

New Products 2012/2013



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Recognise the potential with Lean Production

Delivery performance, smaller batch sizes, increasing competition and pressure on costs are all common issues for companies nowadays. In order to deal with all of these issues greater attention has to be paid to flexibility, transparency and efficiency. Without technical support it is virtually impossible to reduce downtime, shorten production times and at the same time install a comprehensive works monitoring system in order to make the best use of the capacity available.

Counter Module with WIN slave performance

WERMA is able to offer you a further Lean Production solution. The new software called "WIN slave performance" offers alongside the traditional monitoring functions a counting module. The "WIN slave performance" monitors up to six different status conditions and counts the piece part output signal from a machine. The data is then transferred wirelessly to the "WIN master" and saved in the database.

Excellent transmission range

The WIN system has a transmission range (unobstructed line of sight) of 300 m although this will vary according to the construction of the building. In addition, as each slave acts as a repeater, effective transmission distances in a network of "WIN slaves" can be extended to a maximum of 900 m distance between the "WIN slave" and "WIN master". The low 868MHz frequency the system uses, provides better transmission characteristics than other systems such as WLAN and Bluetooth.

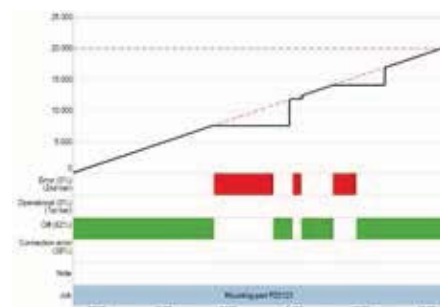
Monitor the progress of a job with the WIN software package

Together with the new hardware the WIN software offers enhanced functions. Both the standard WIN slave and the new WIN slave performance can be used within the same network. You can input a job with the planned number of pieces which can then be compared with the actual numbers being recorded by the system. In this way you have an immediate view of the progress of a job up to completion.

The new functions allow you to reduce downtime, help to reduce wastage and identify process problems quickly.

Machine	Status	Fulfillment level
Injection moulding 3	Completed	100%
Injection moulding 2	Completed	100%
Injection moulding 1	Completed	100%
Injection moulding 1	Completed	108%
CNC machine 2	Completed	100%
CNC machine 1	Running	39%
CNC machine 2	Running	49%
CNC machine 1	Waiting	0%
CNC machine 2	Waiting	0%
Injection moulding 2	Waiting	0%

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



Help to reduce inefficiencies by identifying the duration of and frequency of interruptions to production.

WIN slave performance for KombiSIGN 70 and 71



Machine status and part count monitoring in one element: WIN slave performance



"WIN complete" is immediately ready for use and consists of three signal towers, three WIN slaves performance and the WIN master



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

- Economical wireless-based Machine Data Collection system (MDC system)
- Analyse and optimise production processes
- Machine status and part count monitoring of a wide range of different machines
- Minimal installation effort and intuitive software



i TECHNICAL SPECIFICATIONS:

WIN slave performance

Dimensions (Ø x Height): KombiSIGN 70/71: 70 mm x 65.5 mm
Housing: Polycarbonate, black
Connection: Bayonet
Voltage: 24 V AC/DC
Current consumption: 40 mA
Counter input: max. 10 Hz

WIN master

Dimensions (L x H x W): 76 mm x 30 mm x 80 mm (without Antenne)
Housing: ABS, black
Connection: Via USB
Voltage: Via USB
Current consumption: < 100 mA
Suitable for: Windows 2000 service pack 4, Windows XP, Windows Vista, Windows 7

Wireless connection

ISM frequency: 868 MHz
Transmission range: Up to 300 m (unobstructed line of sight). Every WIN slave performance simultaneously functions as a "repeater", enabling the transmission range to be increased to up to 900 m.



🛒 ORDER SPECIFICATIONS:

WIN complete with WIN slave performance for KombiSIGN 71 **860 640 13**
 Assembly: WIN master, 3 WIN slaves performance for KombiSIGN 71 (pre-configured), 3 KombiSIGN 71 signal towers (LED permanent light elements in red, yellow and green, terminal element, base with integrated tube), software

WIN system with WIN slave performance for KombiSIGN 71 **860 640 11**
 WIN system with WIN slave performance for KombiSIGN 70 **860 840 11**
 Assembly: WIN master, 3 WIN slaves performance for KombiSIGN 71 (pre-configured), Software

WIN slave performance for KombiSIGN 71 **860 640 12**
 WIN slave performance for KombiSIGN 70 **860 840 12**
 The networks can be expanded to up to 50 WIN slaves performance per network as required.

Available: 1st Quarter 2013

The technical specifications and order specifications of suitable signal elements as well as further "WIN" products can be found at www.werma.com or in our main catalogue.

📐 TECHNICAL DIAGRAM:

The technical diagrams can be found at www.werma.com.

Andon products for the implementation of lean production methods

Production and logistics experts are increasingly focussing on the implementation of lean management methods. The aim of a holistic approach to lean management is to optimally coordinate every activity within the value creation chain and thus eliminate all types of waste.

WERMA now offers an optimal solution for lean production implementation:
The new Andon Products for Signal Towers.

What does "Andon" stand for?

The term "Andon" originates from Japan. A signal tower or beacon mounted in a prominent position signals that a problem has arisen and requests an immediate response.

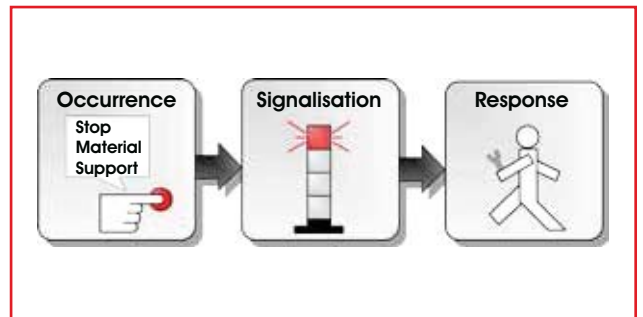
WERMA'S Andon products function according to the same principle: when an optical or audible signal is activated the supervisor or logistics employee is made aware of the fact that an immediate response is required. Each workstation that is equipped with these products enables the employee to precisely and instantaneously signal which type of issue has occurred at the touch of a button. With the aid of optical and/or audible signals the system then displays the corresponding information.



Flexible call system

The use of Andon Products not only improves the efficiency of production processes but decisively contributes to the effective use of resources, creates cost savings and increases the ability to flexibly respond to market changes.

WERMA'S Andon products can be used in a wide range of applications: from optimising kanban processes to production workstations or packaging areas in shipping departments.



AndonCONTROL streamlines the delivery of material to manual workstations



If an employee at a manual workstation sees that a specific material is no longer available, then she presses the corresponding AndonCONTROL button.



As soon as the button is pressed an optical signal immediately displays that material is needed.


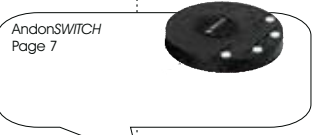


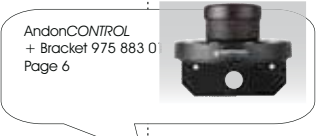

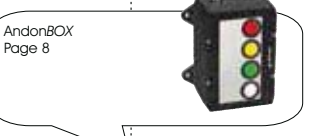



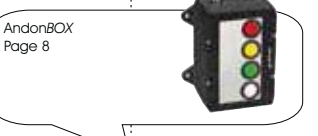


The logistics employee receives the optical signal and can respond at once. He collects the requested material from the storage area.



Without delay, the required material is delivered directly to the workstation.

Quick Finder: Installation type, position of signal tower and number of status conditions that can be activated

Type of Installation	Signal tower mounted directly on Andon product	Signal tower mounted separately from Andon product	Signal tower mounted separately from Andon product	Position of the Signal tower	
Base mounting	 <p>AndonCONTROL Page 6</p>	 <p>AndonSWITCH Page 7</p>	 <p>AndonBOX Page 8</p>		
Wall mounting	 <p>AndonCONTROL + Bracket 975 883 01 Page 6</p>	 <p>AndonSWITCH + Bracket 975 883 01 Page 7</p>	 <p>AndonBOX Page 8</p>		
Mounting on aluminium profile	 <p>AndonCONTROL + Bracket 975 883 01 Page 6</p>	 <p>AndonSWITCH + Bracket 975 883 01 Page 7</p>	 <p>AndonBOX Page 8</p>		
	8 States	8 States	4 States	Number of status conditions	

Wireless technology provides a complete overview

In larger production areas several workstations are often outside of the supervisor's line of sight. For situations such as these WERMA offers an optimal solution: a combination of Andon Products and WIN (Wireless Information Network) creates a central overview of the current status of up to 50 workstations at the same time.

Simple integration of the "WIN slave" into the signal tower enables this supplementary function to be used. The WIN slave transmits data via wireless technology to the WIN master, which is connected to a central PC.



Process optimisation and greater efficiency

With the help of the user-friendly WIN software, various productivity analysis tools can also be implemented. The concise software display interface enables intuitive operation and helps to gain a good overview of the integrated workstations.

The WIN system is also equipped with a messaging functionality. WIN sends occurrence-specific e-mails so that information is reliably and punctually transmitted to the correct person, independent of their location. The main aim is to achieve shortened response times and greater efficiency for specifically defined processes whilst ensuring clearly defined areas of responsibility amongst production staff. In large production departments, the reduction in workload and inestimable time and cost benefits are particularly valuable.



AndonCONTROL for KombiSIGN 70 and 71



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

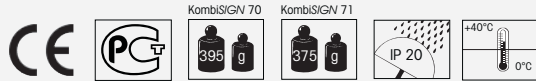
NEW

- A simple call system for various applications such as manual workstations
- Instant status display at the touch of a button to aid process optimisation
- Smart electronics enable the activation of up to eight different states
- For use with an integral signal tower
- Simple installation as no additional cable is required
- Universal power supply and interchangeable adaptors enable worldwide use

NEW

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	KombiSIGN 70: 136 mm x 49.5 mm KombiSIGN 71: 136 mm x 45.5 mm
Housing:	Base: PC/ABS Terminal element: PA-GF, shock resistant
Fixing:	Base mounting, Bracket mounting (accessory)
Number of signal elements:	Max. 4 additional signal elements possible
Assembly:	AndonCONTROL, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet



Instant status activated by push button

🛒 ORDER SPECIFICATIONS:

Voltage power supply unit	100-240 V AC
Voltage signal elements	24 V DC
Current consumption	Max. 1 A

AndonCONTROL for KombiSIGN 70 **860 840 07**
AndonCONTROL for KombiSIGN 71 **860 640 07**

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue.

