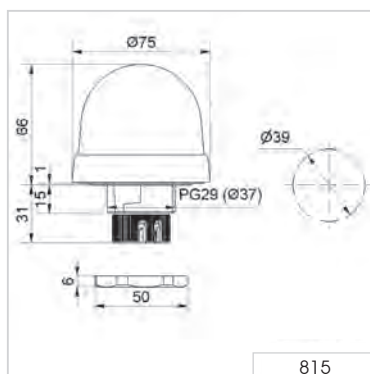
Bulb BA15d, 5 W total length 42 mm

Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC	115 V AC/DC	230 V AC/DC
	955 840 34	955 840 35	955 840 32	955 840 57	955 840 38

Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05



TECHNICAL DIAGRAM:



802 Xenon Installation Flashing Beacon - PG29 (Ø 37 mm)



Tube adaptor as accessory



Accessories

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 57 mm x 54 mm (Protrusion from panel)

Housing: PC/ABS-Blend
Socket: PA-GF, high impact

Lens: PC, transparent

Fixing: Installation mounting for Ø 37 mm (PG29)

Connection: Screw terminal 0.5 - 1.5 mm²
flex radial or axial laid

Flash frequency: 0.75 Hz

Flash energy: 1 Ws

Life duration: 4 x 10⁶ flashes

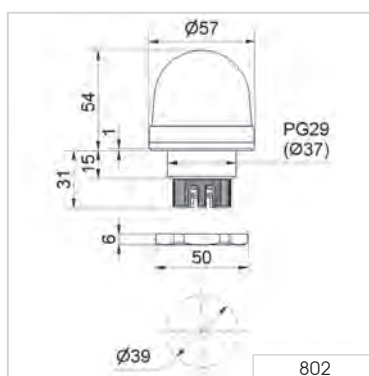
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	802 100 55	802 100 67	802 100 68
yellow	802 300 55	802 300 67	802 300 68

Further colours and voltages on request.

ACCESSORIES:

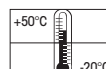
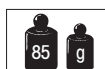
Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05

TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light



817 Installation Flashing Beacon (Xenon) - PG29 (Ø 37 mm)



Tube adaptor as accessory



Accessories

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend Socket: PA-GF, high impact			
Lens:	PC, transparent Shock resistance 20 Joules according to EN 60079-0			
Fixing:	Installation mounting for Ø 37 mm (PG29)			
Connection:	Screw terminal 0.5 - 1.5 mm ² flex radial or axial laid			
Flash frequency:	C. 1 Hz			
Flash energy:	2 Ws			
Life duration:	4 x 10 ⁶ flashes			

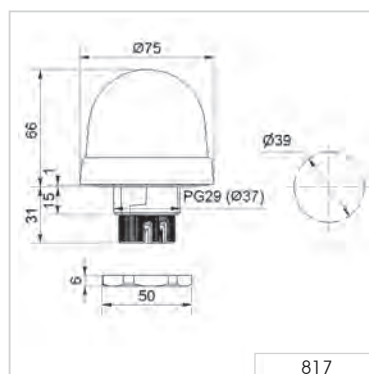
Voltage:	12 V DC	24 V DC	115 V AC	230 V AC
Current consumption:	< 195 mA	125 mA	20 mA	35 mA
red	817 100 54	817 100 55	817 100 67	817 100 68
yellow	817 300 54	817 300 55	817 300 67	817 300 68

Further colours and voltages on request.

ACCESSORIES:

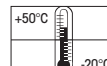
Tube adaptor	975 812 01
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	975 840 10
Base for tube mounting	975 840 90
Base for base mounting	975 812 02
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
Anti-twist device	975 815 22
Surface housing IP 65	
for 1 Installation Beacon	975 815 03
for 2 Installation Beacons	975 815 07
for 3 Installation Beacons	975 815 08
for 4 Installation Beacons	975 109 05

TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light



Midi Signal Beacons – 826/827/828/829/885 families

Size comparison Mini/Midi/Maxi



Signalisation index

Optical	
LED Permanent Light	4
LED Blinking Light	5
LED Rotating Light	6
LED Flashing Light	6
LED EVS Light	8
Permanent Light (bulb)	4
Blinking Light	5
Xenon Flashing Light	7
Rotating Mirror/Rotating Light	7

Your benefits

The Midi Beacons provide flexible signalling over medium distances. The high protection rating IP65 ensures the safe operation in many areas – both indoor and outdoor applications.

828 xenon flash light:

- Bright 5-joule xenon flash for high visibility, even in direct sunlight or over longer distances

829 LED beacons:

- Versatile lighting effects (permanent / blinking / rotating / flash / EVS) for a wide range of applications
- No moving mechanical parts, therefore unsusceptible to shock and vibration
- Maintenance-free operation and lower running costs due to low current consumption

885 rotating mirror beacon:

- High intensity light thanks to halogen bulb in extremely compact housing
- Easy to connect, without removing the mechanical assembly

Typical applications

Signalling faults or relaying alarms

- in building service industry
- for door and gate systems
- on machinery and plant

Installation options

- Base mounting
- Tube mounting
- Bracket mounting with plastic bracket

Features

- Optional wire guard to protect against mechanical damage

829 LED lights:

- Also available as a particularly attention-grabbing EVS option (flickering light)

885 rotating mirror beacon:

- Quiet belt drive allows the beacon to be mounted and operated in any position, even up side down (with limited IP protection) or at 90° to the wall





Tube mounting



Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	Base/Bracket mounting	Tube mounting
Dimensions (Ø x Height):	98 mm x 137 mm	98 mm x 200 mm
Cable entry:		Cable diameter 5-7 mm
Housing:		PC/ABS-Blend
Lens:		PC, transparent
Connection:		Screw terminal 0.5 - 1.5 mm ²
Life duration:		Up to 50,000 hrs

LED PERMANENT/BLINKING BEACON (INTERCHANGEABLE LIGHT EFFECT)

Blinking frequency: C. 1.5 Hz

Voltage: 24 V DC

24 V DC

Current consumption: ≤ 150 mA

≤ 150 mA

red **829 100 55****829 107 55**green **829 200 55****829 207 55**yellow **829 300 55****829 307 55**blue **829 500 55****829 507 55****LED PERMANENT BEACON**

Voltage: 115 V AC

230 V AC

115 V AC

230 V AC

Current consumption: ≤ 30 mA

≤ 30 mA

≤ 30 mA

≤ 30 mA

red **829 130 67****829 130 68****829 137 67****829 137 68**green **829 230 67****829 230 68****829 237 67****829 237 68**yellow **829 330 67****829 330 68****829 337 67****829 337 68**blue **829 530 67****829 530 68****829 537 67****829 537 68****ACCESSORIES:**

Plastic bracket for wall mounting

975 826 05

Wire guard, galvanised, only for base mounting

975 826 03

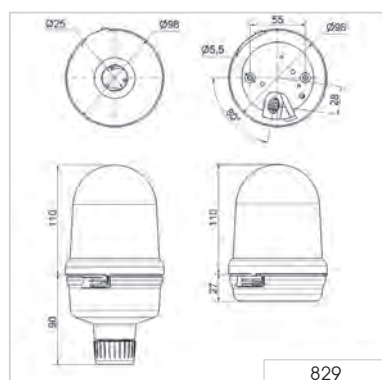
Tube Ø 25 mm, all anodized aluminium, 100 mm long

975 845 10

Base for tube, plastic, Ø 25 mm

975 840 90

Base for tube, metal, Ø 25 mm

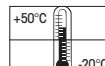
975 840 91**TECHNICAL DIAGRAM:****Signalisation index**

LED Permanent Light

4

LED Blinking Light

5

Base/Bracket
mountingBase/Bracket
mountingTube
mounting

LED Permanent/Blinking/Rotating Beacon with external triggering



Base/Bracket mounting



Bracket (accessories)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Bracket mounting	Tube mounting
Dimensions (Ø x Height):	98 mm x 137 mm	98 mm x 200 mm
Cable entry:		Cable diameter 5-7 mm
Housing:		PC/ABS-Blend
Lens:		PC, transparent
Connection:		Screw terminal 0.5 - 1.5 mm ²
Blink frequency:		C. 1.5 Hz
Rotation rate:		C. 180 r.p.m.
Life duration:		Up to 50,000 hrs
Voltage:	24 V DC	24 V DC
Current consumption:	≤ 300 mA	≤ 300 mA
red	829 150 55	829 157 55
green	829 250 55	829 257 55
yellow	829 350 55	829 357 55
blue	829 550 55	829 557 55



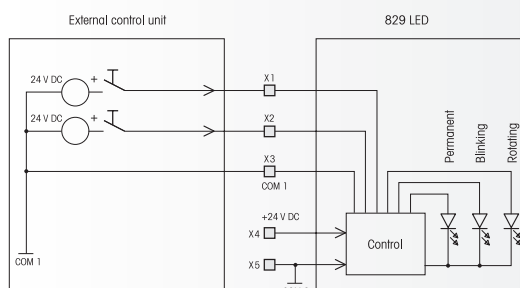
ACCESSORIES:

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91



ADDITIONAL INFORMATION:

829 with external triggering - Light effects set via control cables

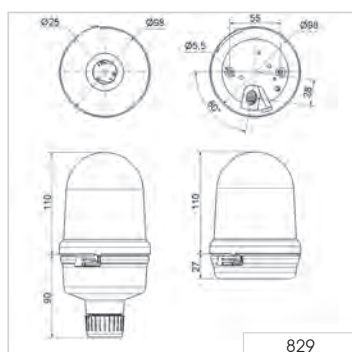


Thanks to the external trigger function, the range of light effects offered by the LED Beacon 829 can be set by means of electrically isolated, binary coded 24 V control cables. This guarantees a much greater level of resistance to electrical interference.

The machine operator can use the different signals to indicate various machine conditions - without having to make adjustments to the beacon itself. In addition the LED beacon 829 can be used in conjunction with both positive and negative trigger logic.

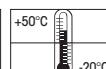
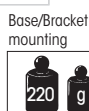


TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light	4
LED Blinking Light	5
LED Rotating Light	6





Tube mounting



Base/Bracket mounting



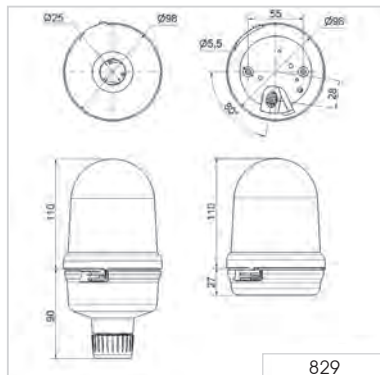
Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

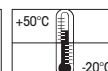
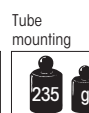
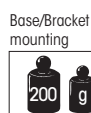
	Base/Bracket mounting		Tube mounting	
Dimensions (Ø x Height):	98 mm x 137 mm		98 mm x 200 mm	
Cable entry:			Cable diameter 5-7 mm	
Housing:			PC/ABS-Blend	
Lens:			PC, transparent	
Connection:			Screw terminal 0.5 - 1.5 mm ²	
Rotation rate:			C. 180 r.p.m.	
Life duration:			Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC	24 V DC	115-230 V AC
Current consumption:	< 170 mA	< 200 mA	< 170 mA	< 200 mA
red	829 110 55	829 110 68	829 117 55	829 117 68
green	829 210 55	829 210 68	829 217 55	829 217 68
yellow	829 310 55	829 310 68	829 317 55	829 317 68
clear	829 410 55	829 410 68	829 417 55	829 417 68
blue	829 510 55	829 510 68	829 517 55	829 517 68

**ACCESSORIES:**

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91

**TECHNICAL DIAGRAM:****Signalisation index**

LED Rotating Light





Base/Bracket Mounting



Tube Mounting (tube and base for tube - accessory)

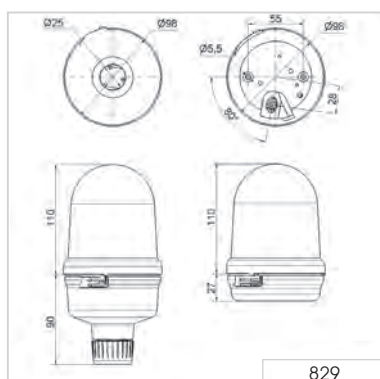
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	Base/Bracket mounting		Tube mounting	
Dimensions (Ø x Height):	98 mm x 137 mm		98 mm x 200 mm	
Cable entry:			Cable diameter 5-7 mm	
Housing:			PC/ABS-Blend	
Lens:			PC, transparent	
Connection:			Screw terminal 0.5 - 1.5 mm ²	
Life duration:			Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC	24 V DC	115-230 V AC
Current consumption:	< 100 mA	< 100 mA	< 100 mA	< 100 mA
red	829 120 55	829 120 68	829 127 55	829 127 68
yellow	829 320 55	829 320 68	829 327 55	829 327 68
clear	829 420 55	829 420 68	829 427 55	829 427 68

**ACCESSORIES:**

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91

(Accessories see page 146)

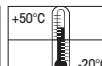
**TECHNICAL DIAGRAM:****Signalisation index**

LED Flashing Light

6



Tube-mounting





Base/Bracket mounting



Tube mounting



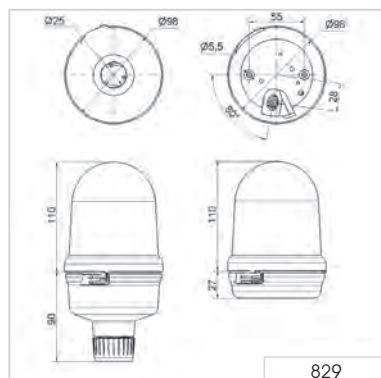
Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

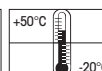
	Base/Bracket mounting		Tube mounting	
Dimensions (Ø x Height):	98 mm x 137 mm		98 mm x 200 mm	
Cable entry:			Cable diameter 5-7 mm	
Housing:			PC/ABS-Blend	
Lens:			PC, transparent	
Connection:			Screw terminal 0.5 - 1.5 mm ²	
Life duration:			Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC	24 V DC	115-230 V AC
Current consumption:	< 300 mA	< 150 mA	< 300 mA	< 150 mA
red	829 190 55	829 190 68	829 197 55	829 197 68
yellow	829 390 55	829 390 68	829 397 55	829 397 68
clear	829 490 55	829 490 68	829 497 55	829 497 68

**ACCESSORIES:**

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91

**TECHNICAL DIAGRAM:****Signalisation index**

LED EVS Light

Tube
mounting



Base/Bracket Mounting



Tube Mounting



Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	Base/Bracket mounting	Tube mounting
Dimensions (Ø x Height):	98 mm x 137 mm	98 mm x 200 mm
Housing:		PC/ABS-Blend
Lens:		PC, transparent
Connection:		Srew free clamp mechanism max. 1,5 mm ²
Cable entry:		Cable diameter 5-7 mm
Operating voltage:		230 V for BA15d
Bulb:		Max. 15 W
Socket:		BA15d

Bulb not included in assembly.

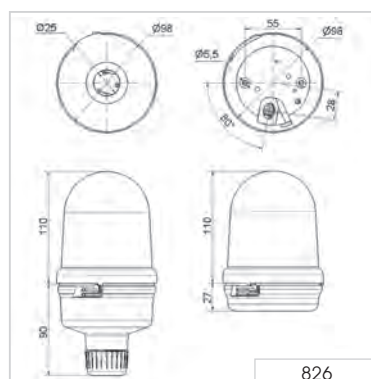
Voltage:	12-230 V	12-230 V
red	826 100 00	826 110 00
green	826 200 00	826 210 00
yellow	826 300 00	826 310 00
clear	826 400 00	826 410 00
blue	826 500 00	826 510 00

**ACCESSORIES:**

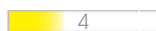
Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91

Bulb BA15d, 15 W, total length 48 mm

Voltage:	24 V AC/DC	230 V AC/DC
	955 826 35	955 826 38

**TECHNICAL DIAGRAM:****Signalisation index**

Permanent Light

Base/Bracket
mountingBase/Bracket
mountingTube
mounting



Base/Bracket Mounting



Tube mounting



Accessories

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

	Base/Bracket mounting	Tube mounting	
Dimensions (Ø x Height):	98 mm x 137 mm	98 mm x 200 mm	
Housing:		PC/ABS-Blend	
Lens:		PC, transparent	
Connection:		Screw terminal 0.5 - 1.5 mm ²	
Cable entry:		Cable diameter 5-7 mm	
Bulb:		Max. 25 W	
Blinking frequency:		1.5 Hz	
Starting current:	24 V AC/DC 3 A	115 V AC 0,6 A	230 V AC 0,35 A
Socket:		BA15d	

Bulb included in assembly.

Base/Bracket mounting

Voltage:	24 V AC/DC	115 V AC/DC	230 V AC/DC
red	827 100 75	827 100 77	827 100 78
yellow	827 300 75	827 300 77	827 300 78

Tube mounting

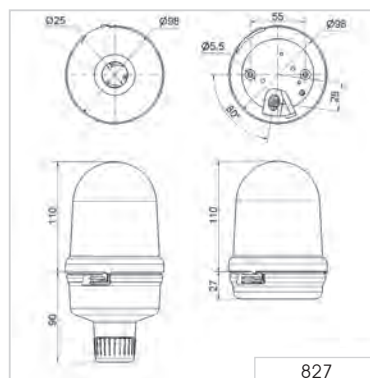
Voltage:	24 V AC/DC	115 V AC/DC	230 V AC/DC
red	827 110 75	827 110 77	827 110 78
yellow	827 310 75	827 310 77	827 310 78

**ACCESSORIES:**

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium, 100 mm long	975 845 10
Base for tube, plastic, Ø 25 mm	975 840 90
Base for tube, metal, Ø 25 mm	975 840 91

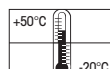
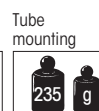
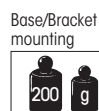
Bulb BA15d, 25 W, total length max. 55 mm

Voltage:	24 V AC/DC	115 V AC/DC	230 V AC/DC
	955 827 35	955 827 37	955 827 38

**TECHNICAL DIAGRAM:****Signalisation index**

Blinking Light

5





Base/Bracket Mounting



Tube mounting



Accessories

Signalisation index

Xenon Flashing Light



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Bracket mounting	Tube mounting
Dimensions (Ø x Height):	98 mm x 137 mm	98 mm x 200 mm
Cable entry:		Cable diameter 5-7 mm
Housing:		PC/ABS-Blend
Lens:		PC, transparent

FLASHING BEACON 828

Connection:	Screw terminal 0.5 - 1.5 mm ²
Flash energy:	5 Ws
Flash frequency:	C. 1 Hz
Life duration:	4 x 10 ⁶ flashes

12 V: Safety contact is triggered by removal of lens.

Base/Bracket mounting

Voltage:	12 V DC	24 V DC	10-60 V AC/DC	115 V AC	230 V AC
Current consumption:	500 mA	300 mA	500-120 mA	65 mA	150 mA
red	828 100 54	828 100 55	828 180 70	828 100 67	828 100 68
yellow	828 300 54	828 300 55	828 380 70	828 300 67	828 300 68
clear	-	828 400 55	828 480 70	-	828 400 68

Tube mounting

Voltage:	24 V DC	115 V DC	230 V AC
red	828 140 55	828 140 67	828 140 68
yellow	828 340 55	828 340 67	828 340 68
clear	828 440 55	-	-

FLASHING BEACON 828 WITH 2 FREQUENCIES

Connection:	Screw terminal 0.5 - 1.5 mm ²
Flash energy:	5 Ws
Flash frequency:	0.5 Hz or 1.5 Hz can be set externally
Life duration:	4 x 10 ⁶ flashes

	Base/Bracket mounting	Tube mounting
Voltage:	24 V DC	24 V DC
Current consumption:	500 mA	500 mA
red	828 120 55	828 160 55
yellow	828 320 55	828 360 55

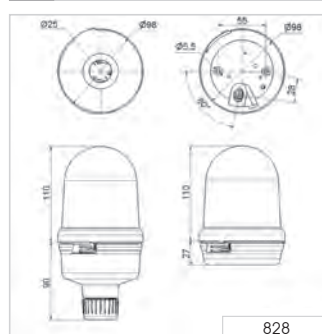


ACCESSORIES:

Accessories see page 146.



TECHNICAL DIAGRAM:



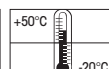
828 X00 XX
828 X40 XX
828 X20 XX
828 X60 XX



Base/Bracket mounting



Tube mounting





Modified flashing beacon 828
specifically for use in road tunnels



Clear identification of escape
routes can save lives



A special valve in the lens also
prevents the build-up of
condensation inside the beacon



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base mounting, bracket mounting (accessory)
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal 0.5 - 1.5 mm ²
Flash energy:	5 Ws
Flash frequency:	C. 1 Hz
Life duration:	4 x 10 ⁶ flashes
Voltage:	230 V AC
Current consumption:	140 mA
yellow	828 370 68
clear	828 470 68

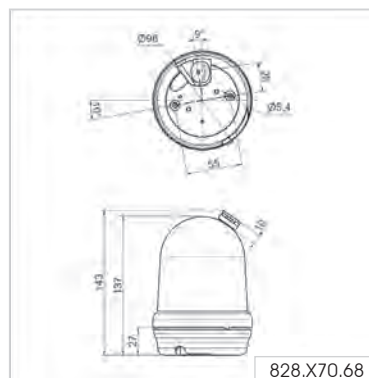


ACCESSORIES:

Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03

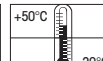


TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light





Base mounting



Rotating Mirror Beacon 885 with tube and base (accessories)



Plastic bracket und wire guard (accessories)

Signalisation index

Rotating Mirror



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Bracket mounting	Tube mounting
Dimensions (Ø x Height):	98 mm x 151 mm	98 mm x 200 mm
Housing:		PC/ABS-Blend
Lens:		PC, transparent
Connection:		Screw terminal 0.5 - 1.5 mm ²
Cable entry:		Cable diameter 5-7 mm
Installation position:		Standing, Tube mounting if required
Halogen bulb:		G 6.35 20 W 12 V / 24 V
Mirror rotation rate:		C. 180 r.p.m.
Service life of drive		> 5,000 hrs
Duty cycle:		100 %

Halogen bulb included in assembly.

Base/Bracket mounting

Voltage:	12 V DC	24 V AC/DC	115 V AC / 115 V DC / 230 V AC / 230 V DC
Current consumption:	1,9 A	1,0 A	0,4 A / 0,2 A / 0,2 A / 0,1 A
red	885 100 54	885 100 75	885 100 78
green	885 200 54	885 200 75	885 200 78
yellow	885 300 54	885 300 75	885 300 78
blue	885 500 54	885 500 75	885 500 78

Tube mounting

Voltage:	12 V DC	24 V AC/DC	115 V AC / 115 V DC / 230 V AC / 230 V DC
Current consumption:	1,9 A	1,0 A	0,4 A / 0,2 A / 0,2 A / 0,1 A
red	885 110 54	885 110 75	885 110 78
green	885 210 54	885 210 75	885 210 78
yellow	885 310 54	885 310 75	885 310 78
blue	885 510 54	885 510 75	885 510 78



ACCESSORIES:

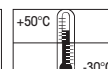
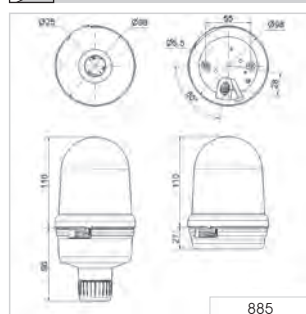
Plastic bracket for wall mounting	975 826 05
Wire guard, galvanised, only for base mounting	975 826 03
Tube Ø 25 mm, all anodized aluminium	
100 mm long	975 845 10
250 mm long	975 840 25
Base for tube mounting, plastic, Ø 25 mm	975 840 90
Base for tube mounting, metal, Ø 25 mm	975 840 91

SPARE PARTS:

Halogen bulb 20 W/12 V für 12 V DC	
115 V AC/DC, 230 V AC/DC	955 885 24
Halogen bulb 20 W/24 V für 24 V AC/DC	955 885 25



TECHNICAL DIAGRAM:



Maxi Signal Beacons – 280/838/883/884 families

Size comparison Mini/Midi/Maxi



Signalisation index

Optical	
LED Permanent Light	6
LED Rotating Light	7
LED Flashing Light	8
LED EVS Light	10
Xenon Flashing Light	9
Rotating Mirror/Rotating Light	9

Your benefits

WERMA's Maxi Beacons give flexible signalling over larger distances. The IP65 rated units are ideally suited for use in both indoor and outdoor applications.

