



# Overview Signal Towers







## Modular Signal Towers

<b>KombiSIGN 71</b>  IP 65 • Ø 70 mm Page 16	<b>KombiSIGN 70</b>  IP 54 • Ø 70 mm Page 36	<b>KombiSIGN 50</b>  IP 54 • Ø 50 mm Page 54
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## Wireless-based Signal Tower Solutions

<b>NEW</b> <b>WIN –</b> Wireless Information Network  For KombiSIGN 70 + 71 Page 43 + 24	<b>NEW</b> <b>KombiSIGN</b> reflect  For KombiSIGN 70 + 71 Page 44 + 23	<b>GSM Transmitter</b> Element  For KombiSIGN 70 + 71 Page 45 + 26
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## Completely pre-assembled Signal Towers

<b>KOMPAKT 36</b>  IP 65 • Ø 36 mm Page 63	<b>KOMPAKT 71</b>  IP 65 • Ø 70 mm Page 64	<b>deSIGN 42</b>  IP 65 • Ø 42 mm Page 66	<b>NEW</b> <b>FlatSIGN</b>  IP 65 • With curved front Page 68
<b>NEW</b> <b>FlatSIGN</b> Design Highlights  IP 65 • Customer- specific Design Page 71	<b>VarioSIGN</b>  IP 65 • Innovative Design Page 72	<b>NEW</b> <b>CleanSIGN</b>  IP 67/IP 69k • Hygienic Design Page 76	

## Sound

The sounds can be played from our website  
[www.werma.com](http://www.werma.com) under the heading „Signal Towers“.



## Further Information

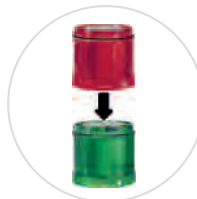
Further information about “Light in signalling technology”  
can be found in the chapter “Tech-Talk” beginning on page 320.



# Signal Towers Overview

## Modular Signal Towers

- Modular system allows a completely free combination of optical and audible signal elements.
- Mechanical and electrical connection of the elements in the space of seconds using a bayonet connection system.
- Completely safe element changes (contact-voltage proof) without the need for tools.



Page 16 onwards.

### KombiSIGN 71



Ø 70 mm

- Protection rating IP 65
- For use in extreme conditions

Page 16 onwards.

### KombiSIGN 70



Ø 70 mm

- Protection rating IP 54
- For use in normal conditions

Page 36 onwards.

### KombiSIGN 50



Ø 50 mm

- Protection rating IP 54
- For use in normal conditions

Page 54 onwards.

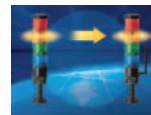
**NEW**

### Wireless-based solutions

for KombiSIGN 70 + 71



WIN – Wireless Information Network



KombiSIGN reflect



GSM Transmitter Element

- WIN – Wireless Information Network
- KombiSIGN reflect
- GSM Transmitter Element

Page 23 onwards.

**TIP**

#### The Signal Devices Site on the internet:

With our "Configurator" you can put together a signal tower quickly and easily according to your requirements. The configurator interactively guides the user through a series of pictures and questions to create an individual signal tower solution in just a few clicks.



## Completely pre-assembled Signal Towers

- Completely pre-assembled LED signal towers.
- The complete tower can be ordered using a single number, considerably simplifying the ordering process.
- LED technology with a life duration of up to 50,000 hours. The replacement of elements or light bulbs is therefore no longer necessary.



From Page 63 onwards.

### KOMPAKT 36 KOMPAKT 71



Ø 36 mm / Ø 70 mm

- Protection rating IP 65
- 2 or 3 tier
- Available in 2 sizes

Page 63 + 64.

### deSIGN 42



Ø 42 mm

- Protection rating IP 65
- 2 or 3 tier
- High-quality stainless steel housing

Page 66 onwards.

NEW

### FlatSIGN



195 x 105 x 45 mm

- Protection rating IP 65
- With curved front
- 160° signal visibility

Page 68 onwards.

### VarioSIGN



62 x 220 x 90 mm

- Protection rating IP 65
- Electronic modularity
- Unique design

Page 72 onwards.

NEW

### CleanSIGN



112 x 485 x 125 mm

- Protection rating IP 67/69k
- For use in the food and pharmaceutical industry as well as in cleanroom applications

Page 76 onwards.





# Signal Towers KombiSIGN

## Signals to combine – At the twist of a hand



- ✓ Signal elements in every common voltage
- ✓ Modular system allows combination as required
- ✓ High protection rating IP 54 or IP 65
- ✓ Wide range of optical and audible elements
- ✓ LED technology ensures even better visibility
- ✓ New attention-grabbing light effects (e.g. EVS)



### KombiSIGN 71

#### Protection Rating IP 65

Modular signal tower system with 70 mm diameter for use in extreme conditions.

Not compatible with KombiSIGN 70

#### Terminal Element



Either: improved screw terminal



Or: terminal element with CAGE CLAMP® technology



Cylindrical terminal element

See page 16.



### KombiSIGN 70

#### Protection Rating IP 54

Modular signal tower system with 70 mm diameter for use in normal conditions.

Not compatible with KombiSIGN 71

#### Terminal Element



Screw terminal



Conical terminal element

See page 36.



### KombiSIGN 50

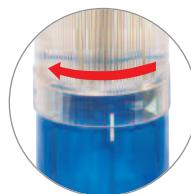
#### Protection Rating IP 54

Modular signal tower system with 50 mm diameter for use on smaller machines.

#### Terminal Element



Screw terminal



Practical bayonet fixing system tool-free bulb-change.

See page 54.



## Simple operation thanks to bayonet mechanism



WERMA was the first signal beacon manufacturer to offer a bayonet mechanism allowing elements to be mechanically and electrically connected within seconds.

- ✓ Simple mounting and removal of the elements
- ✓ New combinations at the twist of a hand
- ✓ Tool-free bulb change

## A fitting solution for every mounting requirement

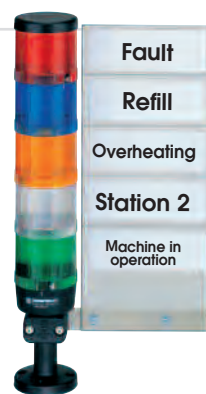
The comprehensive range of accessories for KombiSIGN signal towers offers solutions for the most diverse mounting needs and exceeds the industry standards in this respect.

Besides the wide choice of brackets, bases and tubes WERMA also offers unique special solutions, for example the Foldaway Base, the Tube with Clamp or the Indication Board.

You will find an overview of the entire range of accessories for KombiSIGN Signal Towers on pages 60 and 61.



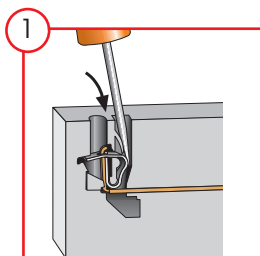
KombiSIGN Signal Tower with Foldaway Base



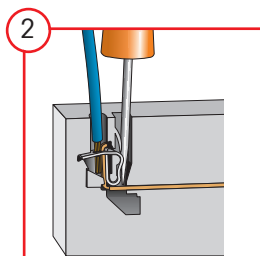
Indication board for the addition of instructions

## Safe and efficient connection thanks to CAGE CLAMP® technology

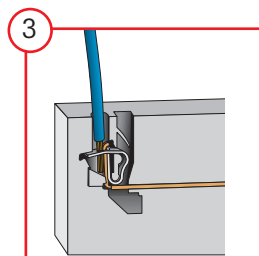
Terminal elements with CAGE CLAMP® technology enable leads to be quickly and easily wired, guaranteeing a secure and reliable contact.



Insert screwdriver at a slight angle into opening as far as possible.



Open spring-loaded clamp with the help of the screwdriver and insert wire as far as possible



Remove screwdriver – the wire is firmly clamped.

CAGE CLAMP® is a registered trademark of WAGO Kontakttechnik GmbH.



# Signal Tower KombiS/IGN 71

## This is how you can assemble your KombiS/IGN 71 signal tower!

### ► STEP 1

Select the required optical or audible elements.

Many KombiS/IGN highlights are also available (for details see page 17).



#### 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

### ► STEP 2

Select the appropriate mounting option for your application.

### ► STEP 3

Select the correct terminal element for your mounting option.

#### Base Mounting



Improved screw terminal  
Order no. **640 820 00**



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

#### Tube Mounting



Improved screw terminal  
Order no. **640 830 00**



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

### ► STEP 4

Where appropriate, select a base and the desired tube length (only for tube mounting).



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**



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.



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**



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**

**TIP**

The Signal Devices Site on the Internet:  
**www.werma.com**

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

## The Highlights for KombiSIGN 71

**NEW**

### WIN – Wireless Information Network



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

See page 24

**NEW**

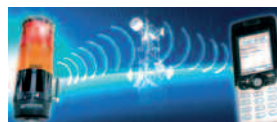
### KombiSIGN reflect



- Simple monitoring of signal towers out of view
- Signal tower "reflection" to a central location

See page 23

### GSM Transmitter Element



- Malfunction signalled by signal tower is transmitted via SMS or call to a mobile phone
- Activation without the need for programming
- No additional power supply needed

See page 26

### AS-Interface Element



- LEDs indicate current status
- 31 or 62 addresses
- Available with standard or A/B technology

See page 27

**NEW**

### LED Permanent Light Element ultrabright



- Up to 20 times brighter than conventional LED elements
- Maximum brightness via intelligent LED control

See page 28

### LED Flashing Light Element



- Extremely long life duration up to 50,000 hrs
- Low current consumption
- Shock-proof and vibration resistant

See page 18

### LED EVS Element



- Attention-grabbing flickering light
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect

See page 29

### Vocal Element



- Plays customer-specific audio files in mp3 format (sounds, alarms, music or spoken text)
- Easy programming via USB interface
- Up to 60 minutes replay capacity

See page 30

### Siren Element with self-adjusting sound output



- Sound output is automatically adjusted to the background noise level
- Warning tone can be heard without being irritatingly loud

See page 31

### Terminal Element with USB Interface



- Direct triggering of signal tower elements via USB Interface
- Easy activation

See page 32

### Customer-specific coloured coatings



- Signal towers in customer-specific colours – complete range of RAL colours available
- Meets the demands of an increasing design orientation

See page 33

### Foldaway base



- Enables signal towers to be folded down completely, even when connected
- Vertical alignment of signal towers even on sloping surfaces

See page 35





640

## Signal Tower KombiSIGN 71



Bracket (accessory)



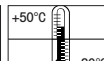
Base with tube (accessory)

- High protection rating IP 65
- Signal tower system 70 mm Ø with modular construction
- Improved illumination
- Flexible combination of optical and audible elements

**i TECHNICAL SPECIFICATIONS:**

<b>Dimensions</b> (Ø x Height):	Terminal element: 70 mm x 26.5 mm Light element: 70 mm x 65 mm Audible element: 70 mm x 72/79/111 mm
<b>Housing:</b>	Terminal element: PA fibreglass, high-impact Cap: PC
<b>Lens:</b>	PC, transparent Audible and ASI elements: PC
<b>Fixing:</b>	Base mounting Tube mounting, for tube Ø 25 mm Bracket mounting (accessory)
<b>Socket:</b>	Bayonet, B15d, for bulbs max. 7 W
<b>Connection:</b>	CAGE CLAMP® technology max. 2.5 mm <sup>2</sup> or screw terminal max. 2.5 mm <sup>2</sup> Contact protection according to VDE
<b>Cable entry:</b>	Cable diameter max. 14 mm
<b>Element seal:</b>	Pre-mounted with each module
<b>Protection rating:</b>	Light elements: IP 65 Audible elements: IP 65 (Order no. 645 830 55 = IP 40)
<b>Number of modules possible:</b>	Max. 5 / max. 10 elements with 2-sided bracket
<b>Permanent light element</b>	12 - 240 V≈ Bulb not included in assembly.
<b>LED Permanent light element</b>	24 V≈    115 V~    230 V~
Current consumption:	< 30 mA    < 20 mA    < 20 mA
<b>LED Permanent light element ultrabright</b>	24 V≈
Life duration:	Up to 50,000 hrs
Current consumption:	Max. 190 mA
Up to 20 times brighter than conventional LED beacons.	
<b>Flashing light element (Xenon)</b>	24 V≈    115 V~    230 V~
Life duration:	4 x 10 <sup>6</sup> flashes
Current consumption:	125 mA    22 mA    15 mA
Reduced for AS-Interface:	80 mA
Flash frequency:	c. 1 Hz
<b>LED Flashing light element</b>	24 V≈
Life duration:	50,000 hrs
Current consumption:	< 30 mA (red/yellow)    < 25 mA (green/clear/blue)
Flash frequency:	c. 1 Hz (Double Flash)
<b>LED EVS* element</b>	24 V≈
Current consumption:	350 mA (red/yellow)    250 mA (green/clear/blue)
* EVS = Enhanced Visibility System	
<b>LED Blinking light element</b>	24 V≈    115 V~    230 V~
Current consumption:	25 mA    25 mA    25 mA
Blink frequency:	c. 1 Hz
<b>LED Rotating light element</b>	24 V≈
Current consumption:	70 mA
Rotation frequency:	c. 120 r.p.m.

Improved  
light effect

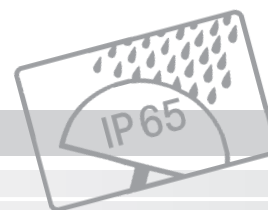
Improved  
light effect

24 V





(LED) Permanent/Flashing element



## ORDER SPECIFICATIONS OPTICAL ELEMENTS:

<b>Permanent light element</b>	12-240 V≈
red	641 100 00
green	641 200 00
yellow	641 300 00
clear	641 400 00
blue	641 500 00
Bulb not included in assembly. Accessories see page 22.	

<b>LED Permanent light element</b>	24 V≈	115 V~	230 V~
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



Permanent light, clear with info

NEW

<b>LED Permanent light element ultrabright</b>	24 V≈
red	644 180 55
green	644 280 55
yellow	644 380 55
clear	644 480 55
blue	644 580 55

<b>Flashing light (Xenon)</b>	24 V = (ASI)	24 V≈	115 V~	230 V~
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

Compare the prices  
and advantages of  
an LED Flashing light

LED EVS element

<b>LED Flashing light element</b>	24 V≈
red	644 120 55
green	644 220 55
yellow	644 320 55
clear	644 420 55
blue	644 520 55

<b>LED EVS element</b>	24 V≈
red	644 140 55
green	644 240 55
yellow	644 340 55
clear	644 440 55
blue	644 540 55



LED element

Life duration  
up to 50,000 hrs

<b>LED Blinking light element</b>	24 V≈	115 V~	230 V~
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
blue	644 510 75	644 510 67	644 510 68

<b>LED Rotating light element</b>	24 V≈
red	644 130 75
green	644 230 75
yellow	644 330 75
clear	644 430 75
blue	644 530 75

Improved  
light effect

Further voltages on request.