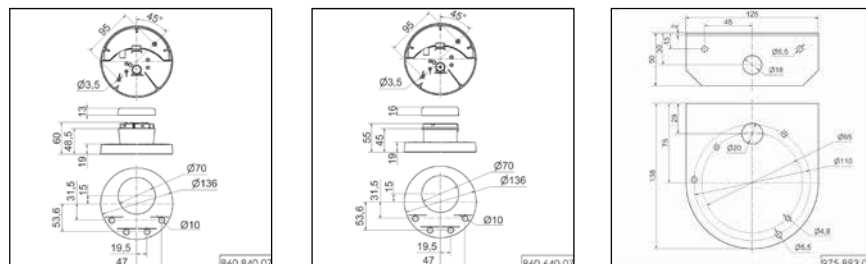
🔧 ACCESSORIES:

Mounting bracket, metal	975 883 01
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⚠️ ADDITIONAL INFORMATION:

The smart electronics in AndonCONTROL can activate up to eight different status conditions (permanent or blinking light). A signal tower mounted directly on the AndonCONTROL product can signal the different states.

📏 TECHNICAL DIAGRAM:



The four push buttons can be individually labelled

AndonSWITCH for KombiSIGN Signal Towers



NEW

AndonSWITCH helps visualise the active state via illuminated switches

- A simple call system for various applications such as manual workstations
- Instant status display at the touch of a button to aid process optimisation
- Smart electronics with illuminated switches enable the activation of up to eight different states
- For use with a signal tower installed away from the Andon product
- Simple installation as no additional cable is required
- Universal power supply and interchangeable adaptors enable worldwide use

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	136 mm x 19 mm
Housing:	Base: PC/ABS Terminal element: PA-GF, shock resistant
Fixing:	Base mounting, Bracket mounting (accessory)
Connection:	Via M12 plug
Number of signal elements:	Max. 4 additional signal elements possible
Assembly:	AndonSWITCH, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet



The mounting bracket can be used to fix AndonSWITCH to an aluminium profile and activate a remote signal tower

ORDER SPECIFICATIONS:

Voltage power supply unit	100-240 V AC
Voltage signal elements	24 V DC
Current consumption	Max. 1 A
AndonSWITCH for KombiSIGN Signal Towers	860 000 04

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue.

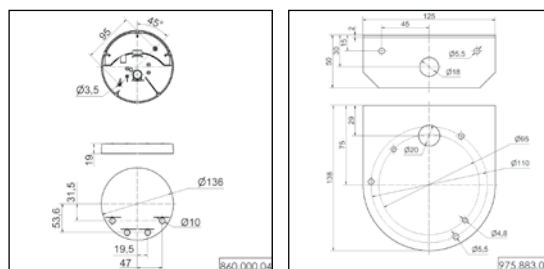
ACCESSORIES:

Mounting bracket, metal	975 883 01
M12 counter-plug with 5 m cable	960 860 01

ADDITIONAL INFORMATION:

The smart electronics and **illuminated switches** of AndonSWITCH can activate up to eight different status conditions (permanent or blinking light). A signal tower installed away from the Andon product using a connection cable can signal the different states.

TECHNICAL DIAGRAM:



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



AndonBOX for use in Industrial applications

- NEW** • A simple call system for various applications- such as manual workstations
- NEW** • Instant status display at the touch of a button to aid process optimisation
- NEW** • The robust AndonBOX is ideally suited to meet the demands of industrial applications
- For use with a signal tower installed away from the Andon product
- Simple installation as no additional cable is required
- Universal power supply and interchangeable adaptors enable worldwide use

i TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	161 mm x 79 mm x 138 mm
Housing:	PA
Fixing:	Base mounting, Wall mounting
Connection:	Via M12 plug
Number of signal elements:	Max. 4 additional signal elements possible
Assembly:	AndonBOX, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, coloured switch caps (red, yellow, green, white, blue)



🛒 ORDER SPECIFICATIONS:

Voltage: power supply unit	100-240 V AC
Voltage: signal elements	24 V DC
Current consumption	Max. 1 A

AndonBOX for KombiSIGN Signal Towers **860 000 03**

Available 1st Quarter 2013

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue.

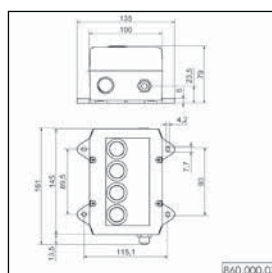
🏠 ACCESSORIES:

M12 counter-plug with 5 m cable **960 860 01**

⚠️ ADDITIONAL INFORMATION:

Up to four different status changes can be activated using the four push button switches on the robust AndonBOX. A signal tower installed away from the box using a connection cable can signal the different states.

📏 TECHNICAL DIAGRAM:



The switch caps can be easily clicked into place; space is also available for additional labelling



Coloured coded switch caps in five different colours: yellow, red, green, blue, white

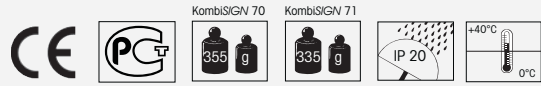


The Connection Set is available for KombiSIGN 70 and 71 signal towers

- Ideal supplement to "WIN" (Wireless Information Network) to expand the transmission range
- Signal Tower "reflection" to any location with the aid of KombiSIGN reflect
- Simple installation as no additional cable is required
- Universal power supply and interchangeable adaptors enable worldwide use

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	KombiSIGN 70: 136 mm x 49.5 mm KombiSIGN 71: 136 mm x 45.5 mm
Housing:	Base: PC/ABS Terminal element: PA-GF, shock resistant
Fixing:	Base mounting, Bracket mounting (accessory)
Number of signal elements:	Max. 4 additional signal elements possible
Assembly:	Connection Set, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet



With the aid of the connection set, the master from KombiSIGN reflect can be used wherever an electrical socket is available

🛒 ORDER SPECIFICATIONS:

Voltage power supply unit	100-240 V AC
Voltage signal elements	24 V DC
Current consumption	Max. 1 A
Connection Set for KombiSIGN 70	860 840 08
Connection Set for KombiSIGN 71	860 640 08

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue (see page 18 and 38 onwards).

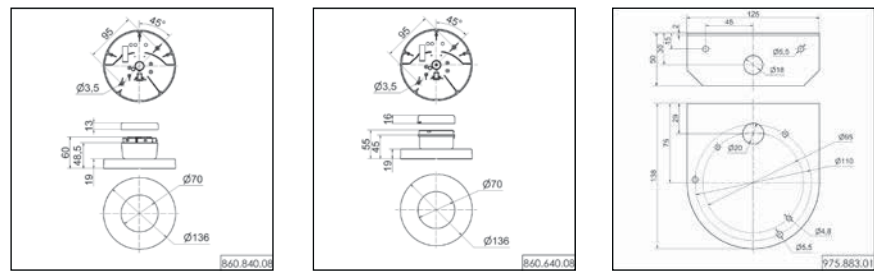
🏠 ACCESSORIES:

Mounting bracket, metal	975 883 01
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⚠️ ADDITIONAL INFORMATION:

- **Use with KombiSIGN reflect:** The KombiSIGN reflect master in conjunction with the Connection Set can be used anywhere an electrical socket is available. In this way, the status warning displayed by a remote signal tower can be "reflected" for example to an office location.
- **Use with WIN:** Together with the Connection Set each WIN slave can be installed as a "repeater" anywhere an electrical socket is available, thus expanding the transmission range.

📏 TECHNICAL DIAGRAM:



Interchangeable adaptors (Included in assembly) and wide input voltage range make the Connection Set suitable for worldwide use

LED Permanent Light Element Multicolour for KombiSIGN 70 und 71



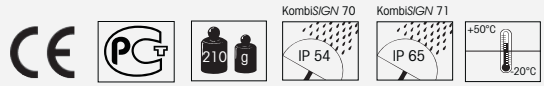
The LED permanent light element multicolour offers a life duration of up to 50,000 hrs

- Seven colours in one beacon
- Multiple status warnings can be signalled by one beacon
- Different colours can be triggered via the pins in the terminal element
- Positive and negative control logic
- The three basic colours (red/yellow/green) can be triggered using only two PLC outputs
- High light intensity

i TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	KombiSIGN 70: 70 mm x 65.5 mm KombiSIGN 71: 70 mm x 65.5 mm
Lens:	PC, transparent
Colours:	LED permanent
Possible Colours:	Red, yellow, green, clear, blue, violet, turquoise
Seal:	Pre-mounted with each element
Number of modules possible:	Max. 3 (including Multicolour element)



7 colours in one beacon:
Red, yellow, green, clear, blue, violet and turquoise

🛒 ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	< 290 mA

LED permanent light multicolour for KombiSIGN 70	843 450 55
LED permanent light multicolour for KombiSIGN 71	644 450 55

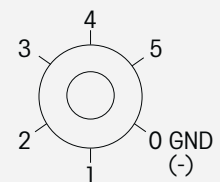
Available 1st Quarter 2013

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue (see page 18 and 38 onwards).

⚠ ADDITIONAL INFORMATION:

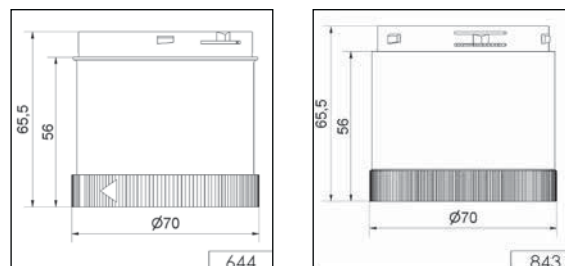
Simple external activation via the pins in the terminal element.