838 xenon double flash:

- Very bright, even in direct sunlight and over longer distances

280 LED beacons:

- Versatile light effects (permanent / rotating / flash / EVS) for a wide range of applications
- Resistant to shock and vibration
- Maintenance-free operation and low running costs

883/884 rotating mirror beacons:

- High intensity light and robust housing
- Easy to connect, without removing the mechanical assembly

Typical applications

Signalling faults and relaying alarms

- In building technology
- For door and gate systems
- On machinery and plant equipment, over long distances

Installation options

- Base mounting
- Tube mounting
- Bracket mounting

Features

- Tamper-proof and shock-resistant up to 20 joules
- Optional wire guard to protect against mechanical damage

883/884 rotating mirror beacons:

- Quiet, with low-wear wheel and disc drive

884 revolving beacon:

- Special Fresnel lenses produce beams of light that can be seen over longer distances even in poor light conditions





Plastic bracket (accessory)



Plastic bracket, adaptor for tube mounting and wire guard (accessories)

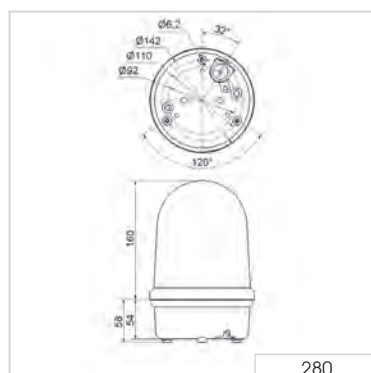
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS-Blend	
Lens:	PC, transparent	
Fixing:	Base/bracket mounting (accessory), tube mounting (accessory)	
Cable entry:	Cable diameter 5-7 mm	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	

Voltage:	12-50 V DC	230 V AC
Current consumption:	12 V: 500 mA	50 mA
	50 V: 100 mA	
red	280 100 55	280 100 68
yellow	280 300 55	280 300 68

**ACCESSORIES:**

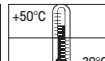
Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Wire guard, only for base mounting	975 883 08

**TECHNICAL DIAGRAM:**

280

Signalisation index

LED Permanent Light





High impact resistance
to 20 Joules



Plastic bracket, adaptor for tube
mounting and wire guard
(accessories)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS-Blend, black	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket/Tube mounting (accessory)	
Cable entry:	Cable diameter 5-7 mm	
Connection:	Screw terminal 0.5 - 1.5 mm²	
Rotation rate:	C. 180 r.p.m.	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	150 mA	< 200 mA
red	280 120 55	280 120 68
yellow	280 320 55	280 320 68

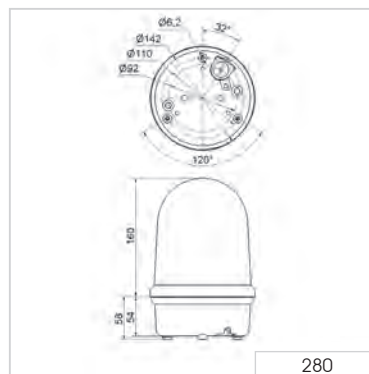


ACCESSORIES:

Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Wire guard, only for base mounting	975 883 08

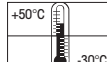


TECHNICAL DIAGRAM:



Signalisation index

LED Rotating Light



24 V





Base mounting



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



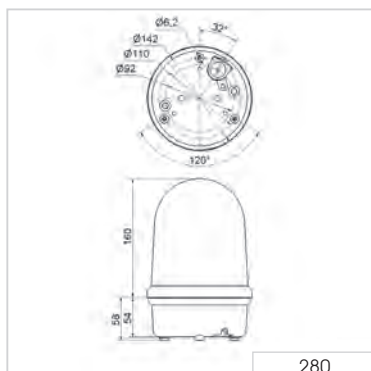
Plastic bracket, Adaptor for tube mounting and wire guard (accessories)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

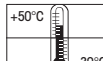
Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS-Blend	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket/Tube mounting (accessory)	
Cable entry:	Cable diameter 5-7 mm	
Connection:	Screw terminal 0.5 - 1.5 mm²	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	< 150 mA	< 350 mA
red	280 150 55	280 150 60
yellow	280 350 55	280 350 60
clear	280 450 55	280 450 60

**ACCESSORIES:**

Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Wire guard, only for base mounting	975 883 08

**TECHNICAL DIAGRAM:****Signalisation index**

LED Flashing Light





Base mounting

Bracket mounting
(accessory)

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

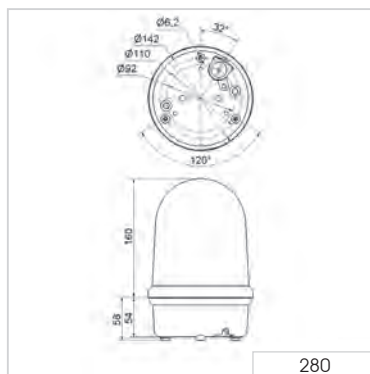
Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS-Blend	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket/Tube mounting (accessory)	
Cable entry:	Cable diameter 5-7 mm	
Connection:	Screw terminal 0.5 - 1.5 mm²	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	< 500 mA	< 350 mA
red	280 160 55	280 160 60
yellow	280 360 55	280 360 60
clear	280 460 55	280 460 60

A ACCESSORIES:

Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Wire guard, only for base mounting	975 883 08

(Accessories see page 156)

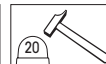
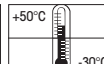
T TECHNICAL DIAGRAM:



Signalisation index

LED EVS

10



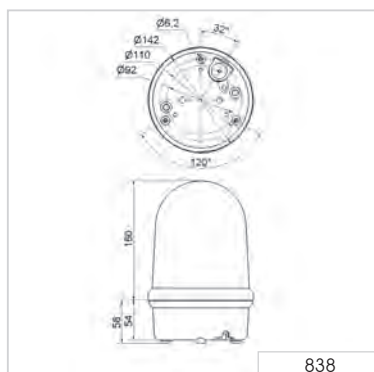

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	142 mm x 218 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Fixing:	Base mounting, Bracket/Tube mounting (accessory)		
Cable entry:	Cable diameter 5-7 mm		
Connection:	Screw terminal 0.5 - 1.5 mm ²		
Flash energy:	15 Ws		
Flash frequency:	C. 1 Hz		
Life duration:	4 x 10 ⁶ flashes		

Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	800 mA	400 mA	200 mA
red	838 100 55	838 100 67	838 100 68
yellow	838 300 55	838 300 67	838 300 68

ACCESSORIES:

Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Wire guard, only for base mounting	975 883 08

TECHNICAL DIAGRAM:


Wire guard
(accessory)



Adaptor for tube mounting
and plastic bracket
(accessories)

Signalisation index

Xenon Flashing Light





Bracket (accessory)



Plastic bracket, adaptor for tube mounting and wire guard (accessories)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	142 mm x 218 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base mounting, bracket mounting, tube mounting (accessory)
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal 0.5 - 1.5 mm ²
Drive:	Wheel and disc drive, motor in centre of gravity
Halogen bulb:	G 6.35 35 W 12 V / 24 V
Mirror rotation rate:	180 r.p.m.
Service life of drive:	> 5,000 hrs
Duty cycle:	100 %

Halogen bulb included in assembly.

Voltage:	12 V DC	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	3 A	1,6 A	0,35 A	0,17 A
red	883 100 54	883 100 75	883 100 77	883 100 68
green	883 200 54	883 200 75	883 200 77	883 200 68
yellow	883 300 54	883 300 75	883 300 77	883 300 68
blue	883 500 54	883 500 75	883 500 77	883 500 68

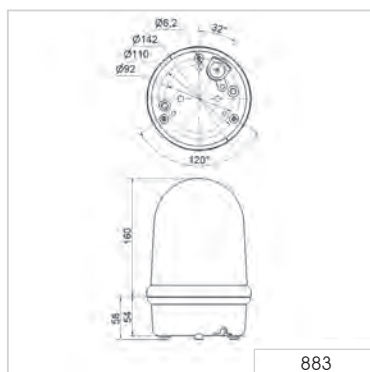
Further colours and voltages on request.

**ACCESSORIES:**

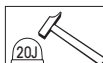
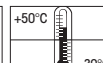
Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Base for tube mounting	975 840 91
Tube, Ø 25 mm, 100 mm long	975 845 10
Tube, Ø 25 mm, 250 mm long	975 840 25
Wire guard, only for base mounting	975 883 08

SPARE PARTS:

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

**TECHNICAL DIAGRAM:****Signalisation index**

Rotating Mirror





Bracket
(accessory)



Plastic bracket, adaptor for tube
mounting and wire guard
(accessories)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	142 mm x 218 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base mounting, bracket mounting, tube mounting (accessory)
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal 0.5 - 1.5 mm ²
Drive:	Wheel and disc drive, motor in centre of gravity
Halogen bulb:	G 6.35 35 W 12 V / 24 V
Mirror rotation rate:	60 r.p.m.
Service life of drive:	> 5,000 hrs
Duty cycle:	100 %

Halogen bulb included in assembly.

Voltage:	24 V AC/DC	230 V AC
Current consumption:	1,6 A	0,17 A
red	884 100 75	884 100 68
green	884 200 75	884 200 68
yellow	884 300 75	884 300 68
blue	884 500 75	884 500 68

Further colours and voltages on request.



ACCESSORIES:

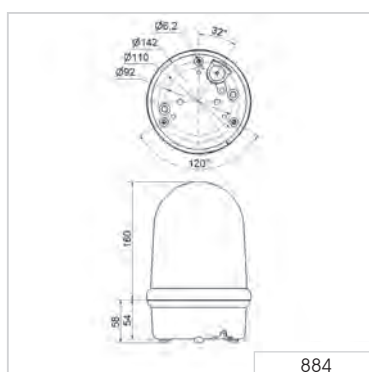
Plastic bracket for wall mounting	975 883 06
Adaptor for tube mounting	975 883 09
Base for tube mounting	975 840 91
Tube, Ø 25 mm, 100 mm long	975 845 10
Tube, Ø 25 mm, 250 mm long	975 840 25
Wire guard, only for base mounting	975 883 08

SPARE PARTS:

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

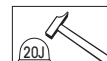
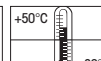


TECHNICAL DIAGRAM:



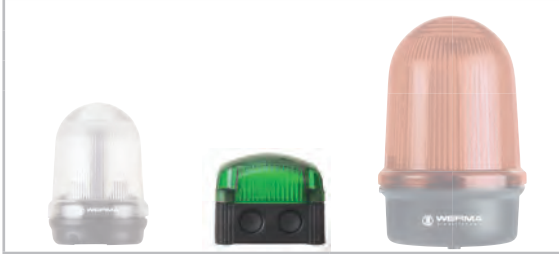
Signalisation index

Rotating Light



FlexSQUARE – Square shaped beacons

Size comparison Mini/Midi/Maxi



Signalisation index

Optical	
LED Permanent Light	5
LED Flashing Light	6
LED EVS	8

Your benefits

The compact 853 LED beacon is particularly versatile. With an IP67 protection rating, it is suitable for all indoor and outdoor applications, even in harsh environmental conditions.

- Powerful high-output, forward-directed light effect
- Clearly visible, also from the side
- Easy mounting and electrical installation thanks to the elastic, self-sealing, membranes or optional M20 cable gland for mounting on different sides
- Many combinations possible (traffic lights, for example)
- Where space is restricted: Multi-coloured version available, with up to seven colours

153 multi-tone siren:

- Loud audible signal to complement 853 beacon or as a stand-alone product
- Eight signal tones to choose from and a signal escalation option using three different externally triggerable tones

Typical applications

Signalling of faults

- In lift and hoist systems (48 V)
- In building technology

Installation options

- Wall mounting
- Base mounting

Features

- Signal escalation possible with LED permanent light, LED double flash and EVS light in different colours
- Wide range of light effects and voltage options (12V, 24V, 48V and 115-230V)
- With the multi-coloured version, the three basic colours red, yellow and green can be activated with just two PLC outputs. With a third output, a further four colours are available

153 multi-tone siren:

- The sound output can be adjusted remotely





i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

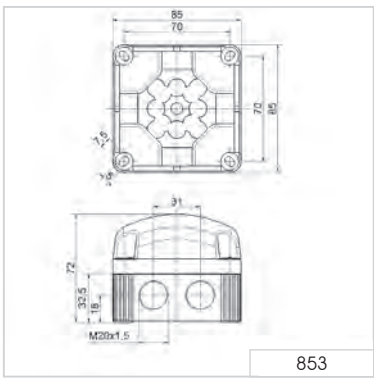
Dimensions (L x H x W):	85 mm x 85 mm x 72 mm		
Housing:	PP-GF, black		
Lens:	PC, transparent		
Connection:	Screw terminal 0.5 - 1.5 mm ² CAGE CLAMP® 0,5 bis 1,5 mm ² (Multicolour, RGY)		
Fixing:	Wall, base and ceiling mounting		
Possible colours:	Red, yellow, green, white, blue, violet, turquoise (multicolour)		
Equipment:	Elastic 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)		
Life duration:	Up to 50,000 hrs		

LED Permanent Beacon				
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 180 mA	< 80 mA	< 35 mA	< 40 mA
red	853 100 54	853 100 55	853 100 66	853 100 60
green	853 200 54	853 200 55	853 200 66	853 200 60
yellow	853 300 54	853 300 55	853 300 66	853 300 60
clear	853 400 54	853 400 55	853 400 66	853 400 60
blue	853 500 54	853 500 55	853 500 66	853 500 60
LED Permanent Beacon (multicolour)				
Voltage:		24 V DC		115-230 V AC
Current consumption:		< 150 mA		< 35 mA
Multicolour		853 480 55		-
RGY (red, green, yellow)		-		853 480 60

ACCESSORIES:

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

TECHNICAL DIAGRAM:



LED Permanent Light multicolour: 7 colours in one beacon: red, yellow, green, clear, blue, violet, turquoise

Signalisation index

LED Permanent Light

5

CE

ERL

160g

IP67

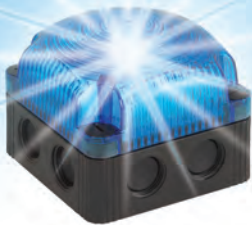
+50°C

-25°C

24 V

PLC





Intense double flash effect
with low power consumption



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W): 85 mm x 85 mm x 72 mm

Housing: PP-GF, black

Lens: PC, transparent

Connection: Screw terminal 0.5 - 1.5 mm²

Fixing: Wall, base and ceiling mounting

Equipment: Elastic 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)

Life duration: Up to 50,000 hrs

Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 100 mA	< 80 mA	< 95 mA	< 180 mA
red	853 110 54	853 110 55	853 110 66	853 110 60
green	853 210 54	853 210 55	853 210 66	853 210 60
yellow	853 310 54	853 310 55	853 310 66	853 310 60
clear	853 410 54	853 410 55	853 410 66	853 410 60
blue	853 510 54	853 510 55	853 510 66	853 510 60



ACCESSORIES:

Connector for traffic light combinations

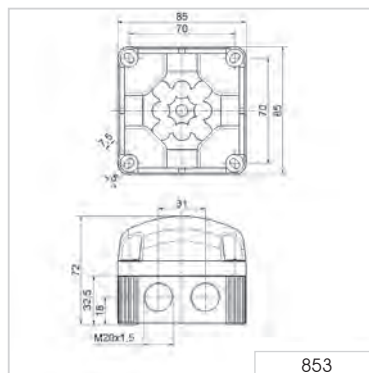
975 853 01

Cable gland M20 x 1.5 mm, 8mm thread length

975 853 02



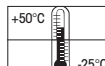
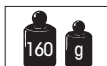
TECHNICAL DIAGRAM:



853

Signalisation index

LED Flashing Light



24 V





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



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



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W): 85 mm x 85 mm x 72 mm

Housing: PP-GF, black

Lens: PC, transparent

Connection: Screw terminal 0.5 - 1.5 mm²

Cable entry: Cable diameter max. 8 mm, optional Cable gland M20 (accessory)

Fixing: Wall, base and ceiling mounting

Equipment: Elastic 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)

Life duration: Up to 50,000 hrs

Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 400 mA	< 200 mA	< 95 mA	< 160 mA
red	853 120 54	853 120 55	853 120 66	853 120 60
green	853 220 54	853 220 55	853 220 66	853 220 60
yellow	853 320 54	853 320 55	853 320 66	853 320 60
clear	853 420 54	853 420 55	853 420 66	853 420 60
blue	853 520 54	853 520 55	853 520 66	853 520 60



ACCESSORIES:

Connector for traffic light combinations

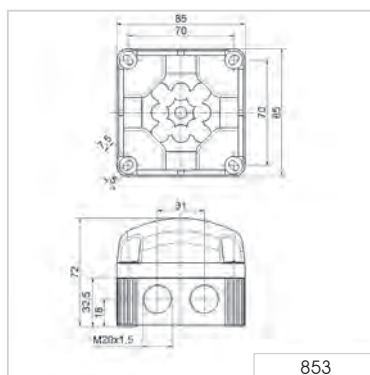
975 853 01

Cable gland M20 x 1.5 mm, 8mm thread length

975 853 02



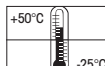
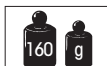
TECHNICAL DIAGRAM:



Signalisation index

LED EVS Light

8



24 V





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



Three highly visible light effects are available



The LED beacon can be used with the sounder



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W): 85 mm x 85 mm x 72 mm

Housing: PP-GF, black

Lens: PC, transparent

Connection: Screw terminal 0.5 - 1.5 mm²
CAGE CLAMP® 0,5 - 1,5 mm² (Multicolour, RGY)

Fixing: Wall, base and ceiling mounting

Possible colours: Red, green, yellow, clear, blue

Operating voltage: 12 V DC, 24 V DC, 115-230 V AC

Current consumption: Max. 80 mA at 24 V (LED Permanent Beacon)
Max. 80 mA at 24 V (LED Double Flash Beacon)
Max. 200 mA at 24 V (LED EVS Beacon)
Max. 150 mA at 24 V (Multicolour)

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)

Life duration: Up to 50,000 hrs

LED Permanent Beacon 853 **see page 163**

LED Permanent Beacon 853 (multicolour) **see page 163**

LED Permanent Beacon 853 (RGY) **see page 163**

LED Double Flash Beacon 853 **see page 164**

LED EVS Beacon 853 **see page 165**

Sounder 153 **see page 167**



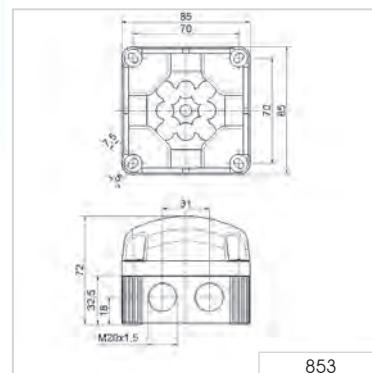
ACCESSORIES:

Connector for traffic light combinations **975 853 01**

Cable gland M20 x 1.5 mm, 8mm thread length **975 853 02**



TECHNICAL DIAGRAM:



853



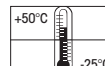
853 X00 XX



853 X10 XX



853 X20 XX



24 V





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



TECHNICAL SPECIFICATIONS/ORDER 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 0.5 - 1.5 mm ²			
Cable entry:	Cable diameter max. 8 mm, optional Cable gland M20 (accessory)			
Fixing:	Wall and ceiling mounting			
Current consumption:	Max. 200 mA at 24 V			
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)			
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	150 mA	100 mA	150 mA	75 mA (115 V) 150 mA (230 V)
Order no.:	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 163 (LED Permanent Beacon), page 164 (LED Double Flash Beacon) and page 165 (LED EVS Beacon).



ACCESSORIES:

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

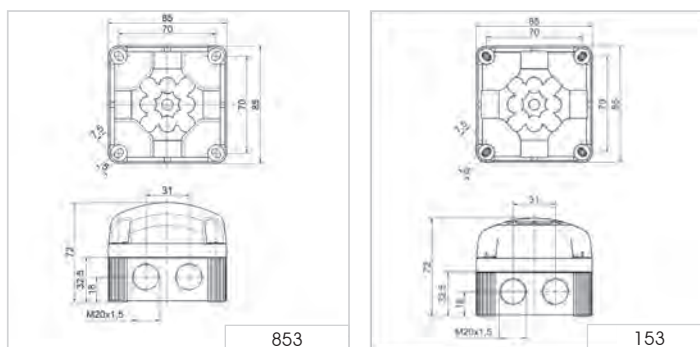


-tone TYPES AND FREQUENCIES:

Tone	Tone type	Tone	Tone type
1	Continuous tone (ca. 3000 Hz)	5	800 - 970 Hz rising @ 1 H
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:



Signalisation index

Multi-tone siren



12 V, 24 V

48 V, 115-230 V



PLC



Heavy-Duty Beacons - 839

Size comparison Maxi/Heavy Duty



Signalisation index

Optical	
LED Permanent Light	6
LED Rotating Light	7
Flashing Light Xenon	9
Rotating Mirror/Rotating Light	7

Your benefits

The heavy-duty beacons have the advantage of a robust and seawater-resistant aluminium housing unit in conjunction with a shock-resistant wire guard. These products are therefore especially suitable for use in harsh environments, locations exposed to seawater, or situations where excellent shock resistance is required.