## TECHNICAL DIAGRAMS:

see page 277 onwards



640

## Signal Tower KombiSIGN 71



Audible element

Siren element with  
self-adjusting sound output

Terminal element with cap



Vocal element



GSM transmitter element



## ORDER SPECIFICATIONS AUDIBLE ELEMENTS:

<b>Buzzer element</b> 85 dB, 25 mA, IP 65, Continuous or pulse tone	24 V ~ <b>645 800 75</b>	115 V ~ <b>645 800 77</b>	230 V ~ <b>645 800 68</b>
<b>Siren element</b> 105 dB, 150 mA, IP 40 Continuous tone alternating	24 V ~ <b>645 830 55</b> no UL approval		
<b>Multi-functional Siren</b> 100 dB, IP 65, 8 different tones, adjustable sound output	24 V ~ / 80 mA <b>645 820 75</b>	115 V ~ / 40 mA <b>645 820 67</b>	230 V ~ / 40 mA <b>645 820 68</b>
<b>Multi-functional Siren, can be triggered externally</b> 100 dB, 80 mA, IP 65, 7 diff. tones can be triggered externally, adjustable sound output, number of tones depending on the number of optical elements.	24 V ~ <b>645 850 55</b>		
<b>Siren element with self-adjusting sound output</b> Technical specifications see page 31.	24 V ~ <b>645 810 55</b>		



## ORDER SPECIFICATIONS TERMINAL ELEMENTS :

<b>Terminal element for tube mounting including cap</b>	<b>CAGE CLAMP®</b> <b>640 810 00</b>	<b>Screw terminal</b> <b>640 830 00</b>
<b>Terminal element for bracket or base mounting including cap and seal</b>	<b>640 800 00</b>	<b>640 820 00</b>
<b>Terminal element with USB Interface (for tube mounting)</b> Technical specifications see page 32.	<b>640 840 00</b>	



## ORDER SPECIFICATIONS KOMBI SIGN-HIGHLIGHTS:

<b>NEW</b> WIN system for KombiSIGN 71	860 640 01	
Technical specifications see page 24.		
<b>NEW</b> WIN complete for KombiSIGN 71	860 640 03	
Technical specifications see page 24.		
<b>NEW</b> WIN slave for KombiSIGN 71	860 640 02	
Technical specifications see page 24.		
<b>NEW</b> KombiSIGN 71 reflect	861 640 01	
Technical specifications see page 23.		
<b>GSM Transmitter Element for KombiSIGN 71</b>	24 V =	
Technical specifications see page 26.	646 700 55	
<b>Vocal Element for KombiSIGN 71</b>	24 V =	
Technical specifications see page 30.	645 840 55	
<b>AS-Interface Element for KombiSIGN 71</b>	Standard Slave 24 V =	A/B-Slave 24 V =
Technical specifications see page 27.	646 830 55	646 810 55

# Accessories for Signal Tower KombiSIGN 71



## ORDER SPECIFICATIONS ACCESSORIES:

Contact box for cable exit at side, with mounting material	975 840 01
Contact box with magnetic base and cable exit at side	975 840 04
Bracket for tube mounting with cable gland	960 000 01
Bracket for surface mounting with cable gland	960 000 02
Bracket for base mounting with concealed cable entry, incl. rubber seals	960 000 14
Bracket for 1-sided mounting, incl. rubber seals	975 840 85
Bracket for 2-sided mounting, incl. rubber seals	975 840 86
Tube with clamp, Ø 25 mm 250 mm long, with cable gland	960 000 18
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
Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 35)	960 000 30
Tube Ø 25 mm, plastic for mounting the Terminal Element directly on the Foldaway Base	960 000 31
Base for tube mounting Ø 25 mm, plastic, incl. rubber seal	975 840 90
Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer	975 840 91
Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal	975 840 10
Adaptor for tube mounting, Ø 25 mm / 1/2" NPT thread	975 840 02
Adaptor for single hole mounting Ø 25 mm, M 18	960 000 25
Cable gland for surface mounting M 16 x 1.5 mm	960 000 04



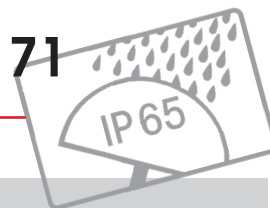
## TECHNICAL DIAGRAMS:

see page 292 onwards





# Accessories for Signal Tower KombiS/IGN 71



## ORDER SPECIFICATIONS ACCESSORIES:

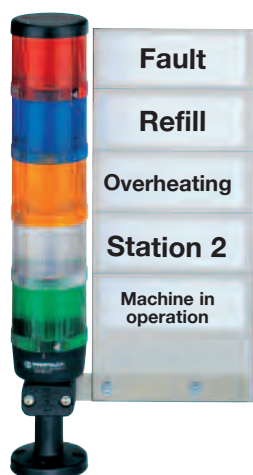
Bulb BA15d, total length max. 42 mm  
(for permanent light 641)

12 V, 5 Watt	<b>955 840 34</b>
24 V, 5 Watt	<b>955 840 35</b>
30 V, 5 Watt	<b>955 840 32</b>
115 V, 5 Watt	<b>955 840 57</b>
230 V, 5 Watt	<b>955 840 38</b>



LED bulb BA15d, total length max. 42 mm  
(for permanent light 641)

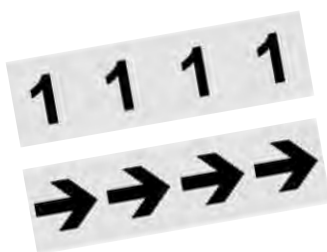
Voltage	24 V ~	115 V ~	230 V ~
Current consumption	< 45 mA	< 15 mA	< 15 mA
red	<b>956 100 75</b>	<b>956 100 67</b>	<b>956 100 68</b>
green	<b>956 200 75</b>	<b>956 200 67</b>	<b>956 200 68</b>
yellow	<b>956 300 75</b>	<b>956 300 67</b>	<b>956 300 68</b>
white	<b>956 400 75</b>	<b>956 400 67</b>	<b>956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



### Indication Board

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

Dimensions of indication board (W x H):	153 x 345 mm
Surface area per section (W x H):	c. 140 x 50 mm
Material:	PMMA
Assembly:	Indication board (5 sections) incl. mounting material
Mounting:	Fixing only possible on 25 mm diameter tube
Indication board	<b>960 000 05</b>



Info transparencies: To place inside optical elements, not for use in Flashing Light, LED EVS, LED Flashing Light and LED Permanent Light Element ultrabright.

neutral	<b>975 840 49</b>	number „6“	<b>975 840 56</b>
number „0“	<b>975 840 50</b>	number „7“	<b>975 840 57</b>
number „1“	<b>975 840 51</b>	number „8“	<b>975 840 58</b>
number „2“	<b>975 840 52</b>	number „9“	<b>975 840 59</b>
number „3“	<b>975 840 53</b>	number „10“	<b>975 840 92</b>
number „4“	<b>975 840 54</b>	arrow	<b>975 840 62</b>
number „5“	<b>975 840 55</b>		



## ADDITIONAL INFORMATION:

You will find an overview of the entire range of accessories for KombiS/IGN Signal Towers on pages 60 and 61.



## TECHNICAL DIAGRAMS:

see page 292 onwards

**NEW**

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

- Simple monitoring of signal towers out of view
- Signal tower "reflection" to a central location
- Shortening of reaction times and reduction of costs
- KombiSIGN reflect is integrated into existing WERMA signal towers
- No additional wiring costs
- Simple commissioning due to pre-configured modules

### **i** TECHNICAL SPECIFICATIONS:

#### Slave

Dimensions (Ø x Height):	70 mm x 65.5 mm
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ~
Current consumption:	40 mA

#### Master

Dimensions (Ø x Height):	70 mm x 65.5 mm (without antenna)
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ~
Current consumption:	40-90 mA

#### Wireless connection

ISM frequency:	868 MHz (KombiSIGN reflect 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)



Remote transmission via wireless signal with a maximum range of up to 300 m (unobstructed line of sight)

### **🛒** ORDER SPECIFICATIONS:

KombiSIGN 71 reflect	861 640 01
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### **⚠** ADDITIONAL INFORMATION:

#### **Signal tower "reflection"**

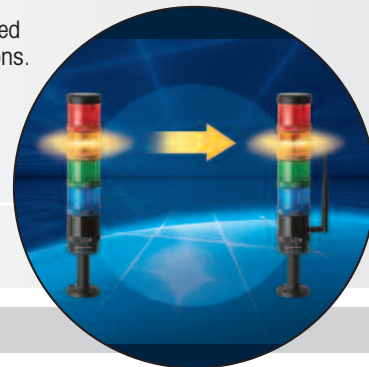
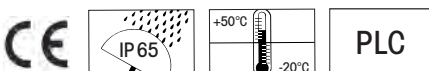
WERMA Signaltechnik provides a simple solution for the remote wireless monitoring of machinery. The new "KombiSIGN reflect" kit can be integrated into existing signal towers which are already installed on your machines. KombiSIGN reflect "reflects" the status of the machine to a signal tower within your line of sight.

This enables you to wirelessly monitor machines situated at a greater distance and respond quickly to malfunctions. With KombiSIGN reflect, even machines which were not previously network-capable can now be remotely monitored.

Further information can be found in the chapter "Tech-Talk" on page 324.

### **📐** TECHNICAL DIAGRAMS:

see page 289



Simple monitoring of signal towers out of view



NEW



"WIN system" is immediately ready for use: Fit the slaves in the existing signal towers and connect the master to the PC

- Economical wireless-based Machine Data Collection system (MDC system)
- Central monitoring of a wide range of different machines via PC
- Relevant machine information at a glance
- Reduction of reaction times, repair and maintenance requirements and costs
- No additional wiring as existing WERMA signal towers can be used
- Downtime analysis



## TECHNICAL SPECIFICATIONS:

Patent pending

WIN slave

Dimensions (Ø x Height):	70 mm x 65.5 mm
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ≈
Current consumption:	40 mA

WIN master

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

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 slave simultaneously functions as a "repeater", enabling the transmission range to be significantly increased.

WIN complete

With the all inclusive kit "WIN complete" you can immediately start monitoring up to three machines. All you have to do is mount the signal towers from the kit onto your machines. After installing the supplied software on to your PC you can immediately start monitoring the status of your machines.

Assembly:	WIN master, 3 WIN slaves 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 system" the user has even more choice: The kit consists of a WIN master including the software, a USB cable and three pre-configured WIN slaves. The slaves are fitted to the existing WERMA signal towers which need to be monitored. Or you can order your own signal towers from WERMA's wide range of KombiSIGN products - enabling you to combine audible elements, different light effects, colours and mounting options as required.

Assembly:	WIN master, 3 WIN slaves for KombiSIGN 71 (pre-configured), Software
-----------	--



The all inclusive kit for KombiSIGN 71: "WIN complete" consists of three pre-configured signal towers and the master



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



With the supplied software, users can wirelessly monitor their machinery via PC



The software displays the status of the signal towers integrated into wireless network



## ORDER SPECIFICATIONS:

WIN system for KombiSIGN 71 **860 640 01**

Assembly: WIN master, 3 WIN slaves KombiSIGN 71 (pre-configured), Software

WIN complete for KombiSIGN 71 **860 640 03**

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

WIN slave for KombiSIGN 71 **860 640 02**

To expand WIN complete or WIN system.

Both networks can be expanded to up to 50 WIN slaves per network as required.



## ADDITIONAL INFORMATION:

\* WIN = Wireless Information Network

The "Wireless Information Network", "WIN" for short, is a simple MDC system (Machine Data Collection system).

WIN enables you to centrally monitor and evaluate the performance of up to fifty machines of varying ages and functions via wireless technology. Even machines which were not previously network-capable can now be integrated into networks.

### Software for monitoring and analysing the machine operating status

With the supplied software, users can wirelessly monitor machinery on their Pc. They can search for faults or analyse the operating status, thus raising the efficiency and productivity of their machines.

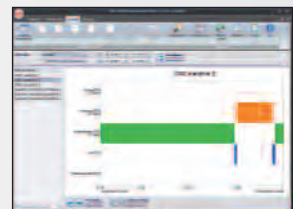
### Examples:



Module 1: Status indication of the networked signal towers



Module 2: Productivity per machine



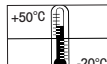
Module 3: Failure analysis over time

Further informationen can be found in the chapter „Tech-Talk“ beginning on page 320.



## TECHNICAL DIAGRAMS:

see page 288







646

## GSM Transmitter Element for KombiSIGN 71

Patent  
approvedAlso suitable for  
US frequencies

- Unique Signal Tower solution
- GSM transmitter element can be simply integrated into an existing signal tower
- Activation without the need for programming
- Malfunction signalled by signal tower is transmitted via SMS to a mobile phone
- No additional power supply
- Also suitable for US frequencies (Quadband)



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 65.5 mm (without antenna)
Housing:	PC
Current consumption:	50 mA
Max. current draw (momentary):	450 mA
GSM frequency:	850, 900, 1800/1900 MHz
Plug-in slot for SIM card:	Integrated (SIM card is not included in assembly)
Antenna connection:	FME plug connector (bracket antenna included)



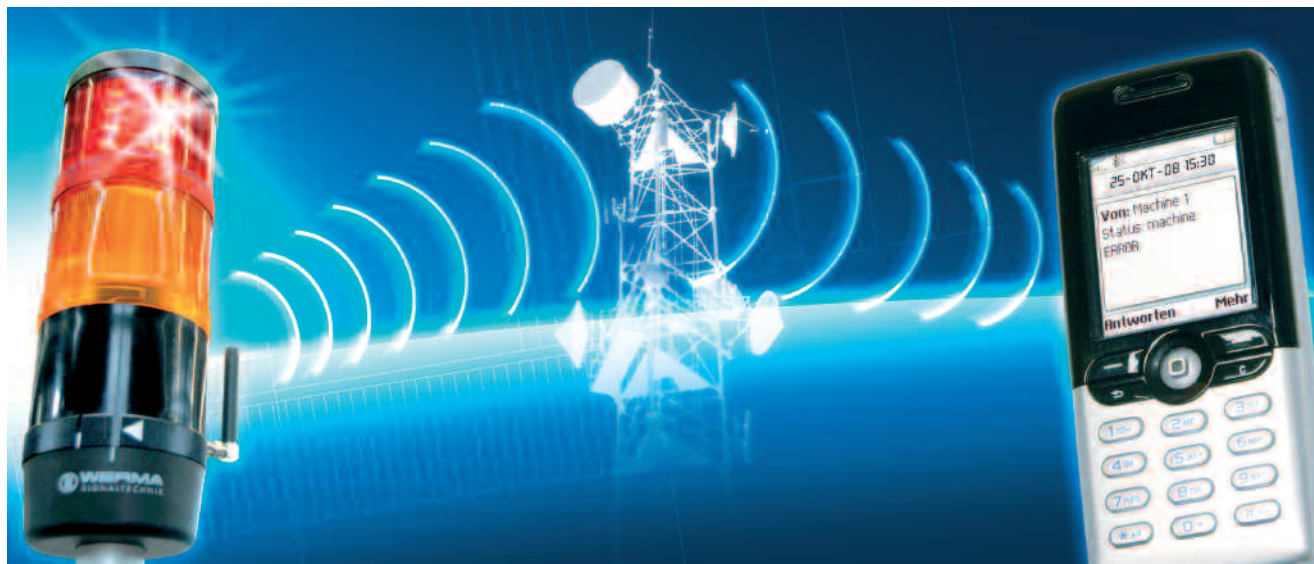
## ORDER SPECIFICATIONS:

GSM Transmitter Element	24 V =
	646 700 55

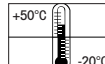
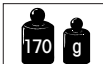


## TECHNICAL DIAGRAMS:

see page 278



Class 2





Cable not included in assembly

LEDs display the  
current status

- LEDs indicate current status
- 31 or 62 addresses
- Available with standard or A/B technology
- Voltage supply switchable from internal bus supply to additional external voltage supply
- With addressing socket

## **i** TECHNICAL SPECIFICATIONS:

	Standard Slave	A/B-Slave
Number of addresses:	Max. 31	Max. 62
Number of signal elements:	Max. 4	Max. 3
IO-Code:	8	8
ID-Code:	F	A
ID2-Code:	—	E
Outputs:	4 semiconductor relays	3 semiconductor relays
Approved in accordance with:	Spec. V 3.0	Spec. V 3.0

### Specif. Power supply

AS-Interface Element:	Via bus conduction
Operating voltage:	25 V ... 31.6 V according to the AS-Interface specification
Reverse battery protection:	Integrated
Watchdog:	Integrated
Additional external voltage:	24 V $\overline{\text{m}}$

	With internal add. voltage	With external add. voltage
Current carrying cap. $\Sigma$ I <sub>max</sub> :	200 mA	200 mA per signal element
Current consumption max:	250 mA	75 mA
Voltage at signal element:	18 V - 31 V	24 V +/- 10%
Short circuit/overload protection:	Integrated	Pre-fuse M 1.6 A

## **🛒** ORDER SPECIFICATIONS:

AS-Interface Element	Standard Slave	A/B-Slave
	<b>646 830 55</b>	<b>646 810 55</b>

## **⚠** ADDITIONAL INFORMATION:



The KombiSIGN Signal Towers 70 and 71 with AS-Interface Element are capable of total communication: Through simple integration of an AS-Interface Element the actuators are connected to the networking system Actuator-Sensor-Interface – this considerably reduces complex wiring. The necessary power supply (supply via bus or external) can be selected with a switch. This element is mounted as the first tier of the individual signal tower directly on top of the terminal element. (Further Information see page 319).