Pin 1	Pin 2	Pin 3	Function
24 V	-	-	Red
-	24 V	-	Green
24 V	24 V	-	Yellow
-	-	24 V	Blue
24 V	24 V	24 V	Clear
24 V	-	24 V	Violet
-	24 V	24 V	Turquoise



The Multicolour Element can be combined with up to 2 additional signal elements

📏 TECHNICAL DIAGRAM:



645/844

Vocal Element for KombiSIGN 70 and 71



German utility
model approved

- Plays customer-specific audio files in mp3 format (signal tones, music or spoken text)
- Enables clear instructions to be given in a range of foreign languages
- Outstanding tonal and sound quality
- Easy transfer of audio files and simple operation
- Setting of individual playlists and playback modi possible

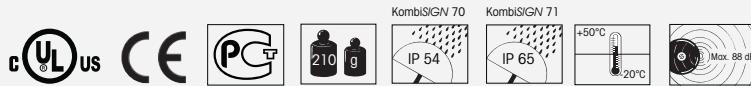
i TECHNICAL SPECIFICATIONS:

Life duration
up to 5,000 hrs

Dimensions (Ø x Height):	KombiSIGN 70: 70 mm x 110 mm KombiSIGN 71: 70 mm x 111 mm
Material:	PC
Number of signal elements:	Max. 4 additional signal elements possible
Sound output:	Adjustable, up to 88 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 2000 service pack 4, Windows XP, Windows Vista, Windows 7
Assembly:	Vocal Element, USB connection cable and software



The vocal element can be combined with up to 4 signal elements



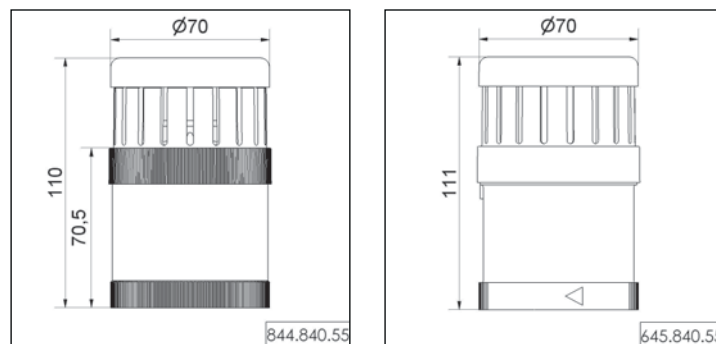
🛒 ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	500 mA
Vocal Element for KombiSIGN 70	844 840 55
Vocal Element for KombiSIGN 71	645 840 55

Product
improvement

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue (see page 18 and 38 onwards).

📏 TECHNICAL DIAGRAM:



New software ensures easy transfer of audio files and simple operation

Terminal Element with USB-Interface for KombiSIGN 71



Direct triggering of the signal tower elements via USB Interface

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

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 36 mm
Material:	PA-GF, shock resistant
Fixing:	Tube mounting (accessory)
Connection:	Via USB
Voltage:	Terminal element: Via USB (5 V DC) Signal elements: 24 V DC
Current carrying cap. Σ I _{max} :	90 mA at 24 V
Assembly:	Assembly includes installation software, drivers, handbook and USB connection cable (length 1.8 m)
Suitable for:	Windows 2000 service pack 4, Windows XP, Windows Vista or Windows 7. Also for Windows Server and Windows CE operating systems.



Up to five signal towers with a maximum of five elements each can be connected

🛒 ORDER SPECIFICATIONS:

Terminal Element with USB Interface **640 840 00**

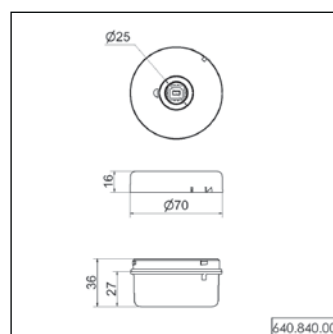
Product Improvement

The technical specifications and order specifications of suitable signal elements can be found at www.werma.com or in our main catalogue (see page 18 onwards).

🏠 ACCESSORIES:

See page 13.

📏 TECHNICAL DIAGRAM:



The user-friendly demonstration software is included in the assembly

LED Signal Tower Kompakt 71 with USB Interface



Completely pre-assembled signal tower with integrated USB terminal element

- Completely pre-assembled signal tower with integrated USB terminal element
- Direct triggering of signal tower via USB Interface
- Actuation via a DLL (Dynamic Link Library) or VCP (Virtual-COM-Port)
- No additional power supply or hardware necessary
- Up to five signal towers with a maximum of five signalling elements each can be connected

i TECHNICAL SPECIFICATIONS: Life duration up to 50,000 hrs

Dimensions (Ø x Height):	70 mm x 175 mm
Material:	Housing: PC Terminal element: PA-GF, shock resistant
Fixing:	Tube mounting (accessory)
Connection:	Via USB
Voltage:	Via USB (5 V DC)
Assembly:	Assembly includes installation software, drivers, handbook and USB connection cable (length 1.8 m)
Suitable for:	Windows 2000 service pack 4, Windows XP, Windows Vista or Windows 7. Also for Windows Server and Windows CE operating systems.



🛒 ORDER SPECIFICATIONS:

KOMPAKT 71 (red/yellow/green) with USB Interface	697 430 53	Product improvement
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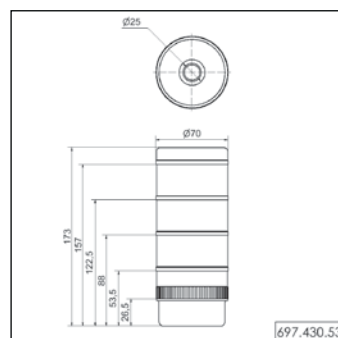
🏠 ACCESSORIES:

Base with integrated tube	975 840 10	
Base for tube mounting, metal	975 840 91	
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



The user-friendly demonstration software is included in the assembly

📏 TECHNICAL DIAGRAM:



Direct triggering via USB interface (assembly without laptop and accessories)

CleanSIGN LED Signal Tower for Base mounting

CleanSIGN – The LED Signal Tower in Hygienic Design

Hygienic Design

WERMA already has the appropriate solution to the challenges engineers and food manufacturers will have to face in the future: The new LED signal tower CleanSIGN has been specially developed and constructed for use in food and hygiene areas as well as cleanroom applications. Right from the start, existing standards and guidelines were given careful consideration (e.g. EHEDG* Documents 8 and 13, Machine Directive 2006/42/EG), and experts in the field of Hygienic Design and cleanroom technology were called upon for advice.

The unique LED signal tower is now available in a base mounting version. As with the bracket mount version it is also equipped with a series of sophisticated technical, constructional and design features which make a significant contribution to the safety of your products.

The first EHEDG-approved signal tower

What is Hygienic Design?

The term, "Hygienic Design", stands for the hygienic and cleaning-friendly design of all machinery and components deployed in hygiene-relevant areas. The aim is the prevention of constructional weakspots that could increase hygiene-related dangers and the risk of infection.

What are the main applications?

In addition to use in food production, manufacturing processes in cleanrooms are also potential application areas. The production and assembly of small and very sensitive parts such as electronic chips places the highest demands on air purity.

As the CleanSIGN LED Signal Tower fulfils the high **Air Cleanliness Class 2**, it can be used in the semiconductor industry, microelectronics, medical research, pharmaceutical, optical and laser technology, aerospace engineering and nanotechnology.

The new base mounting version now also enables the signal tower to be easily fixed to cleanroom ceiling panels.



The key advantages

Air Cleanliness Class 2

- ✓ Food safety due to the absence of uneven surfaces, elevated or countersunk elements where contamination could collect
- ✓ Cleaning-friendly and hygienic design for optimal cleaning and disinfection
- ✓ Use of food safe materials (FDA approval) and resistant to cleaning agents
- ✓ EHEDG* and Fraunhofer approvals (in preparation)
- ✓ Fulfills Air Cleanliness Class 2 for Cleanroom applications in accordance with DIN EN ISO 14644-1 (Approval pending)
- ✓ Electronic modularity of the individual tiers
- ✓ Maintenance-free thanks to LED technology with a long life duration of up to 50,000 hrs



In preparation



*EHEDG = European Hygienic Engineering and Design Group

The goal of this consortium, made up of equipment manufacturers, food processing industries, research institutes and public health authorities, is the development and publishing of directives on hygiene technology for the processing and packaging of food products.

The technical specifications and order specifications of the LED Signal Tower CleanSIGN with integrated bracket can be found at www.werma.com or in our main catalogue (see page 77).

LED Signal Tower CleanSIGN - red/yellow/green Base mounting



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

NEW

- LED Signal Tower for use in cleanroom applications (Fraunhofer IPA approval) and the food industry (EHEDG* approval)
- Now for ceiling mounting in cleanrooms or base mounting on machines and production equipment with flat surfaces
- LED Permanent lights in red, yellow and green (SMD technology)
- Integrated, high-output buzzer (85 dB)

Life duration up to 50,000 hrs

TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	112 mm x 391 mm x 125 mm
Housing::	PA, black
Lens:	PA, transparent
Fixing:	Base mounting, Ceiling mounting
Connection:	Cable, 2 m long, included in the assembly
Current consumption:	Optical: up to 120 mA per tier Buzzer: 20 mA



ORDER SPECIFICATIONS:

CleanSIGN with Buzzer red/yellow/green	24 V = 695 310 55
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Available: 1st Quarter 2013
The technical specifications and order specifications of the LED Signal Tower CleanSIGN with integrated bracket can be found at www.werma.com or in our main catalogue (see page 77).



ADDITIONAL INFORMATION:

The LED Signal Tower CleanSIGN has been specifically developed and constructed for use in the food and pharmaceutical industry as well as in cleanroom applications. CleanSIGN fulfills the ideal requirements to guarantee risk-free use in these sensitive applications:

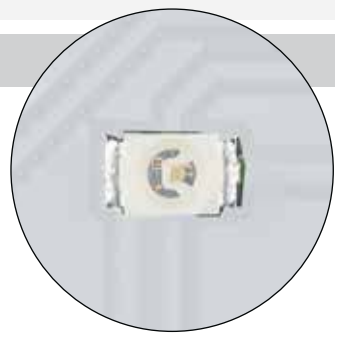
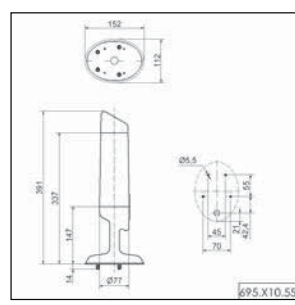
EHEDG* approval for the food industry: this approval confirms that strict design criteria have been met to avoid constructional weaknesses and to minimise the risk of contamination.

Fraunhofer IPA approval for cleanrooms: enables the CleanSIGN to be used in **one the most demanding Air Cleanliness Classes (Class 2) in accordance with DIN EN ISO 14644-1** and therefore covers even the most sensitive cleanroom applications. This approval also confirms the chemical resistance of the signal tower housing against common cleaning agents.



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

TECHNICAL DIAGRAM:



Fixed colour distribution with SMD technology

LED Signal Tower CleanSIGN - RGY Base mounting



The colours red, yellow and green can set via DIP switch for any equired order or distribution

NEW

- LED Signal Tower for use in cleanroom applications (Fraunhofer IPA approval) and the food industry (EHEDG approval)
- Now for base or ceiling mounting
- Permanent light in red, yellow and green (RGY LEDs)
- Colour distribution can be set and adjusted via switch as required
- Complete illumination in one colour possible (can be triggered externally)
- Integrated, high-output buzzer (85 dB)

i TECHNICAL SPECIFICATIONS: **Life duration up to 50,000 hrs**

Dimensions (L x H x W):	112 mm x 391 mm x 125 mm
Housing:	PA, black
Lens:	PA, transparent
Fixing:	Base mounting, Ceiling mounting
Connection:	Screw terminal max. 1.5 mm ²
Current consumption:	Optical: depending on the colour combination, 240 mA max. Buzzer: 20 mA



ORDER SPECIFICATIONS: **Play Sound**
www.werma.com

CleanSIGN with Buzzer RGY-LED	24 V = 695 210 55
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Available: 1st Quarter 2013

The technical specifications and order specifications of the LED Signal Tower CleanSIGN with integrated bracket can be found at www.werma.com or in our main catalogue (see page 78).