- Maintenance-free operation permits use in locations where access is difficult
- Optimum protection, against even severe mechanical strain or exposure to seawater

Typical applications

Signalling faults and relaying alarms

- In outdoor and indoor areas under extreme conditions
- For maritime applications on ships or in harbour areas

Installation options

- Base mounting
- Bracket mounting

Features

- Special screwed cable gland for equalising the pressure in the housing with the environmental pressure
- IP66 / 67 for use in harsh conditions



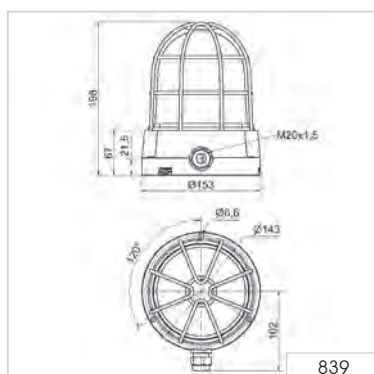

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	153 mm x 198 mm	
Housing:	Black laquered aluminium with integral wire guard	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket mounting (accessory)	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm	
Installation position:	As required	
Life duration:	Up to 50,000 hrs	

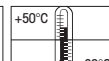
Voltage:	12-50 V DC	230 V AC
Current consumption:	500-100 mA	50 mA
red	839 100 55	839 100 68
yellow	839 300 55	839 300 68

ACCESSORIES:

Mounting bracket	975 839 02
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TECHNICAL DIAGRAM:

Signalisation index

LED Permanent Light





Mounting bracket
(accessory)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	153 mm x 198 mm
Housing:	Black laquered aluminium with integral wire guard
Lens:	PC, transparent
Fixing:	Base mounting, Bracket mounting (accessory)
Connection:	Screw terminal 0.5 - 1.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm
Installation position:	As required
Rotation rate:	C. 180 r.p.m.
Life duration:	Up to 50,000 hrs

Voltage:	24 V DC	115-230 V AC
Current consumption:	150 mA	70-180 mA
red	839 120 55	839 120 68
yellow	839 320 55	839 320 68

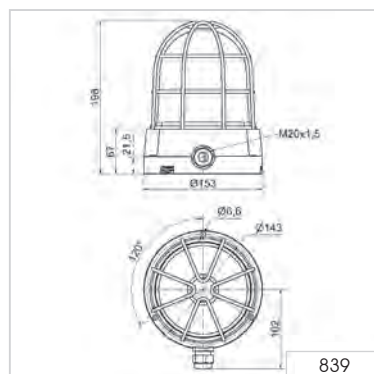


ACCESSORIES:

Mounting bracket	975 839 02
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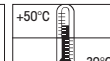


TECHNICAL DIAGRAM:



Signalisation index

LED Rotating Light



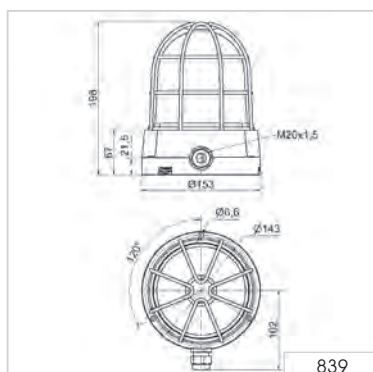
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	153 mm x 198 mm	
Housing:	Black laquered aluminium with integral wire guard	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket mounting (accessory)	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm	
Installation position:	As required	
Flash energy:	15 Ws	
Flash frequency:	C. 1 Hz	
Life duration:	4 x 10 ⁶ flashes	

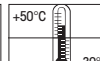
Voltage:	24 V DC	230 V AC
Current consumption:	800 mA	200 mA
red	839 152 55	839 152 68
yellow	839 352 55	839 352 68

**ACCESSORIES:**

Mounting bracket	975 839 02
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**TECHNICAL DIAGRAM:****Signalisation index**

Xenon Flashing Light



839

Rotating Mirror Beacon



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	153 mm x 198 mm	
Housing:	Black laquered aluminium with integral wire guard	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket mounting (accessory)	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm	
Installation position:	As required	
Halogen bulb:	G 6.35 20W 12/24 V	
Mirror rotating rate:	180 r.p.m.	
Service life of drive:	> 5,000 hrs	
Voltage:	24 V AC/DC	115 V AC / 115 V DC / 230 V AC / 230 V DC
Current consumption:	1,0 A	0,35 A / 0,2 A / 0,15 A / 0,1 A
red	839 160 75	839 160 78
yellow	839 360 75	839 360 78



ACCESSORIES:

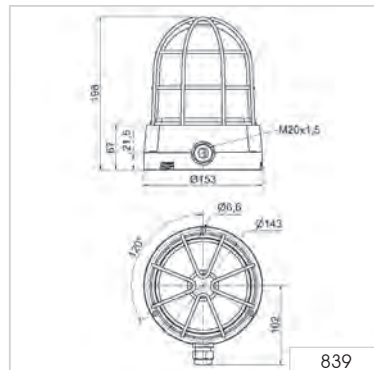
Mounting bracket	975 839 02
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SPARE PARTS:

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

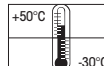
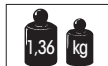


TECHNICAL DIAGRAM:



Signalisation index

Rotating Mirror



Obstruction Light



Why do obstacles need to be illuminated?

The law stipulates that buildings of a specific height and in the vicinity of airports as well as factory chimneys, towers, masts etc. must be equipped with obstruction lights.

This special lighting makes obstacles visible for pilots in the dark or when visibility is poor. Obstruction lighting is one of the most important aspects of flight safety.

What directives and regulations are there?

The method of marking obstacles to air traffic is laid down by diverse laws, regulations and recommendations. These regulations have a clearly defined sphere of influence and are **internationally interlinked**.

The International Civil Aviation Organisation (**ICAO**) is a special organisation within the United Nations created to establish and develop universal regulations for safety, continuity and economic efficiency in international air traffic. The recommendations of the ICAO are not directly binding in the member states, but must be transformed by them into the appropriate **national legal regulations**.

In **Germany** the Ministry for Transport and Construction Development (**BMVBS**) issues the regulations covering obstruction lighting on buildings. The **ICAO** regulations regarding the methods of marking and lighting aviation obstacles can be found in ICAO Annex 14.

- **"Low intensity obstacle beacon type A"**: a red permanent night-time warning beacon for fixed obstructions with a brightness of 10 cd.
- **"Low intensity obstacle beacon type B"**: a red permanent night-time warning beacon for fixed obstructions with a brightness of 32 cd.

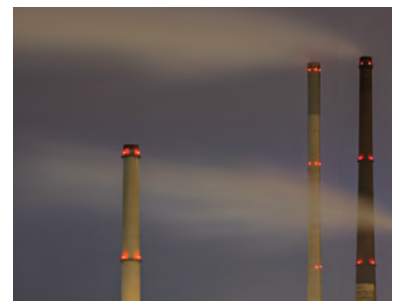
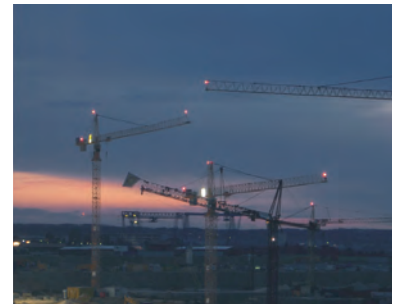
Where are obstacle lights deployed?



- **Germany**: Marking of aviation obstacles by night at any height providing the highest point of the obstacle can be marked.



- **According to ICAO**: Marking of aviation obstacles by night up to 45 m ("Low-intensity Obstacle Light, Type A"), additionally in combination with "medium-intensity obstacle lights"





LED Obstruction Light Type B

LED Obstruction Light Type A -
The adaptor (accessory) allows
quick and simple mounting on
a tubePlastic bracket, adaptor for
tube mounting (accessories)**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height): 142 mm x 218 mm

Housing: PC/ABS-Blend

Lens: PC, transparent, clear

Connection: Screw terminal 0.5 - 1.5 mm²

Cable entry: Cable diameter 5-7 mm

Fixing: Base mounting, bracket mounting (accessory), tube mounting (accessory)

Duty cycle: 100 %

Life duration: Up to 50,000 hrs

Current consumption at failure of 2 of the 12 LED strips: < 50mA

Low-intensity LED Obstruction Light Type A

Voltage: 12-50 V DC

Current consumption: 500-100 mA

aviation red **280 410 55****Low-intensity LED Obstruction Light Type B (includes Type A)**

Voltage: 24 V DC 230 V AC 230 V AC (with monitoring funct.)

Current consumption: ~ 400 mA ~ 200 mA ~ 200 mA / < 50 mA (Failure mode)

aviation red **280 470 55** **280 470 68** **280 480 68****ACCESSORIES:**

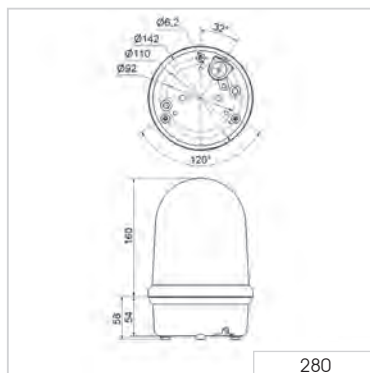
Plastic bracket for wall mounting

975 883 06

Wire guard, only for base mounting

975 883 08

Adaptor for tube mounting

975 883 09**TECHNICAL DIAGRAM:**

Low-intensity LED Obstruction Light Type A and B



LED Obstruction Light Type B



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height): 185 mm x 205 mm

Housing: Aluminium, coloured powder coating

Lens: Reinforced borosilicate glass

Connection: Screw terminal 0.5 - 1.5 mm²

Cable entry: Cable gland M25 x 1.5 mm (included in assembly),
Cable diameter 9-17 mm
Reducer unit (included in assembly)

Fixing: Base mounting, tube mounting M25 (no accessory required)

Life duration: Up to 50,000 hrs

Low-intensity LED Obstruction Light Type A

Voltage: 12-50 V DC

Current consumption: 500-100 mA

aviation red **281 410 55**

Low-intensity LED Obstruction Light Type B (includes Type A)

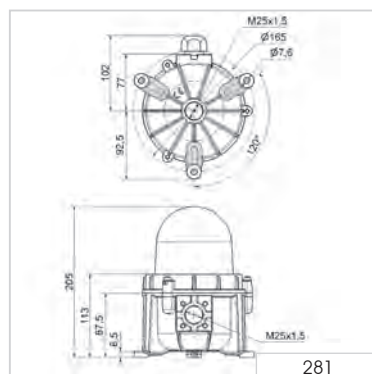
Voltage: 24 V DC 230 V AC 230 V AC (with monitoring funct.)

Current consumption: ~ 400 mA ~ 200 mA ~ 200 mA / < 50 mA (Failure mode)

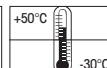
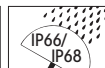
aviation red **281 470 55** **281 470 68** **281 480 68**



TECHNICAL DIAGRAM:



LED Obstruction Light Type A



Traffic Lights/Signal Beacons - 890/895/897/894/ + 494 families

Size comparison Midi/Traffic Lights



Signalisation index

Optical	
LED Permanent Light 890	7
LED Permanent Light 894	6
Permanent Light (bulb) 890	4
Flashing Light Xenon 890	9
Audible	
Multi-tone 190	8
Vocal alarm 190	7
Siren 494	4

Your benefits

Signal lights and traffic lights from the 890/895/897/494 range provide reliable signalling, both as single lights or as combined signalling lights.

Modular traffic lights 890 and multi-tone sounder 190:

- Cost-effective traffic light with 25W incandescent bulb or LED traffic light with clear lenses
- Easy installation in just a few steps and with any combination of 4 lights

Multi-colour variant (RGY):

- Drastic reduction in number of variants by combining three light colours in a single product – Ideal where space is restricted
- Additional high-output audible signalling of up to 110 dB(A) available in combination with multi-tone sounder/vocal alarm 190

Compact LED traffic light 894/traffic light combination 494 for extreme ambient conditions:

- With high IP65/IP69K protection rating for use in extremely harsh conditions
- The 494 range combines a high-output optical signal with a powerful 90dB siren



Typical applications

- Garages and car parks
- Access control in building service systems
- Traffic regulation on construction sites
- Signalling for loading bays
- Car washes/washing areas

Installation options

Modular traffic light 890:

- Direct mounting or bracket mounting of up to 4 lights with fixing bracket

Compact LED traffic light 894/494:

- Wall mounting and tube mounting with additional adapter

Features

190 Vocal Alarm:

- The vocal alarm enables the high-output playback of spoken messages, music and tones provided in mp3 format



LED Permanent Beacon

LED Traffic Light Combination
with mounting bracket
(accessory)

Clear lenses ensure effective
signalling even in direct sunlight

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	150 mm x 154 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
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.
Colours:	Red, green, yellow
Connection:	CAGE CLAMP® 0.5 - 1.5 mm²
Installation position:	As required
Life duration:	Up to 50,000 hrs

LED Beacon/LED Traffic Light

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

LED Permanent Light (RGY)

Voltage:	12-24 V DC	230 V AC
Current consumption:	< 220 mA	< 40 mA
RGY (red, green, yellow)	890 480 55	890 480 68

**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 183.

CONNECTING GROMMET

Connecting grommet for traffic light combinations	975 890 25
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**ADDITIONAL INFORMATION:**

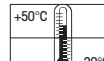
Traffic light configurator at www.werma.com



TECHNICAL DIAGRAMS: see page 181

Signalisation index

LED Permanent Light



890/190

(LED) Beacon 890/Multi-Tone Sounder 190/
Vocal alarm 190 CombinationHigh-output
traffic light combinationThe fixing bracket can be
mounted pointing inwards
or outwards (accessory)

Signalisation index

LED Permanent Light	7
Vocal alarm	7
Multi-tone siren	8



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

(LED-)Beacon/Sounder 190/Vocal Alarm 190

Dimensions (Ø x Height):	150 mm x 154 mm (890)
	150 mm x 127 mm (190)
	150 mm x 148 mm (Vocal Alarm 190)
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Fixing:	Base mounting, fixing bracket (accessory)
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
Connection:	CAGE CLAMP® 0.5 - 1.5 mm²

Vocal Alarm 190

Sound output:	Adjustable, up to 110 dB
File Transfer:	Via USB connection and provided software
Possible format:	Mp3 and wav files
Number of sequences:	15 files can be remotely triggered or one sequence with max. 50 files
Suitable for:	Windows®, System requirements - see Handbook
Assembly:	Vocal alarm, USB connection cable and software

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

Vocal Alarm 190

Voltage:	24 V DC
Current consumption:	< 500 mA Low Power < 1500 mA High Power
grey	190 020 55

LED Beacon 890 see page 177

Permanent Beacon 890 see page 180



ACCESSORIES:

Fixing bracket, tube adaptor and connecting grommet see page 181.

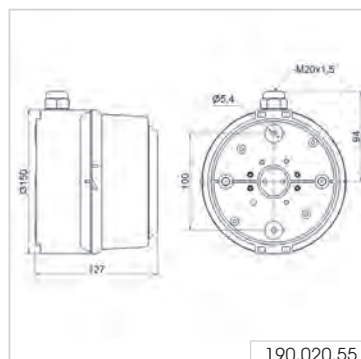


TONE TYPES AND FREQUENCIES:

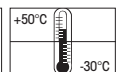
Selectable via DIP switch, see tone table on page 239.



TECHNICAL DIAGRAM:



CE



(A)



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

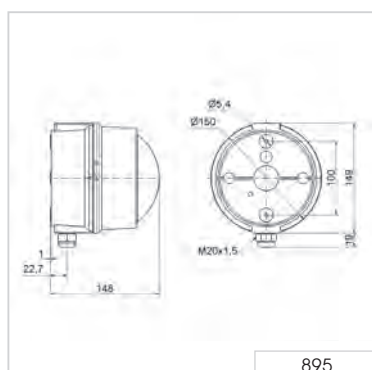
Dimensions (Ø x Height):	150 mm x 148 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Socket:	E27 max. 25 W 2 sockets E14 each with max. 15 W with adhesive stickers E27 max. 15 W
Fixing:	Base mounting, tube mounting and fixing bracket (accessory)
Connection:	CAGE CLAMP® 0.5 - 1.5 mm ²
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber grommet Ø 6-12 mm

Voltage:	12-230 V AC/DC
red	895 100 00
green	895 200 00
yellow	895 300 00
clear	895 400 00
blue	895 500 00

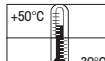
Bulb not included in assembly.

**ACCESSORIES:**

Fixing bracket, additional reflector, Bulbs and LED Bulbs, Adhesive Stickers see Permanent/Traffic Light Beacon (page 181).

**TECHNICAL DIAGRAM:****Signalisation index**

Permanent Light





Permanent Beacon

Traffic Light Combination
with mounting bracket
(accessory)**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	150 mm x 154 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Socket:	E27 max. 25 W at 890 X00 00 2 sockets each E14 with max. 15 W at 890 X10 00 with adhesive stickers E27 max. 15 W
Fixing:	Base mounting, fixing bracket (accessory), tube mounting (accessory)
Connection:	CAGE CLAMP® 0.5 - 1.5 mm ²
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber

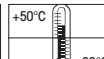
PERMANENT BEACON

Voltage:	12-230 V AC/DC
red	890 100 00
green	890 200 00
yellow	890 300 00
clear	890 400 00
blue	890 500 00

Further colours and voltages on request.

**ACCESSORIES:** see next page**Signalisation index**

Permanent Light





Beacon 890 in combination
with Multi-Tone Sounder 190
(see page 178)



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



890 with adhesive sticker
(accessory)



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 183.

CONNECTING GROMMET

Connecting grommet for traffic light combinations	975 890 25
---	------------

REFLECTOR

Additional reflector for 890 X00 00	975 890 02
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BULBS

LED bulb E27, 24 V	956 X20 75
LED bulb E27, 115 V	956 X20 67
LED bulb E27, 230 V	956 X20 68
For colours see page 184	

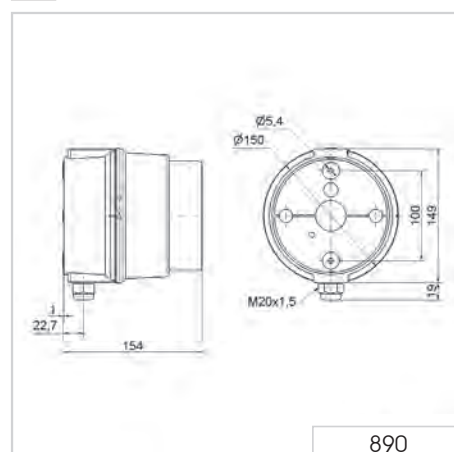
Bulb E27, 24 V / 25 W	955 890 55
Bulb E27, 115 V / 25 W	955 890 67
Bulb E27, 230 V / 25 W	955 890 68
Bulb E14, 230 V / 15 W	955 890 38

ADHESIVE STICKERS:

→	975 890 52
STOP	975 890 53
START	975 890 54
⚡	975 890 64
✋	975 890 65



TECHNICAL DIAGRAM:



897

Xenon Double Flash Beacon



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	150 mm x 148 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Fixing:	Base mounting, tube mounting and fixing bracket (accessory)
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
Connection:	Screw terminal, max. 2.5 mm ²
Flash frequency:	1 Hz
Flash energy:	15 Ws
Life duration:	4 x 10 ⁶ flashes

Voltage:	24 V DC	230 V AC
Current consumption:	800 mA	200 mA
red	897 100 55	897 100 68
yellow	897 300 55	897 300 68

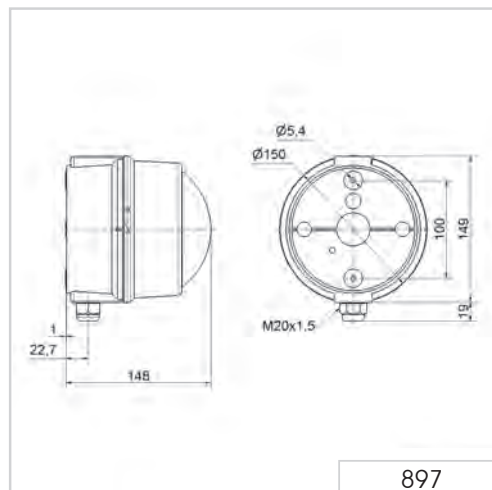
Further colours and voltages on request.



ACCESSORIES:

Fixing bracket, adhesive stickers see Permanent/
Traffic Light Beacon 890 (page 181).

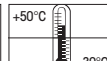
TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light

9





Fixing bracket for
(LED) Beacons 890
and Multi-Tone Sounder 190



The fixing bracket can be mounted
pointing inwards or outwards

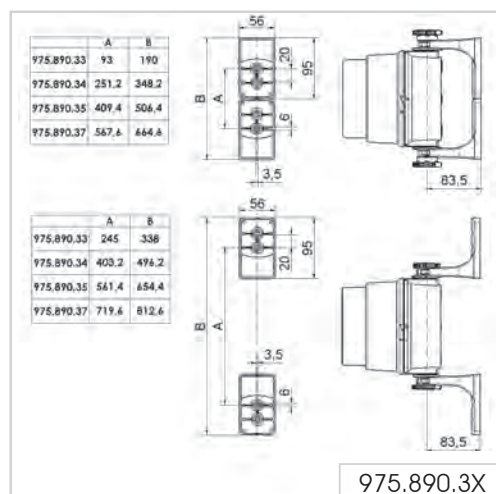


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

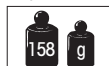
Material Fixing bracket:	PC/ABS-Blend, grey
Material Connecting Grommet:	PA 6.6
Assembly:	Fixing bracket with mounting material and connecting grommet
Suitable for:	LED Beacon/LED Traffic Light 890 Permanent/Traffic Light Beacon 890 Multi-Tone Sounder 190
Fixing bracket for one beacon	975 890 33
Fixing bracket for two beacons	975 890 34
Fixing bracket for three beacons	975 890 35
Fixing bracket for four beacons	975 890 37



TECHNICAL DIAGRAM:



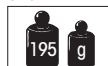
1 tier



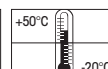
2 tier



3 tier



4 tier



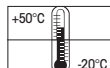
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:****Socket:** E27**For use with:** 890, 895

Slight deviations in the form of the bulbs are possible.