## **📐** TECHNICAL DIAGRAMS:

see page 278

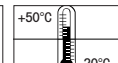
Class 2



Standard Slave



A/B-Slave



**NEW**

- Up to 20 times brighter than conventional LED elements
- Extremely good visibility – even in direct sunlight
- Life duration up to 50,000 hrs
- Maximum brightness via intelligent LED control
- Low current consumption and maintenance-free
- Shock-proof and vibration-resistant

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

Dimensions (Ø x Height):	70 mm x 65.5 mm
Lens:	PC, transparent
Seal:	Pre-mounted with each element
Number of modules possible:	5, with 2-sided bracket max. 10
Current consumption:	Max. 190 mA

**ORDER SPECIFICATIONS:**

LED Permanent light element ultrabright 24 V =	
red	<b>644 180 55</b>
green	<b>644 280 55</b>
yellow	<b>644 380 55</b>
clear	<b>644 480 55</b>
blue	<b>644 580 55</b>

**ADDITIONAL INFORMATION:****Sophisticated triggering**

Thanks to its sophisticated triggering, the innovative LED element "ultrabright" is up to 20 times brighter than conventional LED elements – 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.

Further information can be found in the chapter "Tech-Talk" beginning on page 325.

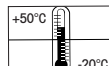
**TECHNICAL DIAGRAMS:**

see page 277



The high level of brightness guarantees good visibility – even in direct sunlight

Maximum brightness via  
intelligent LED control



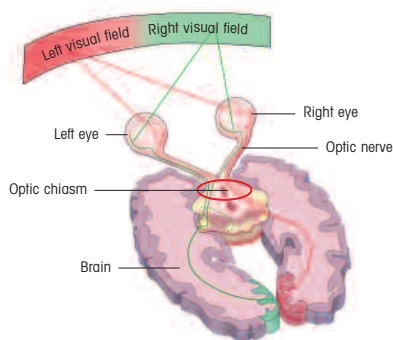
PLC



Patent pending



Integrated into the KombiSIGN Signal Towers, the new LED EVS Element generates a highly attention-grabbing signal



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

- Attention-grabbing flickering light
- Developed on a neurobiological basis
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect
- For signalling extremely hazardous situations and the need for immediate action



#### TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (Ø x Height):	70 mm x 65 mm
Lens:	PC, transparent
Seal:	Pre-mounted with each element
Number of modules possible:	5, with 2-sided bracket max. 10
Current consumption:	red / yellow: 200 mA green / blue / clear: 150 mA



#### ORDER SPECIFICATIONS:

Voltage	24 V =
red	644 140 55
green	644 240 55
yellow	644 340 55
clear	644 440 55
blue	644 540 55



#### ADDITIONAL INFORMATION:

\* EVS = Enhanced Visibility System

Further informationen can be found in the chapter "Tech-Talk" on page 326.

#### EVS – Attention-grabbing light effect on neurobiological basis

The flickering of neon lamps and comparable light effects are highly effective at attracting our attention. The neurobiological basis of this phenomenon is explained by a university scientist as follows: Light signals are processed in the human brain, not directly in the eye.

In order to be consciously registered there, incoming stimuli first have to pass through a form of filter. This filter has a "protective" function. During sleep it reduces disturbing stimuli to a minimum and assists in "overlooking" regular or continuous signals.

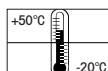
#### EVS – Flickering light without acclimatisation effect

On the basis of this understanding, WERMA's R+D department set out to find a flickering light with a high degree of effectivity in attracting attention. In a multistage laboratory experiment 20 test candidates were asked to judge a series of different light signals and to determine the most eye-catching light. The result of the study was a stochastic flickering light with optimal attention-grabbing characteristics: EVS – Enhanced Visibility System! The light effect of this system is completely new and distinguishes it from all previous systems.



#### TECHNICAL DIAGRAMS:

see page 277



PLC





645

## Vocal Element for KombiS/GN 71

German utility  
model approved

The vocal element can  
be combined with up to  
3 signal elements.



Individual messages can be recorded  
via the headset with microphone  
directly on to the PC (accessory,  
specific version may vary from photo)

- Plays customer-specific audio files in mp3 format (sounds, alarms, music or spoken text)
- Easy programming via USB interface
- Excellent sound quality
- Up to 60 minutes replay capacity
- Positive and negative logic possible
- Adjustable sound output



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Current consumption:	400 mA
Integrated memory:	Approx. 60 min. of replay capacity
Number of sequences recordable:	15, depending on the number of signal elements
Number of additionally signal elements:	Max. 3
Programming:	Via USB connection cable from PC
Sound output:	Adjustable, max. 85 dB
Assembly includes USB connection cable.	

mp3 compatible



## ORDER SPECIFICATIONS:

Vocal element	24 V ~
	645 840 55



## ACCESSORIES:

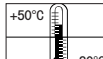
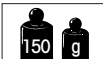
Headset with microphone	960 645 01
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## TECHNICAL DIAGRAMS:

see page 278

This Signal Tower communicates with you –  
the WERMA Vocal Element!



# Siren Element with self-adjusting sound output for KombiSIGN 71

Patent  
approved



- Automatic sound output adjustment between 80 and 100 dB
- Sound output is c. 5 dB louder than the background noise level
- Continual measurement of the ambient noise level
- Ideal for applications with changing ambient sound levels



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Tone type:	Pulse tone
Tone frequency:	2.5 KHz
Sound output:	80 dB - max. 100 dB

Loud enough  
yet  
not disturbing!



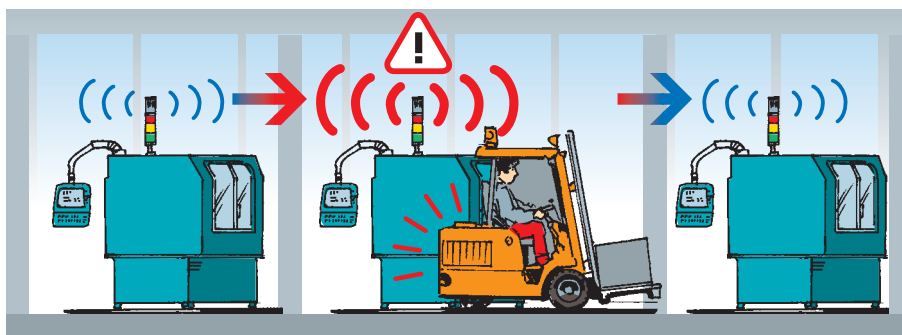
## ORDER SPECIFICATIONS:

Voltage:	24 V $\equiv$
Current consumption:	< 150 mA
	645 810 55



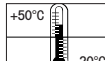
## ADDITIONAL INFORMATION:

The siren element adjusts its sound output through continual measurement of the ambient noise level. The emitted tone is c. 5 dB louder than the background noise level. The warning signal can always be heard without being irritatingly loud for people in the sounder's vicinity.



## TECHNICAL DIAGRAMS:

see page 278





640

# Terminal Element with USB Interface for KombiSIGN 71



Direct triggering of the signal tower via USB Interface



Base for tube (metal) and tube Ø 25 mm (accessories)

- Direct triggering of signal tower elements via USB Interface
- Easy activation
- Can be combined with up to 4 signal elements
- Assembly includes installation software and USB connection cable
- No additional power supply necessary
- No additional hardware needed



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 26.5 mm
Material:	PA-GF, shock resistant
Fixing:	Tube mounting
Connection:	USB-Bus
	Assembly includes installation software and USB connection cable (AWG 22), 2 m long
	Maximum permitted length of USB cable (min. AWG 22): 7 m
Current carrying capacity	
I <sub>max</sub> :	100 mA



## ORDER SPECIFICATIONS:

Terminal element USB	24 V ~
	640 840 00



## ACCESSORIES:

Base with integrated tube	975 840 10
Tube mounting with base for tube (metal)	975 840 91
Tube Ø 25 mm	
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



## ADDITIONAL INFORMATION:

### Direct triggering via USB Interface

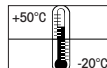
In many applications, it is necessary to indicate operating states or faults by means of an optical signal. A PLC or machine controller is not available in all areas; PCs are often also connected to control the machines. The optimal solution for this is the terminal element with USB interface for KombiSIGN 70, 71 and Kompakt 71.

This innovation in the field of signal towers is controlled directly from the PC and can therefore be put into operation easily and in an uncomplicated manner. Neither a separate power supply nor additional hardware is required because the terminal element with USB interface is based on a standard USB interface.



## TECHNICAL DIAGRAMS:

see page 277





- Signal towers in customer-specific colours
- Meets the demands of an increasing design preference

- Simple ordering procedure
- Complete range of RAL colours available
- High protection rating IP 65



## TECHNICAL SPECIFICATIONS:

**Dimensions Terminal Elements** (Ø x Height): 70 mm x 26.5 mm

**Housing Terminal Elements:** PA-GF, fibreglass, high-impact, Cap: PC

**Connection:** CAGE CLAMP® technology max. 2.5 mm²  
Contact protection according to VDE

**Cable entry:** Cable diameter max. 14 mm

**Number of modules possible:** Max. 5

**Minimum order quantity:** 10 pieces

**Delivery time:** By arrangement

**Colour Finish:** Matt or gloss

Please state the required RAL number



## ORDER SPECIFICATIONS TERMINAL ELEMENTS:

	CAGE CLAMP®	Screw terminal
Terminal element for tube mounting, coated, including cap	640 710 00	640 730 00
Terminal element for bracket or base mounting, coated including cap and seal	640 700 00	640 720 00



## ACCESSORIES:

Base with integrated tube, coated  
Ø 25 mm, 110 mm long,  
plastic, incl. rubber seals

960 000 24

Bracket for 1-sided mounting,  
coated, incl. rubber seals

960 000 22



## ADDITIONAL INFORMATION:

Please state the required RAL number and colour finish (matt or gloss) with each of your orders. Slight colour deviations are possible.



## TECHNICAL DIAGRAMS:

see page 277



The Signal Towers are designed to harmonise with the colour of the customer's product design, guaranteeing a uniform appearance



The KombiSIGN Signal Towers 71 can be coated in any colour within the RAL spectrum







960

# Interface Box for KombiSIGN 71



Assembly:  
Interface Box and  
terminal element for  
signal tower KombiSIGN 71



Assembly without  
laptop and signal tower elements

- Direct triggering from PC via RS 232 or RS 485 interfaces
- Programming of various drives via serial interface
- Triggering of up to 4 independent elements of a KombiSIGN signal tower
- Up to 127 signal towers can be addressed (RS 485)
- Monitoring of each element possible
- Versions for Bus systems available on request

## **i** TECHNICAL SPECIFICATIONS:

### Dimensions of the

Interface box (L x H x W):	80 x 66 x 82 mm
Material:	ABS
Drive:	24 V =
Interfaces:	RS 232, RS 485

### Assembly:

#### 960 000 16

- Interface box
- Terminal element
- 2 cable glands M16

#### 960 000 17

- Interface box
- Terminal element
- 1 cable gland M16
- Network appliance with cable
- Connection cable RS 232, 2 m long, with Sub-D 9-pin and socket for power supply
- CD with demonstration programme
- Programming handbook



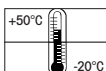
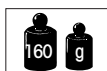
## ORDER SPECIFICATIONS:

Interface box	960 000 16
Interface box incl. accessories	960 000 17



## TECHNICAL DIAGRAMS:

see page 292 + 293



German utility  
model approved



Maximum stability even with strong shocks and vibrations thanks to the locking mechanism



When transporting the machine, the signal tower can be folded away in a few simple steps



Vertical alignment of signal towers even on sloping surfaces

- The signal tower can be folded away while still connected
- Minimises packaging costs and optimises machine transportation
- Simple mounting and cable entry – for up to Ø 14 mm
- Vertical alignment of signal towers even on sloping surfaces
- Positioning in 7.5° steps, markings for 30, 45, 60 or 90 degrees



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 117 mm
Material:	PA-GF
Cable diameter:	Max. 14 mm
Assembly:	Incl. rubber seals
Fixing:	Vertical, horizontal Positioning in 7.5° steps
Suitable for:	Tube, Ø 25 mm, all anodized aluminium, not included in assembly (accessory)



## ORDER SPECIFICATIONS:

Foldaway base for KombiSIGN 71      **960 000 30**



## ACCESSORIES:

Tube Ø 25 mm, plastic 45 mm long, for direct mounting of the Terminal Element onto the Foldaway Base      **960 000 31**

Tube Ø 25 mm, all anodized aluminium, see page 21

Cable gland M 16 x 1.5 mm      **960 000 04**



## QUICK AND SIMPLE MOUNTING:

1



Place the lower part of the Foldaway Base in the desired position

2



Attach the upper part directly onto the signal tower tube. Insert the connection cable

3



Place the upper and lower parts together at the desired angle

4

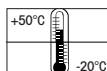


Place the upper and lower parts together at the desired angle



## TECHNICAL DIAGRAMMS:

see page 293





# Signal Tower KombiSIGN 70

## This is how you can assemble your KombiSIGN 70 signal tower!

### ► STEP 1

Select the required optical or audible elements.

Many KombiSIGN highlights are also available (for details see page 37).



#### 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

NEW

### ► STEP 2

Select the appropriate mounting option for your application.

### ► STEP 3

Select the correct terminal element for your mounting option.

#### Base Mounting



Terminal element for base mounting  
Order no. **840 085 00**

#### Tube Mounting



Terminal element for tube mounting  
Order no. **840 080 00**

### ► STEP 4

Where appropriate, select a base and the desired length (only for tube mounting).



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	<b>975 845 10</b>
250 mm long	<b>975 840 25</b>
400 mm long	<b>975 840 40</b>
600 mm long	<b>975 840 60</b>
800 mm long	<b>975 840 80</b>
1000 mm long	<b>975 840 03</b>



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**



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.