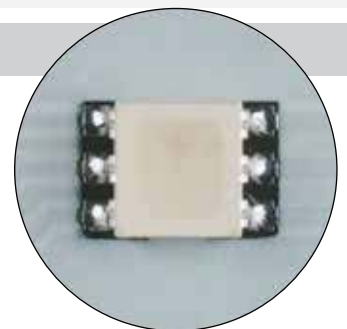
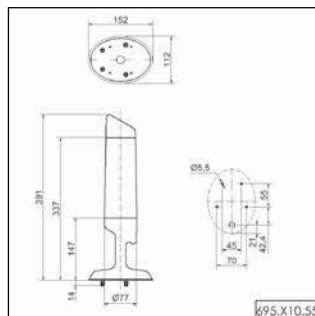
! ADDITIONAL INFORMATION:

Wide range of sophisticated design features

The new CleanSIGN from WERMA is equipped with a series of sophisticated technical, constructional and design features which make a significant contribution to the safety of your products.

For example, the CleanSIGN has no grooves or joints where dirt could collect, facilitating quick and easy cleaning.

TECHNICAL DIAGRAM:



Completely flexible colour distribution thanks to RGY LEDs



Attention-grabbing illumination in one colour (can be triggered externally)

LED Signal Tower CleanSIGN - RGB Base mounting



Complete illumination
in one colour

- LED Signal Tower for use in cleanroom applications (Fraunhofer IPA approval) and the food industry (EHEDG approval)
- Now for base or ceiling mounting
- Permanent light and additional light effects
- 7 colours selectable (RGB LEDs)
- Colour distribution can be set and adjusted via switch as required
- Complete illumination in one colour possible (can be triggered externally)
- Integrated, high-output buzzer (85 dB)

NEW

Life duration
up to 50,000 hrs



TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	112 mm x 391 mm x 125 mm
Housing:	PA, black
Lens:	PA, transparent
Fixing:	Base mounting, Ceiling mounting
Connection:	Screw terminal max. 1.5 mm ²
Current consumption:	Optical: depending on the colour combination, 250 mA max. Buzzer: 20 mA
Possible colours:	Red, yellow, green, clear, blue, violet, turquoise
Light effects:	Light effects: Tier-by-tier illumination: Blinking light Complete illumination: EVS*



ORDER SPECIFICATIONS:



CleanSIGN with Buzzer RGB-LED	24 V = 695 010 55
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Available: 1st Quarter 2013

The technical specifications and order specifications of the LED Signal Tower CleanSIGN with integrated bracket can be found at www.werma.com or in our main catalogue (see page 79).



ADDITIONAL INFORMATION:

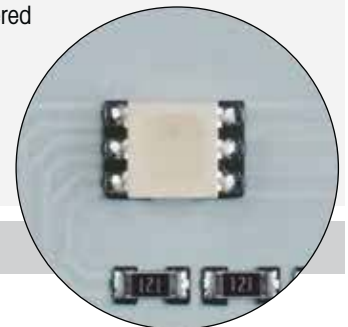
Additional light effects and 7 colours

The use of RGB LEDs guarantees complete flexibility: In addition to the permanent light, additional light effects (EVS* LED or blinking light) can also be set.

Furthermore, the entire tower or the 3 individual tiers can be illuminated in seven different colours (red, yellow, green, blue, clear, violet, turquoise).

With complete illumination any one of the seven colours can be triggered externally.

* EVS = Enhanced Visibility System or Enhanced Visibility System.
Further informations can be found in our main catalogue.



7 different colour settings
from RGB LEDs



TECHNICAL DIAGRAM:

see page 16



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

WIN for use in North America



The new WIN version enables the system to be used in the USA and Canada

- Economical wireless-based Machine Data Collection system (MDC system)
- Central monitoring of a wide range of different machines via PC

NEW

- Now available for use in North America
- Relevant machine information at a glance
- Reduction of reaction times, repair and maintenance requirements and costs



TECHNICAL SPECIFICATIONS:

WIN transmitter

Dimensions (Ø x Height):	KombiSIGN 70/71: 70 mm x 65.5 mm
Housing:	Polycarbonate, black
Connection:	Bayonet
Voltage:	24 V AC/DC
Current consumption:	40 mA

WIN receiver

Maße (L x H x W):	76 mm x 30 mm x 80 mm (without antenna)
Housing:	ABS, black
Connection:	Via USB
Voltage:	Via USB
Current consumption:	< 100 mA
Suitable for:	Windows 2000 service pack 4, Windows XP, Windows Vista, Windows 7

Wireless connection

ISM frequency:	915 MHz
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.

WIN transmitter



KombiSIGN 70



KombiSIGN 71



WIN is an economical wirelessbased Machine Data Collection system (MDC system)



No additional wiring as existing WERMA signal towers can be used



ORDER SPECIFICATIONS:

WIN complete for KombiSIGN 71 for use in North America **860 640 06**
 Assembly: WIN receiver, 3 WIN transmitters for KombiSIGN 71 (pre-configured), 3 KombiSIGN 71 signal towers (LED permanent light elements in red, yellow and green, terminal element, base with integrated tube), software

WIN system for KombiSIGN 71 for use in North America **860 640 04**
 WIN system for KombiSIGN 70 for use in North America **860 840 04**
 Assembly: WIN receiver, 3 WIN transmitters for KombiSIGN 71 (pre-configured), software

WIN transmitter for KombiSIGN 71 for use in North America **860 640 05**
 WIN transmitter for KombiSIGN 70 for use in North America **860 840 05**
 The networks can be expanded to up to 50 WIN transmitters per network as required



ADDITIONAL INFORMATION:

Please note that this WIN version is only approved for use in North America. Please use the standard WIN version for applications in Europe and various other countries. The standard version can be found at www.werma.com or in our current catalogue.



TECHNICAL DIAGRAM:

The technical diagrams can be found at www.werma.com or in our main catalogue.

KombiSIGN reflect for use in North America



The new KombiSIGN reflect version enables the system to be used in the USA and Canada

- Simple monitoring of signal towers out of view **NEW**
- Signal tower "reflection" to a central location
- Shortening of reaction times and reduction of costs
- Now available for use in North America
- No additional wiring costs
- Simple commissioning due to pre-configured modules

i TECHNICAL SPECIFICATIONS:

Transmitter

Dimensions (Ø x Height):	KS 70/71: 70 mm x 65.5 mm
Housing:	Polycarbonate, black
Connection:	Bayonet
Voltage:	24 V AC/DC
Current consumption:	40 mA

Receiver

Dimensions (Ø x Height):	KS 70/71: 76 mm x 30 mm x 80 mm (without antenna)
Housing:	Polycarbonate, black
Connection:	Bayonet
Voltage:	24 V DC
Current consumption:	40-90 mA

Funkverbindung

ISM frequency:	915 MHz
Transmission range:	Up to 300 m (unobstructed line of sight)



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



🛒 ORDER SPECIFICATIONS:

KombiSIGN 70 reflect for use in North America	861 840 02
KombiSIGN 71 reflect for use in North America	861 640 02

⚠️ ADDITIONAL INFORMATION:

Please note that this KombiSIGN reflect version is only approved for use in North America. Please use the standard KombiSIGN reflect version for applications in Europe and various other countries. The standard version can be found at www.werma.com or in our current catalogue.

📏 TECHNICAL DIAGRAM:



Bracket for 1-sided mounting for KombiSIGN 70+71 and KOMPAKT 71



The optimised mounting bracket with an impressive new design and an array of improved features

- Optimised mounting bracket with improved features
- Fast and simple mounting
- Handy centring aid for the seal and terminal element
- Improved cable exit
- Drilling pattern and dimensions remain the same as the existing bracket, eliminating the need to change the position of the signal tower

i TECHNICAL SPECIFICATIONS:

Material: PA A3X2G5, black
Suitable for: KombiSIGN 70, KombiSIGN 71, KOMPAKT 71
Assembly: Assembly includes screws, seal for terminal element and seal for wall

🛒 ORDER SPECIFICATIONS:

Bracket for 1-sided mounting **975 840 85**

Product Improvement

✓ THE KEY ADVANTAGES:

1

Positioning aid for terminal element
Positioning aid for seal

Positioning aid for seal and terminal element: Seal and terminal element can be easily mounted.

2

Improved Cable entry
Same wall clearance

Improved cable entry: No unnecessary edges and narrow channels.

3

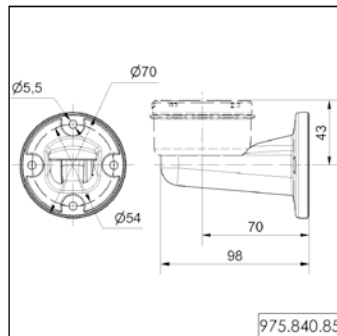
Same hole drilling
Same Height

The position of the signal tower remains unchanged: Drilling pattern, height and wall clearance are the same as the existing bracket.



The mounting bracket enables fast, simple mounting of signal towers

📏 TECHNICAL DIAGRAM:



LED Installation Beacon (Multicolour)



LED Permanent Beacon with a life duration of up to 50,000 hrs



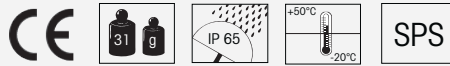
Five colours in one beacon:
Red, yellow, green, clear and blue

- Five colours in one beacon
- Multiple status warnings can be signalled by one beacon
- Colours can be triggered via the terminals
- Positive and negative control logic
- The three basic colours (red/yellow/green) can be triggered using only two PLC outputs

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black
Lens:	PC, transparent
Colours:	Red, yellow, green, clear, blue (multicolour)
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)
Connection:	Screw terminal max. 0.5 mm ²
Assembly:	Nut and seal included in assembly



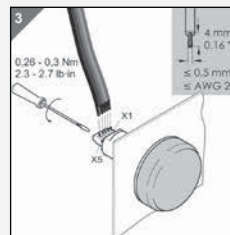
ORDER SPECIFICATIONS:

Voltage	24 V DC
Current consumption	Max. 75 mA
red/yellow/green/clear/blue (Multicolour)	239 480 55

ADDITIONAL INFORMATION:

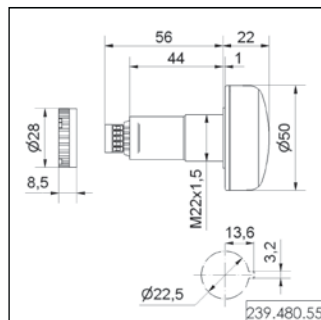
The LED beacon 239 is suitable for applications on machines or in control panels.