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 30 mA	≤ 30 mA	≤ 20 mA
red	956 120 75	956 120 67	956 120 68
green	956 220 75	956 220 67	956 220 68
yellow	956 320 75	956 320 67	956 320 68



Suitable for use in
Permanent/Traffic Light
Beacons 890 (see page 180)





LED Traffic Light (3 tier)



The direction of the optical signal
can be individually adjusted



Clear lenses ensure effective
signalling even in direct sunlight

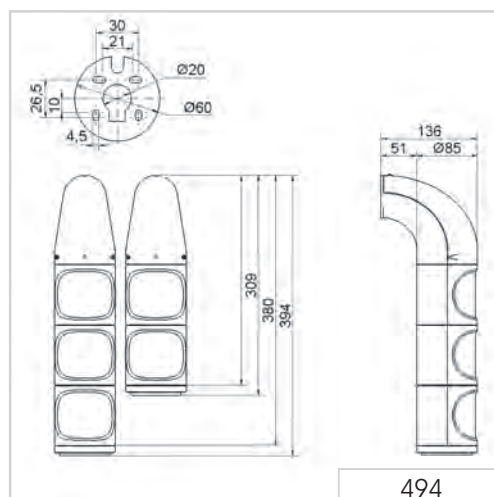
i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	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)	
Cable entry:	Cable diameter max. 13 mm	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Installation position:	Vertical/hanging	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	60 mA (red/yellow)	30 mA per tier
	120 mA (green)	at 230 V/50 Hz
red/green	894 160 55	894 160 68
red/yellow/green	894 180 55	894 180 68

u ACCESSORIES:

Fixing bracket underneath	975 894 01
---------------------------	-------------------

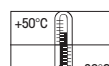
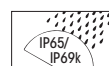
1 TECHNICAL DIAGRAM:



2 tier



3 tier





The direction of the optical signal can be individually adjusted

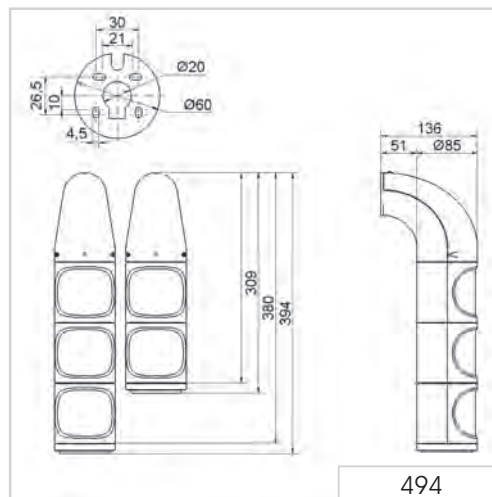


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	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)	
Cable entry:	Cable diameter max. 13 mm	
Connection:	Screw terminal 0.5 - 1.5 mm ²	
Installation position:	Vertical/hanging	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	60 mA (red/yellow)	30 mA per tier at 230 V/50 Hz
red/green	894 060 55	894 060 68
red/yellow/green	894 080 55	894 080 68



TECHNICAL DIAGRAM:



Signalization index

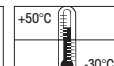
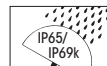
LED Permanent Light



2 tier



3 tier





LED Traffic Light with
integrated siren (2 tier)



Integrated siren with
high sound output

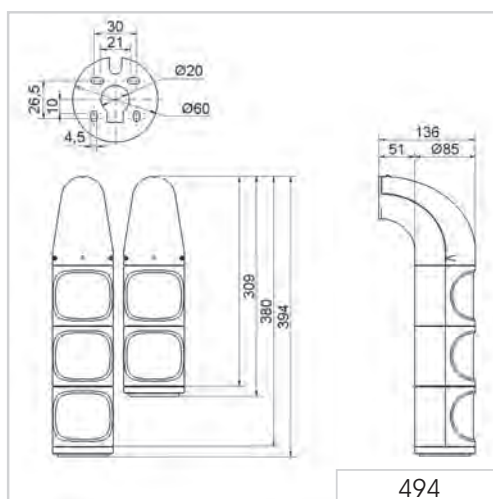


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):		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)	
Cable entry:		Cable diameter max. 13 mm	
Connection:		Screw terminal 0.5 - 1.5 mm ²	
Installation position:		Vertical/hanging	
Tone type:		Continuous tone	
Duty cycle:		100 %	
Voltage:		24 V DC	115-230 V AC
Current Consumption	LED	60 mA (red/yellow)	30 mA per tier at 230 V/50 Hz
		120 mA (green)	
	Siren	20 mA	30 mA at 230 V/50 Hz
		red/green	494 160 55
		red/yellow/green	494 180 55
			494 160 68
			494 180 68

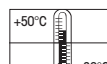
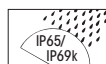
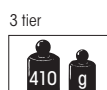
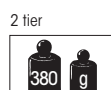


TECHNICAL DIAGRAM:



Signalization index

LED Permanent Light
Continuous tone





Integrated siren with high sound output

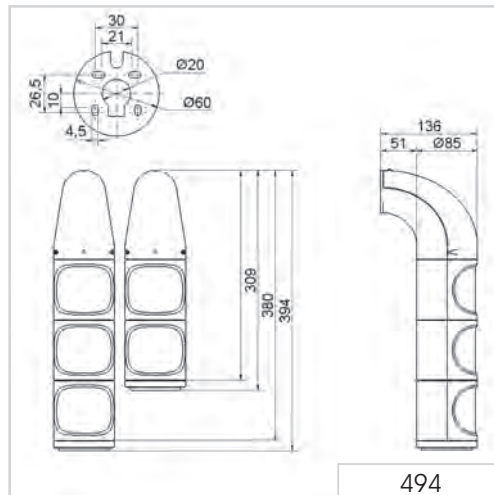


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):		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)	
Cable entry:		Cable diameter max. 13 mm	
Connection:		Screw terminal 0.5 - 1.5 mm ²	
Installation position:		Vertical	
Tone type:		Continuous tone	
Duty cycle:		100 %	
Voltage:		24 V DC	115-230 V AC
Current Consumption	LED	60 mA (red/yellow)	30 mA per tier at 230 V/50 Hz
	Siren	20 mA	30 mA at 230 V/50 Hz
red/green		494 060 55	494 060 68
red/yellow/green		494 080 55	494 080 68

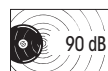
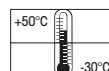


TECHNICAL DIAGRAM:



Signalization index

LED Permanent Light	
Continuous tone	



Monitored / Monitorable Beacons for safety applications – 806/826/829 families

Size comparison Mini/Midi/Maxi



Signalisation index

Optical	
LED Permanent Light	4-5
Permanent Light (bulb)	4

Your benefits

For applications where safety is an issue, we recommend WERMA's monitored beacons. These beacons are certified by the TÜV Technical Inspection Agency and can be integrated into the safety assessment of your machinery/plant equipment in accordance with EN 13849-1 and EN 62061.

806 monitorable LED beacons:

- TÜV certified LED light that enables current monitoring
- Approved for muting applications in accordance with IEC 61496-1 and laser applications as per EN 60825-1

829 monitored LED beacons:

- Built-in monitoring electronics with two potential-free outputs; the light thus achieves PL e as per EN 13849-1 and safety category 4
- Approval confirmed by TÜV certificate
- Maintenance-free LED technology

826 monitored beacons:

- Built-in monitoring electronics with two potential-free outputs; the light thus achieves PL e as per EN 13849-1 and safety category 4
- Approval confirmed with a TÜV certificate

Typical applications

Signalling of faults in applications where safety is an issue

- on machinery and plant equipment
- in building service industry

Installation options

- Base mounting
- Bracket mounting with accessories
- Wire guard accessory to protect against mechanical damage

Features

- Further safety-related products are available – or request





Bracket (accessory)



Accessories

Signalisation index

LED Permanent Light



4



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 97 mm
Housing:	Terminal element: PA-GF, high impact Cap: PC
Lens:	PC, transparent
Fixing:	Base mounting, Bracket mounting
Cable entry:	Cable diameter max. 14 mm
Connection:	CAGE CLAMP® technology max. 2.5 mm ²
Duty cycle:	100 %
Current consumption following failure of 3 of the 6 strips:	< 5 mA
Life duration:	Up to 100,000 hrs
Voltage:	24 V DC
Current consumption:	60 mA
yellow	806 350 55
clear	806 450 55



ACCESSORIES:

Bracket, including cable gland	960 000 02
Bracket for 1-sided mounting	975 840 85



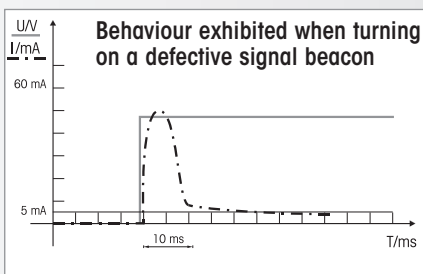
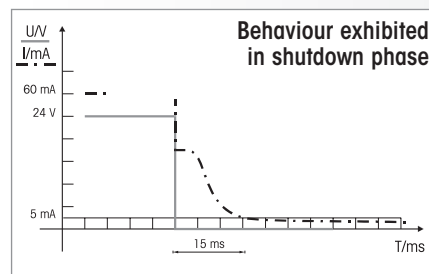
ADDITIONAL INFORMATION:

What does Muting mean?

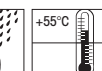
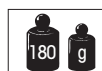
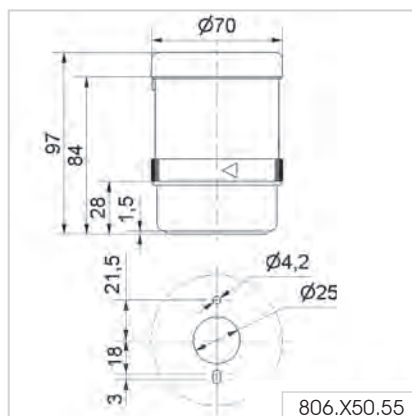
Muting is the temporary automatic overriding of a safety protection device by means of a control system within the normal operating cycle of a machine. This bridging of the safety protection must be visually displayed in order to prevent staff mistakenly entering a dangerous area.

It is therefore necessary that the signal beacon in such applications can be triggered by failsafe technology and the bulb function can be monitored.

The standard colour for muting signalisation is clear; yellow is however also permitted.



TECHNICAL DIAGRAM:





Monitored Permanent Beacon
with long life, maintenance-free
LED technology



Bracket (accessory)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base, bracket and tube mounting Base 975 840 90 must be ordered twice for tube mounting - once as socket for beacon and once as base
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal with wire protection 0.5-1.5 mm ²
Installation position:	Vertical
Cable outlet:	Downwards
Duty cycle:	100 %
Rated voltage:	24 V DC
Input power 24 V DC:	C. 3.5 W
Output current capability:	30 V DC / 100 mA
On state resistance of an output:	Max. 25 Ω
Atmospheric humidity:	≤ 95 % without moisture condensation
Response time, normal operation and with LED failure:	1 ms to 5 ms
in fault cases with safety release:	< 1 s (with short-circuit current ≥ 1 A)
Certification:	EN ISO 13849-1:2008 category 4, Performance Level "e" EN ISO 13849-2:2008 validation
Life duration:	Up to 50,000 hrs
Voltage:	24 V DC
Current consumption:	≤ 145 mA
red	829 170 55
yellow	829 370 55
clear	829 470 55

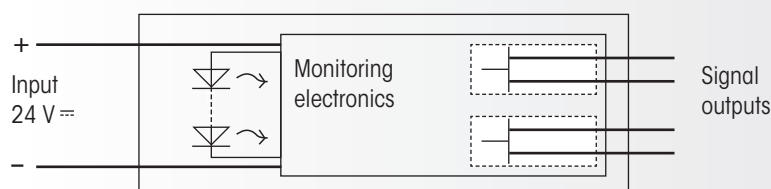


ACCESSORIES:

Bracket	975 826 05
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ADDITIONAL INFORMATION:



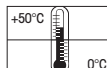
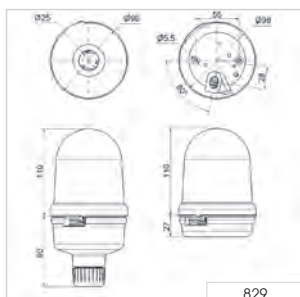
Function

The device is equipped with monitoring electronics which signal the current flow of the beacon back to two electrically isolated, potential-free semiconductor outputs A and B (outputs closed).

If the beacon has not been actuated, both outputs are open. In case of a fault at least one output is opened.



TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light

5





Bracket (accessory)



Tube with base (accessory)

Signalisation index

Permanent Light
(bulb)

4



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

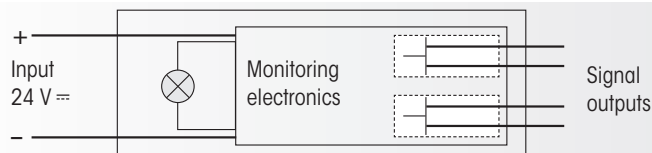
Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base, bracket and tube mounting Base 975 840 90 must be ordered twice for base mounting - once as socket for beacon and once as base
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal 0.5 - 1.5 mm ²
Rated voltage:	24 V DC ± 10 %
Input power 24 V AC/DC:	7 W
Bulb BA15d:	7 W/24 V
Output current capability:	30 V DC / 100 mA
On state resistance of an output:	Max. 25 Ω
Fuse for 7 W bulb:	500 mA quick action (IEC 60127-3/3)
Atmospheric humidity:	≤ 95 % without moisture condensation
Response time, normal operation and with filament break:	1 ms bis 5 ms
in fault cases with safety release:	< 300 ms (with short-circuit current ≥ 4 A)
Certification:	EN ISO 13849-1:2008 category 4, Performance Level „e“ EN ISO 13849-2:2008 validation

Bulb included in assembly.

Voltage:	24 V DC
red	826 110 55
yellow	826 310 55
clear	826 410 55



ADDITIONAL INFORMATION:



Function

The device is equipped with a lamp monitor which signals the current flow of the incandescent lamp back to two electrically isolated, potential-free semiconductor outputs A and B (outputs closed). If the lamp has not been actuated, both outputs are open. In case of a fault and/or a lamp failure at least one output is opened.

Depending on the safety category, one or two outputs are to be used for a reliable lamp evaluation. In case of an incandescent filament short-circuit in the lamp, the integrated fuse is tripped. It must be replaced by a new fuse in accordance with the specification after the lamp has been replaced by a lamp of equal wattage.

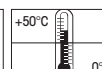
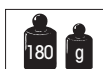
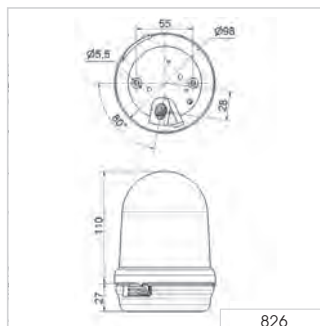


ACCESSORIES:

Bulb BA15d, 7 W	955 015 35
-----------------	------------



TECHNICAL DIAGRAM:



Ex Signal Beacons

Size comparison Ex-Signalleuchten



Signalisation index

Ex Midi	Optical
LED Permanent Light	4
LED Rotating Light	6
LED Flashing Light	6
LED EVS Light	8
Xenon Flashing Light	7
Rotating Mirror/Rotating Light	7
Ex Maxi	
LED Permanent Light	6
LED Rotating Light	7
Xenon Flashing Light	9
Rotating Mirror/Rotating Light	9

Your benefits

Ex rated beacons from WERMA are designed for use in both gas and dust atmospheres that are potentially explosive.

- Their use in the highest explosion group IIC and IIIC has been tested, which means that they are suitable for all explosion groups in the relevant area
- Easy, customer-friendly connection thanks to "e" connection area
- Various light effects, also with LED technology, for all conceivable application types

Typical applications

Signalling faults and relaying alarms

- in potentially explosive atmospheres resulting from gases and liquids (in the chemical industry, filling lines for flammable liquids, petrochemical industry etc.)
- in potentially explosive atmospheres resulting from dust (in the plastics and metal-work industry, food industry, grain mills and the wood processing industry)

Installation options

- Base mounting
- Bracket mounting (accessory)
- Tube mounting (accessory)

Features

728 / 729 / 785:

- Extended Ex temperature range of -50 °C to 50°C is possible with accessories

728 / 729 / 785:

- Seawater resistant aluminium housing





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



Additional protection with the robust wire guard (accessory)



TECHNICAL SPECIFICATIONS/ORDER 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	
Life duration:	Up to 50,000 hrs	
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm	
Voltage:	24 V DC	115 V/230 V AC
Current consumption:	130 mA	30 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	
Approval:	BVS 11 ATEX E 107 IECEX_BVS_11.0082	
red	729 100 55	729 100 68
yellow	729 300 55	729 300 68

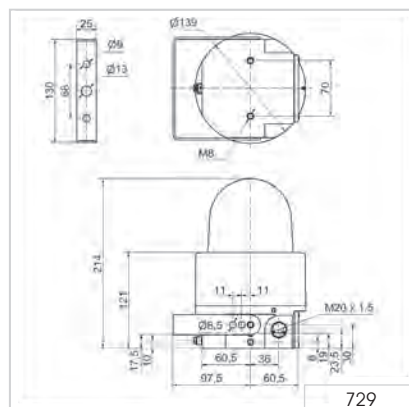


ACCESSORIES:

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

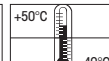
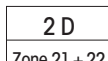
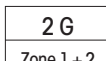


TECHNICAL DIAGRAM:



Signalisation index

LED Permanent Light





Intense double flash with low power consumption



Additional protection with the robust wire guard (accessory)



TECHNICAL SPECIFICATIONS/ORDER 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 mm ²	
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	
Voltage:	24 V DC	115 V/230 V AC
Current consumption:	< 140 mA	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

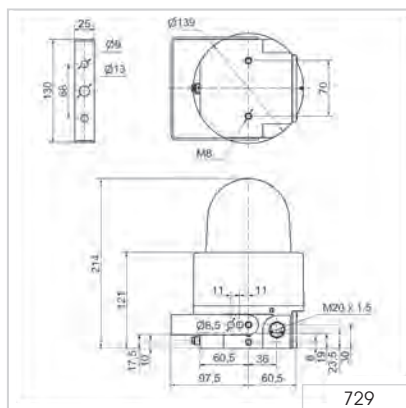


ACCESSORIES:

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 connecting to an additional beacon	975 729 01



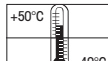
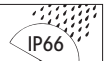
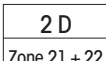
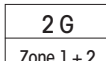
TECHNICAL DIAGRAM:



Signalisation index

LED Double Flash

6





The flickering light of the Ex LED EVS beacon generates an optimal awareness level



Random light signals prevent an acclimatisation effect occurring



TECHNICAL SPECIFICATIONS/ORDER 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	
Life duration:	Up to 50,000 hrs	
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm	
Voltage:	24 V DC	115 V/230 V AC
Current consumption:	< 240 mA	140 mA at 230 V AC
Explosion protection:	Ex II 2G Ex de IIC T6 Gb Ex II 2D Ex tb IIIC T80°C Db	Ex II 2G Ex de 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	729 160 55	729 160 68
yellow	729 360 55	729 360 68

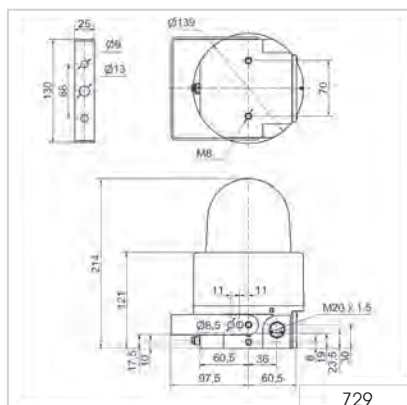


ACCESSORIES:

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	975 729 02
Ex cable gland M20 x 1.5 mm	
For connecting to an additional beacon	975 729 01

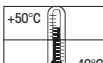
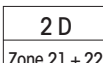
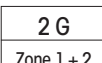


TECHNICAL DIAGRAM:



Signalisation index

LED EVS Light





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



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



TECHNICAL SPECIFICATIONS/ORDER 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 mm ²	
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	
Voltage:	24 V DC	115 V/230 V AC
Current consumption:	300 m A	150 mA
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	728 100 55	728 100 68
yellow	728 300 55	728 300 68

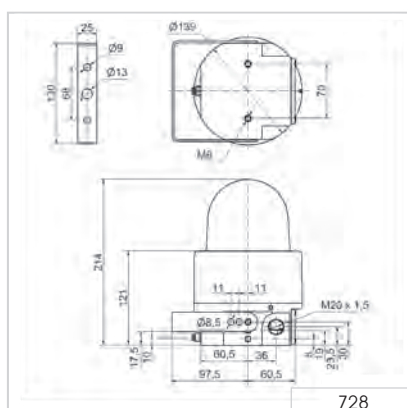


ACCESSORIES:

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	975 729 02
Ex cable gland M20 x 1.5 mm	
For connecting to an additional beacon	975 729 01



TECHNICAL DIAGRAM:



Signalisation index

Xenon Flashing Light





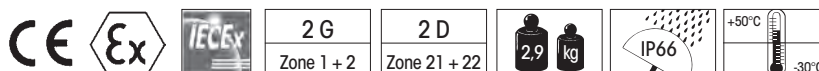
Dimensions (Ø x Height):	139 x 214 mm	
Housing:	Black coated aluminium, salt water resistant	
Lens:	Reinforced borosilicate glass	
Connection:	CAGE CLAMP® max. 2.5 mm²	
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel	
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm	
Drive:	Wheel and disc drive, motor in centre of gravity	
Mirror rotation rate:	180 r.p.m.	
Service life of drive:	> 5,000 hrs	
Assembly:	Ex screw plug M20 x 1.5 mm Ex cable gland M20 x 1.5 mm	
Voltage:	24 V AC/DC	115 V/230 V AC/DC
Current consumption:	1,0 A	130 mA bei 230 V AC/350 mA bei 115 V AC
Explosion protection:	II 2G Ex d e IIC T5 Gb II 2D Ex tb IIIC T95°C Db	
Approval:	BVS 11 ATEX E 107	
red	785 100 75	785 100 70
yellow	785 300 75	785 300 70

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

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

[illegible]

Rotating Mirror





Wire guard (accessory)



Clamp for tube mounting (accessory)



Mounting plate (accessory)



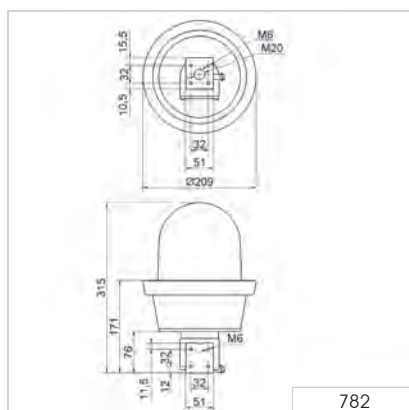
Bracket (accessory)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

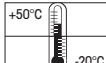
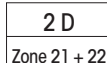
Dimensions (Ø x Height):	209 mm x 315 mm	
Housing:	Aluminium	
Lens:	Reinforced borosilicate glass	
Mounting Plate:	VA stainless steel	
Connection:	Screw terminal max. 2.5 mm ²	
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)	
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm	
Connection area:	Increased Safety "e"	
Installation position:	As required	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	200 m A	25-60 mA
Explosion protection:	Ex II 2G Ex de IIC T6 Gb Ex II 2D Ex tb IIIC T80°C Db PTB 06 ATEX 1039	
Approval:		
red	782 100 55	782 100 68
yellow	782 300 55	782 300 68

**ACCESSORIES:**

Wire guard	975 783 01
Mounting plate	975 783 02
Clamp for tube mounting 1 ¼"	975 783 03
Clamp for tube mounting 1 ½"	975 783 04
Clamp for tube mounting 2"	975 783 05
Bracket	975 783 06

**TECHNICAL DIAGRAM:****Signalisation index**

LED Permanent Light





Ex LED Rotating Beacon
with wire guard (accessory)



TECHNICAL SPECIFICATIONS/ORDER 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	
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)	
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 5-13 mm	
Connection area:	Increased Safety "e"	
Installation position:	As required	
Rotation rate:	C. 180 r.p.m.	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	150 m A	70-180 m A
Explosion protection:	Ex II 2G Ex d e IIC T6 Gb Ex II 2D Ex tb IIIC 80°C Db	
Approval:	PTB 06 ATEX 1039	
red	782 120 55	782 120 68
yellow	782 320 55	782 320 68

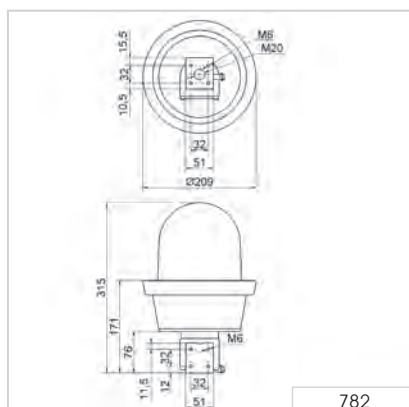


ACCESSORIES:

Wire guard	975 783 01
Mounting plate	975 783 02
Clamp for tube mounting 1 ¼"	975 783 03
Clamp for tube mounting 1 ½"	975 783 04
Clamp for tube mounting 2"	975 783 05
Bracket	975 783 06

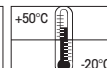
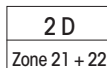
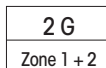


TECHNICAL DIAGRAM:



Signalisation index

LED Rotating Light





Wire guard (accessory)



Clamp for tube mounting
(accessory)



Mounting plate (accessory)



Bracket (accessory)

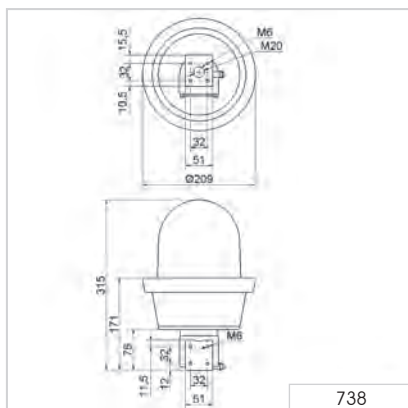
i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