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



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



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



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



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



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

TIP

The Signal Devices Site on the Internet:  
**www.werma.com**

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

## The Highlights for KombiSIGN 70

**NEW**

### WIN – Wireless Information Network



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

See page 43

**NEW**

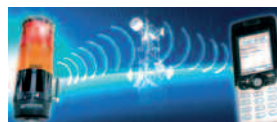
### KombiSIGN reflect



- Simple monitoring of signal towers out of view
- Signal tower "reflection" to a central location

See page 44

### GSM Transmitter Element



- Malfunction signalled by signal tower is transmitted via SMS or call to a mobile phone
- Activation without the need for programming
- No additional power supply needed

See page 45

### AS-Interface Element



- LEDs indicate current status
- 31 or 62 addresses
- Available with standard or A/B technology

See page 46

**NEW**

### LED Permanent Light Element ultrabright



- Up to 20 times brighter than conventional LED elements
- Maximum brightness via intelligent LED control

See page 47

### LED Flashing Light Element



- Extremely long life duration up to 50,000 hrs
- Low current consumption
- Shock-proof and vibration resistant

See page 38

### LED EVS Element



- Attention-grabbing flickering light
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect

See page 48

### Vocal Element



- Plays customer-specific audio files in mp3 format (sounds, alarms, music or spoken text)
- Easy programming via USB interface
- Up to 60 minutes replay capacity

See page 49

**NEW**

### Siren Element with self-adjusting sound output



- Sound output is automatically adjusted to the background noise level
- Warning tone can be heard without being irritatingly loud

See page 50

### Terminal Element with USB Interface



- Direct triggering of signal tower elements via USB Interface
- Easy activation

See page 51

### Customer specific coloured coatings



- Signal towers in customer-specific colours – complete range of RAL colours available
- Meets the demands of an increasing design orientation

See page 52

### Foldaway base



- Enables signal towers to be folded down completely, even when connected
- Vertical alignment of signal towers even on sloping surfaces

See page 53





840

## Signal Tower KombiSIGN 70



Base with tube (accessory)



Bracket (accessory)



Tube mounting (accessory)

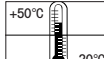
- Signal tower system 70 mm Ø with modular construction
- 360° visibility
- Wide range of optical and audible elements
- Elements can be assembled as required



## TECHNICAL SPECIFICATIONS:

<b>Dimensions</b> (Ø x Height):	Terminal element: 70 mm x 30.5 mm Light element: 70 mm x 65.5 mm Audible element: 70 mm x 72/79/110 mm		
<b>Housing:</b>	Terminal element: PA fibreglass, high-impact Cap: PC/ABS-Blend		
<b>Lens:</b>	PC, transparent Audible and ASI elements: PC/ABS-Blend		
<b>Fixing:</b>	Base mounting Tube mounting, for tube Ø 25 mm Bracket mounting (accessory)		
<b>Socket:</b>	Bayonet, B15d, for bulb max. 7 W		
<b>Connection:</b>	Screw terminal max. 2.5 mm <sup>2</sup> Contact protection according to VDE		
<b>Cable entry:</b>	Cable diameter max. 14 mm		
<b>Element seal:</b>	Pre-mounted with each module		
<b>Protection rating:</b>	Light elements: IP 54 Audible elements: IP 54 (Order no. 844 123 55 = IP 40)		
<b>Number of modules possible:</b>	Max. 5/with 2-sided bracket max. 10 elements		
<b>Permanent light element</b>	12 - 240 V≈ Bulb not included in assembly		
<b>LED Permanent light element</b>	24 V≈    115 V~    230 V~		
<b>Current consumption:</b>	< 30 mA    < 20 mA    < 20 mA		
<b>LED Permanent light element ultrabright</b>	24 V≈		
<b>Life duration:</b>	Up to 50,000 hrs		
<b>Current consumption:</b>	Max. 190 mA		
Up to 20 times brighter than conventional LED beacons.			
<b>Flashing light element (Xenon)</b>	24 V≈    115 V~    230 V~		
<b>Life duration:</b>	4 x 10 <sup>6</sup> flashes		
<b>Current consumption:</b>	125 mA    22 mA    15 mA		
<b>Reduced for AS-Interface:</b>	80 mA		
<b>Flash frequency:</b>	c. 1 Hz		
<b>LED Flashing light element</b>	24 V≈		
<b>Life duration:</b>	50,000 hrs		
<b>Current consumption:</b>	< 30 mA (red/yellow)    < 25 mA (green/clear/blue)		
<b>Flash frequency:</b>	c. 1 Hz (Double Flash)		
<b>LED EVS* element</b>	24 V≈		
<b>Current consumption:</b>	350 mA (red/yellow)    250 mA (green/clear/blue)		
* EVS = Enhanced Visibility System			
<b>LED Blinking light element</b>	24 V≈    115 V~    230 V~		
<b>Current consumption:</b>	25 mA    25 mA    25 mA		
<b>Blink frequency:</b>	c. 1 Hz		
<b>LED Rotating light element</b>	24 V≈		
<b>Current consumption:</b>	70 mA		
<b>Rotation frequency:</b>	c. 120 r.p.m.		

Improved light effect

Improved  
light effect

24 V



(LED) Permanent/  
Flashing light element

Permanent light, clear with info



LED EVS element



LED element

Life duration  
up to 50,000 hrs

## ORDER SPECIFICATIONS OPTICAL ELEMENTS:



<b>Permanent light element</b>	12-240 V~
red	840 100 00
green	840 200 00
yellow	840 300 00
clear	840 400 00
blue	840 500 00
Bulb not included in assembly. Accessories see page 42.	

<b>LED Permanent light element</b>	24 V~	115 V~	230 V~
red	843 100 55	843 100 67	843 100 68
green	843 200 55	843 200 67	843 200 68
yellow	843 300 55	843 300 67	843 300 68
clear	843 400 55	843 400 67	843 400 68
blue	843 500 55	843 500 67	843 500 68

NEW

<b>LED Permanent light element ultrabright</b>	24 V~
red	843 180 55
green	843 280 55
yellow	843 380 55
clear	843 480 55
blue	843 580 55

<b>Flashing light (Xenon)</b>	24 V= (ASI)	24 V=	115 V~	230 V~
red	842 110 55	842 100 55	842 100 67	842 100 68
green	842 210 55	842 200 55	842 200 67	842 200 68
yellow	842 310 55	842 300 55	842 300 67	842 300 68
clear	842 410 55	842 400 55	842 400 67	842 400 68
blue	842 510 55	842 500 55	842 500 67	842 500 68

Compare the prices  
and advantages of  
an LED Flashing light

<b>LED Flashing light element</b>	24 V=
red	843 120 55
green	843 220 55
yellow	843 320 55
clear	843 420 55
blue	843 520 55

<b>LED EVS element</b>	24 V=
red	843 140 55
green	843 240 55
yellow	843 340 55
clear	843 440 55
blue	843 540 55

<b>LED Blinking light element</b>	24 V~	115 V~	230 V~
red	843 110 55	843 110 67	843 110 68
green	843 210 55	843 210 67	843 210 68
yellow	843 310 55	843 310 67	843 310 68
clear	843 410 55	843 410 67	843 410 68
blue	843 510 55	843 510 67	843 510 68

<b>LED Rotating light element</b>	24 V~
red	843 130 55
green	843 230 55
yellow	843 330 55
clear	843 430 55
blue	843 530 55

Improved  
light effect

Further voltages on request.



## TECHNICAL DIAGRAMS:

see page 285 onwards



840

## Signal Tower KombiSIGN 70

Audible element  
844 123 55

Terminal element with cap



Vocal element



GSM transmitter element



## ORDER SPECIFICATIONS AUDIBLE ELEMENTS:

<b>Buzzer element</b> 85 dB, 25 mA, IP 54, Continuous or pulse tone	24 V ~ <b>844 118 55</b>	115 V ~ <b>844 118 67</b>	230 V ~ <b>844 118 68</b>
<b>Siren element</b> 105 dB, 150 mA, IP 40 Continuous tone alternating	24 V ~ <b>844 123 55</b> no UL / CSA approval		
<b>Multi-functional Siren</b> 100 dB, IP 54, 8 different tones, adjustable sound output	24 V ~ / 80 mA <b>844 126 55</b>	115 V ~ / 40 mA <b>844 126 67</b>	230 V ~ / 40 mA <b>844 126 68</b>
<b>Multi-functional Siren, can be triggered externally</b> 100 dB, 80 mA, IP 65, 7 diff. tones can be triggered externally, adjustable sound output, number of tones depending on the number of optical elements.	24 V ~ <b>844 126 95</b>		
<b>NEW Siren element with self-adjusting sound output</b> Technical specifications see page 51. Available: 1st Quarter 2011.	24 V ~ <b>844 810 55</b>		



## ORDER SPECIFICATIONS TERMINAL ELEMENTS :

<b>Terminal element for tube mounting</b> incl. cap	<b>840 080 00</b>
<b>Terminal element for bracket or base mounting</b> incl. cap und rubber seal	<b>840 085 00</b>
<b>Terminal element with USB Interface</b> (for tube mounting) Technical specifications see page 51.	<b>840 580 00</b>



## ORDER SPECIFICATIONS KOMBI SIGN-HIGHLIGHTS:

<b>NEW WIN system for KombiSIGN 70</b> Technical specifications see page 43.	<b>860 840 01</b>
<b>NEW WIN slave for KombiSIGN 70</b> Technical specifications see page 43.	<b>860 840 02</b>
<b>NEW KombiSIGN 70 reflect</b> Technical specifications see page 44.	<b>861 840 01</b>
<b>GSM Transmitter Element for KombiSIGN 70</b> Technical specifications see page 45.	24 V ~ <b>840 700 55</b>
<b>Vocal Element for KombiSIGN 70</b> Technical specifications see page 49.	24 V ~ <b>844 840 55</b>
<b>AS-Interface Element for KombiSIGN 70</b>	Standard Slave 24 V ~ <b>840 830 55</b>
	A/B-Slave 24 V ~ <b>840 810 55</b>
Technical specifications see page 46.	

# Accessories for Signal Tower KombiSIGN 70



## ORDER SPECIFICATIONS ACCESSORIES:

Contact box for cable exit at side, with mounting material	975 840 01
Contact box with magnetic base and cable exit at side	975 840 04
Bracket for tube mounting with cable gland	960 000 01
Bracket for surface mounting with cable gland	960 000 02
Bracket for base mounting with concealed cable entry, incl. rubber seals	960 000 14
Bracket for 1-sided mounting, incl. rubber seals	975 840 85
Bracket for 2-sided mounting, incl. rubber seals	975 840 86
Tube with clamp, Ø 25 mm 250 mm long, with cable gland	960 000 18
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
Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 53)	960 000 30
Tube Ø 25 mm, plastic for mounting the Terminal Element directly on the Foldaway Base	960 000 31
Base for tube mounting Ø 25 mm, plastic, incl. rubber seal	975 840 90
Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer	975 840 91
Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal	975 840 10
Adaptor for tube mounting, Ø 25 mm / 1/2" NPT thread	975 840 02
Adaptor for single hole mounting Ø 25 mm, M 18	960 000 25
Cable gland for surface mounting M 16 x 1.5 mm	960 000 04



## TECHNICAL DIAGRAMS:

see page 292 onwards



# Accessories for Signal Tower KombiS/IGN 70



## ORDER SPECIFICATIONS ACCESSORIES:

Bulb BA15d, total length max. 42 mm  
(for permanent light 641)

12 V, 5 Watt	<b>955 840 34</b>
24 V, 5 Watt	<b>955 840 35</b>
30 V, 5 Watt	<b>955 840 32</b>
115 V, 5 Watt	<b>955 840 57</b>
230 V, 5 Watt	<b>955 840 38</b>

LED bulb BA15d, total length max. 42 mm  
(for permanent light 840)

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

## Indication Board

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

Dimensions of indication board (W x H):	153 x 345 mm
Surface area per section (W x H):	c. 140 x 50 mm
Material:	PMMA
Assembly:	Indication board (5 sections) incl. mounting material
Mounting:	Fixing only possible on 25 mm diameter tube
Indication board	<b>960 000 05</b>

Info transparencies: To place inside optical elements, not for use in Flashing Light, LED EVS, LED Flashing Light and LED Permanent Light Element ultrabright.

neutral	<b>975 840 49</b>	number „6“	<b>975 840 56</b>
number „0“	<b>975 840 50</b>	number „7“	<b>975 840 57</b>
number „1“	<b>975 840 51</b>	number „8“	<b>975 840 58</b>
number „2“	<b>975 840 52</b>	number „9“	<b>975 840 59</b>
number „3“	<b>975 840 53</b>	number „10“	<b>975 840 92</b>
number „4“	<b>975 840 54</b>	arrow	<b>975 840 62</b>
number „5“	<b>975 840 55</b>		



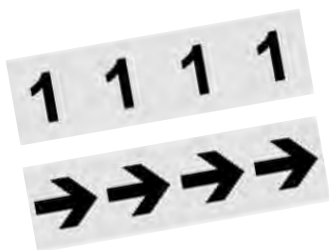
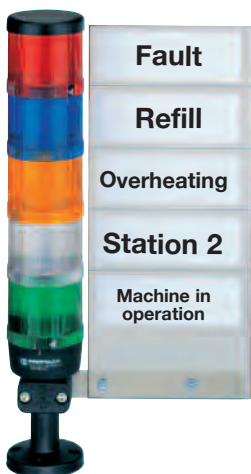
## ADDITIONAL INFORMATION:

You will find an overview of the entire range of accessories for KombiS/IGN Signal Towers on pages 60 and 61.



## TECHNICAL DIAGRAMS:

see page 290 + 291

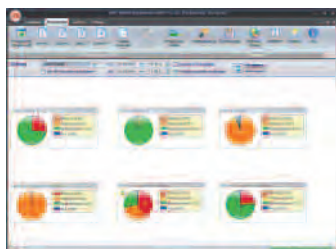


**NEW**


"WIN system" is immediately ready for use: Fit the slaves in the existing signal towers and connect the master to the PC



With the supplied software, users can wirelessly monitor their machinery via PC



The software enables users to analyse productivity and increase the efficiency of their machines



The software displays the status of the signal towers integrated into the wireless network

- Economical wireless-based Machine Data Collection system (MDC system)
- Central monitoring of a wide range of different machines via PC
- Relevant machine information at a glance
- Reduction of reaction times, repair and maintenance requirements and costs
- No additional wiring as existing WERMA signal towers can be used
- Downtime analysis

### **i** TECHNICAL SPECIFICATIONS:

**Patent pending**

#### WIN slave

Dimensions (Ø x Height):	70 mm x 65.5 mm
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ≈
Current consumption:	40 mA

#### WIN master

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

#### 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.)
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Transmission range:	Up to 300 m (unobstructed line of sight) Every slave simultaneously functions as a "repeater", enabling the transmission range to be significantly increased.
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### **ORDER SPECIFICATIONS:**

WIN system for KombiSIGN 70	<b>860 840 01</b>
Assembly: WIN master, 3 WIN slaves KombiSIGN 70 (pre-configured), Software	

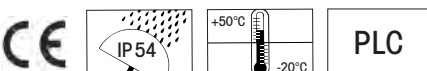
WIN slave for KombiSIGN 70	<b>860 840 02</b>
To expand WIN system. The network can be expanded to up to 50 WIN slaves.	

### **ADDITIONAL INFORMATION:**

\* WIN = Wireless Information Network  
Further information can be found in the chapter „Tech-Talk“ beginning on page 320.