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



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

TECHNICAL DIAGRAM:



Simple installation with single hole mounting for M22



Modified flashing beacon 828 specifically for use in road tunnels

- Xenon flashing beacon for use in road tunnels
- Developed specifically for installation underneath warning signs

- A special valve in the lens also prevents the build-up of condensation inside the beacon,
- ensuring optimum protection against even the most demanding tunnel cleaning operations

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Cable entry:	Cable diameter 5-7 mm
Fixing:	Base mounting, bracket mounting (accessory)
Connection:	Screw terminal with wire protection max. 2.5 mm ² Contact protection according to VDE
Flash frequency:	C. 1 Hz
Life duration:	4 x 10 ⁶ flashes



Clear identification of escape routes can save lives

🛒 ORDER SPECIFICATIONS:

Voltage	230 V AC
Current consumption	140 mA
yellow	828 370 68
clear	828 470 68

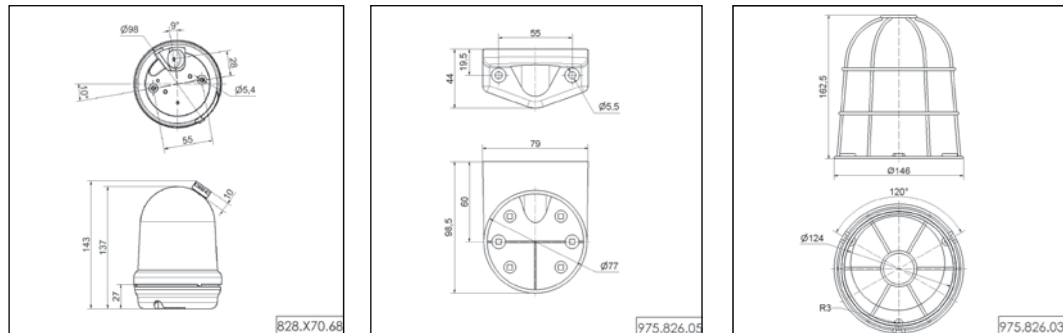
🏠 ACCESSORIES:

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

📏 TECHNICAL DIAGRAM:



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





The flashing beacon 828 is now also available in a multi voltage version (10-60 Volt AC/DC)



Bracket for wall mounting (accessory)



Robust wire guard (accessory) for additional protection

- Extended voltage range of 10 to 60 V AC/DC
- Removal of the lens only possible with tools
- Different voltage requirements can be covered by one single product

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Cable entry:	Cable diameter 5-7 mm
Fixing:	Base mounting, bracket mounting (accessory)
Connection:	Screw terminal with wire protection max. 2.5 mm ² Contact protection according to VDE
Flash frequency:	C. 1 Hz
Life duration:	4 x 10 ⁶ flashes



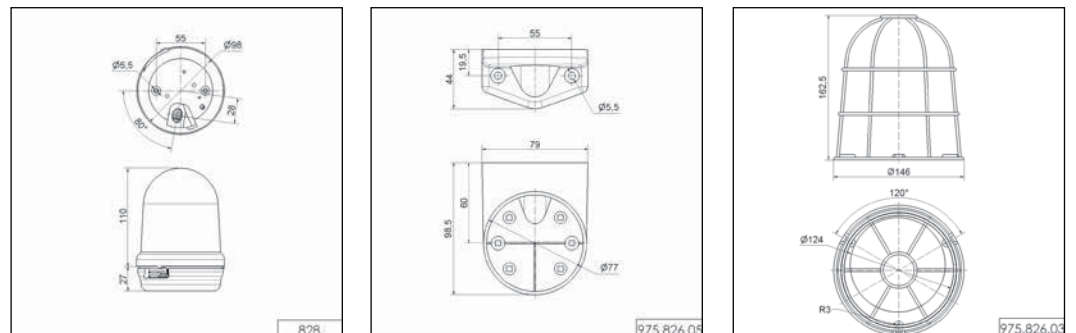
🛒 ORDER SPECIFICATIONS:

Voltage	10-60 V AC/DC
Current consumption	500-120 mA
red	828 180 70
yellow	828 380 70
clear	828 480 70

🏠 ACCESSORIES:

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

📏 TECHNICAL DIAGRAM:





The attractive quadratic LED beacon 853 is now available in a 48 V AC version



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



Time-saving alternative: The snap-on fixing bracket (included in assembly)

- LED Permanent, LED Double Flash and LED EVS Beacon in attractive quadratic design

- NEW** • Now available in 48 V AC
- Ideally suited as a status warning in the crane sector

Life duration up to 50,000 hrs

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	85 mm x 85 mm x 72 mm
Housing:	PP-GF, black
Lens:	PC, transparent
Connection:	Screw terminal with wire protection, max. 1.5 mm ²
Cable entry:	Cable diameter max. 8 mm, optional cable gland M 20 (accessory)
Fixing:	Wall, base and ceiling mounting
Equipment:	Eight self-sealing membranes for cable entry without tools. Eight integrated M 20 threads, no nuts required. Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)
Assembly:	Incl. snap-on fixing bracket (optional use)



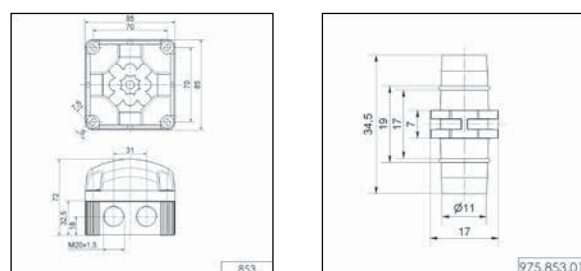
🛒 ORDER SPECIFICATIONS:

	<u>LED Permanent</u>	<u>LED Double Flash</u>	<u>LED EVS Beacon</u>
Voltage	48 V AC	48 V AC	48 V AC
Current consumption	35 mA	95 mA	95 mA
red	853 100 66	853 110 66	853 120 66
green	853 200 66	853 210 66	853 220 66
yellow	853 300 66	853 310 66	853 320 66
clear	853 400 66	853 410 66	853 420 66
blue	853 500 66	853 510 66	853 520 66

🏠 ACCESSORIES:

Connector for traffic light combinations	975 853 01
Cable gland M 20 x 1.5 mm, 8 mm thread length	975 853 02

📏 TECHNICAL DIAGRAM:





The robust bracket can be fixed to walls or machines (beacon not included in assembly)

- Robust bracket made of V2A stainless steel
- The bracket can be fixed quickly and easily to walls or machines
- Salt water resistant
- A cable outlet and the extra distance to the wall enable easy cable connections even with large cable diameters

i TECHNICAL SPECIFICATIONS:

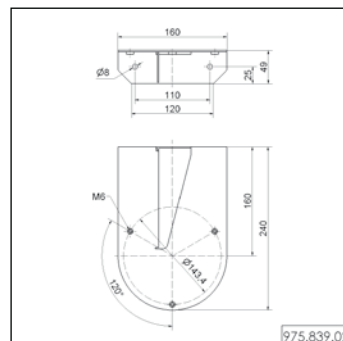
Dimensions (L x H x W):	160 mm x 49 mm x 240 mm
Material:	V2A stainless steel, black powder-coated
Suitable for:	LED Permanent Beacon 839 (see catalogue page 126) Double Flash Beacon 839 (see catalogue page 144) Rotating Mirror Beacon 839 (see catalogue page 151) LED Rotating Beacon 839 (see catalogue page 152)
Assembly:	Bracket and material for fixing the signal device

The technical specifications and order specifications of the (LED) Beacon 839 can be found at www.werma.com or in our main catalogue.

🛒 ORDER SPECIFICATIONS:

Mounting bracket	975 839 02
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📏 TECHNICAL DIAGRAM:



Cable outlet and extra wall distance enable easy connection even with large cables



Robust aluminium housing and high protection rating IP 67:
The (LED) beacons 839

The loud, high light intensity 43x combination combines impressive features with outstanding design

Optical-audible signal devices for two stage status warning

Production staff, particularly within automated production areas, must often supervise large assembly lines. This often results in situations where the optical signal is out of the machine operator's line of sight. In situations such as these optical-audible signal devices offer an ideal solution: the audible signal can be used to supplement the optical warning and ensure that the operator responds. In other cases, an audible warning signal can go unnoticed in areas with high ambient noise levels and the supplementary optical alarm delivers an effective solution.

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

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

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

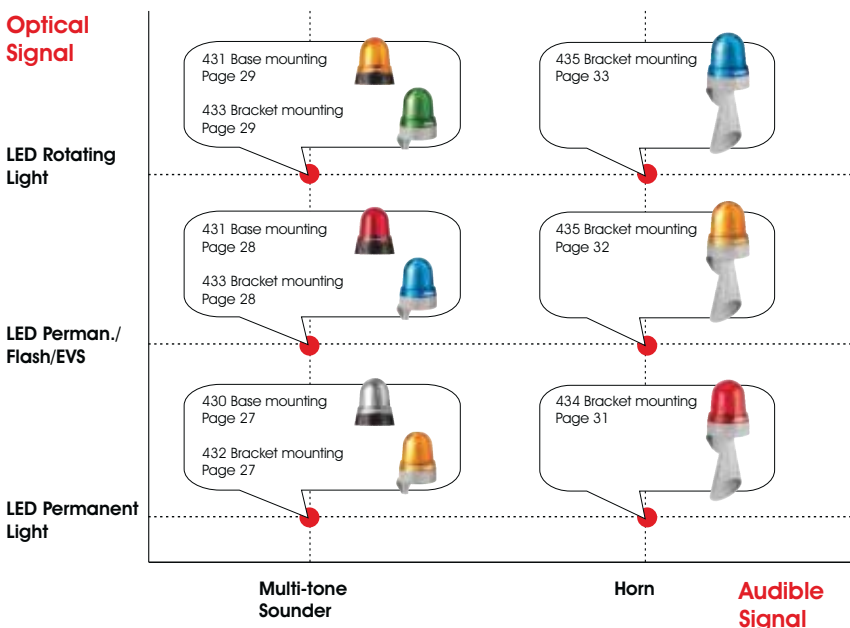


iF product design award for outstanding design

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

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

Quick Finder



Comparison of size





LED Permanent Light in combination with Multi-Tone Sounder (Base Mounting)