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
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)
Cable entry:	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

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
Explosion protection:	Ex II 2G Ex d e IIIC T5 Gb Ex II 2D Ex tb IIIC 85°C-90°C Db (depending on the voltage) PTB 06 ATEX 1039		
Approval:			
red	738 100 55	738 100 67	738 100 68
yellow	738 300 55	738 300 67	738 300 68

 ACCESSORIES:

Wire guard	975 783 01
Mounting plate	975 783 02
Clamp for tube mounting 1 ¼"	975 783 03
Clamp for tube mounting 1 ½"	975 783 04
Clamp for tube mounting 2"	975 783 05
Bracket	975 783 06

TECHNICAL DIAGRAM:

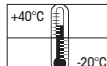
Signalisation index

Xenon Flashing Light



2 G
Zone 1 + 2

2 D
Zone 21 + 22





Wire guard (accessory)



Clamp for tube mounting (accessory)



Mounting plate (accessory)



Bracket (accessory)

Signalisation index

Rotating Light

9



TECHNICAL SPECIFICATIONS/ORDER 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				
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)				
Cable entry:	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 % ED				
Accessory:	Halogen bulb				
Voltage:	24 V AC/DC	24 V AC/DC	115 V AC/DC	230 V AC	230 V AC
	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
Explosion protection:	Ⓔ II 2G Ex d e IIC T3-T4 Gb (depending on version) Ⓔ II 2D Ex tb IIIC 105 °C - 150 °C Db (depending on version)				
Approval:	PTB 06 ATEX 1039				
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



ACCESSORIES:

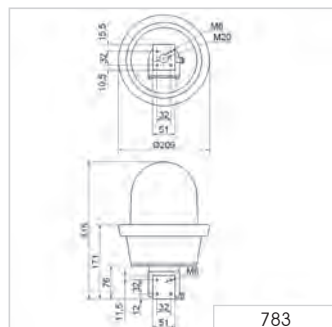
Wire guard	975 783 01
Mounting plate	975 783 02
Clamp for tube mounting 1 ¼"	975 783 03
Clamp for tube mounting 1 ½"	975 783 04
Clamp for tube mounting 2"	975 783 05
Bracket	975 783 06

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 DIAGRAM:

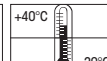


2 G

Zone 1 + 2

2 D

Zone 21 + 22





Wire guard (accessory)



Clamp for tube mounting (accessory)



Mounting plate (accessory)



Bracket (accessory)

Signalisation index

Rotating Light


i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

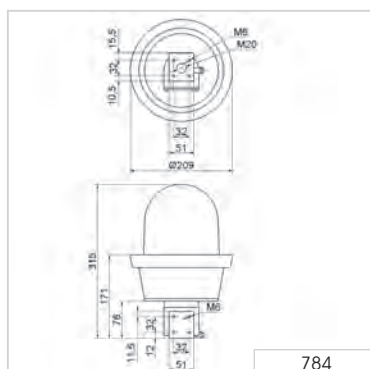
Dimensions (Ø x Height):	209 mm x 315 mm		
Housing:	Aluminium		
Lens:	Reinforced borosilicate glass		
Mounting Plate:	VA stainless steel		
Connection:	Screw terminal max. 2.5 mm ²		
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)		
Cable entry:	Cable gland M20 x 1.5 mm 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:	G 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 % ED		
Accessory:	Halogen bulb		
Voltage:	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	1,6 A	350 mA	170 mA
Explosion protection:	Ex II 2G Ex d e IIC T4 Gb Ex II 2D Ex tb IIIC 105°C Db PTB 06 ATEX 1039		
Approval:			
red	784 100 75	784 100 77	784 100 68
yellow	784 300 75	784 300 77	784 300 68

A ACCESSORIES:

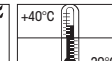
Wire guard	975 783 01
Mounting plate	975 783 02
Clamp for tube mounting 1 ¼"	975 783 03
Clamp for tube mounting 1 ½"	975 783 04
Clamp for tube mounting 2"	975 783 05
Bracket	975 783 06

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

T TECHNICAL DIAGRAM:


2 G	2 D
Zone 1 + 2	Zone 21 + 22







WERMA
SIGNALTECHNIK
584 000 75
24V= IP65 ta50°C

Horns & Sirens



Overview Buzzer, Sirens, Horns and Sounders

Audible signals are everywhere!

Audible signals warn, protect and guide us in the modern industrial world. They function where caution, prudence and clarity are imperative, indicate emergencies and demand direct action. They are globally understood, irrespective of language, written or spoken.

Audible signals are deployed where an optical signal is insufficient or inappropriate. The basic signal is provided by one or more tones or a sequence of tones, and is to raise awareness and alert to a specific danger.

Overview Buzzer, Sirens, Horns and Sounders				
Product type		Installation	Free-standing	Free-standing
Category	Product range	Installation Sirens and Buzzer	Mini Buzzer, Sirens and Horns	Midi Horns and Sirens
Dimensions (Ø x Height)*		starting on page 210	starting on page 218	starting on page 226
Dimensions (L x H x W)				
Voltage	12 V	•	•	•
	24 V	•	•	•
	30 V			
	48 V	•		•
	115 V	•	•	•
	230 V	•	•	•
Audible	Continuous tone	•	•	
	Pulse tone	•	•	
	Multi-tone sounder	•		•
	Horn		•	•
	Alternating tone			•
	Vocal alarm			
Alarm bell				
Protection rating		IP30-65	IP33-65	IP33-65
Signalisation index**		1-5	4-5	6-7
Page		Page 210	Page 218	Page 226

* Technical diagrams can be found on the product page

** Signalisation index - see page 13 + 21





				
Free-standing	Free-standing	Free-standing	Free-standing	Free-standing
Design Multi-Tone Sounder	Vocal alarm	Heavy Duty Multi-Tone Sounder	Alarm Bell	Ex Horns and Sirens
starting on page 235	starting on page 240	starting on page 242	starting on page 249	starting on page 251
•		•		
•	•	•	•	•
				•
•		•		•
•		•	•	•
				•
•		•		•
				•
	•			
			•	
IP65	IP65	bis zu IP67	IP66	IP65
8	6	6-10	5	4-6
Page 235	Page 240	Page 242	Page 249	Page 251

Installation Buzzers and Sounders

Signalisation index				
Audible	107	109	110	111
Continuous Tone	1	3		
Pulse Tone	2	4		3
Multi-Tone Sounder			5	4
Audible	338	382	114	118 + 119
Continuous Tone	1	4	3	4
Pulse Tone	1			4

Your benefits

WERMA Installation Buzzers and Sounders have been specifically designed for easy installation in control panels.

- Quick and easy installation
- Tamper-proof when installed
- Minimal protrusion from panel installations where space is tight (111)



Typical applications

Signalling faults or status messages

- in switch panels
- in control cabinets

Installation options

- Installation mounting

Features

- Proven piezo technology (except 338, 382)

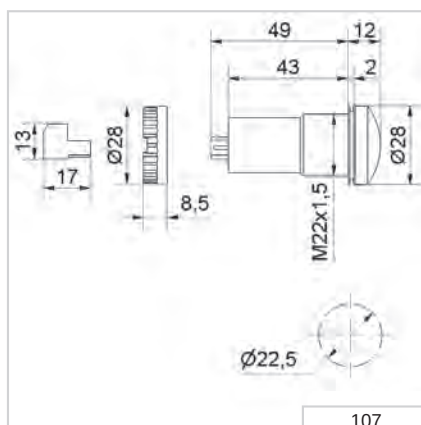
107, 109, 110, 111

- High IP65 protection rating for outdoor applications
- Easy to connect using a plug-in connection
- Up to 8 tones for signalling different statuses



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	28 mm x 12 mm (Protrusion from panel)			
Housing:	PA fibreglass, high-impact			
Tone frequency:	Ca. 2.400 Hz / ca. 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 mm ²			
Life duration:	> 5,000 hrs			
Voltage:	12 V DC	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	≤ 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

**TECHNICAL DIAGRAM:**

Simple connection by means
of connector plug

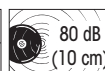
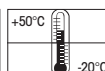


High protection rating IP 65 for use
in arduous conditions

Signalisation index

Continuous tone	☒	1
Pulse tone	☒	2

107 0X0 7X
107 0X0 68





Surface housing (accessory)

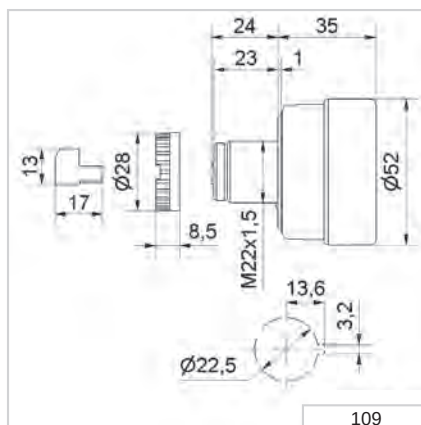
Surface housing (triple) for
2 beacons and 1 audible element
(not included in assembly)**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	52 mm x 35 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend; Cap: PC		
Tone frequency:	C. 2,100 Hz		
Tone type:	Continuous tone or pulse tone with approx. 1 Hz		
Fixing:	Installation mounting for Ø 22,5 mm (M22) with anti-twist device		
Connection:	Connector plug with screw terminal max. 1.5 mm ²		
Life duration:	> 5,000 hrs		
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

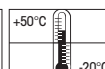
**ACCESSORIES:**

Bracket with protective cap (IP54), only 24 V	975 109 01 (see picture on page 244)
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 or 815-817 have to be ordered additionally.

**TECHNICAL DIAGRAM:****Signalisation index**

Continuous tone	3
Pulse tone	4





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



Simple installation with single hole mounting for M22



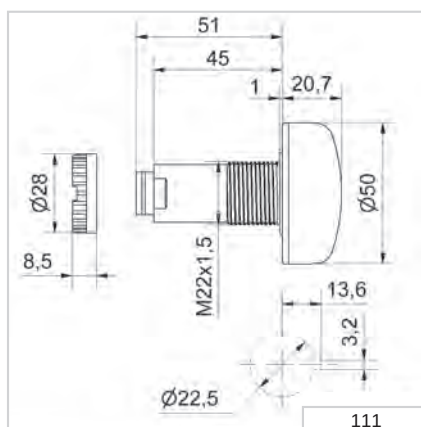
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)	
Housing:	PC/ABS-Blend, black; Cap: PC	
Tone frequency:	C. 2,8 KHz	
Tone type:	Continuous or pulse tone	
Fixing:	Installation mounting for Ø 22,5 mm (M22 x 1.5 mm)	
Connection:	Connector plug with screw terminal max. 1.5 mm²	
Life duration:	> 5,000 hrs	
Assembly:	Nut and seal included in assembly	

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

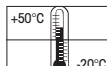


TECHNICAL DIAGRAM:



Signalisation index

Continuous tone	3
Pulse tone	4



PLC





338 373



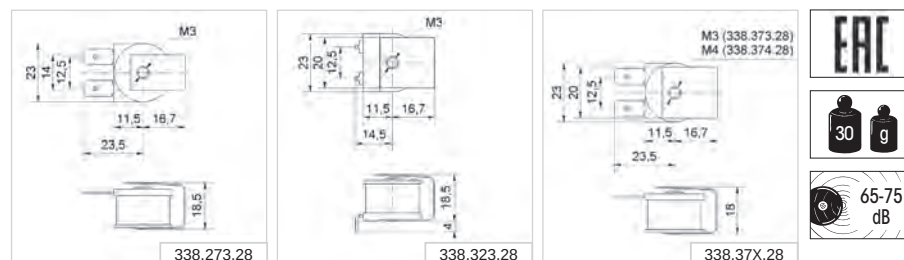
338 323

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	23 mm x 18,5 mm x 40 mm (338 273)
Tone frequency:	PC/ABS-Blend, black; Deckel: PC
Mounting:	As required
Fixing:	M3 or M4 thread

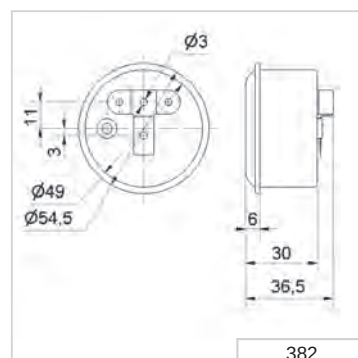
230 V AC, c. 75 dB, spades, fixing: M3	338 273 28
230 V AC, c. 75 dB, solder lugs for printed circuits, fixing: M3	338 323 28
230 V AC, c. 75 dB, spades, 6.3 x 0.8 mm, fixing: M3	338 373 28
230 V AC, c. 75 dB, spades, 6.3 x 0.8 mm, fixing: M4	338 374 28

Further voltages on request.

**TECHNICAL DIAGRAMS:****TECHNICAL SPECIFICATIONS/ORDER 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

AC Version		
Voltage:	230 V AC	
Current consumption:	15 mA	
Order No.:	382 013 68	
DC Version		
Voltage:	6 V DC	24 V DC
Current consumption:	100 mA	70 mA
Order No.:	382 013 53	382 013 55

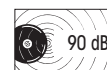
**TECHNICAL DIAGRAM:****Signalisation index****338**

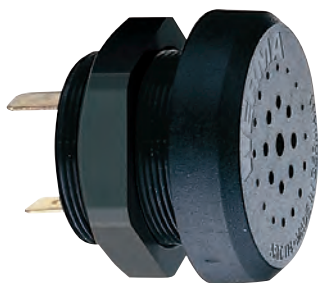
Continuous tone ☐ 1

Pulse tone ☐ 1

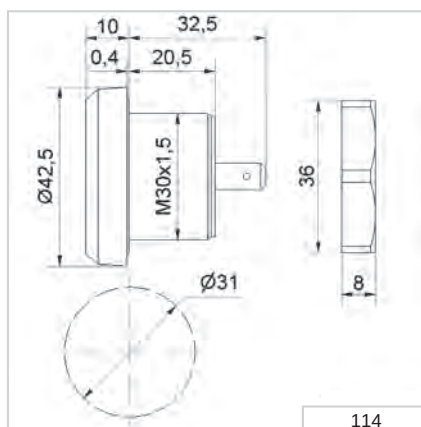
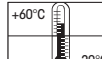
382

Continuous tone ☐ 4



**TECHNICAL SPECIFICATIONS/ORDER 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)	
Voltage:	24 V DC (12-30 V)	230 V AC (110-240 V)
Current consumption:	20 mA	20 mA
Order No.:	114 068 15	114 068 28

**TECHNICAL DIAGRAM:****Signalisation index**Continuous tone 3



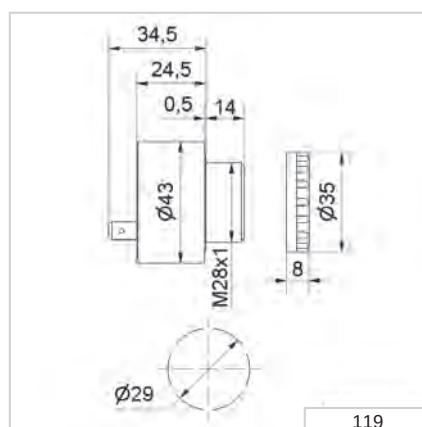
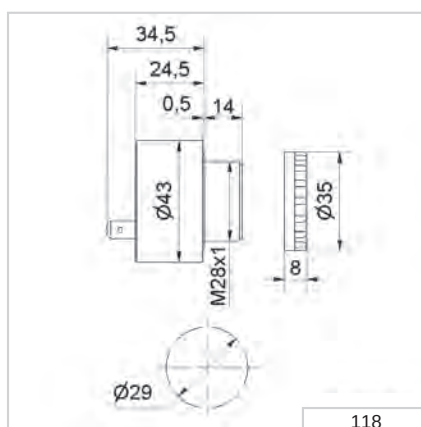
Cap

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	43 mm x 13 mm (Protrusion from panel)				
Housing:	PC/ABS-Blend				
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: 2,7 kHz, 270 Hz, 337 Hz				
Fixing:	Installation mounting for Ø 28,5 mm (M28)				
Voltage:	12 V DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	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
Voltage:	24 V DC (9-29 V DC)				
Current consumption:	< 30 mA (Tone 1)				
3 tones	119 004 55				

**ACCESSORIES:**

Cap **975 118 00**

**TECHNICAL DIAGRAMS:****Signalisation index**

Continuous tone	4
Pulse tone	4



Mini Buzzers and Horns

Signalisation index				
Audible	127 + 128	118 483 + 119 483	584 + 585	582 + 482
Continuous Tone	 4	 4		
Pulse Tone	 4	 4		
Horn			 5	 4

Your benefits

Mini Buzzers and Horns from WERMA provide safety and security by delivering a reliable audible warning when faults occur.

- Quick and easy installation
- Tamper-proof when installed
- Ideal signalling effect in close-range applications

Typical applications

Fault signalling

- in areas with low ambient noise levels
- in control panels and on machine control units
- in building service systems (e.g. gas alarm, lift alarm)

Installation options

- Base mounting
- Wall mounting
- Tube mounting

Features

- Proven piezo technology
- 584/585 series with ten times longer life duration compared with electromechanical versions





Base mounting



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



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

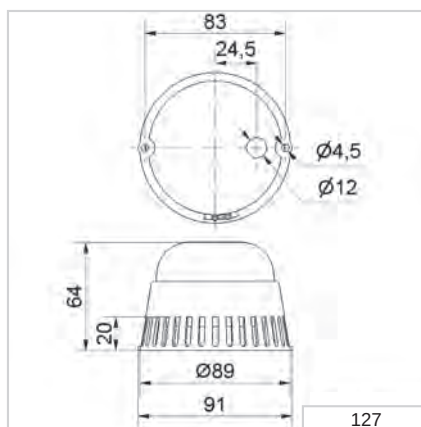
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

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 mm ²		
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 %		

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 15 mA	≤ 15 mA	≤ 15 mA
Order No.:	127 000 75	127 000 67	127 000 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 DIAGRAM:****Signalisation index**

Continuous tone	4
Pulse tone	4



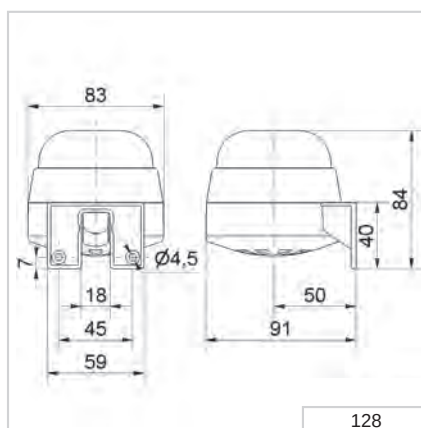
24 V



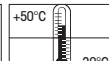
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	83 mm x 84 mm x 91 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 mm ²		
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 %		

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 15 mA	≤ 15 mA	≤ 15 mA
Order No.:	128 000 75	128 000 67	128 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Continuous tone	4
Pulse tone	4

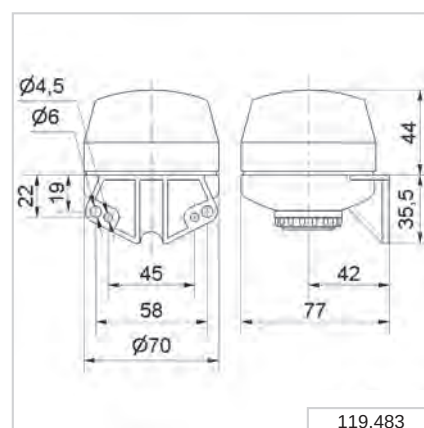
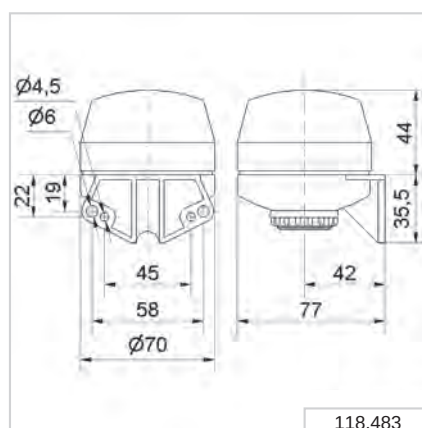


24 V

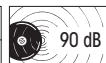
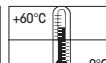


**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	70 mm x 79,5 mm x 77 mm	
Housing:	PC/ABS-Blend	
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:	Wall mounting, Sound outlet facing downwards	
Voltage:	24 V AC/DC (12-30 V)	230 V AC (110-240V)
Current consumption:	20 mA	20 mA
Continuous tone	118 483 15	118 483 28
Continuous/pulse tone	119 483 15	119 483 28

**TECHNICAL DIAGRAMS:****Signalisation index**

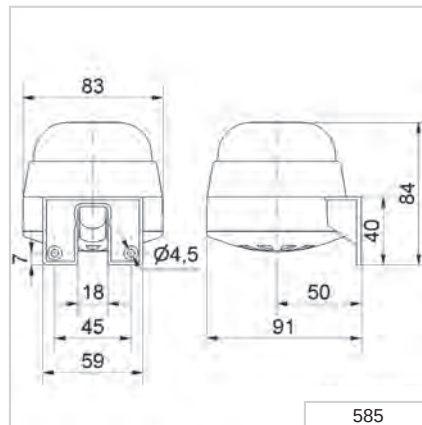
Continuous tone	4
Pulse tone	4



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

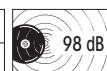
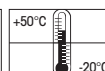
Dimensions (L x H x W):	83 mm x 84 mm x 91,5 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Wall mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal 0.5 - 1.5 mm ²
Cable entry:	Cable diameter max. 9 mm
Tone frequency:	C. 110 Hz
Life duration:	> 5,000 hrs
Duty cycle:	100 %

Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 80 mA	≤ 70 mA	≤ 70 mA
Order No.:	585 000 75	585 000 67	585 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

5



24 V

PLC

**TECHNICAL SPECIFICATIONS/ORDER 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 0.5 - 1.5 mm²

Cable entry: Cable diameter max. 9 mm

Tone frequency: C. 110 Hz

Life duration: > 5,000 hrs

Duty cycle: 100 %

Voltage: 24 V AC/DC

115 V AC

230 V AC

Current consumption: ≤ 80 mA

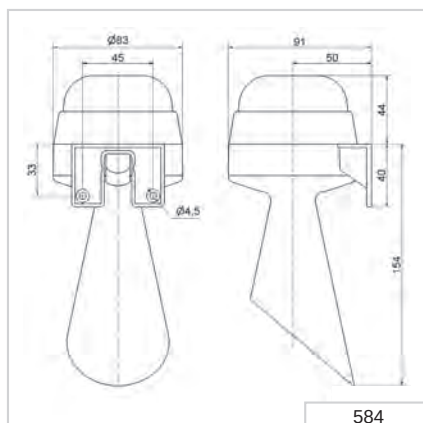
≤ 70 mA

≤ 70 mA

Order No.: 584 000 75

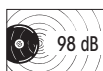
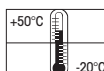
584 000 67

584 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

5



24 V

PLC





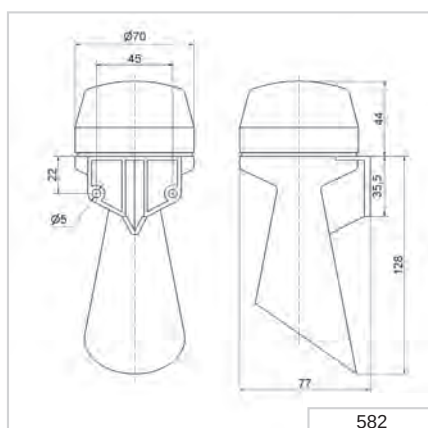
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 172 mm x 77 mm				
Housing:	PC/ABS-Blend				
Connection:	Screw terminal with wire protection, 1,0-1.5 mm ² fine strand, 1,0-2.5 mm ² single wire				
Cable entry:	Cable diameter 9 mm				
Fixing:	Wall mounting, Sound outlet facing downwards				
AC Version					
Voltage:	12 V AC	24 V AC	42 V AC	115 V AC	230 V AC
Current consumption:	330 mA	190 mA	75 mA	15 mA	15 mA
Order No.:	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 consumption:	150 mA	70 mA			
Order No.:	582 052 54	582 052 55			

Further voltages on request.