### **TECHNICAL DIAGRAMS:**

see page 288



861

# KombiSIGN reflect for KombiSIGN 70

**NEW**



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

- Simple monitoring of signal towers out of view
- Signal tower "reflection" to a central location
- Shortening of reaction times and reduction of costs
- KombiSIGN reflect is integrated into existing WERMA signal towers
- No additional wiring costs
- Simple commissioning due to pre-configured modules

## **i** TECHNICAL SPECIFICATIONS:

### Slave

Dimensions (Ø x Height):	70 mm x 65.5 mm
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ~
Current consumption:	40 mA

### Master

Dimensions (Ø x Height):	70 mm x 65.5 mm (without antenna)
Housing:	PC, black
Connection:	Bayonet
Operating voltage:	24 V ~
Current consumption:	40-90 mA

### Wireless connection

ISM frequency:	868 MHz (KombiSIGN reflect 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)

## **🛒** ORDER SPECIFICATIONS:

KombiSIGN 70 reflect	861 840 01
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## **⚠** ADDITIONAL INFORMATION:

### **Signal tower "reflection"**

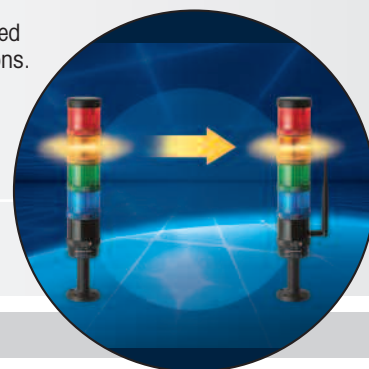
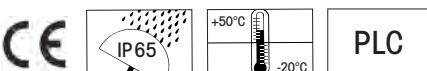
WERMA Signaltechnik provides a simple solution for the remote wireless monitoring of machinery. The new "KombiSIGN reflect" kit can be integrated into existing signal towers which are already installed on your machines. KombiSIGN reflect "reflects" the status of the machine to a signal tower within your line of sight.

This enables you to wirelessly monitor machines situated at a greater distance and respond quickly to malfunctions. With KombiSIGN reflect, even machines which were not previously network-capable can now be remotely monitored.

Further information can be found in the chapter "Tech-Talk" on page 324.

## **📐** TECHNICAL DIAGRAMS:

see page 289



Simple monitoring of signal towers out of view

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

Patent  
approved



Also suitable for  
US frequencies

- Unique Signal Tower solution
- GSM transmitter element can be simply integrated into an existing signal tower
- Activation without the need for programming
- Malfunction signalled by signal tower is transmitted via SMS to a mobile phone
- No additional power supply needed
- Also suitable for US frequencies (Quadband)



#### TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 65.5 mm (without antenna)
Housing:	PC
Current consumption:	50 mA
Max. current draw (momentary):	450 mA
GSM frequency:	850, 900, 1800/1900 MHz
Plug-in slot for SIM card:	Integrated (SIM card is not included in assembly)
Antenna connection:	FME plug connector (bracket antenna included)



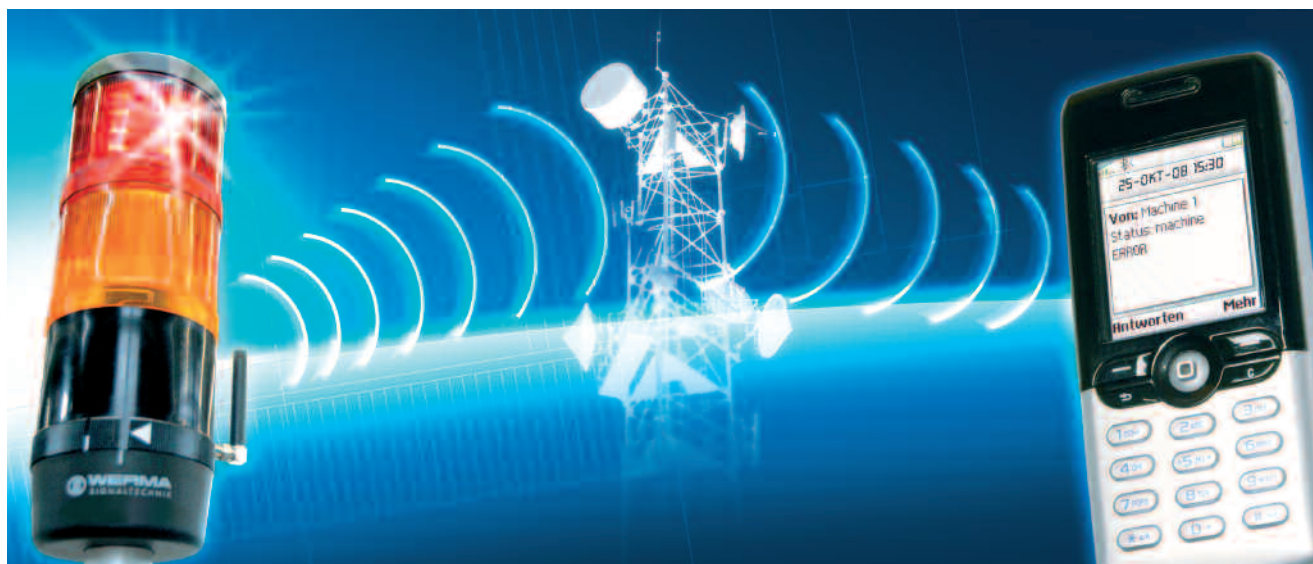
#### ORDER SPECIFICATIONS:

GSM Transmitter Element	24 V =
	840 700 55

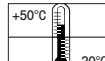


#### TECHNICAL DIAGRAMS:

see page 285



Class 2





840

# AS-Interface Element for KombiS/IGN 70



Cable not included in assembly

LEDs displays the  
current status

- LEDs indicate current status
- 31 or 62 addresses
- Available with standard or A/B technology
- Voltage supply switchable from internal bus supply to additional external voltage supply
- With addressing socket



## TECHNICAL SPECIFICATIONS:

	Standard Slave	A/B-Slave
Number of addresses:	Max. 31	Max. 62
Number of signal elements:	Max. 4	Max. 3
IO-Code:	8	8
ID-Code:	F	A
ID2-Code:	—	E
Outputs:	4 semiconductor relays	3 semiconductor relays
Approved in accordance with:	Spec. V 3.0	Spec. V 3.0

Specif. Power supply		
AS-Interface Element:	Via bus conduction	
Operating voltage:	25 V ... 31.6 V according to the AS-Interface specification	
Reverse battery protection:	Integrated	
Watchdog:	Integrated	
Additional external voltage:	24 V +/- 10% ≐	

	With internal add. voltage	With external add. voltage
Current carrying cap. $\Sigma$ I <sub>max</sub> :	200 mA	200 mA per signal element
Current consumption max:	250 mA	75 mA
Voltage at signal element:	18 V - 24 V	24 V +/- 10%
Short circuit/overload protection:	Integrated	Pre-fuse M 1.6 A



## ORDER SPECIFICATIONS:

AS-Interface Element	Standard Slave	A/B-Slave
	<b>840 830 55</b>	<b>840 810 55</b>



## ADDITIONAL INFORMATION:



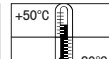
The KombiS/IGN Signal Towers 70 and 71 with AS-Interface Element are capable of total communication: Through simple integration of an AS-Interface Element the actuators are connected to the networking system Actuator-Sensor-Interface – this considerably reduces complex wiring. The necessary power supply (supply via bus or external) can be selected with a switch. This element is mounted as the first tier of the individual signal tower directly on top of the terminal element. (Further Information see page 319).



## TECHNICAL DIAGRAMS:

see page 285

Class 2



# LED Permanent Light Element ultrabright for KombiSIGN 70



- Up to 20 times brighter than conventional LED elements
- Extremely good visibility – even in direct sunlight
- Life duration up to 50,000 hrs
- Maximum brightness via intelligent LED control
- Low current consumption and maintenance-free
- Shock-proof and vibration-resistant



## TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (Ø x Height):	70 mm x 65.5 mm
Lens:	PC, transparent
Seal:	Pre-mounted with each element
Number of modules possible:	5, with 2-sided bracket max. 10
Current consumption:	Max. 190 mA



## ORDER SPECIFICATIONS:

LED Permanent light element ultrabright 24 V =	
red	843 180 55
green	843 280 55
yellow	843 380 55
clear	843 480 55
blue	843 580 55



Maximum brightness via  
intelligent LED control



## ADDITIONAL INFORMATION:

### Sophisticated triggering

Thanks to its sophisticated triggering, the innovative LED element "ultrabright" is up to 20 times brighter than conventional LED elements – 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.

Further information can be found in the chapter "Tech-Talk" beginning on page 325.

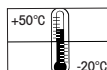


## TECHNICAL DIAGRAMS:

see page 285



The high level of brightness  
guarantees good visibility –  
even in direct sunlight



PLC



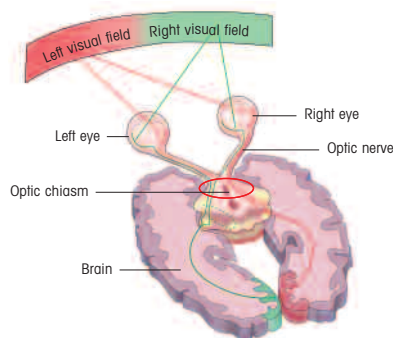
843

## LED EVS\* Element for KombiSIGN 70

Patent pending



Integrated into the KombiSIGN  
Signal Towers, the new EVS  
LED Element generates a highly  
attention-grabbing signal



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

- Attention-grabbing flickering light
- Developed on a neurobiological basis
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect
- For signalling extremely hazardous situations and the need for immediate action



## TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (Ø x Height):	70 mm x 65.5 mm
Lens:	PC, transparent
Seal:	Pre-mounted with each element
Number of modules possible:	5, with 2-sided bracket max. 10
Current consumption:	red / yellow: 200 mA green / blue / clear: 150 mA



## ORDER SPECIFICATIONS:

Voltage	24 V $\overline{\text{---}}$
red	843 140 55
green	843 240 55
yellow	843 340 55
clear	843 440 55
blue	843 540 55



## ADDITIONAL INFORMATION:

evs®  
enhanced visibility system

\* EVS = Enhanced Visibility System or Enhanced Visibility System  
Further information can be found in the chapter "Tech-Talk" on page 326.

## EVS – Attention-grabbing light effect on neurobiological basis

The flickering of neon lamps and comparable light effects are highly effective at attracting our attention. The neurobiological basis of this phenomenon is explained by a university scientist as follows: Light signals are processed in the human brain, not directly in the eye.

In order to be consciously registered there, incoming stimuli first have to pass through a form of filter. This filter has a "protective" function. During sleep it reduces disturbing stimuli to a minimum and assists in "overlooking" regular or continuous signals.

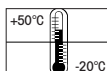
## EVS – Flickering light without acclimatisation effect

On the basis of this understanding, WERMA's R+D department set out to find a flickering light with a high degree of effectivity in attracting attention. In a multistage laboratory experiment 20 test candidates were asked to judge a series of different light signals and to determine the most eye-catching light. The result of the study was a stochastic flickering light with optimal attention-grabbing characteristics: EVS – Enhanced Visibility System! The light effect of this system is completely new and distinguishes it from all previous systems.



## TECHNICAL DIAGRAMS:

see page 285



PLC



German utility  
model approved



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



Individual messages can be recorded  
via the headset with microphone  
directly on to the PC (accessory,  
specific version may vary from photo)

- Plays customer-specific audio files in mp3 format (sounds, alarms, music or spoken text)
- Easy programming via USB interface
- Excellent sound quality
- Up to 60 minutes replay capacity
- Positive and negative logic possible
- Adjustable sound output



#### TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Current consumption:	400 mA
Integrated memory:	Approx. 60 min. of replay capacity
Number of sequences recordable:	15, depending on the number of signal elements
Number of additionally signal elements:	Max. 3
Programming:	Via USB connection cable from PC
Sound output:	Adjustable, max. 85 dB
Assembly includes USB connection cable.	

mp3 compatible



#### ORDER SPECIFICATIONS:

Vocal element	24 V ~
	844 840 55



#### ACCESSORIES:

Headset with microphone	960 645 01
-------------------------	------------



#### TECHNICAL DIAGRAMS:

see page 286

This Signal Tower communicates with you –  
the WERMA Vocal Element!



Plays customer-specific audio files  
in mp3 format  
(sounds, alarms, music or spoken text)

Easy programming via USB interface

Excellent sound quality

Up to 60 minutes replay capacity

Adjustable sound output

**WERMA**  
SIGNALTECHNIK





844

# Siren Element with self-adjusting sound output for KombiS/IGN 70

NEW



- Automatic sound output adjustment between 80 and 100 dB
- Sound output is c. 5 dB louder than the background noise level
- Continual measurement of the ambient noise level
- Ideal for applications with changing ambient sound levels



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Tone type:	Pulse tone
Tone frequency:	2.5 KHz
Sound output:	80 dB - max. 100 dB

Loud enough  
yet  
not disturbing!



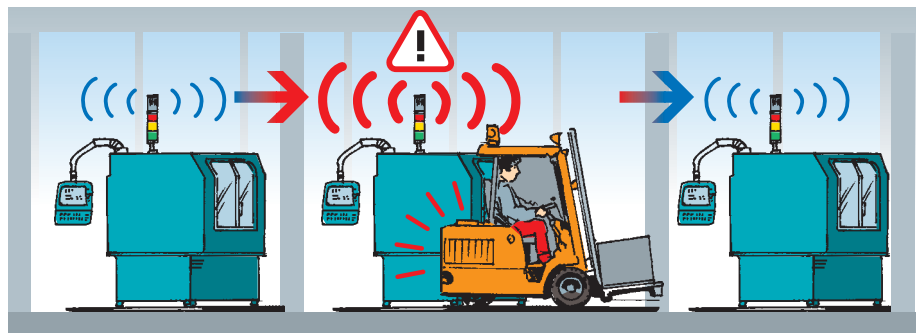
## ORDER SPECIFICATIONS:

Voltage:	24 V $\equiv$
Current consumption:	< 150 mA
	844 810 55



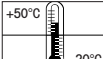
## ADDITIONAL INFORMATION:

The siren element adjusts its sound output through continual measurement of the ambient noise level. The emitted tone is c. 5 dB louder than the background noise level. The warning signal can always be heard without being irritatingly loud for people in the sounder's vicinity.

Patent  
approved

## TECHNICAL DIAGRAMS:

see page 286





- Automatic sound output adjustment between 80 and 100 dB
- Sound output is c. 5 dB louder than the background noise level
- Continual measurement of the ambient noise level
- Ideal for applications with changing ambient sound levels



## TECHNICAL SPECIFICATIONS:

<b>Dimensions</b> (Ø x Height):	70 mm x 30.5 mm
<b>Material:</b>	PA-GF, shock resistant
<b>Fixing:</b>	Tube mounting
<b>Connection:</b>	USB-Bus
	Assembly includes installation software and USB connection cable (AWG 22), 2 m long
	Maximum permitted length of USB cable (min. AWG 22): 7 m
<b>Current carrying capacity</b>	
<b>I<sub>max</sub>:</b>	100 mA



## ORDER SPECIFICATIONS:

Terminal element USB	24 V =
	<b>840 580 00</b>



## ACCESSORIES:

Base with integrated tube	<b>975 840 10</b>
Tube mounting with base for tube (metal)	<b>975 840 91</b>
Tube Ø 25 mm	
100 mm long	<b>975 845 10</b>
250 mm long	<b>975 840 25</b>
400 mm long	<b>975 840 40</b>
600 mm long	<b>975 840 60</b>
800 mm long	<b>975 840 80</b>
1000 mm long	<b>975 840 03</b>



## ADDITIONAL INFORMATION:

### Direct triggering via USB Interface

In many applications, it is necessary to indicate operating states or faults by means of an optical signal. A PLC or machine controller is not available in all areas; PCs are often also connected to control the machines. The optimal solution for this is the terminal element with USB interface for KombiSIGN 70, 71 and Kompakt 71.

This innovation in the field of signal towers is controlled directly from the PC and can therefore be put into operation easily and in an uncomplicated manner. Neither a separate power supply nor additional hardware is required because the terminal element with USB interface is based on a standard USB interface.