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket (432)



The adaptor enables mounting on a tube (accessory, only possible with base mounting 430)

- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output up to 112 dB
- Optical and audible warning can be separately triggered for two stage signalling
- Optional integrated bracket for simple wall mounting without additional accessories

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs (LED)

Dimensions (Ø x Height):	Base mounting: 146 mm x 171 mm Wall mounting: 134 mm x 235 mm
Housing:	Base mounting: PC, black Wall mounting: PC/ABS-Blend, grey
Lens:	PC, transparent
Connection:	Screw terminal with wire protection, max. 1.5 mm ²
Cable entry:	Cable diameter max. 11 mm,
Fixing:	Base mounting (430), Wall mounting (432), Tube mounting (accessory, only for base mounting 430)
Installation position:	Sound outlet facing downwards
Tone type and frequency:	32 tones adjustable, see table on page 30

ORDER SPECIFICATIONS:

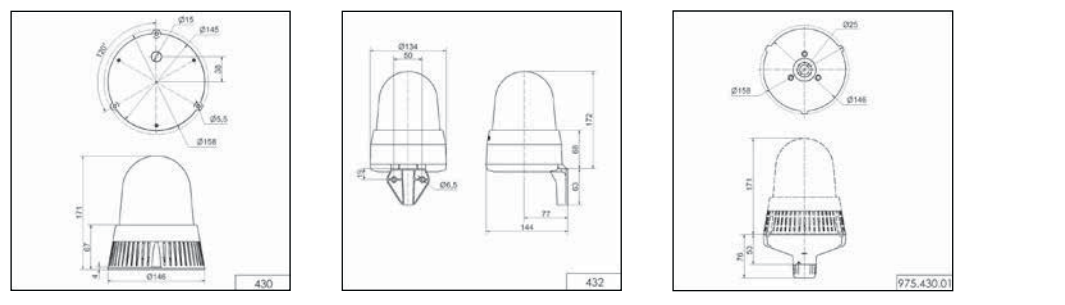
	Base mounting 430			Wall mounting 432		
Voltage	24V AC/DC	10-48V AC/DC*	115-230V AC*	24V AC/DC	10-48V AC/DC*	115-230V AC*
Current c. MTS	120 mA	430 mA	50 mA	120 mA	430 mA	50 mA
Current c. LED	320 mA	850 mA	66 mA	320 mA	850 mA	66 mA
	230 mA (red)	550 mA (red)	75 mA (red)	230 mA (red)	550 mA (red)	75 mA (red)
red	430 100 75	430 100 70	430 100 60	432 100 75	432 100 70	432 100 60
green	430 200 75	430 200 70	430 200 60	432 200 75	432 200 70	432 200 60
yellow	430 300 75	430 300 70	430 300 60	432 300 75	432 300 70	432 300 60
clear	430 400 75	430 400 70	430 400 60	432 400 75	432 400 70	432 400 60
blue	430 500 75	430 500 70	430 500 60	432 500 75	432 500 70	432 500 60

* Current consumption at 10 V / 115 V

ACCESSORIES:

Adaptor for tube mounting, plastic, for tube 25 mm Only for base mounting 430.	975 430 01
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TECHNICAL DIAGRAM:



431/433

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



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



The "EVS" light effect ensures a maximum attention-grabbing effect (Further information see page 32)



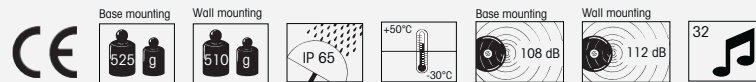
The adaptor enables mounting on a tube (accessory, only possible with base mounting 431)

- 3 light effects can be triggered externally
- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output up to 112 dB
- Optical and audible warning can be separately triggered for two stage signalling
- Optional integrated bracket for simple wall mounting without additional accessories

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs (LED)

Dimensions (Ø x Height):	Base mounting: 146 mm x 171 mm Wall mounting: 134 mm x 235 mm
Housing:	Base mounting: PC, black Wall mounting: PC/ABS-Blend, grey
Lens:	PC, transparent
Connection:	Screw terminal with wire protection, max. 1.5 mm ²
Cable entry:	Cable diameter max. 11 mm,
Fixing:	Base mounting (431), Wall mounting (433), Tube mounting (accessory, only for base mounting 431)
Installation position:	Sound outlet facing downwards
Tone type and frequency:	32 tones adjustable, see table on page 30



ORDER SPECIFICATIONS:

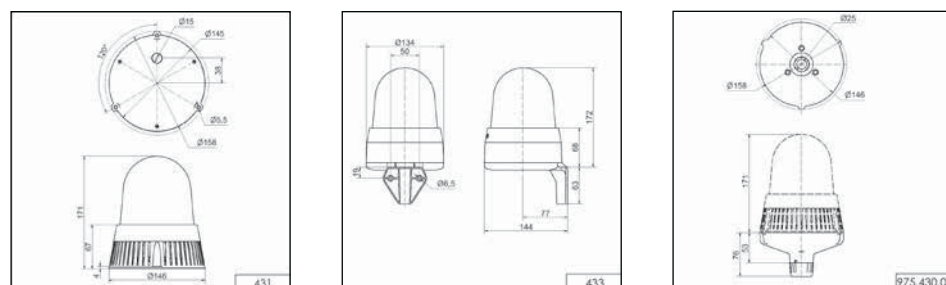
	Base mounting 431			Wall mounting 433		
Voltage	24V AC/DC	10-48V AC/DC*	115-230V AC*	24V AC/DC	10-48V AC/DC*	115-230V AC*
Current c. MTS	120 mA	430 mA	50 mA	120 mA	430 mA	50 mA
Current c. LED	320 mA	850 mA	66 mA	320 mA	850 mA	66 mA
	230 mA (red)	550 mA (red)	75 mA (red)	230 mA (red)	550 mA (red)	75 mA (red)
red	431 100 75	431 100 70	431 100 60	433 100 75	433 100 70	433 100 60
green	431 200 75	431 200 70	431 200 60	433 200 75	433 200 70	433 200 60
yellow	431 300 75	431 300 70	431 300 60	433 300 75	433 300 70	433 300 60
clear	431 400 75	431 400 70	431 400 60	433 400 75	433 400 70	433 400 60
blue	431 500 75	431 500 70	431 500 60	433 500 75	433 500 70	433 500 60

*Current consumption at 10 V / 115 V

ACCESSORIES:

Adaptor for tube mounting, plastic, for tube 25 mm **975 430 01**
Only for base mounting 431.

TECHNICAL DIAGRAM:



431/433

LED Rotating/Multi-Tone Sounder Combination

- Wear-free, intense rotating signal effect with low power consumption
- 32 tones can be set to meet the requirements of the application, one tone can be triggered externally
- Adjustable sound output up to 112 dB
- Optical and audible warning can be separately triggered for two stage signalling
- Optional integrated bracket for simple wall mounting without additional accessories

Life duration up to 50,000 hrs (LED)



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket (433)



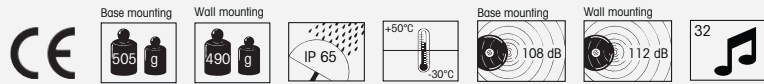
Base mounting (431)



The adaptor enables mounting to a tube (accessory, only possible with base mounting)

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	Base mounting: 146 mm x 171 mm Wall mounting: 134 mm x 235 mm
Housing:	Base mounting: PC, black Wall mounting: PC/ABS-Blend, grey
Lens:	PC, transparent
Connection:	Screw terminal with wire protection, max. 1.5 mm ²
Cable entry:	Cable diameter max. 11 mm,
Fixing:	Base mounting (431), Wall mounting (433), Tube mounting (accessory, only for base mounting 431)
Installation position:	Sound outlet facing downwards
Tone type and frequency:	32 tones adjustable, see table on page 30



ORDER SPECIFICATIONS:

	Base mounting 431			Wall mounting 433		
Voltage	24V AC/DC	10-48V AC/DC*	115-230V AC*	24V AC/DC	10-48V AC/DC*	115-230V AC*
Current c. MTS	120 mA	430 mA	50 mA	120 mA	430 mA	50 mA
Current c. LED	190 mA	540 mA	65 mA	190 mA	540 mA	47 mA
	150 mA (red)	320 mA (red)	30 mA (red)	150 mA (red)	320 mA (red)	65 mA (red)
red	431 110 75	431 110 70	431 110 60	433 110 75	433 110 70	433 110 60
green	431 210 75	431 210 70	431 210 60	433 210 75	433 210 70	433 210 60
yellow	431 310 75	431 310 70	431 310 60	433 310 75	433 310 70	433 310 60
clear	431 410 75	431 410 70	431 410 60	433 410 75	433 410 70	433 410 60
blue	431 510 75	431 510 70	431 510 60	433 510 75	433 510 70	433 510 60

* Current consumption at 10 V / 115 V

ACCESSORIES:

Adaptor for tube mounting, plastic, for tube 25 mm
Only for base mounting 431. **975 430 01**

TECHNICAL DIAGRAM:



See page 28



Intense rotating signal effect with low power consumption

43x Tone table for Multi-Tone Sounder

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

 TO NE TYPES AND FREQUENCIES: 					
Tone 1	Tone type	Frequency (Hz)	Description	Use	Tone 2
1	continuous	200		BS 5839-1:2002, VDS	440 Hz cont.
2	rising	800 & 970	7 Hz		14
3	rising	800 & 970	1 Hz		14
4	continuous	2850			14
5	rising	2400 - 2850	7 Hz	VDS	4
6	rising	2400 - 2850	1 Hz		4
7	rising	500 - 1200	3 s, dann 0.5 s OFF (then repeat)		14
8	falling	1200 - 500	1 Hz	VDS	14
9	alternating	2400 & 2850	2 Hz		4
10	pulse	970	0.5 Hz (1 s On/1 s Off)	BS 5839 Teil 1 1988	14
11	alternating	800 & 970	1 Hz	BS 5839 Teil 1 1988	14
12	pulse	2850	0.5 Hz		4
13	pulse	970		0,25 s On/1 s Off	14
14	continuous	970		BS 5839-1:2002 PFEER - Toxic gas	10
15	alternating	554 & 440		France NFS	14
16	pulse	660	150 ms On/150 ms Off	Swedish	16
17	pulse	660	1.8 s On/1.8 s Off	Swedish	17
18	pulse	660	6.5 s On/13 s Off	Swedish	18
19	continuous	660		Swedish	19
20	alternating	554 & 440	0.5 Hz		20
21	pulse	660	1 Hz	Swedish	21
22	pulse	2850	150 ms On/100 ms Off	GB	14
23	rising	800 - 970	50 Hz (low)	BS 5839 Part 1 1988	14
24	rising	2400 - 2850	50 Hz (high)		4
25	pulse	970	3 x 500 ms ON/500 ms OFF / 1,5 s silence, then repeat (low)	ISO 8201 US Temporal	26
26	pulse	2850	3 x 500 ms ON/500 ms OFF / 1,5 s silence, then repeat (high)	ISO 8201 US Temporal	25
27	continuous	4000			27
28	rising	2000 - 2850	7 Hz		2000 Hz cont.
29	alternating	988 & 645	2 Hz		988 Hz cont.
30	alternating	510 & 610	2 Hz		510 Hz cont.
31	alternating	800 & 970	2 Hz	5839-1:2002	800 cont.
32	alternating	800 & 1200	1 Hz		800 cont.