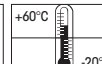


TECHNICAL DIAGRAM:



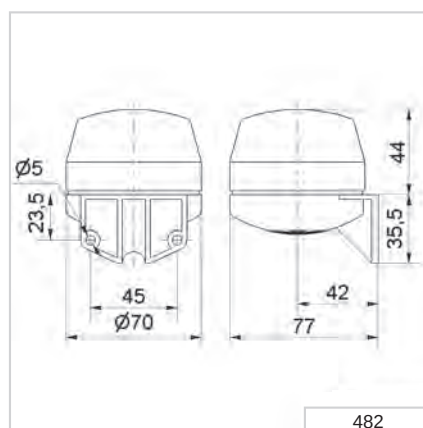
Signalisation index

Horn



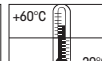
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:****Dimensions (L x H x W):** 70 mm x 79,5 mm x 77 mm**Housing:** PC/ABS-Blend**Connection:** Screw terminal with wire protection,
1,0-1.5 mm² fine strand, 1,0-2.5 mm² single wire**Cable entry:** Cable diameter 9 mm**Fixing:** Wall mounting, Sound outlet facing downwards**AC Version****Voltage:** 24 V AC 42 V AC 230 V AC**Current consumption:** 190 mA 75 mA 15 mA**Order No.:** 482 052 65 482 052 66 482 052 68**DC Version****Voltage:** 12 V DC 24 V DC**Current consumption:** 150 mA 70 mA**Order No.:** 482 052 54 482 052 55**Lift Alarm (reduced inrush current)****Voltage:** 6 V DC 12 V DC**Current consumption:** 80 mA 130 mA**Order No.:** 482 347 13 482 347 14

Further voltages on request.

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

4



Lift alarm



Midi Horns, Sounders and Sirens

Signalisation index			
Audible	126	133 + 134	123
Signal Horn			7
Multi-Tone Sounder	7	7	
Audible	573	570	574 + 575
Signal Horn	6		6
Alternating Tone		7	

Your benefits

The loud Midi Horns, Sounders and Sirens from WERMA provide safety and security by delivering reliable audible warning when faults occur over longer distances or in noisy environments.

- Quick and easy installation
- Tamper-proof when installed
- Ideal for noisy environments
- Long life duration

Typical applications

Fault signalling

- On machine controllers and on large equipment
- In building service systems (e.g. gas alarm)
- Alarm in the event of overload (e.g. mobile cranes)

Installation options

- Base mounting
- Wall mounting
- Tube mounting

Features

- Proven piezo technology
- 574/575 series with ten times longer life duration compared to electromechanical versions
- Up to 8 tones for signalling different statuses





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

Signalisation index

Multi-tone
sounder

7



TECHNICAL SPECIFICATIONS/ORDER 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 0.5 - 1.5 mm ²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Selectable, see table
Tone frequency:	See table
Life duration:	> 5,000 hrs
Duty cycle:	100 %
Voltage:	24 V AC/DC
Current consumption:	≤ 80 mA
Order No.:	133 000 75



TONE TYPES AND FREQUENCIES:

8 selectable tones and adjustable sound output

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

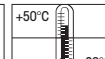
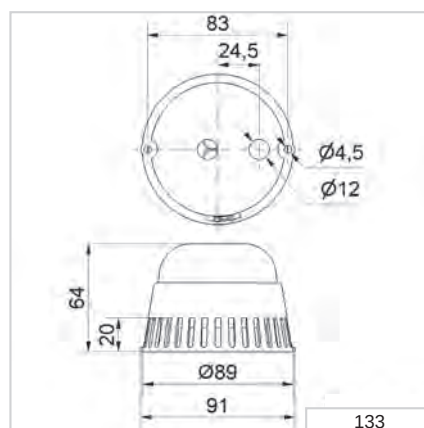


ACCESSORIES:

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 DIAGRAM:



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

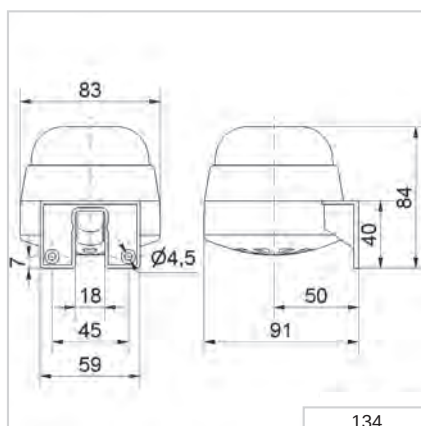
Dimensions (L x H x W):	83 mm x 84 mm x 91 mm
Housing:	PC, PC/ABS-Blend, grey
Fixing:	Wall mounting
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal 0.5 - 1.5 mm ²
Cable entry:	Cable diameter max. 9 mm
Tone type:	Selectable, see table
Tone frequency:	See table
Life duration:	> 5,000 hrs
Duty cycle:	100 %

Voltage:	24 V AC/DC
Current consumption:	≤ 80 mA
Order No.:	134 000 75

**TONE TYPES AND FREQUENCIES:**

8 selectable tones and adjustable sound output

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

**TECHNICAL DIAGRAM:**

134

Signalisation index

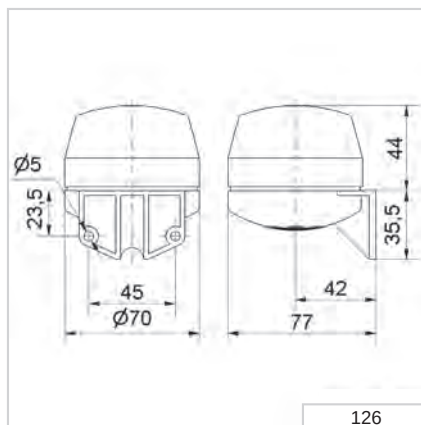
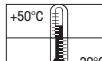
Multi-tone
sounder

7



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	70 mm x 79,5 mm x 77 mm
Housing:	PC/ABS-Blend
Tone types and frequencies:	4 selectable tones adjustable 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 0.5 - 1.5 mm ²
Cable entry:	Cable diameter max. 9 mm
Fixing:	Wall mounting, Sound outlet facing downwards
Voltage:	12-24 V DC
Current consumption:	80 mA
Order No.:	126 052 15

**TECHNICAL DIAGRAM:****Signalisation index**Multi-tone
sounder



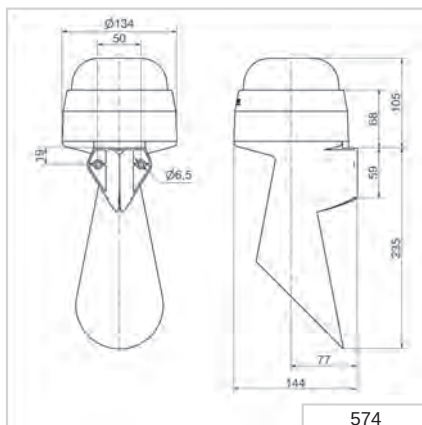
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

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 0.5 - 1.5 mm ²		
Cable entry:	Cable diameter max. 11 mm		
Tone frequency:	C. 110 Hz		
Life duration:	Up to 5,000 hrs		
Voltage:	24 V AC/DC	10-48 V AC/DC*	115-230 V AC
Current consumption:	55 mA	210 mA	30 mA
Order No.:	574 000 75	574 000 70	574 000 60

* Current consumption at 10 V / 115 V



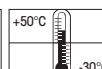
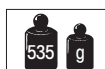
TECHNICAL DIAGRAM:



Signalisation index

Horn

7



adjustable



575

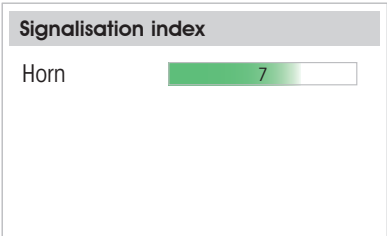
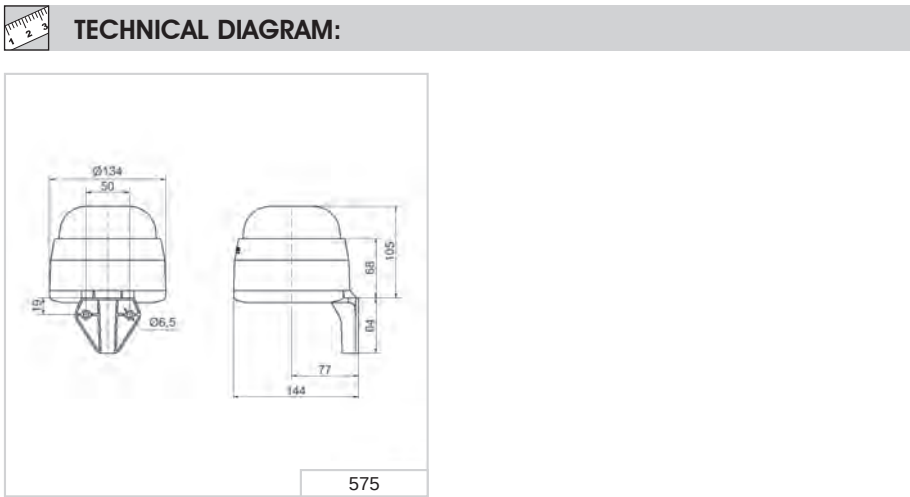
Midi Electronic Signal Horn (Piezo - Long life duration)



Quick and simple wall mounting without additional accessories with the integrated mounting bracket

i TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:			
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 0.5 - 1.5 mm²			
Cable entry: Cable diameter max. 11 mm			
Tone frequency: C. 110 Hz			
Life duration: Up to 5,000 hrs			
Voltage:	24 V AC/DC	10-48 V AC/DC*	115-230 V AC
Current consumption:	55 mA	210 mA	30 mA
Order No.:	575 000 75	575 000 70	575 000 60

* Current consumption at 10 V / 115 V



adjustable

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W): 148 mm x 350 mm x 152 mm

Housing: PC/ABS-Blend

Connection: Screw terminal 0.5 - 2.5 mm²

Cable entry: Rubber squeeze grommet Ø 7-10 mm

Fixing: Wall mounting, Sound outlet facing downwards

Continuous tone (AC)

Voltage: 24 V AC (50 Hz) 42-48 V AC (50/60 Hz) 115 V AC (50/60 Hz) 230 V AC (50 Hz)

Current consumpt.: 500 mA 250 mA 200 mA 70 mA

Order No.: 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

Order No.: 570 100 68

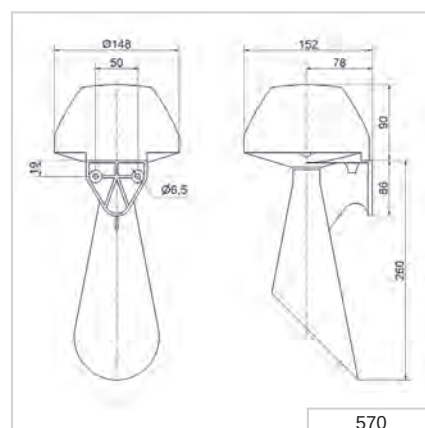
Continuous tone (DC)

Voltage: 24 V DC 115 V DC 230 V DC

Current consumpt.: 350 mA 150 mA 100 mA

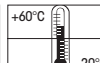
Order No.: 570 052 55 570 052 57 570 052 58

Further voltages on request.

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

6



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W): 54 mm x 66,5 mm x 67 mm

Housing: ABS

Tone frequency: 2 / 3.6 Hz

Tone type: Alternating

Connection: 2 wires, c. 450 mm long

Fixing: Metal bracket

Voltage: 12 V DC

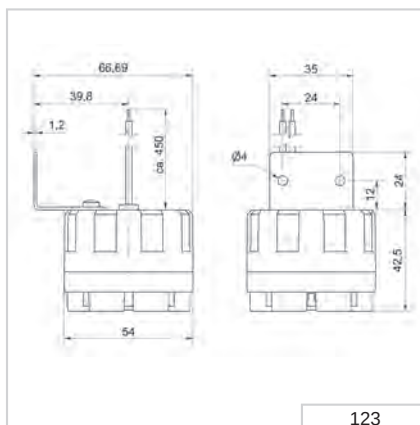
24 V DC

Current consumption: 100 mA

100 mA

Order No.: 123 100 54

123 200 55

**TECHNICAL DIAGRAM:**

123

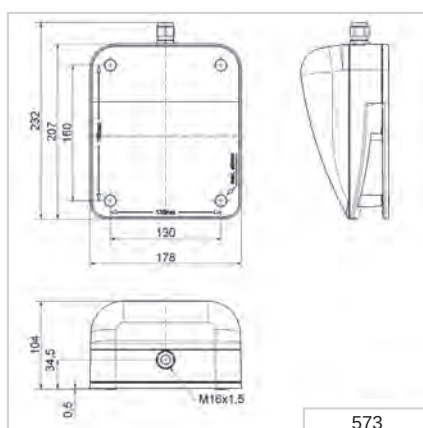
Signalisation index

Alternating tone 7



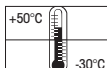
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	178 mm x 104 mm x 207 mm				
Fixing dimensions (B x H):	130 mm x 160 mm				
Housing:	PC/ABS-Blend				
Connection:	Screw terminal 0,5 - 2,5 mm ²				
Cable entry:	Cable gland M16 x 1,5 mm				
	Cable diameter 5-10 mm				
Fixing:	Wall mounting, Sound outlet facing downwards				
Voltage:	24 V DC	24 V AC (50 Hz)	42-48 V AC (50/60 Hz)	115 V AC (50/60 Hz)	230 V AC (50 Hz)
	350 mA	500 mA	250 mA	200 mA	70 mA
Current consumption:					
Order No.:	573 000 55	573 000 65	573 000 66	573 000 67	573 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

6



Design Multi-Tone Sounder

Signalisation index	
Audible	
Multi-Tone Sounder	8

Your benefits

WERMA Design Multi-Tone Sounders provide safety and security by providing an audible warning in applications with greater aesthetic requirements. The innovative housing design makes for simple mounting in many diverse applications.

- Ideal signalling effect over great distances
- Many application options with up to 32 tones available
- Up to 3 tones can be externally triggered for the escalation of signals
- Includes standardised tones (including those used in fire alarms)

Typical applications

- Signalling faults or alarms in the event of danger
- in building service systems
- on machinery and equipment

Installation options

- Wall mounting
- Base mounting
- Ceiling mounting

Features

- Up to 32 tones (standardised according to various standards and guidelines)
- Multi-voltage versions allow multiple applications with a single device



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	100 mm x 100 mm
Housing:	PC/ABS-Blend
Connection:	Screw terminal max. 2.5 mm ²
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 page 237
Installation position:	Sound outlet not facing upwards

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 alarm applications

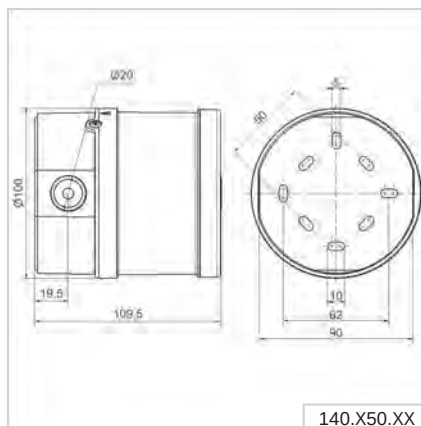
Voltage:	9-28 V DC
Current consumption:	≤ 120 mA
red	140 160 50
white	140 960 50



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
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**TECHNICAL DIAGRAM:**

140.X50.XX

Signalisation index

Multi-tone
sounder

8



140.160.50
140.960.50

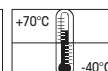
9-28 V



110-240 V



with use of rear
cable entry



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



TONE TYPES AND FREQUENCIES:

Selectable via DIP switch

Tone 1 No.	Tone type	Description	Sound output (dBA)		Tone 2 Low voltage version
			(12 V)	(24 V)	
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, VdS tested	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, VdS tested	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





Base Mounting



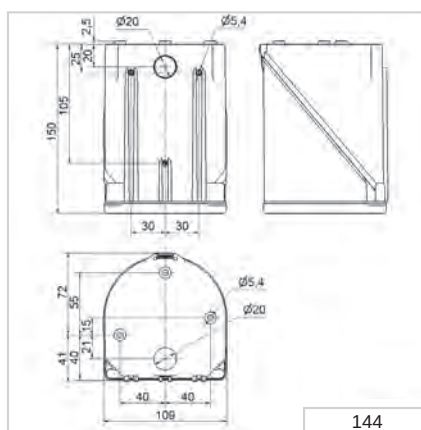
Wall mounting

**TECHNICAL SPECIFICATIONS/ORDER 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 0.5 - 1.5 mm ² 115/230 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 page 239		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	200 mA	55 mA	30 mA
Order No.:	144 000 75	144 000 67	144 000 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	

**TECHNICAL DIAGRAM:****Signalisation index**Multi-tone
sounder

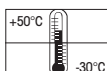
8



24 V



115 V / 230 V



(A)



(C)



24 V



The 144 Multi-Tone Sounder offers a large choice of internationally recognised 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



Vocal alarm

Signalisation index

Audible

Vocal alarm

7

Your benefits

This extremely loud Vocal Alarm provides the ability to play application-specific audio files in order to produce clear and targeted instructions. It is particularly suitable for large assembly facilities and can address defined groups of people (for example, a particular work unit) in a targeted manner.

- Reliable alarm output over long distances or in noisy environments
- Easy to adjust to local conditions
- Excellent audio and sound quality for optimum clarity of signalling
- Completely flexible; select the audio file yourself

Typical applications

Signalling faults or issuing specific instructions

- For areas with high ambient noise levels
- In production and assembly environments

Installation options

- Wall mounting

Features

- Plays customer-specific audio files (sounds, melodies and your own recorded messages)
- 15 files can be played, or a sequence with a maximum of 50 files
- Simple USB data transfer
- Sound output can be externally triggered up to 110 dB





Vocal alarm 154



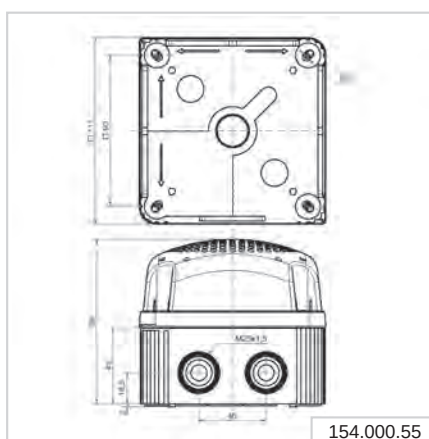
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	111 mm x 98 mm x 111 mm
Housing:	PP-GF, PC/ABS Blend
Sound output:	Adjustable, up to 110 dB
File Transfer:	Via USB connection and provided software
Possible data format:	Mp3 and wav files
Number of sequences:	15 files can be remotely triggered or one sequence with max. 50 files
Suitable for:	Windows®, System requirements - see Handbook
Assembly:	Vocal alarm, USB connection cable and software

Voltage:	24 V DC
Current consumption:	< 500 mA Low Power < 1500 mA High Power
Order No.:	154 000 55



TECHNICAL DIAGRAM:

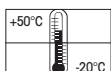


User-friendly software ensures
easy transfer of audio files
and simple operation

Signalisation index

Vocal alarm

7



Heavy Duty Multi-Tone Sounder

Signalisation index				
Audible	139	141	142	129
Multi-Tone Sounder	6	8	10	8

Your benefits

The robust housings of WERMA Heavy Duty Multi-Tone Sounders are particularly well-suited for use in public areas or in harsh industrial environments. Versions with an aluminium housing and separate certification (German Lloyd) are available for marine applications.

- Ideal in extremely noisy environments and over long distances
- Many application options with up to 42 tones
- Up to 3 tones can be externally triggered for the escalation of signals
- Includes standardised tones (including those used in fire alarms)

Typical applications

Signalling of faults and alarms

- outdoors in extreme conditions
- in larger industrial plants
- in maritime applications

Installation options

- Wall mounting

Features

- High protection rating up to IP67
- Multi-voltage versions allow multiple applications with a single device



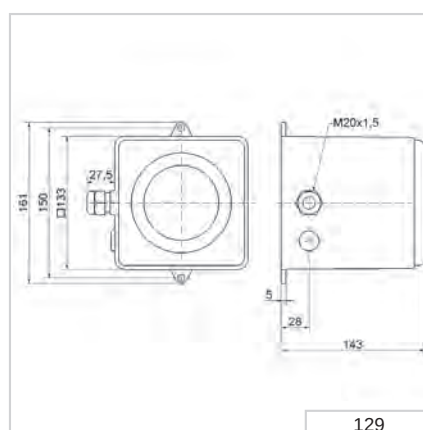


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	133 mm x 161 mm x 143 mm		
Housing:	Die-cast aluminium		
Connection:	Screw terminal 0.5 - 2.5 mm ²		
Cable entry:	Cable gland M20 x 1.5 mm		
	Cable diameter 8-12 mm		
Tone types and frequencies:	Selectable via DIP switch, see table page 244		
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	420 mA	120 mA	60 mA
Order No.:	129 052 55	129 052 67	129 052 68



TECHNICAL DIAGRAM:



Signalisation index

Multi-tone
sunder

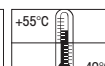
8



24 V



230 V



The 129 Multi-Tone Sounder offers a large choice of internationally recognised 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



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

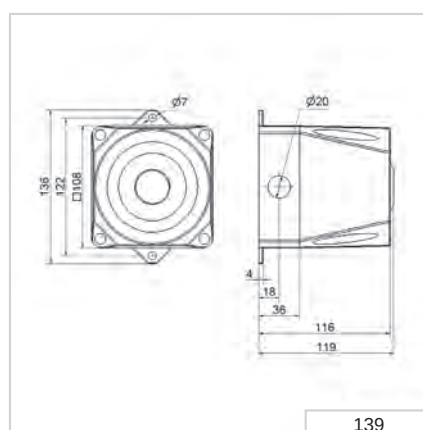
Dimensions (L x H x W):	136 mm x 108 mm x 119 mm	
Housing:	ABS	
Connection:	Screw terminal 0.5 - 2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch	
Voltage:	9-60 V DC	115/230 V AC
Current consumption:	13 mA (24V)	20 mA (230 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
--------------------------	-------------------

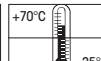
**TONE TYPES AND FREQUENCIES:**

For further details see www.werma.com.