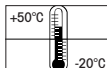
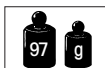
## TECHNICAL DIAGRAMS:

see page 285

Direct triggering of the signal tower via USB Interface



Base for tube (metal) and tube Ø 25 mm (accessories)





840

# KombiSIGN 70 in customer-specific coloured coatings



- Signal towers in customer-specific colours
- Meets the demands of an increasing design preference
- Simple ordering procedure
- Complete range of RAL colours available



## TECHNICAL SPECIFICATIONS:

<b>Dimensions Terminal Elements</b> (Ø x Height):	70 mm x 26.5 mm
<b>Housing Terminal Elements:</b>	PA-GF, fibreglass, high-impact, Cap: PC
<b>Connection:</b>	CAGE CLAMP® technology max. 2.5 mm <sup>2</sup> Contact protection according to VDE
<b>Cable entry:</b>	Cable diameter max. 14 mm
<b>Number of modules possible:</b>	Max. 5
<b>Minimum order quantity:</b>	10 pieces
<b>Delivery time:</b>	By arrangement
<b>Colour Finish:</b>	Matt or gloss

Please state the required RAL number



## ORDER SPECIFICATIONS TERMINAL ELEMENTS:

	Screw terminal
<b>Terminal element for tube mounting, coated, including cap</b>	840 780 00
<b>Terminal element for Bracket- or base mounting, coated including cap and seal</b>	840 785 00



## ACCESSORIES:

<b>Base with integrated tube, coated</b> Ø 25 mm, 110 mm long, plastic, incl. rubber seals	960 000 24
<b>Bracket for 1-sided mounting, coated, incl. rubber seals</b>	960 000 22



## ADDITIONAL INFORMATION:

Please state the required RAL number and colour finish (matt or gloss) with each of your orders. Slight colour deviations are possible.



## TECHNICAL DIAGRAMMS:

see page 285



The Signal Towers are designed to harmonise with the colour of the customer's product design, guaranteeing a uniform appearance



The KombiSIGN Signal Towers 70 can be coated in any colour within the RAL spectrum

German utility  
model approved



Maximum stability even with strong shocks and vibrations thanks to the locking mechanism



When transporting the machine, the signal tower can be folded away in a few simple steps



Vertical alignment of Signal Towers even on sloping surfaces

- The signal tower can be folded away while still connected
- Minimises packaging costs and optimises machine transportation
- Simple mounting and cable entry – for up to Ø 14 mm
- Vertical alignment of signal towers even on sloping surfaces
- Positioning in 7.5° steps, markings for 30, 45, 60 or 90 degrees



## TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 117 mm
Material:	PA-GF
Cable diameter:	Max. 14 mm
Assembly:	Incl. rubber seals
Fixing:	Vertical, horizontal Positioning in 7.5° steps
Suitable for:	Tube, Ø 25 mm, all anodized aluminium, not included in assembly (accessory)



## ORDER SPECIFICATIONS:

Foldaway base for KombiSIGN 70      **960 000 30**



## ACCESSORIES:

Tube Ø 25 mm, plastic 45 mm long, for direct mounting of the Terminal Element onto the Foldaway Base      **960 000 31**

Tube Ø 25 mm, all anodized aluminium, see page 41

Cable gland M 16 x 1.5 mm      **960 000 04**



## QUICK AND SIMPLE MOUNTING:

1



Place the lower part of the Foldaway Base in the desired position

2



Attach the upper part directly onto the signal tower tube. Insert the connection cable

3



Place the upper and lower parts together at the desired angle

4

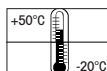


Place the upper and lower parts together at the desired angle



## TECHNICAL DIAGRAMMS:

see page 293







# Signal Tower KombiS/GN 50

## This is how you can assemble your KombiS/GN 50 signal tower!

### ► STEP 1

Select the required optical or audible elements.



#### Audible Signal Elements

- Buzzer Element



#### Optical Signal Elements

- Permanent Light
- LED Permanent Light
- LED Flashing Light
- LED Blinking Light

NEW

### ► STEP 2

Select the terminal element.



Terminal element for  
surface, tube, single hole  
and bracket mounting

Order no.  
**845 000 00**

### ► STEP 3

Select the appropriate mounting option  
for your application.

#### Base/Bracket Mounting

#### Tube Mounting

#### Single hole Mounting

### ► STEP 4

Select the appropriate accessory  
for your mounting option.



Bracket for  
wall mounting

Order no.  
**975 845 02**



Base for surface  
mounting,  
incl. rubber seal

Order no.  
**975 845 01**

Tube Ø 25 mm, Aluminium

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**



Adaptor for  
single hole  
mounting

Order no.  
**975 845 03**

### ► STEP 5

Where appropriate, select the  
bracket and the contact box.

**TIP**

The Signal Devices Site on the Internet:  
**www.werma.com**

With our new **signal tower configurator**  
you can put together your own indi-  
vidual signal tower.



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  
base mounting

Order no.  
**960 000 01**



Base with tube (accessory)



Bracket (accessory)



Base mounting (accessory)

- Signal tower system 50 mm Ø with modular construction
- 360° visibility
- Choice of optical and audible elements
- Order of optical elements interchangeable as required
- Tool-free change of elements and bulbs

**TECHNICAL SPECIFICATIONS:**

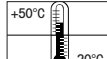
<b>Dimensions</b> (Ø x Height):	Terminal element: 52 mm x 16 mm Light element: 52 mm x 67 mm Audible element: 52 mm x 72 mm		
<b>Housing:</b>	Terminal element: PA fibreglass, high-impact Cap: PC		
<b>Lens:</b>	PC, transparent Audible and ASI: PC/ABS-Blend		
<b>Fixing:</b>	Base mounting (accessory) Tube mounting, for tube Ø 25 mm Single hole mounting (accessory) Bracket mounting (accessory)		
<b>Socket:</b>	Bayonet, B15d, for bulb max. 5 W		
<b>Connection:</b>	Screw terminal max. 1.5 mm <sup>2</sup> Contact protection according to VDE		
<b>Cable entry:</b>	Cable diameter max. 10.5 mm		
<b>Protection rating:</b>	Light elements: IP 54 Audible elements: IP 54		
<b>Number of modules possible:</b>	Max. 4		
<b>Permanent light element</b>	12 - 240 V ~ Bulb not included in assembly		
<b>LED Permanent light element</b>	24 V ~	115 V ~	230 V ~
Current consumption:	45 mA	25 mA	25 mA
<b>NEW LED Flashing light element</b>	Up to 50,000 hrs		
Life duration:	Red Yellow, green, clear, blue		
Current consumption:	45 mA	40 mA	
<b>LED Blinking light element</b>	24 V ~	115 V ~	230 V ~
Current consumption:	25 mA	25 mA	25 mA
Blink frequency:	c. 1 Hz	c. 1 Hz	c. 1 Hz

**ACCESSORIES:**

see page 57

**TECHNICAL DIAGRAMS:**

see page 286



24 V





845

## Signal Tower KombiS/IGN 50



Permanent light element

Life duration  
up to 50,000 hrs

LED element



Buzzer element



Terminal element with cap



## ORDER SPECIFICATIONS OPTICAL ELEMENTS:

<b>Permanent light element</b>	12-240 V
red	846 100 00
green	846 200 00
yellow	846 300 00
clear	846 400 00
blue	846 500 00

<b>LED Permanent light element</b>	24 V≈	115 V~	230 V~
red	848 100 55	848 100 67	848 100 68
green	848 200 55	848 200 67	848 200 68
yellow	848 300 55	848 300 67	848 300 68
clear	848 400 55	848 400 67	848 400 68
blue	848 500 55	848 500 67	848 500 68

NEW

<b>LED Flashing light element</b>	24 V≈
red	848 120 55
green	848 220 55
yellow	848 320 55
clear	848 420 55
blue	848 520 55

Life duration  
up to 50,000 hrs

<b>LED Blinking light element</b>	24 V≈	115 V~	230 V~
red	848 110 75	848 110 67	848 110 68
green	848 210 75	848 210 67	848 210 68
yellow	848 310 75	848 310 67	848 310 68
clear	848 410 75	848 410 67	848 410 68
blue	848 510 75	848 510 67	848 510 68



## ORDER SPECIFICATIONS AUDIBLE ELEMENT:

<b>Buzzer element</b>	24 V≈	115 V~	230 V~
80 dB, max. 25 mA, IP 54, Continuous or pulse tone, adjustable	849 000 75	849 000 77	849 000 68



## ORDER SPECIFICATIONS TERMINAL ELEMENT:

<b>Terminal element</b>	845 000 00
for base mounting, tube mounting, single hole and bracket mounting, including cap	



## TECHNICAL DIAGRAMS:

see page 286

**ORDER SPECIFICATIONS ACCESSORIES:**

Contact box for cable exit at side, with mounting material	975 840 01
Contact box with magnetic base and cable exit at side	975 840 04
Bracket for tube mounting incl. cable gland	960 000 01
Bracket for base mounting with concealed cable entry, incl. rubber seals	960 000 14
Bracket for wall mounting	975 845 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
Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 35)	960 000 30
Base for tube mounting Ø 25 mm, plastic, incl. rubber seal	975 840 90
Base for tube mounting Ø 25 mm, metal, incl. rubber seal	975 840 91
Base for surface mounting, incl. rubber seal	975 845 01
Adaptor for single hole mounting M 18	975 845 03

**TECHNICAL DIAGRAMS:**

see page 292 onwards







# 845 Accessories for Signal Tower KombiS/GN 50



## ORDER SPECIFICATIONS ACCESSORIES:

### Indication board

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

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

Surface area per section (W x H): c. 140 x 50 mm

Material: PMMA

Assembly: Indication board (5 sections)  
incl. mounting material

Mounting: Fixing only possible on 25 mm diameter tube

Indication board **960 000 05**

LED bulb BA15d, total length max. 42 mm  
(for permanent light 846)

Voltage	24 V ≈	115 V ~	230 V ~
Current consumption	< 45 mA	< 15 mA	< 15 mA
red	<b>956 100 75</b>	<b>956 100 67</b>	<b>956 100 68</b>
green	<b>956 200 75</b>	<b>956 200 67</b>	<b>956 200 68</b>
yellow	<b>956 300 75</b>	<b>956 300 67</b>	<b>956 300 68</b>
white	<b>956 400 75</b>	<b>956 400 67</b>	<b>956 400 68</b>
blue	<b>956 500 75</b>	<b>956 500 67</b>	<b>956 500 68</b>

Bulb BA15d, total length max. 42 mm  
(for permanent light 846)

12 V, 5 Watt	<b>955 840 34</b>
24 V, 5 Watt	<b>955 840 35</b>
30 V, 5 Watt	<b>955 840 32</b>
115 V, 5 Watt	<b>955 840 57</b>
230 V, 5 Watt	<b>955 840 38</b>



## ADDITIONAL INFORMATION:

You will find an overview of the entire range of accessories for KombiS/GN Signal Towers on pages 60 and 61.



## TECHNICAL DIAGRAMS:

see page 292 onwards



Cable not included in assembly



#### TECHNICAL SPECIFICATIONS:

	AS-Interface Element with additional external voltage
Number of signal elements:	Max. 4
IO-Code:	8
ID-Code:	F
Power supply:	Via bus conduction
Operating voltage:	25 V ... 31.6 V
Current consumption I <sub>max</sub> :	50 mA
Polarity reversal protection:	Integrated
Watchdog:	Integrated
Outputs:	4, relays
On-load voltage:	Additional external voltage: 10 V ... 30 V $\overline{\text{=}}$ 10 V ... 230 V $\sim$
Current carrying cap. $\Sigma$ I <sub>max</sub> :	1.5 A
Short circuit/overload pro.:	Fuse M 1.6 A



#### ADDITIONAL INFORMATION:



The KombiSIGN 50 Signal Tower with AS-Interface Element is capable of total communication: Through simple integration of an AS-Interface Element the actuators are connected to the networking system Actuator-Sensor-Interface – this considerably reduces complex wiring. This element is mounted as the first tier of the individual signal tower directly on top of the terminal element. (Further Information see page 319).



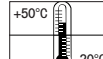
#### ORDER SPECIFICATIONS:

AS-Interface-Element with add. external voltage	845 800 68
--	------------



#### TECHNICAL DIAGRAMS:

see page 286

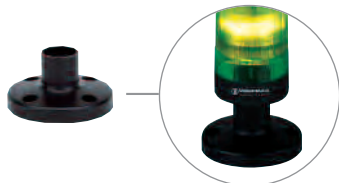




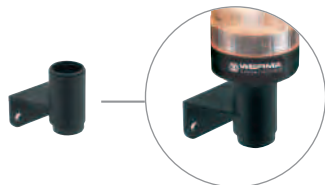
# Accessories KombiSIGN 50, 70 and 71

## KombiSIGN 50

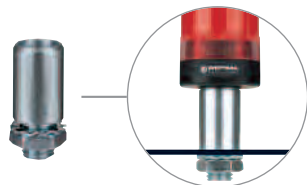
Base for surface mounting,  
incl. rubber seal  
**Order no. 975 845 01**



Bracket for wall mounting  
**Order no. 975 845 02**



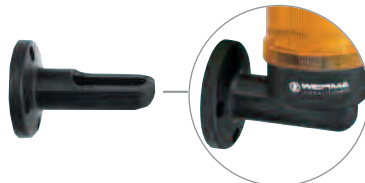
Adaptor for single hole mounting  
**Order no. 975 845 03**



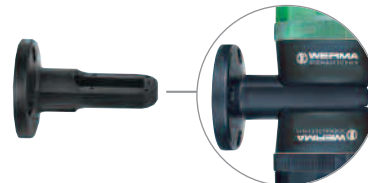
 **TECHNICAL DIAGRAMS:**  
see page 292 onwards

## KombiSIGN 70 and 71

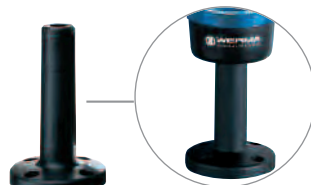
Bracket for 1-sided mounting,  
incl. rubber seals  
**Order no. 975 840 85**



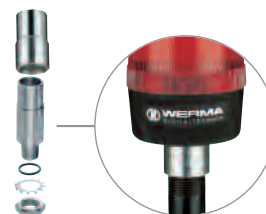
Bracket for 2-sided mounting,  
incl. rubber seals  
**Order no. 975 840 86**



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

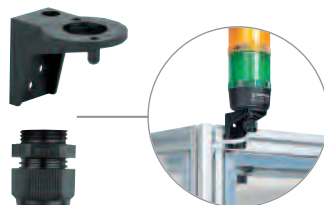


Adaptor for tube mounting  
Ø 25 mm / 1/2" NPT thread  
**Order no. 975 840 02**

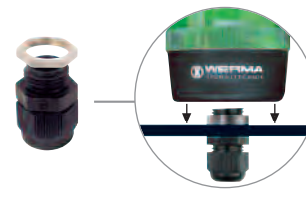


Adaptor for single hole mounting  
Ø 25 mm, M 18  
**Order no. 960 000 25**

Bracket for surface mounting  
incl. cable gland  
M 16 x 1.5  
**Order no. 960 000 02**



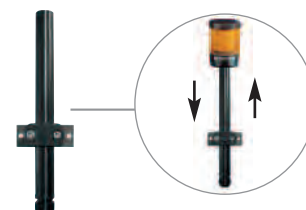
Cable gland for surface  
mounting, M 16 x 1.5  
**Order no. 960 000 04**



Info transparencies:  
neutral, arrow, numbers "0" – "10"  
**Order no. see page 22 + 42**