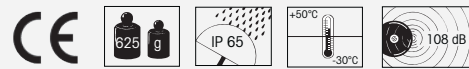


- Maintenance-free, electronic horn with a long life duration of up to 5,000 hrs
- Optical and audible warning can be separately triggered for two stage signalling
- Sound output can be set to meet the requirements of the application
- Integrated bracket for simple wall mounting without additional accessories

i TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs (LED)

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



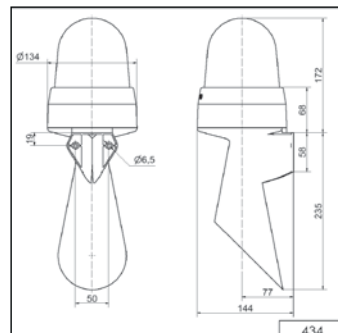
Award winning design Winner of the IF product design award 2012

ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	10-48 V AC/DC*	115-230 V AC*
Current consumption Horn	55 mA	250 mA	25 mA
Current consumption LED	320 mA	850 mA	66 mA
	220 mA (red)	550 mA (red)	75 mA (red)
red	434 100 75	434 100 70	434 100 60
green	434 200 75	434 200 70	434 200 60
yellow	434 300 75	434 300 70	434 300 60
clear	434 400 75	434 400 70	434 400 60
blue	434 500 75	434 500 70	434 500 60

* Current consumption at 10 V / 115 V

TECHNICAL DIAGRAM:



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



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

435 LED Permanent/Flashing/EVS/Horn Combination



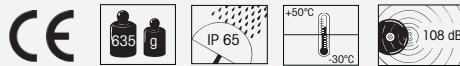
Multi-functional LED beacon: 3 light effects can be triggered externally

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

TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs (LED)

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



ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	10-48 V AC/DC*	115-230 V AC*
Current consumption Horn	55 mA	250 mA	25 mA
Current consumption LED	320 mA	850 mA	66 mA
	220 mA (red)	550 mA (red)	75 mA (red)
red	435 100 75	435 100 70	435 100 60
green	435 200 75	435 200 70	435 200 60
yellow	435 300 75	435 300 70	435 300 60
clear	435 400 75	435 400 70	435 400 60
blue	435 500 75	435 500 70	435 500 60

* Current consumption at 10 V / 115 V

ADDITIONAL INFORMATION:

* EVS = Enhanced Visibility System.
Further information see page 42.

TECHNICAL DIAGRAM:

See page 33



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



Loud, long-life horn for a diverse range of applications (see page 37)








Award winning design Winner of the IF product design award 2012

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

i TECHNICAL SPECIFICATIONS: Life duration up to 50,000 hrs (LED)

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

ORDER SPECIFICATIONS:

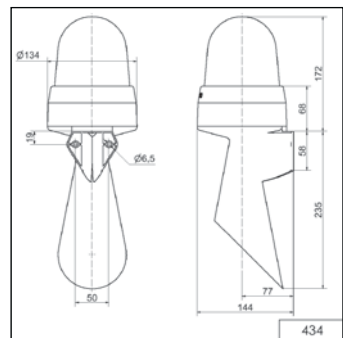
Voltage	24V AC/DC	10-48V AC/DC*	115-230V AC*
Current consumption Horn	55 mA	250 mA	25 mA
Current consumption LED	190 mA	450 mA	47 mA
	150 mA (red)	320 mA (red)	65 mA (red)
red	435 110 75	435 110 70	435 110 60
green	435 210 75	435 210 70	435 210 60
yellow	435 310 75	435 310 70	435 310 60
clear	435 410 75	435 410 70	435 410 60
blue	435 510 75	435 510 70	435 510 60

* Current consumption at 10 V / 115 V



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

TECHNICAL DIAGRAM:



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

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



Available with a red or white housing

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height): 100 mm x 110 mm
 Housing: ABS
 Connection: Screw terminal max. 2.5 mm²
 Cable entry: Cable gland M 20 x 1.5 mm
 Cable gland not included in assembly
 Tone types and frequencies: Selectable via DIP switch

🛒 ORDER SPECIFICATIONS:



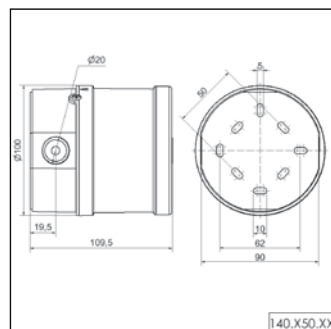
Voltage	9 - 28 V DC*	110 - 240 V AC*
Current consumption	10-120 mA	10-40 mA
red	140 150 50	140 150 60
white	140 950 50	140 950 60

Available 1st Quarter 2013 * Depending on the tone.

🏠 ACCESSORIES:

Cable gland M 20 x 1.5 mm **975 444 01**

📏 TECHNICAL DIAGRAM:



The Multi-Tone Sounder 140 offers a large choice of international signal tones for the widest range of applications. The tone types and frequencies can be found in the table below:

Tone 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	VDS tested	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	VDS tested; DIN 33404	99	104	14
9	alternating 2.400/2.850 Hz in 2 Hz stroke		108	115	4
10	pulse 970 Hz in 0.5 Hz stroke	Back-up-alarm BS 5839 Part 1 1988	98	105	14
11	alternating 800/970 Hz in 1 Hz stroke	BS 5839 Part 1 1988			
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	14
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	16
17	660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF	Swedish alarm signal	97	103	17
18	660 Hz pulse: 6.5 sec. ON, 13 sec. OFF	Swedish alarm signal	99	103	18
19	continuous 660 Hz	Swedish alarm signal	99	103	19
20	alternating 554/440 Hz in 0.5 Hz stroke		99	103	20
21	pulse 660 Hz in 1 Hz stroke	Swedish alarm signal	98	104	21
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 puls.: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 Low frequency: Evacuation	101	105	26
26	2.850 Hz puls.: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 High frequency	109	115	25
27	alternating 970/800 Hz: 1,5 sec. ON, 0,5 sec. OFF		96	105	27
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	31
32	alternating 510/610 Hz in 1 Hz stroke		97	102	510 Hz cont. tone



TONE TYPES AND FREQUENCIES:



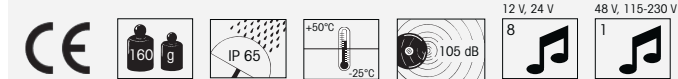
Selectable via DIP switch



- Up to 8 different tones (12 V; 24 V)
- 3 tones can be triggered externally (12 V; 24 V)
- Externally adjustable sound output (-10 dB)
- "Status Light" to emphasise the audible warning signal
- Ideal addition to LED Beacon 853
- Innovative connector to create traffic light combinations
- Easy assembly due to quick-release screws

i TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm
Housing:	PP-GF, black
Lens:	PC, tinted black
Connection:	Screw terminal with wire protection, max. 1.5 mm ²
Cable entry:	Cable diameter max. 8 mm, optional cable gland M 20 (accessory)
Fixing:	Wall, base and ceiling mounting
Equipment:	Eight self-sealing membranes for cable entry without tools. Eight integrated M 20 threads, no nuts required. Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)
Assembly:	Incl. snap-on fixing bracket (optional use)



ORDER SPECIFICATIONS:

Voltage	12 V DC	24 V DC	48 V DC	115-230 V AC
Current consumption	70 mA	120 mA	150 mA	75 mA (115 V) 150 mA (230 V)
Sounder	153 000 54	153 000 55	153 000 66	153 000 60

Available: 1st Quarter 2013

The technical specifications and order specifications of the LED Beacons can be found at www.werma.com or in our main catalogue on page 119 (LED Permanent Beacon), page 136 (LED Double Flash Beacon) and page 138 (LED EVS Beacon).

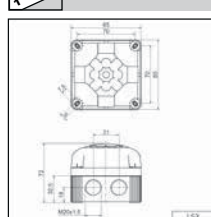
ACCESSORIES:

Connector for traffic light combinations	975 853 01
Cable gland M 20 x 1.5 mm, 8 mm thread length	975 853 02

TONE TYPES AND FREQUENCIES:

Tone	Tone type	Tone	Tone type
1	Continuous tone (ca. 3200 Hz)	5	800 - 970 Hz rising @ 1 Hz
2	Horn tone (ca. 110 Hz)	6	2400 - 2850 Hz rising @ 7 Hz
3	1 Hz tone (ca. 3,0 kHz)	7	1200 - 500 Hz falling @ 1 Hz
4	20 Hz whistle tone (ca. 3,0 kHz)	8	Alternating tone 800 Hz / 1200 Hz @ 1 Hz

TECHNICAL DIAGRAM:



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



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





Thanks to 1st minimum level of protrusion the installation buzzer 111 is ideal for control panels applications



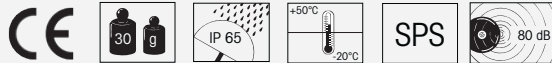
Simple installation with single hole mounting for M22



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

i TECHNICAL SPECIFICATIONS:

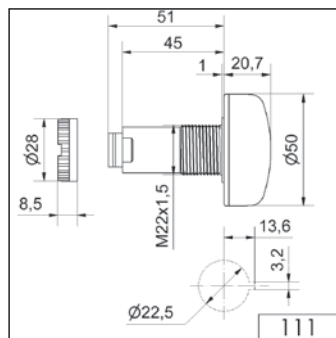
Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black, Cap: PC
Tone frequency:	C. 2.8 KHz
Tone type:	Continuous or pulse tone
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)
Connection:	Screw terminal max. 1.5 mm ²
Life duration:	> 5,000 hrs
Assembly:	Nut and seal included in assembly.