**TECHNICAL DIAGRAM:****Signalisation index**

Multi-tone
sounder

6



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

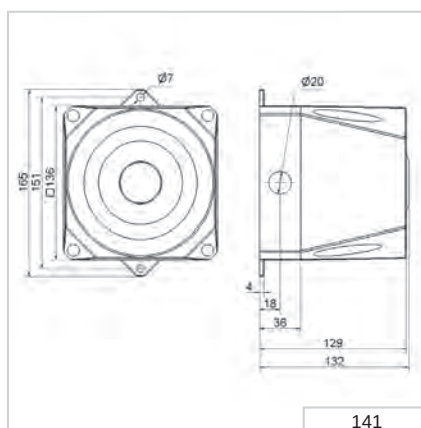
Dimensions (L x H x W):	165 mm x 136 mm x 132 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.5 - 2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch	
Voltage:	9-60 V DC	115/230 V AC
Current consumption:	120 mA (24V)	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
--------------------------	-------------------

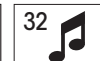
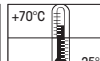
**TONE TYPES AND FREQUENCIES:**

For further details see www.werma.com.

**TECHNICAL DIAGRAM:****Signalisation index**

Multi-tone
sounder

8

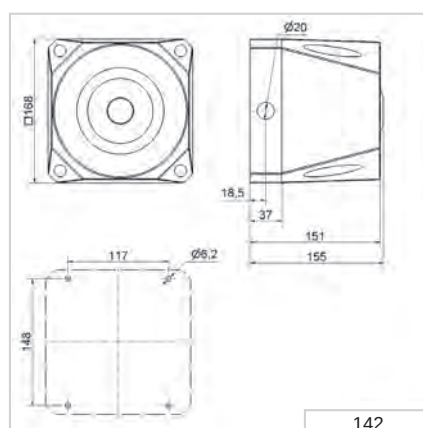


**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W):	168 mm x 168 mm x 155 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.5 - 2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch, see table on page 248	
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 DIAGRAM:****Signalisation index**

Multi-tone
sounder 10



142 X00 68



142 X00 55



The 142 Multi-Tone Sounder offers a large choice of internationally recognised 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.



NE 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



Alarm Bell

Signalisation index	
Audible	
Alarm Bell	5

Your benefits

A signalling technology classic: The robust WERMA Alarm Bell for signalling break-time or machine activation warnings.

- Many application possibilities
- Robust housing prevents damage when used in public areas or in harsh industrial environments

Typical applications

As a bell or alarm

- Goods receiving areas
- Entry/exit applications
- Counter service call point, etc.

Installation options

- Wall mounting

Features

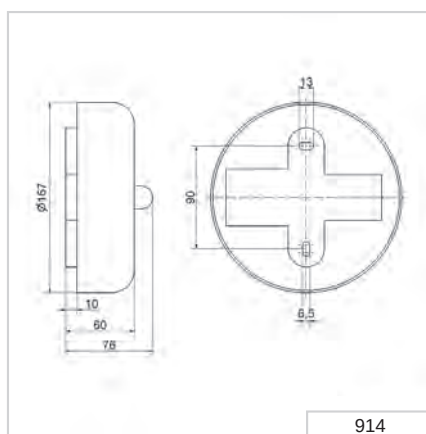
- High IP66 protection rating for outdoor use



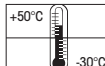
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Depth):	167 mm x 76 mm
Housing:	Steel bell, epoxy dust enamelled
Connection:	Screw terminal max. 1.5 mm ²
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 5-10 mm

Voltage:	24 V DC	110 V AC (50/60 Hz)	230 V AC
Current consumption:	300 mA	90 mA	55 mA
Order No.:	914 052 55	914 052 67	914 052 68 (50 Hz)
Order No.:			914 053 68 (60 Hz)

**TECHNICAL DIAGRAM:****Signalisation index**

Alarm bell

See note
on page 347at DC - 98 dB(A)
at AC - 100 dB(A)

Ex Horns and Sirens

Signalisation index	
Audible	
Continuous Tone	4
Signal Horn	6
Multi-Tone Sounder	6

Your benefits

Ex Horns and Sirens from WERMA have been developed specifically for use in potentially explosive atmospheres. The Ex signalling devices are designed for use in explosive gas and vapour atmospheres (zones 1 and 2).

- Many years of proven use in potentially explosive areas
- Light and compact design for easy mounting
- Diverse signalling options

Typical applications

Signalling of faults or alarms

- during the processing or filling of highly flammable substances (gases and/or vapours and liquids)
- during storage of highly flammable substances (gases and/or vapours and liquids)
- in industrial plants with flammable dust atmospheres (e.g. metal processing, sawmills, mills, powdered milk processing plants)

Installation options

- Wall mounting

Features

- For use with or without the use of a safety barrier (depend on product)
- Proven technology with ATEX and IECEx certifications

761:

- „E“ terminal box for easy connection; approved for use in gas and dust applications (zones 1 and 21)





Cap (accessory)



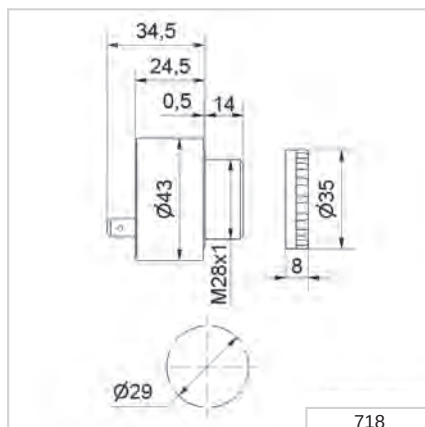
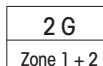
Zener Barrier (accessory)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

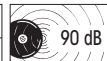
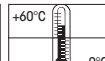
Dimensions (Ø x Height):	43 mm x 13 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend			
Connection:	Spades 6.3 x 0.8 mm			
Tone frequency:	C. 2,400 Hz			
Duty cycle:	100 % ED			
Explosion protection:	Ex II 2G Ex ib IIC T4 / T5 / T6 Gb			
Approval:	DMT 98 ATEX E 005 X			
Maximum values of the Zener 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.-	Max. surrounding temperature		
	classes	+ 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
Voltage:	24 V DC			
Current consumption:	20 mA			
Order No.:	718 000 55			

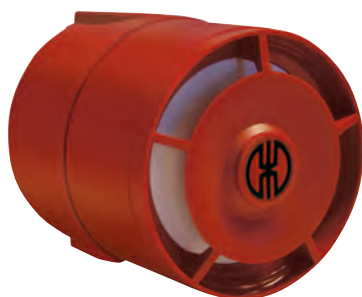
**ACCESSORIES:**

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

**TECHNICAL DIAGRAM:****Signalisation index**Continuous tone 4

with cap





Zener Barrier (accessory)

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (Ø x Height):	93 mm x 103 mm
Housing:	ABS
Connection:	Screw terminal max. 2.5 mm ²
Cable entry:	Cable diameter max. 12 mm
Duty cycle:	100%
Tone types and frequencies:	Selectable via switched, see table below
Fixing:	Wall mounting, Bodenmontage
Installation position:	Sound outlet not facing upwards
Explosion protection:	Ex II 1 G Ex ia IIC T4 Ga
Approval:	Baseefa 06 ATEX 0161
Voltage:	24 V DC
Current consumption:	14 mA
Order No.:	714 000 55

**ACCESSORIES:**

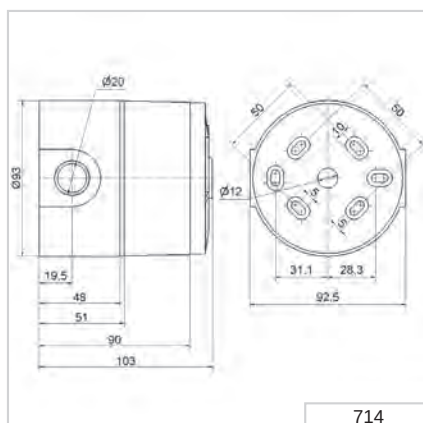
Zener Barrier

975 714 01

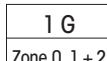
**TONE TYPES AND FREQUENCIES:**

selectable via DIP switch, 2 tones externally triggered

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 1 Hz 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 DIAGRAM:****Signalisation index**Multi-tone
sounder

6



Up to



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W): 148 mm x 350 mm x 152 mm

Housing: PC/ABS-Blend

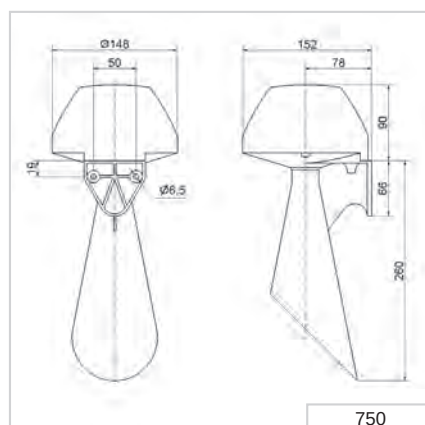
Connection: Cable 3 m, 2 x 0,75 mm²

Fixing: Bracket mounting, sound outlet facing downwards

Explosion protection: Ex II 2G Ex mb IIC T5 Gb

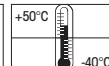
Approval: BVS 03 ATEX E 118X

Voltage:	24 V DC	24 V AC	42-48 V AC	115 V AC	230 V AC
Voltage:	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)
Current consumption:	350 mA	450 mA	220 mA	205 mA	70 mA
Order No.:	750 000 55	750 000 65	750 000 66	750 000 67	750 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

6



**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

Dimensions (L x H x W): 178 mm x 104 mm x 207 mm

130 mm x 160 mm

Housing: PC

Connection: CAGE CLAMP® max. 2.5 mm²

Cable entry: Cable gland M16 x 1.5 mm;
Cable diameter 6,5-9,5 mm

Fixing: Wall mounting, base mounting

Explosion protection: Ex II 2G Ex e mb IICT5 Gb

Ex II 2D Ex tb IIIC T 70°C Db

Approval: BVS 03 ATEX E 118X

Voltage: 24 V DC

24 V AC

48 V AC

115 V AC

230 V AC

Voltage: 21,6 V ...

21,6 V ...

37,8 V ...

102,5 V ...

108 V ...

208 V ...

26,4 V

26,4 V

52,8 V

126,5 V

131 V

250 V

(50 Hz)

(60 Hz)

(50 Hz)

Current consumption: 350 mA

450 mA

220 mA

205 mA

70 mA

Order No.:

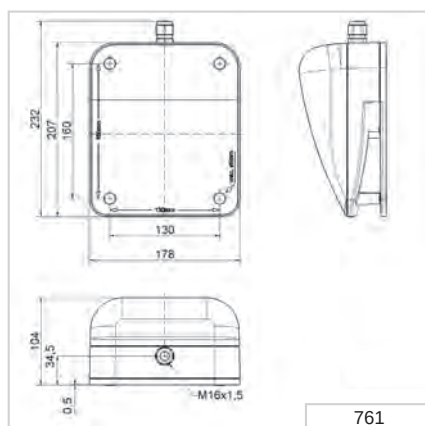
761 000 55

761 000 65

761 000 66

761 000 67

761 000 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn

6

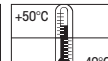


2 G

Zone 1 + 2

2 D

Zone 21 + 22





Optical-audible combinations



Overview Optical and Audible Combinations

Double the safety with optical-audible signals

Large systems are often managed by only a few people, especially in automated production facilities and large machine shops. This results in optical signals not always being in the machine operator's immediate field of vision. In such cases, an audible signal may also be used. The use of both optical and audible alarms will help to counter an audible alarm not always being heard above an ambient noise level.

Overview Optical and Audible Combinations						
Product type		Installation	Free-standing	Free-standing	Free-standing	Free-standing
Mounting	Product range	Installation Combinations	Mini Combinations	Midi Combinations	Design Combinations	Heavy Duty Combinations
Dimensions (Ø x Height)*		50 x 22 mm	89 x 100,5 mm	146 x 171 mm 134 x 235 mm	-	-
Dimensions (L x H x W)		-	83 x 120,5 x 91 mm 83 x 234,5 x 91 mm	134 x 407 x 144 mm	109 x 112,5 x 152 mm	136 x 138 x 119 mm 165 x 169 x 132 mm 168 x 211 x 155 mm
Voltage	12 V		•			•
	24 V	•	•	•	•	•
	60 V					•
	115 V	•	•	•	•	•
	230 V	•	•	•	•	•
Protection rating		IP65	IP65	IP65	IP65	IP66
Signalisation index optical**		3	3-4	5-9	6-8	4
Signalisation index audible**		3	4-7	6-7	8	6-10
Page		Page 260	Page 263	Page 270	Page 276	Page 280

* Technical diagrams can be found on the product page

** Signalisation index - see page 13 + 21



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 Sounder, Buzzer and Installation Buzzer, Horns

OPTICAL SIGNALS:

(LED) Permanent Light, Flashing Light, LED Double Flash Light, LED EVS Signal, LED Permanent/Flash/EVS Light

Size comparison



Installation Combination Beacon with Buzzer

Size comparison Installation / Mini



Signallisation index

Audible		
Continuous Tone		3
Optical		
LED Permanent Light		3

Your benefits

Optical audible Installation Combinations give excellent all-round visibility of the signal and are an industry standard for easy installation in control panels.

- Easy to install
- Tamper-proof when installed
- Minimal protrusion from panel for installations where space is limited
- Acknowledgement function promotes faster response time and fault repair (450 series)

Typical applications

Fault signalling

- in switch panels
- in control panels

Installation options

- Installation mounting

Features

- High IP65 protection rating for outdoor applications
- Standard M22 for control panel installation
- Proven piezo technology for extended life duration
- Easy to connect using a plug-in connection
- LED permanent light with continuous tone that can be additionally activated





LED Permanent light with continuous tone that can be additionally activated



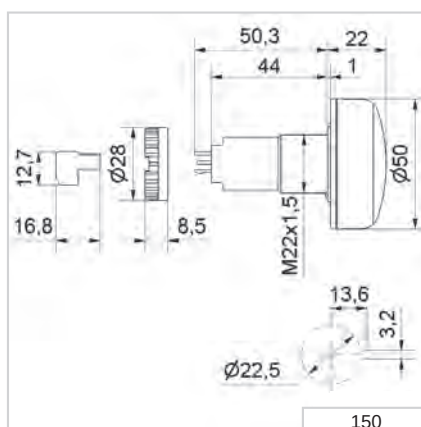
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Connection:	Connector plug with screw terminal max. 1.5 mm ²
Tone type:	Continuous
Tone frequency:	C. 2,8 kHz
Duty cycle:	100 %
Life duration:	Up to 50,000 hrs
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device
Nut and seal included in assembly.	

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

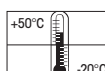


TECHNICAL DIAGRAM:



Signalisation index

Continuous tone		3
LED Permanent Light		3



24 V

PLC





LED Permanent light with continuous tone that can be additionally activated



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

Signalisation index

Continuous tone		3
LED Permanent Light		3



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Connection:	Screw terminal 0,5 mm ²
Signal input:	24 V DC
Acknowledgement output:	Semiconductor-Relay
	$U_{\max} = 30 \text{ V}$ $I_{\max} = 100 \text{ mA}$ $R_{\text{ON max}} = 25 \text{ Ohm}$
Tone type:	Continuous
Tone frequency:	C. 2,8 kHz
Duty cycle:	100 %
Life duration:	Up to 50,000 hrs
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)
Nut and seal included in assembly.	

Voltage:	24 V DC
Current consumption:	40-80 mA
red	450 100 55
gelb	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.

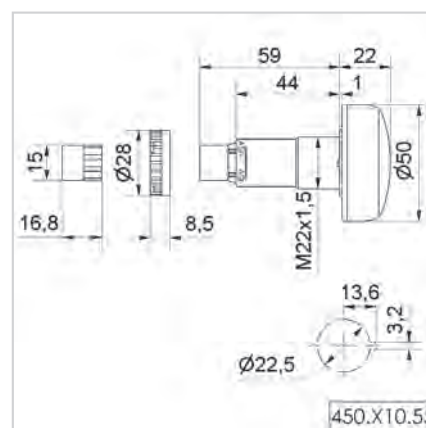
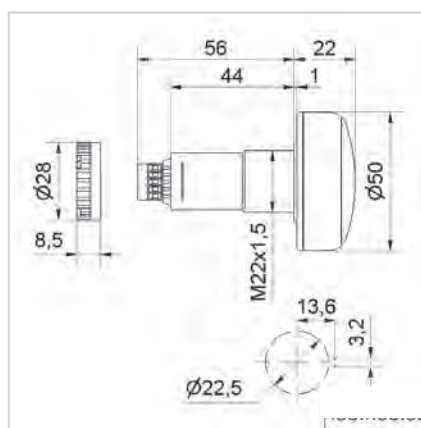
3



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

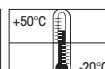
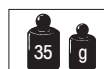


TECHNICAL DIAGRAMS:



450.X00.00

450.X10.55



Mini Combination Beacon with Buzzer / Siren / Horn



Siganlisation index				
Audible	420 + 422	421 + 423	424	425
Continuous tone	4	4		
Pulse tone	4	4		
Horn			5	5
Multi-Tone Sounder	7	7		
Optical				
LED Permanent Light	3		3	
Xenon Flash		4		4

Your benefits

The WERMA Mini Beacon with a buzzer, siren or horn provides safety and security by providing a secure alarm warning in various applications. These optical-audible combination beacons are easy to install and connect, particularly when space is limited.

- Reliable signalling in close-range applications
- Tamper-proof when installed
- Multiple visual and audible escalation levels possible

Typical applications

Fault signalling

- In areas with low ambient noise levels
- On smaller sized machinery and equipment
- In building service systems (e.g. gas alarm, lift alarm)

Installation options

- Base mounting
- Wall mounting
- Tube mounting

Features

- Proven piezo technology for a long life duration
- Adjustable sound output
- Permanent light with long-lasting and energy-saving LEDs or as an eye-catching Xenon flashing light for high visibility





Base mounting

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

Wall mounting



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Tube mounting		Wall mounting	
Dimensions (Ø x Height):	89 mm x 100,5 mm (Base mount.)		-	
Dimensions (L x H x W):	-		83 mm x 120,5 mm x 91 mm	
Housing:	PC, black		PC/ABS-Blend; PC grey	
Lens:	PC, transparent			
Connection:	Connector plug with screw terminal max. 1.5 mm ²			
Cable entry:	Cable diameter max. 9 mm			
Life duration:	Up to 50,000 hrs			
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:	Tube mounting via accessory		Sound outlet facing downwards	
Voltage:	12 V DC	24 V AC/DC	115 V AC	230 V AC
Current consumption LED:	80 mA	45 mA	25 mA	25 mA
Current consumption 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

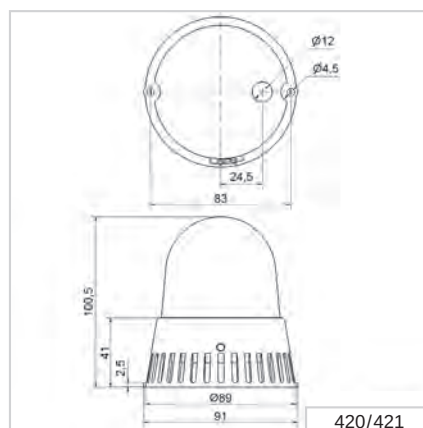


ACCESSORIES:

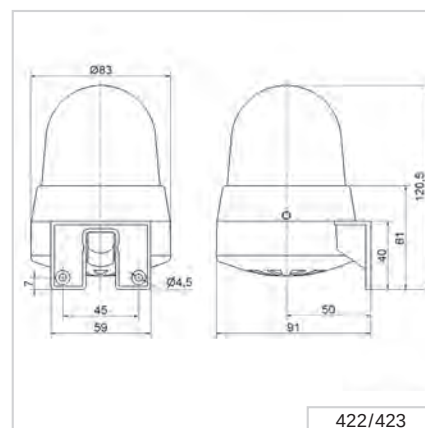
Adaptor for tube mounting, plastic, for tube Ø 25 mm	975 420 01
Base for tube Ø 25 mm, plastic, incl. rubber seal	975 840 90
Base for tube Ø 25 mm, metal, incl. rubber seal	975 840 91
Tube Ø 25 mm, all anodized aluminium	
100 mm	975 845 10
250 mm	975 840 25



TECHNICAL DIAGRAMS:



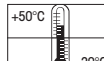
420/421



422/423

Signalisation index

Continuous tone	4
Pulse tone	4
LED Permanent Light	3



24 V

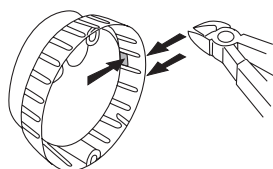




Base mounting



Wall mounting



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



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Tube mounting		Wall mounting
Dimensions (Ø x Height):	89 mm x 100,5 mm (Base mount.)		-
Dimensions (L x H x W):	-		83 mm x 120,5 mm x 91 mm
Housing:	PC, black		PC/ABS-Blend; PC grey
Lens:	PC, transparent		
Connection:	Connector plug with screw terminal max. 1.5 mm ²		
Cable entry:	Cable diameter max. 9 mm		
Tone type:	Continuous tone or pulse tone, adjustable		
Tone frequency:	2,3 kHz		
Flash energy:	1 Ws		
Flash frequency:	1 Hz		
Life duration:	4 x 10 ⁶ flashes		
Fixing:	Tube mounting via accessory		Sound outlet facing downwards
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			
rot	423 110 75	423 110 67	423 110 68
gelb	423 310 75	423 310 67	423 310 68

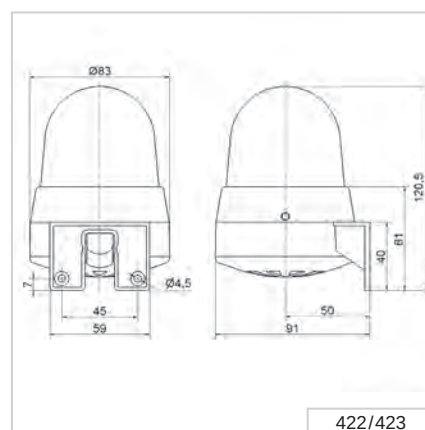
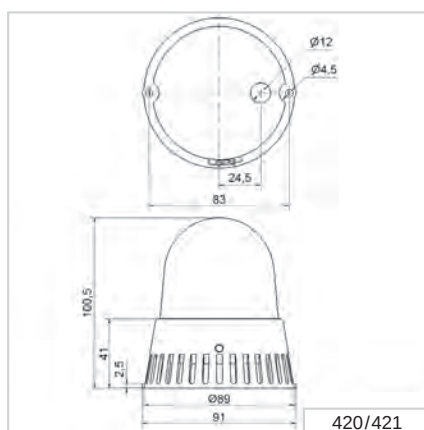


ACCESSORIES:

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

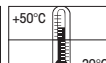


TECHNICAL DIAGRAMS:



Siganlisation index

Continuous tone		4
Pulse tone		4
Xenon Flash		4



420/422 Mini LED Permanent Light / Multi-Tone Sounder Combination



Base mounting



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



Wall mounting



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Tube mounting	Wall mounting
Dimensions (Ø x Height):	89 mm x 100,5 mm (Base mount.)	-
Dimensions (L x H x W):	-	83 mm x 120,5 mm x 91 mm
Housing:	PC, black	PC/ABS-Blend; PC grey
Lens:		PC, transparent
Connection:	Screw terminal with wire protection max. 1.5 mm ²	
Cable entry:	Cable diameter max. 9 mm	
Tone type:	Selectable, see table below	
Tone frequency:	See table	
Life duration:	Up to 50,000 hrs	
Fixing:	Tube mounting via accessory	Sound outlet facing downwards
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	



NEED TONE TYPES AND FREQUENCIES:

Ton 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

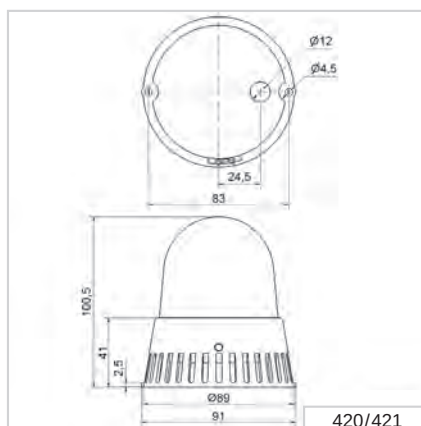


ACCESSORIES:

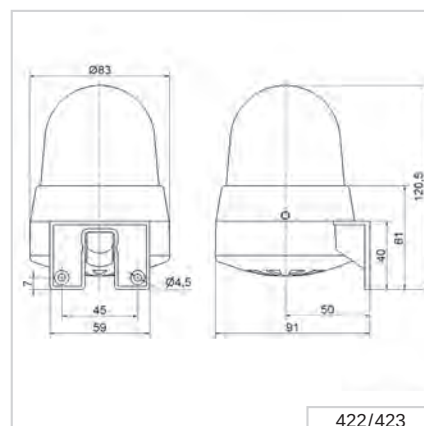
Accessories see page 264.