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



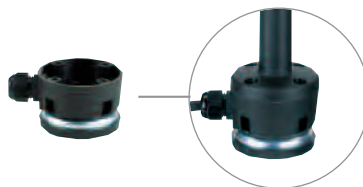


## KombiSIGN 50, 70 and 71

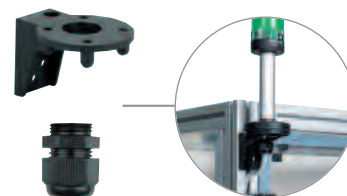
Contact box for cable exit  
at side, with mounting material  
and seal, cable gland M 16 x 1.5  
**Order no. 975 840 01**



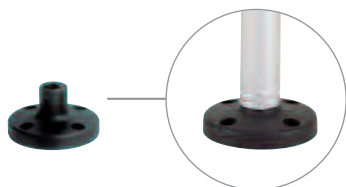
Contact box with magnetic  
base and cable exit at side  
cable gland M 16 x 1.5  
**Order no. 975 840 04**



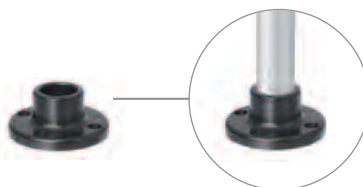
Bracket for tube mounting,  
incl. cable gland M 16 x 1.5  
**Order no. 960 000 01**



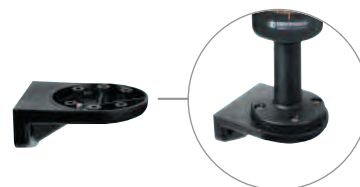
Base for tube mounting, Ø 25 mm,  
plastic, incl. rubber seal  
**Order no. 975 840 90**



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



Bracket for base mounting,  
with concealed cable entry,  
incl. rubber seals  
**Order no. 960 000 14**



Foldaway Base –  
Signal Tower can be folded away  
**Order no. 960 000 30**



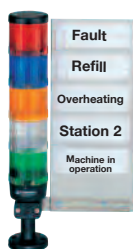
Tube Ø 25 mm, plastic,  
45 mm long, for direct mounting of the  
Terminal Element onto the Foldaway Base  
(only for KombiSIGN 70 + 71)  
**Order no. 960 000 31**



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**



Indication board  
(for tube mounting)  
**Order no. 960 000 05**



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 166**



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**





# KOMPAKT

## The complete Signal Tower Solution – available in 2 sizes

### KOMPAKT 36



- Ø 36 mm
- Specially intended for small pieces of equipment and machinery
- Also available in aesthetic silver finish
- Available with M12 plug
- Also available in an Ex version (see page 251)



Page 63

### KOMPAKT 71



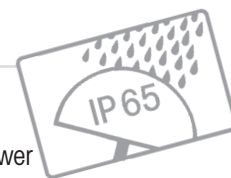
- Ø 70 mm
- Covers the wide range of applications in the industrial sector
- Also available with USB Interface

Page 64

## The advantages at a glance



- ✓ Completely pre-assembled LED Signal Tower
- ✓ Cost-effective LED solution
- ✓ Simplified ordering – the complete tower can be ordered with just one number
- ✓ Life duration of up to 50,000 hours
- ✓ Available in the most common signal combinations
- ✓ High protection rating IP 65



## Kompakt 36 - also available in aesthetic silver finish

The LED Signal Tower KOMPAKT 36 is also available with aesthetic silver coating. These signal towers are a fusion of modern metal design with high functionality and efficiency

The clear lenses ensure an unequivocal signal even in bright light conditions thus ruling out errors even in bad light conditions.

The aesthetically pleasing and innovative plastic housing with metallic coating also makes the signal towers an excellent choice in areas where the optical effect is of importance.

Order Specifications see page 63.





KOMPAKT 36  
(plug connection)



KOMPAKT 36 in silver finish,  
base with integrated tube  
(accessory)



Bracket (accessory)

- Completely pre-assembled
- LED Permanent light
- 36 mm diameter
- Available with user-friendly plug connection
- Also available in aesthetic silver finish

#### TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	2 tier: 38 x 112 mm
	3 tier: 38 x 146 mm
Housing:	Housing parts PC
Fixing:	Surface mounting, tube mounting, bracket mounting
Connection:	Cable connection: Cable, 2 m long, with adaptor M 25 / M 12 for fixing incl. rubber seal
	Plug Connection: M 12 plug with adaptor M 25 / M 20 for fixing incl. rubber seal
Current consumption:	40 mA per tier

Life duration  
up to 50,000 hrs

#### ORDER SPECIFICATIONS:

##### KOMPAKT 36

		Connection	Order no.
2 tier	red/green	Cable	693 010 55
	red/yellow	Cable	693 020 55
	red/green	Plug	693 510 55
	red/yellow	Plug	693 520 55
3 tier	red/yellow/green	Cable	693 000 55
	red/yellow/green	Plug	693 500 55

##### KOMPAKT 36 in silver finish

		Connection	Order no.
2 tier	red/green	Cable	693 080 55
	red/green	Plug	693 580 55
3 tier	red/yellow/green	Cable	693 070 55
	red/yellow/green	Plug	693 570 55

KOMPAKT 36 available on request with negative logic.

#### ACCESSORIES:

Fixing bracket	960 693 01
To maintain IP 65 the cable gland 960 000 32 must be fitted to the cable version.	
Cable gland M 12 x 1.5 mm	960 000 32
Base with integrated tube, black, M 25 x 1.5 mm incl. rubber seals	960 693 03
Base with integrated tube, silver, M 25 x 1.5 mm incl. Rubber seals	960 693 06
M 12 counter-plug with 5 m cable	960 693 05

#### ADDITIONAL INFORMATION:

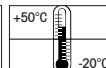
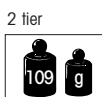
The LED Signal Tower KOMPAKT 36 is also available in an Ex version (see page 251).



#### TECHNICAL DIAGRAMS:

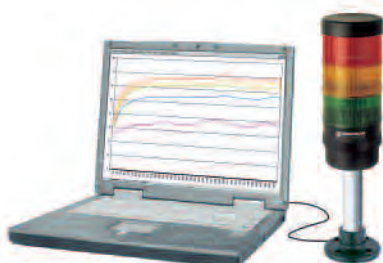
see page 278

Also available in a ready-to-use version with the widely used M 12 plug





Base with tube (accessory)

KOMPAKT 71 with USB Interface  
(Assembly without laptop  
and accessories)

- Completely pre-assembled
- Three colour combinations
- LED Permanent light
- 70 mm diameter
- Life duration up to 50,000 hrs
- Also available with USB Interface



## TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (Ø x Height):	2 tier: 70 x 140 mm
	3 tier: 70 x 175 mm
Housing:	Housing parts PC
	Terminal element: PA fibreglass, high-impact
Fixing:	Base/Bracket mounting
	Tube mounting
Connection:	Screw terminal max. 2.5 mm <sup>2</sup>
	Contact protection according to VDE
Cable entry:	Cable diameter max. 14 mm
Operating voltage:	24 V =
Current consumption:	40 mA per tier



## ORDER SPECIFICATIONS:

## KOMPAKT 71

		Mounting	Order no.
2 tier	red/green	base/bracket mounting	697 010 55
	red/green	tube mounting	697 410 55
3 tier	red/yellow/green	base/bracket mounting	697 000 55
	red/yellow/green	tube mounting	697 400 55

## KOMPAKT 71 with negative logic (common +)

		Mounting	Order no.
3 tier	red/yellow/green	base/bracket mounting	697 100 55
	red/yellow/green	tube mounting	697 500 55

## KOMPAKT 71 with USB Interface

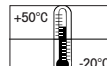
		Mounting	Order no.
3 tier	red/yellow/green	tube mounting	697 430 53

Completely pre-assembled tower with integrated USB terminal element.  
No additional voltage supply or hardware is required.



## TECHNICAL DIAGRAMS:

see page 279



**ORDER SPECIFICATIONS ACCESSORIES KOMPAKT 71:**

Contact box for cable exit at side, with mounting material	975 840 01
Contact box with magnetic base and cable exit at side	975 840 04
Bracket for tube mounting with cable gland	960 000 01
Bracket for surface mounting with cable gland	960 000 02
Bracket for base mounting with concealed cable entry, incl. rubber seals	960 000 14
Bracket for 1-sided mounting, incl. rubber seals	975 840 85
Bracket for 2-sided mounting, incl. rubber seals	975 840 86
Tube with clamp, Ø 25 mm 250 mm long, with cable gland	960 000 18
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
Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 35)	960 000 30
Tube Ø 25 mm, plastic for mounting the Terminal Element directly on the Foldaway Base	960 000 31
Base for tube mounting Ø 25 mm, plastic, incl. rubber seal	975 840 90
Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer	975 840 91
Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal	975 840 10
Adaptor for tube mounting, Ø 25 mm / 1/2" NPT thread	975 840 02
Adaptor for single hole mounting Ø 25 mm, M 18	960 000 25
Cable gland for surface mounting M 16 x 1.5 mm	960 000 04

**TECHNICAL DIAGRAMS:**

see page 292 onwards







# deSIGN 42



## deSIGN 42 – LED Signal Tower with high-quality stainless steel housing

In the machine building sector a trend towards a greater emphasis on design has become apparent. The design of a machine and its accessories convey the manufacturer's quality statement to the customer. Form, colour and aesthetics are increasingly being borne in mind as purchasing criteria.

The LED signal tower deSIGN 42, with its high quality stainless steel housing is an ideal accompaniment to modern design-oriented machines, uniquely combining cool elegance with optimal functionality. With its innovative form, the stainless steel housing underscores the design of the customer product, stylishly harmonising with its overall appearance.



## The advantages at a glance

- ✓ LED Signal Tower in award-winning metal design
- ✓ Winner of the red dot design award for superlative design quality
- ✓ Clear lenses ensure signalling effect even in direct sunlight
- ✓ LED Permanent light elements have a life duration of up to 50,000 hrs
- ✓ Can be operated with a PLC control system



reddot design award  
winner 2005



reddot design award  
winner 2005

- High-quality stainless steel housing
- Award-winning design – Winner of the red dot design award 2005

- Clear lenses ensure signalling effect even in direct sunlight



#### TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

<b>Dimensions</b> (Ø x Height):	2 tier: 42 x 220 mm
	3 tier: 42 x 254 mm
<b>Housing:</b>	Stainless steel, brushed
<b>Fixing:</b>	Installation mounting for Ø 22.5 mm (M 22 x 1.5 mm)
<b>Connection:</b>	Cable, 2 m long, included in assembly
<b>Current consumption:</b>	40 mA per tier



#### ORDER SPECIFICATIONS:

		Connection	24 V =
<b>2 tier</b>	red/green	cable	<b>694 010 55</b>
	red/yellow	cable	<b>694 020 55</b>
<b>3 tier</b>	red/yellow/green	cable	<b>694 000 55</b>



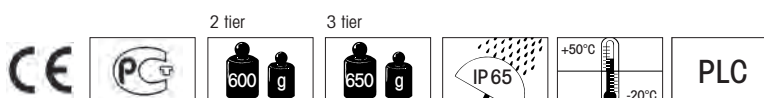
#### ACCESSORIES:

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



#### TECHNICAL DIAGRAMS:

see page 278





# FlatSIGN



## Innovative LED Signal Tower in with curved front

The new LED signal tower FlatSIGN stands out from the competition with its range of innovative functions and unique advantages: in particular its aesthetically pleasing, curved design which facilitates a 160° viewing angle. This guarantees exceptional signal visibility, even from the side.

If no signal is active, the flat LED signal tower blends into the background – without distracting from the design of the machine or its environment.

## Wide range of applications

The FlatSIGN can be deployed in a wide range of applications: from logistics, warehousing and materials handling to machine and plant engineering. Thanks to its high quality and appearance it is also ideally suited for building services applications. The high protection rating IP 65 ensures it can also be used outside.

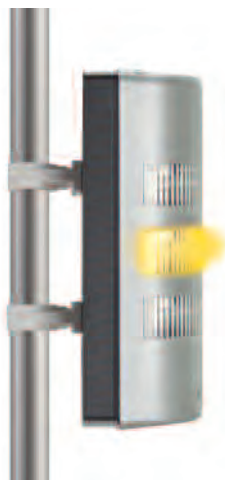
## The key advantages

- ✓ Permanent or blinking light selectable
- ✓ High build quality and appearance
- ✓ 160° viewing angle – the signal is clearly visible from the side
- ✓ Also available with integrated loud audible signal (depending on the variant, either a buzzer or multi-tone sounder)
- ✓ Multi-Tone Sounder with 8 adjustable tones
- ✓ Flexible, user-friendly mounting options and simple connection
- ✓ Comprehensive fixing kit available as accessory

**NEW: Customer specific design variants available (see page 71)**



## Comprehensive fixing kit



FlatSIGN is ideal for mounting on flat surfaces such as walls or enclosures. The comprehensive fixing kit, available as an accessory, permits more mounting options.

### Fixing kit options

The kit consists of an adaptor, two tube clamps and fixing parts providing a wide range of mounting options:

- If the signal tower is to be connected via surface wiring, then it can be simply attached using the adaptor.
- The adaptor also enables the tower to be quickly and simply mounted onto electrical installation back-boxes.
- In addition, the adaptor enables simple mounting onto aluminium profiles.
- For tube mounting (Ø 24 - 25 mm) the adaptor and the two tube clamps are employed.

# FlatSIGN with transparent housing



NEW



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

- Innovative LED signal tower with curved front
- 160° signal visibility – the signal is clearly visible from the side
- Permanent or blinking light selectable
- With optional integrated, high-output buzzer
- Simple, user-friendly mounting
- Comprehensive fixing kit for a wide range of mounting options (accessory)



## TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (L x H x W):	195 mm x 105 mm x 45 mm
Lower part:	PC-ABS, black
Upper part:	PC, transparent
Lens:	PC, transparent
Fixing:	Wall mounting
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical signal: 30 mA per tier Audible signal: 30 mA
Light effects:	Permanent or blinking light selectable
Audible signal:	Buzzer or multi-tone sounder (8 tones)



## ORDER SPECIFICATIONS:

FlatSIGN without Audible Signal	24 V =	115-230 V ~
red/yellow/green	691 100 55	691 100 68
FlatSIGN with Audible Signal	24 V =	115-230 V ~
Audible Signal	Multi-Tone Sounder	Buzzer
red/yellow/green	691 200 55	691 200 68



## ACCESSORIES:

Fixing kit	975 691 01
Contents: 2 tube clamps for tube (Ø 24 - 25 mm) and adaptor	

The fixing kit enables tube mounting (Ø 24 - 25 mm) or attachment to aluminium profile, over flush-mounted back-boxes or for surface-wiring options.

No special accessories needed for mounting on a flat surface.



## TECHNICAL DIAGRAMS:

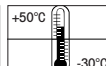
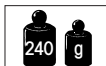
see page 278



Innovative fixing kit for flexible and versatile mounting options



The fixing kit consists of two tube clamps and an adaptor





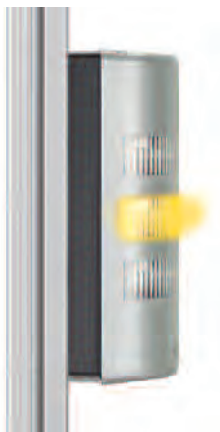
691

## FlatSIGN in Metal Design

NEW



FlatSIGN in metallic finish



The fixing kit enables attachment to aluminium profiles (accessories)



Clear lenses ensure signalling effect even in direct sunlight

- Innovative LED signal tower with curved front
- 160° signal visibility – the signal is clearly visible from the side
- Permanent or blinking light selectable
- With optional integrated, high-output buzzer
- Simple, user-friendly mounting
- Comprehensive fixing kit for a wide range of mounting options (accessory)



## TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (L x H x W):	195 mm x 105 mm x 45 mm
Lower part:	PC-ABS, black
Upper part:	PC, transparent
Lens:	PC, transparent
Fixing:	Wall mounting
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical signal: 30 mA per tier Audible signal: 30 mA
Light effects:	Permanent or blinking light selectable
Audible signal:	Buzzer or multi-tone sounder (8 tones)



## ORDER SPECIFICATIONS:

FlatSIGN without Audible Signal	24 V =	115-230 V ~
red/yellow/green	691 300 55	691 300 68
FlatSIGN with Audible Signal	24 V =	115-230 V ~
Audible Signal	Multi-Tone Sounder	Buzzer
red/yellow/green	691 400 55	691 400 68



## ACCESSORIES:

Fixing kit	975 691 01
Contents: 2 tube clamps for tube (Ø 24 - 25 mm) and adaptor	

The fixing kit enables tube mounting (Ø 24 - 25 mm) or attachment to aluminium profile, over flush-mounted back-boxes or for surface-wiring options.