🛒 ORDER SPECIFICATIONS:

Voltage	24 V DC	230 V AC
Current consumption	20 mA	20 mA
Installation buzzer	111 000 55	111 000 68

📏 TECHNICAL DIAGRAM:





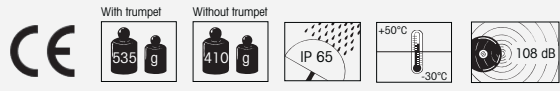
Long-life signal horn 574 with trumpet

- Maintenance-free, electronic horn with a long life duration of up to 5,000 hrs
- Sound output can be set to meet the requirements of the application up to 108 dB
- Available with and without trumpet
- Integrated bracket for simple wall mounting without additional accessories

TECHNICAL SPECIFICATIONS:

Life duration up to 5,000 hrs

Dimensions (Ø x Height):	With trumpet 134 mm x 407 mm Without trumpet: 134 mm x 169 mm
Housing:	PC/ABS-Blend, grey
Fixing:	Wall mounting, integrated mounting bracket
Installation position:	Sound outlet facing downwards
Connection:	Screw terminal with wire protection max. 1.5 mm ²
Cable entry:	Cable diameter max. 11 mm
Tone frequency:	C. 110 Hz
Life duration:	up to 5,000 hrs



ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	10-48 V AC/DC*	115-230 V AC*
Current consumption	55 mA	250 mA	25 mA
Horn with trumpet	574 000 75	574 000 70	574 000 60
Horn without trumpet	575 000 75	575 000 70	575 000 60

* Current consumption at 10 V / 115 V



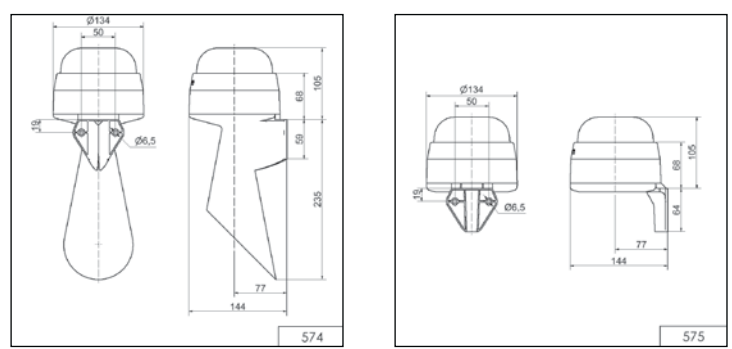
The horn is also optionally available without trumpet

ADDITIONAL INFORMATION:

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

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

TECHNICAL DIAGRAM:



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



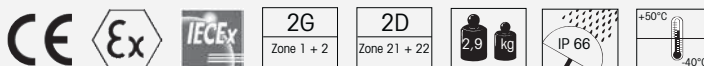
The maintenance-free LEDs have a life duration of up to 50,000 hours

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

i TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Connection:	CAGE CLAMP max. 2.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm



🛒 ORDER SPECIFICATIONS:

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 de IIC T6 Gb	Ex II 2G Ex de IIC T6 Gb
Approval	Ex II 2D Ex tb IIIC T80°C Db IP 66 BVS 11 ATEX 107 IECEX_BVS_11.0082	Ex II 2D Ex tb IIIC T80°C Db IP 66 BVS 11 ATEX 107 IECEX_BVS_11.0082
red	729 100 55	729 100 68
yellow	729 300 55	729 300 68

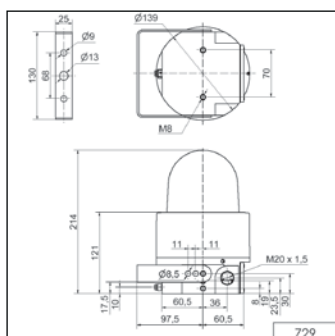


Additional protection with the robust wire guard (accessory)

🏠 ACCESSORIES:

Ex screw plug M 20 x 1.5 mm	975 729 02
Ex wire guard, VA steel, stainless	975 729 03
Ex cable gland M 20 x 1.5 mm	975 729 01
Ex cable gland M 20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	975 729 04

📏 TECHNICAL DIAGRAM:





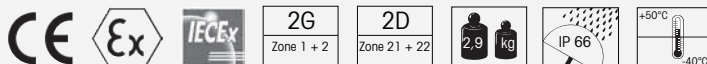
Intense double flash with low power consumption

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Intense double flash with low power consumption
- Salt water resistant
- Integral wire guard (VA stainless steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)
- Integrated mounting bracket (VA steel)

i TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Connection:	CAGE CLAMP max. 2.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm



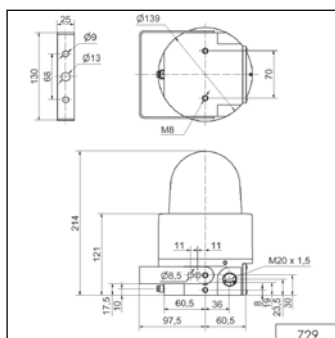
🛒 ORDER SPECIFICATIONS:

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 de IIC T6 Gb	Ex II 2G Ex de IIC T5 Gb
Approval	Ex II 2D Ex tb IIIC T80°C Db IP 66	Ex II 2D Ex tb IIIC T95°C Db IP 66
red	729 150 55	729 150 68
yellow	729 350 55	729 350 68

🏠 ACCESSORIES:

Ex screw plug M 20 x 1.5 mm	975 729 02
Ex wire guard, VA steel, stainless	975 729 03
Ex cable gland M 20 x 1.5 mm	975 729 01
Ex cable gland M 20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	975 729 04

📏 TECHNICAL DIAGRAM:



Additional protection with the robust wire guard (accessory)



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

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

i TECHNICAL SPECIFICATIONS:

Life duration
up to 50,000 hrs

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Connection:	CAGE CLAMP max. 2.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm



🛒 ORDER SPECIFICATIONS:

Voltage	24 V DC	115V/230 V AC
Current consumption	240 mA	140 mA bei 230 V AC
Explosion protection	Ex II 2G Ex de IIC T6 Gb	Ex II 2G Ex de IIC T5 Gb
Approval	Ex II 2D Ex tb IIIC T80°C Db IP 66	Ex II 2D Ex tb IIIC T95°C Db IP 66
red	729 160 55	729 160 68
yellow	729 360 55	729 360 68

🏠 ACCESSORIES:

See page 43.

⚠️ ADDITIONAL INFORMATION:

* EVS = Enhanced Visibility System

EVS – Attention-grabbing light effect on neurobiological basis

WERMA has developed a stochastic, random flickering light on a neurobiological basis: EVS, Enhanced Visibility System. This generates an optimal attention level never reached by previous signal devices.

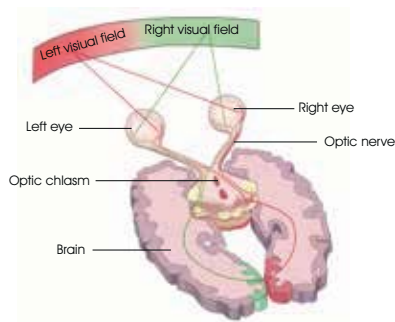
For the EVS system WERMA employs light emitting diodes. A microprocessor generates random light signals. This gives the light a very "agitated" character which proves highly effective in drawing the attention of those in its vicinity – even when seen out of the corner of the eye. LEDs are capable of generating the required high flickering frequency with ease, frequencies which Xenon flashes for example are incapable of generating.

📏 TECHNICAL DIAGRAM:

See page 39



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



The way in which the brain processes visual stimuli formed the basis for the development of the EVS technology



Intense rotating signal effect with low power consumption

- Gas applications: Zones 1 and 2
- Dust applications: Zones 21 and 22
- Intense rotating signal effect with low power consumption
- Integrated mounting bracket (VA steel)
- Effective explosion protection even at extreme temperatures (-50°C to +50°C, with accessory)



TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Connection:	CAGE CLAMP bis 2.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Rotation rate:	c. 180 r.p.m.
Duty cycle:	100 %



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



ORDER SPECIFICATIONS:

Voltage	24 V DC	115 V/230 V AC
Current consumption	170 mA	150 mA at 230 V AC
Explosion protection	Ex II 2G Ex de IIC T6 Gb	Ex II 2G Ex de IIC T5 Gb
Approval	Ex II 2D Ex tb IIIC T80°C Db IP 66	Ex II 2D Ex tb IIIC T95°C Db IP 66
red	729 120 55	729 120 68
yellow	729 320 55	729 320 68

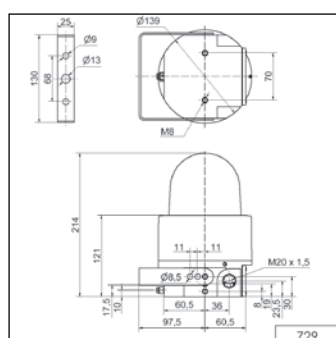


ACCESSORIES:

Ex screw plug M 20 x 1.5 mm	975 729 02
Ex wire guard, VA steel, stainless	975 729 03
Ex cable gland M 20 x 1.5 mm	975 729 01
Ex cable gland M 20 x 1.5 mm, metal To expand the temperature range from -40 °C to -50 °C	975 729 04



TECHNICAL DIAGRAM:



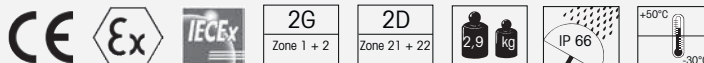


Long life duration thanks to low wear wheel and disc drive

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

i TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	139 mm x 214 mm
Housing:	Black coated aluminium, salt water resistant
Lens:	Reinforced borosilicate glass
Fixing:	Wall, base and ceiling mounting Integrated mounting bracket, VA steel
Connection:	CAGE CLAMP max. 2.5 mm ²
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 6-13 mm
Drive:	Wheel and disc drive, motor in centre of gravity
Mirror rotation rate:	180 r.p.m.
Service life of drive:	> 5,000 hours
Halogen bulb included in assembly.	



🛒 ORDER SPECIFICATIONS:

Voltage	24 V AC/DC	115 V/230 V AC/DC
Current consumption	1,0 A	130 mA at 230 V AC
Explosion protection	Ex II 2G Ex de IIC T6 Gb	Ex II 2G Ex de IIC T5 Gb
Approval	Ex II 2D Ex tb IIIC T80°C Db IP 66	Ex II 2D Ex tb IIIC T95°C Db IP 66
red	785 100 75	785 100 70
yellow	785 300 75	785 300 70



Additional protection with the robust wire guard (accessory)

🏠 ACCESSORIES:

Ex screw plug M 20 x 1.5 mm	975 729 02
Ex wire guard, VA steel, stainless	975 729 03
Ex cable gland M 20 x 1.5 mm	975 729 01
Ex cable gland M 20 x 1.5 mm, metal To expand the temperature range from -30 °C to -50 °C	975 729 04

🔧 SPARE PARTS:

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

📏 TECHNICAL DIAGRAM:

See page 40



WERMA
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