TECHNICAL DIAGRAMS:



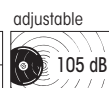
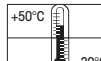
420/421



422/423

Signification index

Multi-Tone Sounder	7
LED Permanent Light	3



421/423 Mini Xenon 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



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base/Tube mounting	Wall mounting
Dimensions (Ø x Height):	89 mm x 100,5 mm (Base mount.)	-
Dimensions (L x H x W):	-	83 mm x 120,5 mm x 91 mm
Housing:	PC, black	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	
Life duration:	4 x 10 ⁶ flashes	
Tone type:	Selectable, see table below	
Tone frequency:	See table	
Fixing:	Tube mounting via accessory	Sound outlet facing downwards
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	



TONE TYPES AND FREQUENCIES:

Ton	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

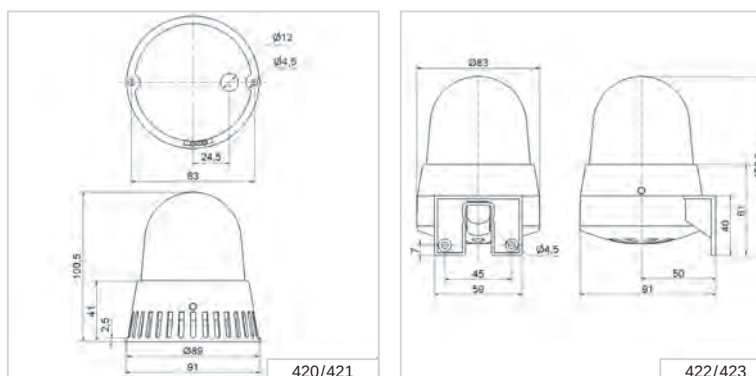


ACCESSORIES:

Accessories see page 265.

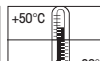


TECHNICAL DIAGRAMS:



Signalisation index

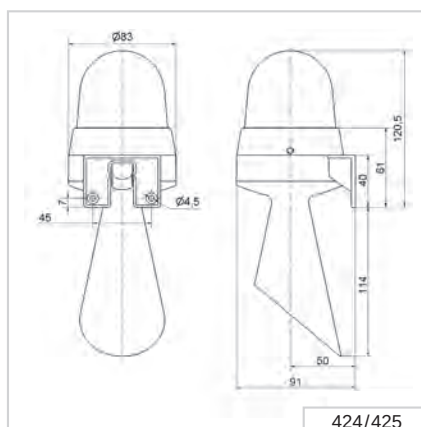
Multi-Tone Sounder	7
Xenon Flash	4



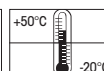
**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

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		
Life duration:	50,000 h (LED Permanent light) 5,000 h (Horn)		
Tone frequency:	110 Hz		
Fixing:	Wall mounting, Sound outlet facing downwards		

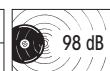
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption LED:	45 mA	25 mA	25 mA
Current consumption Horn:	80 mA	70 mA	70 mA
red	424 120 75	424 120 67	424 120 68
yellow	424 320 75	424 320 67	424 320 68

**TECHNICAL DIAGRAM:****Signalisation index**

Horn		5
LED Permanent Light		3



adjustable (24 V)



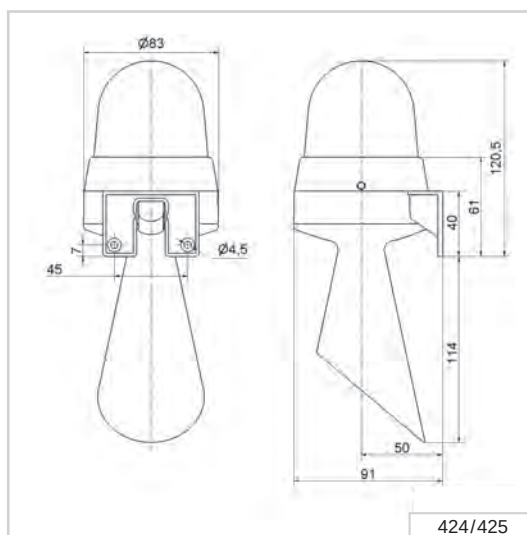


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

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		
Life duration:	4 x 10 ⁶ Blitze (Xenon Flash) 5,000 h (Horn)		
Tone frequency:	110 Hz		
Fixing:	Wall mounting, Sound outlet facing downwards		
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

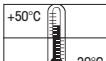


TECHNICAL DIAGRAM:

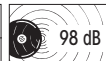


Siganlisation index

Horn	5
Xenon Flash	4



adjustable (24 V)



Midi Combination Beacon with Siren/Horn

Size comparison Midi / Design



Signallisation index

Audible	430/432	431/433	434	435
Horn			7	7
Multi-Tone Sounder	7	7		
Optical				
LED Permanent Light	5	5	5	5
LED Flashing Light		7		7
LED EVS Light		9		9

Your benefits

The WERMA Midi Beacon with a siren or horn provides safety and security by delivering reliable fault alarms over medium distances. The IP65 protection rating is suitable for outdoor applications.

- Multiple light configurations for different purposes and distances (some with partial external triggering)
- Simple installation
- Tamper-proof when installed
- Multiple visual and audible escalation levels possible
- Clear all-round visibility thanks to the OmniVIEW lens; no blind spots
- Multi-tone siren with up to 32 tones available for maximum flexibility

Typical applications

Fault signalling

- In areas with high ambient noise levels
- On machinery and equipment
- In building service systems (e.g. gas alarm)
- In the event of e.g. overload on mobile cranes and similar

Installation options

- Base mounting
- Wall mounting
- Tube mounting

Features

- Long life and energy-saving LEDs



430/432 Midi LED Permanent Light/ 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 (432)



Mounting holes integrated into the product rim allow easy mounting without having to remove the lens (430)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting (430)	Wall mounting (432)
Dimensions (Ø x Height):	146 mm x 171 mm	134 mm x 235 mm
Housing:	PC/ABS-Blend, black	PC/ABS-Blend, grey
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm ²	
Cable entry:	Cable diameter max. 11 mm	
Tone type and frequency:	32 tones adjustable, see table on page 273	
Life duration:	Up to 50,000 h (LED), up to 5,000 h (Multi-tone Sounder)	
Installation position:	Sound outlet facing downwards	
Fixing:	Base mounting (430), Wall mounting (432) Tube mounting (accessory, only for 430)	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	190 mA	55 mA
Current consumption LED:	350 mA 230 mA (red)	100 mA 80 mA (red)
Base mounting		
red	430 100 75	430 100 60
yellow	430 300 75	430 300 60
Wall mounting		
red	432 100 75	432 100 60
yellow	432 300 75	432 300 60

*Current consumption at 115 V



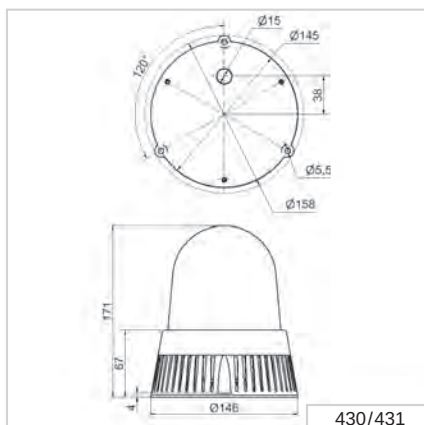
ACCESSORIES:

Adaptor for tube mounting, plastic, for tube Ø 25 mm

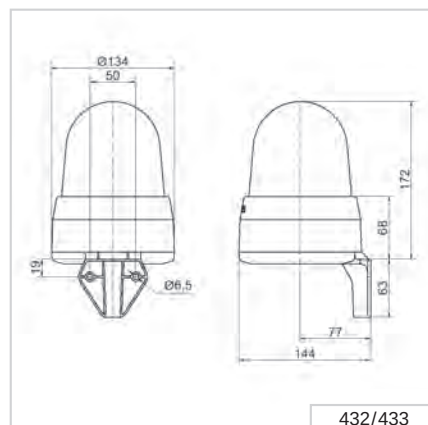
975 430 01



TECHNICAL DIAGRAMS:



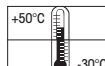
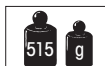
430/431



432/433

Signalisation index

Multi-Tone Sounder	7
LED Permanent Light	5



431/433

Midi 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 (431)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Base mounting (431)	Wall mounting (433)
Dimensions (Ø x Height):	146 mm x 171 mm	134 mm x 235 mm
Housing:	PCABS-Blend, black	PC/ABS-Blend, grey
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm ²	
Cable entry:	Cable diameter max. 11 mm	
Tone type and frequency:	32 tones adjustable, see table on page 273	
Installation position:	Sound outlet facing downwards	
Life duration:	Up to 50,000 h (LED), up to 5,000 h (Multi-tone Sounder)	
Fixing:	Base mounting (431), Wall mounting (433) Tube mounting (accessory, only for 431)	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	190 mA	55 mA
Current consumption LED:	350 mA 230 mA (red)	100 mA 80 mA (red)
Base mounting		
red	431 100 75	431 100 60
yellow	431 300 75	431 300 60
Wall mounting		
red	433 100 75	433 100 60
yellow	433 300 75	433 300 60

*Current consumption at 115 V



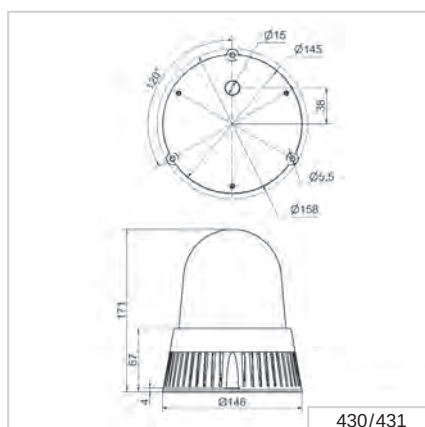
ACCESSORIES:

Adaptor for tube mounting, plastic, for tube Ø 25 mm

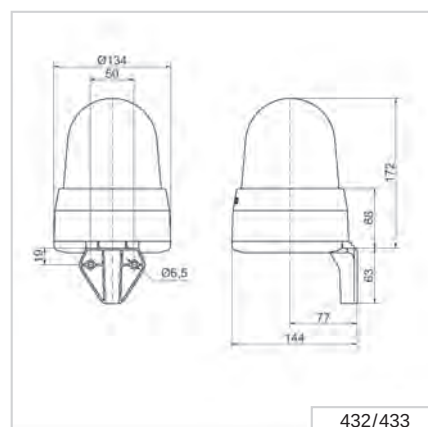
975 430 01



TECHNICAL DIAGRAMS:



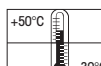
430/431



432/433

Signalisation index

Multi-Tone Sounder	7
LED Permanent Light	5
LED Flashing Light	7
LED EVS Light	9



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

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





Award winning design Winner of the iF product design award 2012



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



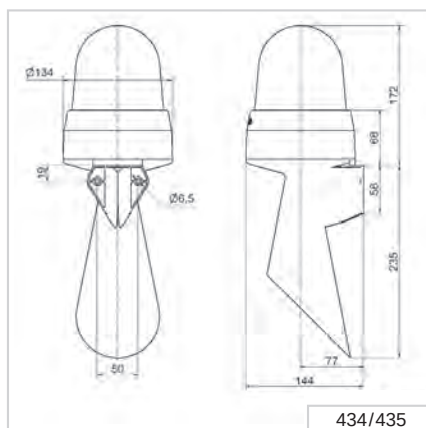
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	134 mm x 407 mm x 144 mm	
Housing:	PC/ABS-Blend, grey	
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm ²	
Cable entry:	Cable diameter max. 11 mm	
Tone frequency:	C. 110 Hz	
Life duration:	Up to 50,000 h (LED), up to 5,000 h (Horn)	
Fixing:	Wall mounting, integrated mounting bracket	
Installation position:	Sound outlet facing downwards	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	55 mA	30 mA
Current consumption LED:	350 mA	100 mA
	230 mA (red)	80 mA (red)
red	434 100 75	434 100 60
yellow	434 300 75	434 300 60

*Current consumption at 115 V

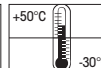


TECHNICAL DIAGRAM:



Signanisation index

Horn	7
LED Permanent Light	5





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



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

Signallisation index

Horn	7
LED Permanent Light	5
LED Flashing Light	7
LED EVS	9



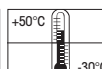
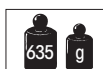
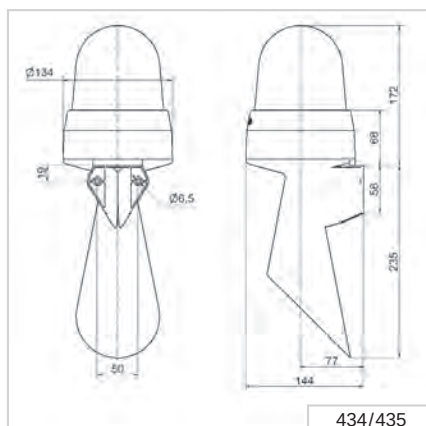
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	134 mm x 407 mm x 144 mm	
Housing:	PC/ABS-Blend, grey	
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm ²	
Cable entry:	Cable diameter max. 11 mm	
Tone frequency:	C. 110 Hz	
Life duration:	Up to 50,000 h (LED), up to 5,000 h (Horn)	
Fixing:	Wall mounting, integrated mounting bracket	
Installation position:	Sound outlet facing downwards	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	55 mA	30 mA
Current consumption LED:	350 mA	100 mA
	220 mA (red)	80 mA (red)
red	435 100 75	435 100 60
yellow	435 300 75	435 300 60

*Current consumption at 115 V



TECHNICAL DIAGRAM:



Design Combination LED Multi-Tone Sirens

Size comparison Design / Heavy Duty



Signalisation index

Audible	
Multi-Tone Sounder	8
Optical	
LED Flashing Light	6
LED EVS	8

Your benefits

The Design Combination LED Multi-Tone Sirens provide safety and security in environments with heightened aesthetic design requirements. The innovative housing design makes for simple mounting in many diverse applications.

- Ideal signalling effect over great distances
- Multiple visual and audible escalation levels possible
- Many application options with up to 32 tones available
- Up to 3 tones controlled remotely for the escalation of signals
- Includes standardised tones (including those used in fire alarms)

Typical applications

Fault signalling

- In building service systems
- On machinery and equipment

Installation options

- Wall mounting
- Base mounting
- Ceiling mounting

Features

- Multi-voltage versions allow multiple applications with a single device
- Long life and energy-saving LEDs, either as a flashing light or EVS





Base mounting



Wall mounting

**TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:**

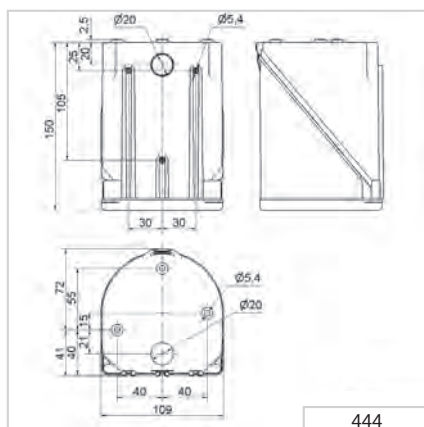
Dimensions (L x H x W):	109 mm x 112.5 mm x 152 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Connection:	24 V: Screw terminal 0.5-1.5 mm ² 115/230 V: CAGE CLAMP®		
Cable entry:	Membrane for cable diameter max. 13 mm		
Life duration:	Up to 50,000 hrs (LED Double Flash)		
Flash frequency:	C. 1 Hz		
Fixing:	Wall, base and ceiling mounting		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption Optical:	60 mA	30 mA	30 mA
Current consumption 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)	975 444 01
Protection rating IP 65 is guaranteed even without cable gland	

**tone TYPES AND FREQUENCIES:**

Selectable via DIP switch, see tone table on page 279, 3 tones can be externally triggered

**TECHNICAL DIAGRAM:****Signanlisatlon index**

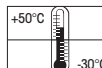
Multi-Tone Sounder	8
LED Flashing Light	6



24 V



115 V / 230 V



(A)



24 V





Base mounting



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	109 mm x 112.5 mm x 152 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Connection:	24 V: Screw terminal 0.5-1.5 mm ² 115/230 V: CAGE CLAMP®		
Cable entry:	Membrane for cable diameter max. 13 mm		
Fixing:	Wall, base and ceiling mounting		
Life duration:	Up to 50,000 hrs (LED EVS)		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption Optical:	60 mA	30 mA	30 mA
Current consumption 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 guaranteed even without cable gland	

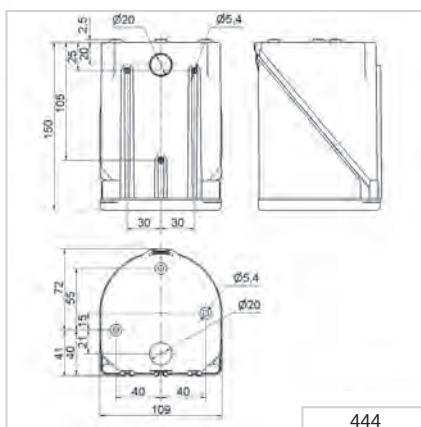


TONE TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 279, 3 tones can be externally triggered



TECHNICAL DIAGRAM:



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

Siganlisation index

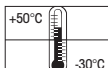
Multi-Tone Sounder	8
LED EVS Light	8



24 V



115 V / 230 V



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



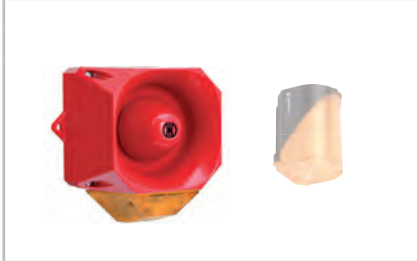
TONE TYPES AND FREQUENCIES:

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



Heavy Duty Combination – Multi-Tone Siren with Xenon Flash

Size comparison Heavy Duty / Design



Signallisation index

Audible	439	441	442
Multi-Tone Sounder	6	8	10
Optical			
Xenon Flash	4	5	5-6

Your benefits

The WERMA Heavy Duty Combination - Multi-Tone Siren with Xenon Flash features a very robust housing. The combination device provides safety and security through reliable, loud signalling in particularly harsh environments. Up to 120 dB for use in extremely noisy environments and signalling over long distances.

- Multiple visual and audible escalation levels possible
- Includes standardised tones (including those used in fire alarms)
- Up to 42 tones for signalling various statuses

Typical applications

Signalling of faults or alarms

- Outdoors in extreme conditions
- In larger industrial plants
- As an evacuation alarm

Installation options

- Wall mounting

Features

- High protection rating IP66
- Multi-voltage versions available



439 Xenon Flash / Multi-Tone Sounder Combination (105 dB)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	136 mm x 138 mm x 119 mm	
Housing:	ABS	
Connection:	Screw terminal 0.28-2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Flash frequency:	1 Hz	
Flash energy	1,6 Ws	
Tone type and frequency:	Selectable via DIP switch, 2 tones can be externally triggered	

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
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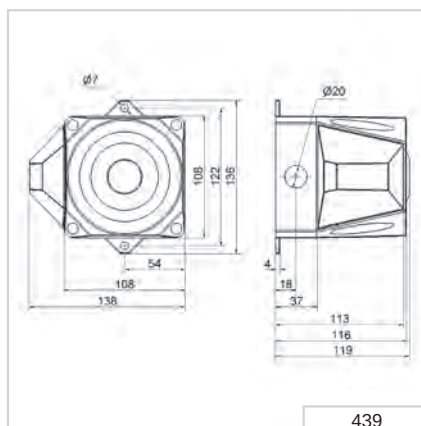


tone types and frequencies:

For further details see www.werma.com.

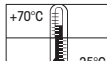


TECHNICAL DIAGRAM:



Signanlisation index

Multi-Tone Sounder	6
Xenon Flash	4



441 Xenon Flash / Multi-Tone Sounder Combination (110 dB)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	165 mm x 169 mm x 132 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.28-2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Flash frequency:	1 Hz	
Flash energy	2.5 Ws	
Tone type and frequency:	Selectable via DIP switch, 2 tones can be externally triggered	

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
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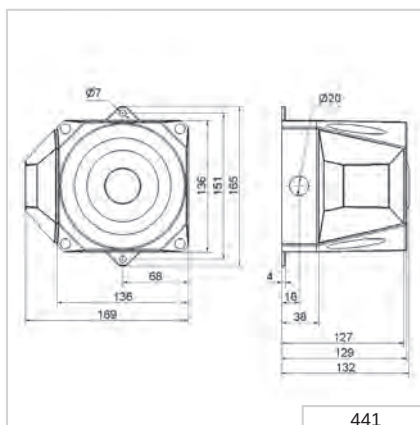


TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

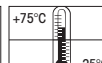


TECHNICAL DIAGRAM:



Signanlisation index

Multi-Tone Sounder	8
Xenon Flash	5



442 Xenon Flash / Multi-Tone Sounder Combination (120 dB)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	168 mm x 211 mm x 155 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0,28-2.5 mm ²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone type and frequency:	Selectable via DIP switch, 3 tones externally triggered see table on page 284	
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
Flash energy	3,5 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

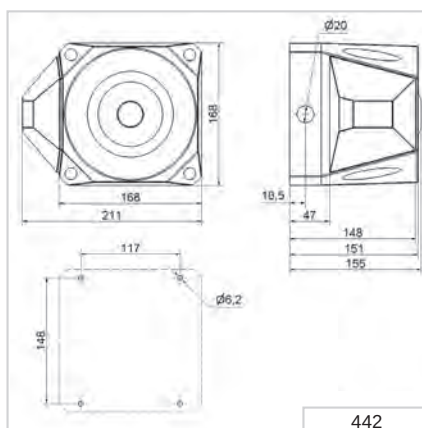


ACCESSORIES:

Cable gland M20 x 1.5 mm	975 444 01
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TECHNICAL DIAGRAM:



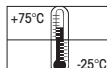
Signalisation index

Multi-Tone Sounder	10
Xenon Flash	5-6



442 XX0 55

442 XX0 68



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



TONE TYPES AND FREQUENCIES:

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





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