No special accessories needed for mounting on a flat surface.

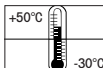
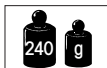


## TECHNICAL DIAGRAMMS:

see page 278



Thanks to the curved front, the signal is also clearly from the side





# Design Highlights FlatSIGN

## Set design trends

Attractive industrial design is becoming increasingly important, even in the mechanical engineering sector. With its aesthetically pleasing FlatSIGN signal tower, WERMA has already taken a step in this direction.

Combining an attractive appearance with **excellent functionality and high build quality**, the signal tower meets the high standards expected of a device "made in Germany". With its curved front, it blends inconspicuously into machine housings and installations of a range of different sizes.

The extended range of colour and design variants make it especially suited to **building services applications** - and as an **optical access control** device it provides additional design options.

## Individuality through colours, patterns and designs

In addition to form, good industrial design is also expressed through colour. In this regard the FlatSIGN proves itself highly adaptable as it is now available in a **colour of your choice**.

You can choose from the complete range of **RAL colours**, as well as **special designs** such as wood or metallic effects and even a zebra pattern.

The colour can be used to blend the signal tower seamlessly into the machine or can add a stylish touch of colour to guarantee a design highlight.



The colour can be used to blend the signal tower FlatSIGN seamlessly into its environment.

## Simple ordering procedure



The **technical specifications** of the FlatSIGN signal tower can be found on page 69 and 70.

All you need to do is to tell us the RAL colour you require. All the colours of the RAL spectrum are available as standard. Alternatively we can develop a **special design** together with you.

The **FlatSIGN features** such as the curved design, the high signal visibility even from the side and the simple mounting continue to be available in the colour of your choice.

With a stylish touch of colour the FlatSIGN can guarantee a design highlight



# VarioSIGN

## VarioSIGN – Innovative signal towers with unique functions and a range of advantages

The LED signal tower VarioSIGN stands out from the competition with its range of unique features and advantages as well as its revolutionary, innovative form.

If no signal is active, the LED tower blends into the background with its colourless, translucent housing - without distracting from the design of the machine. Only in the event of an active signal is the tower filled with colour, making its presence known with its large, attention-grabbing illuminated surface.

Thus the signal tower combines a maximum optical effect with modern machine forms and designs.

### The advantages at a glance



- ✓ Mechanical modularity of the three tiers replaced by electronic modularity
- ✓ Colours and light effects, depending on the variant, can be individually set via DIP switch and changed at any time
- ✓ High build quality and appearance
- ✓ Award-winning design – winner of the „iF product design award 2010“
- ✓ Light effect visible from one or two sides as required
- ✓ With optional integrated, high output buzzer
- ✓ Variants available with adjustable, attention-grabbing lighting effects

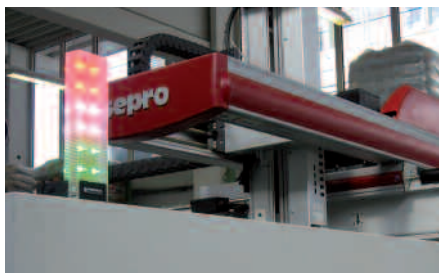
### Adjustable lighting configuration and mounting positions



Tier-by-tier illumination of the lighting body



Colour intensive, complete illumination



Lighting body positioned upwards



Lighting body positioned downwards

Depending on the variant, a tier-by-tier or complete illumination of the lighting body is possible.

Depending on the application, the lighting body of the VarioSIGN signal tower can be positioned to point upwards, downwards or horizontally.



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



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

- LED signal tower with permanent lights in red, yellow and green
- Preset, three-tier colour distribution
- 1 or 2 sided illumination
- With optional integrated, high output buzzer



#### TECHNICAL SPECIFICATIONS:

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
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical: 55 mA per tier Buzzer: 20 mA

Life duration  
up to 50,000 hrs



#### ORDER SPECIFICATIONS:

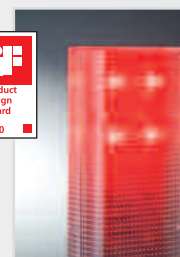
<b>VarioSIGN without Buzzer</b>	24 V $\equiv$
1-sided	<b>690 330 55</b>
2-sided	<b>690 320 55</b>
<b>VarioSIGN with Buzzer</b>	24 V $\equiv$
1-sided	<b>690 310 55</b>
2-sided	<b>690 300 55</b>



#### ADDITIONAL INFORMATION:

##### Award Winning Design! LED Signal Tower VarioSIGN wins "iF product design award 2010"

WERMA Signaltechnik has won the prestigious "iF product design award 2010". The company received the prize for the design and manufacture of its "VarioSIGN" signal tower. The jury selected the WERMA product from around 2,500 submissions from 39 countries. The product succeeded in standing out within a highly qualified and competitive international field.



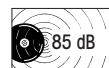
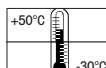
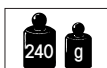
##### Design as a success factor especially in times of economic uncertainty

Especially in economically turbulent times, design functions as a success and value creation factor and, according to the jury, many of the products assessed set new standards. In the words of the chairman of the jury, Fritz Fenkler: "Good design is not borne from marketing measures, but is rather the product of skilled designers".



#### TECHNICAL DIAGRAMMS:

see page 278





690

## VarioSIGN – RGY



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



Attention-grabbing illumination of the entire lighting body in one colour (can be triggered externally)

- LED signal tower with permanent lights in red, yellow and green
- Complete illumination of the lighting body in one colour possible (can be triggered externally)
- Colour distribution can be set and adjusted as required via DIP switch
- With optional integrated, high output buzzer

### TECHNICAL SPECIFICATIONS:

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
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical: depending on the colour combination, up to 120 mA Buzzer: 20 mA

Life duration  
up to 50,000 hrs

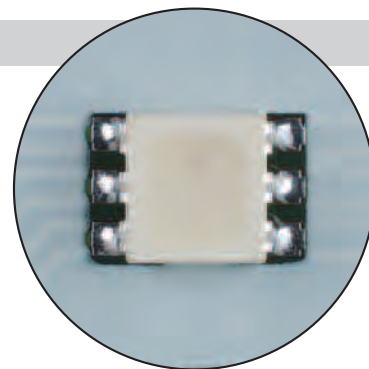
### ORDER SPECIFICATIONS:

VarioSIGN without Buzzer	24 V =
1-sided	690 230 55
2-sided	690 220 55
VarioSIGN with Buzzer	24 V =
1-sided	690 210 55
2-sided	690 200 55



### TECHNICAL DIAGRAMS:

see page 278



Completely flexible colour distribution thanks to RGY LEDs







Attention-grabbing illumination of the entire lighting body in one colour (a choice of 7 colours, can be triggered externally)

- LED signal tower with permanent light and additional light effects
- 7 colours
- Complete illumination of the lighting body in one colour possible (can be triggered externally)
- Colour distribution can be set and adjusted as required via DIP switch
- With integrated, high volume buzzer

#### TECHNICAL SPECIFICATIONS:

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
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical: depending on the colour, up to 300 mA max. Buzzer: 20 mA
Possible colours:	Red, yellow, green, clear, blue, violet, turquoise
Lighting effects:	Tier-by-tier illumination: Flashing light Complete illumination: EVS

Life duration  
up to 50,000 hrs

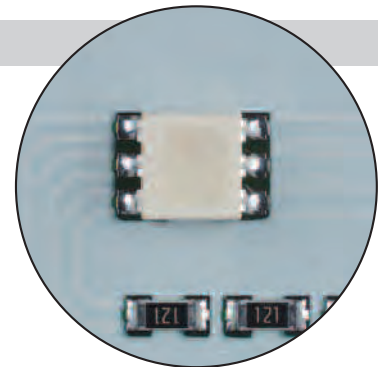
#### ORDER SPECIFICATIONS:

VarioSIGN with light effects and Buzzer	24 V ~
1-sided	690 010 55
2-sided	690 000 55



#### TECHNICAL DIAGRAMS:

see page 278



Thanks to RGB LEDs 7 different colours can be set

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



# CleanSIGN



## CleanSIGN – The LED Signal Tower in 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 were called upon for advice.

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

## What is Hygienic Design?

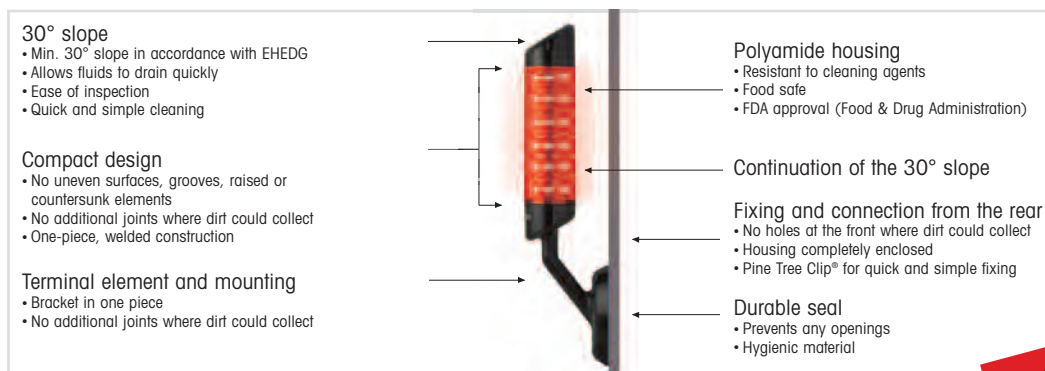
The term, "Hygienic Design", stands for the hygienic and cleaning-friendly design of all machinery and components deployed in hygiene-relevant areas. The aim is the prevention of constructional weakspots that could increase hygiene-related dangers and the risk of infection.

## What are the main applications?

In addition to use in food production, manufacturing processes in clean rooms 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 new 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.

## Unique "Hygienic Design" Signal Tower



**Hygienic Design**

## The key advantages

- ✓ 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
- ✓ Fulfills Air Cleanliness Class 2 for Cleanroom applications in accordance with DIN EN ISO 14644-1
- ✓ Pine Tree Clip® for quick and simple fixing
- ✓ Electronic modularity of the individual tiers
- ✓ Maintenance-free thanks to LED technology with a long life duration of up to 50,000 hrs





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



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

- LED Signal Tower for use in clean-room applications (Fraunhofer IPA approval) and the food industry (EHEDG\* approval)
- Permanent lights in red, yellow and green (SMD technology)
- Integrated, high-output buzzer (85 dB)



#### TECHNICAL SPECIFICATIONS:

Life duration up to 50,000 hrs

Dimensions (L x H x W):	112 mm x 485 mm x 125 mm
Housing:	PA, black
Lens:	PA, transparent
Fixing:	Wall mounting, integrated mounting bracket
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 = 695 300 55
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#### ADDITIONAL INFORMATION:

The new 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. Further details can be found in the illustration on page 76.
- **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.

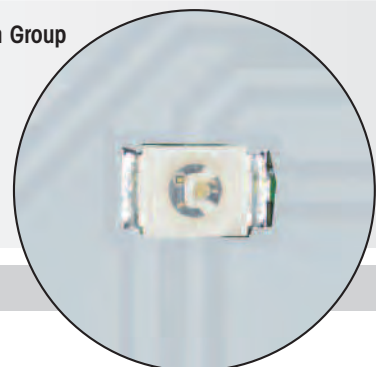
#### \* EHEDG = European Hygienic Engineering and Design Group

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.

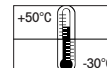


#### TECHNICAL DIAGRAMS:

see page 279



Fixed colour distribution with SMD technology



695

## CleanSIGN - RGY



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



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

- LED Signal Tower for use in clean-room applications (Fraunhofer IPA approval) and the food industry (EHEDG approval)
- 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)



## TECHNICAL SPECIFICATIONS:

Dimensions (L x H x W):	112 mm x 485 mm x 125 mm
Housing:	PA, black
Lens:	PA, transparent
Fixing:	Wall mounting, integrated mounting bracket
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
Current consumption:	Optical: depending on the colour combination, 240 mA max. Buzzer: 20 mA

Life duration  
up to 50,000 hrs



## ORDER SPECIFICATIONS:

CleanSIGN with Buzzer	24 V =
RGY-LED	695 200 55



## ADDITIONAL INFORMATION:

## Simple mounting

A "Pine Tree Clip®" enables quick and simple mounting. The attachment and connection of the tower is carried out from the rear. As a consequence, the housing is completely closed and holes are avoided.

## Wide range of sophisticated design features

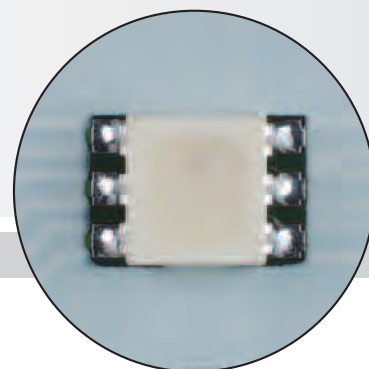
The new CleanSIGN from WERMA is equipped with a series of sophisticated technical, constructional and design features which make a significant contribution to the safety of your products.

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

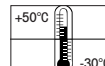
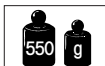


## TECHNICAL DIAGRAMS:

see page 279



Completely flexible colour distribution thanks to RGY LEDs







Complete illumination  
in one colour



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

- LED Signal Tower for use in clean-room applications (Fraunhofer IPA approval) and the food industry (EHEDG approval)
- 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)



#### TECHNICAL SPECIFICATIONS:

Life duration  
up to 50,000 hrs

Dimensions (L x H x W):	112 mm x 485 mm x 125 mm
Housing:	PA, black
Lens:	PA, transparent
Fixing:	Wall mounting, integrated mounting bracket
Connection:	Screw terminal max. 1.5 mm <sup>2</sup>
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:	Tier-by-tier illumination: Blinking light Complete illumination: EVS*



#### ORDER SPECIFICATIONS:

CleanSIGN with Buzzer	24 V =
RGB-LED	695 000 55



#### 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).

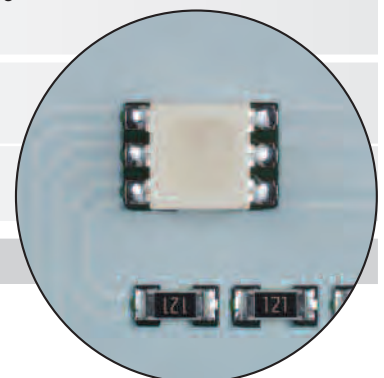
With complete illumination any one of the seven colours can be triggered externally.

\* EVS = Enhanced Visibility System or Enhanced Visibility System.  
Further information can be found in the chapter „Tech-Talk“ beginning on page 326.



#### TECHNICAL DIAGRAMS:

see page 279



7 different colour settings  
from RGB LEDs

