



# 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 **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**



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**



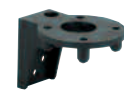
Bracket for 1-sided mounting  
Order no. **975 840 85**



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](http://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**

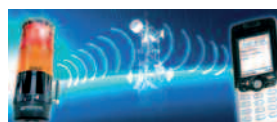
### KombiSIGN reflect



- 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)



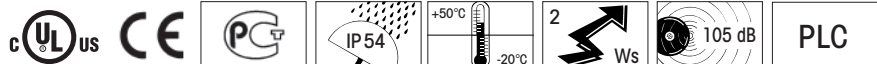
Tube mounting (accessory)

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

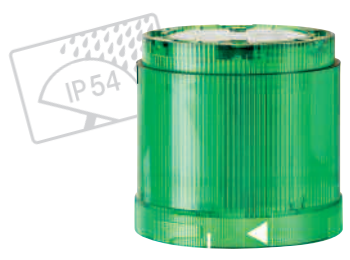
## TECHNICAL SPECIFICATIONS:

<b>Dimensions (Ø x Height):</b>	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
<b>Fixing:</b>	Audible and ASI elements: PC/ABS-Blend 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~ Current consumption: < 30 mA < 20 mA < 20 mA
<b>NEW 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.

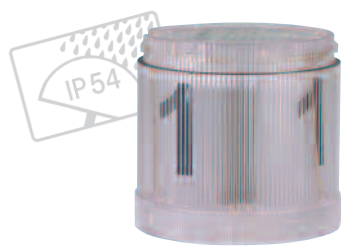
Improved light effect



24 V



(LED) Permanent/  
Flashing light element



Permanent light, clear with info



LED EVS element



LED element

**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 $\approx$ <b>844 118 55</b>	115 V $\sim$ <b>844 118 67</b>	230 V $\sim$ <b>844 118 68</b>
<b>Siren element</b> 105 dB, 150 mA, IP 40 Continuous tone alternating	24 V $\approx$ <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 $\approx$ / 80 mA <b>844 126 55</b>	115 V $\sim$ / 40 mA <b>844 126 67</b>	230 V $\sim$ / 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 $\approx$ <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 $\approx$ <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 KOMBISIGN-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 $\approx$ <b>840 700 55</b>	
<b>Vocal Element for KombiSIGN 70</b> Technical specifications see page 49.	24 V $\approx$ <b>844 840 55</b>	
<b>AS-Interface Element for KombiSIGN 70</b> Technical specifications see page 46.	Standard Slave 24 V $\approx$ <b>840 830 55</b>	A/B-Slave 24 V $\approx$ <b>840 810 55</b>

# Accessories for Signal Tower KombiSIGN 70



 <b>ORDER SPECIFICATIONS ACCESSORIES:</b>	
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 KombiSIGN 70



## ORDER SPECIFICATIONS ACCESSORIES:



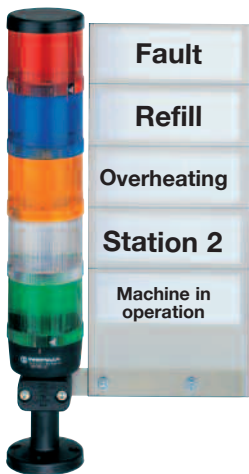
Bulb BA15d, total length max. 42 mm  
(for permanent light 641)

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)

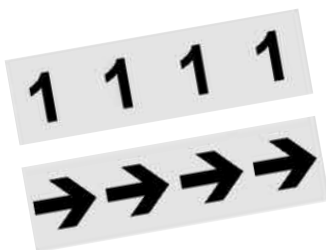
Voltage	24 V ~	115 V ~	230 V ~
Current consumption	< 45 mA	< 15 mA	< 15 mA
red	<b>956 100 75</b>	<b>956 100 67</b>	<b>956 100 68</b>
green	<b>956 200 75</b>	<b>956 200 67</b>	<b>956 200 68</b>
yellow	<b>956 300 75</b>	<b>956 300 67</b>	<b>956 300 68</b>
white	<b>956 400 75</b>	<b>956 400 67</b>	<b>956 400 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 KombiSIGN Signal Towers on pages 60 and 61.



## TECHNICAL DIAGRAMS:

see page 290 + 291



**NEW**

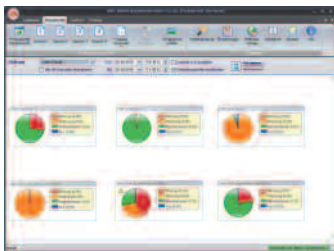


“WIN system” is immediately ready for use: Fit the slaves in the existing signal towers and connect the master to the PC

- 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



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

**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.

**ORDER SPECIFICATIONS:**

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

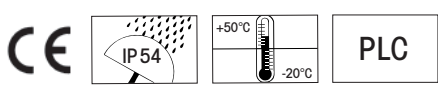
WIN slave for KombiSIGN 70 **860 840 02**  
 To expand WIN system.  
 The network can be expanded to up to 50 WIN slaves.

**! ADDITIONAL INFORMATION:**

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

**TECHNICAL DIAGRAMS:**

see page 288





**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	<b>861 840 01</b>
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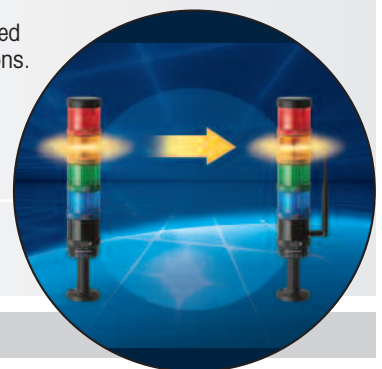
### **⚠️** ADDITIONAL INFORMATION:

#### **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.

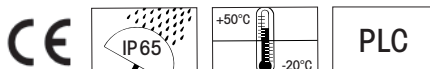
Further information can be found in the chapter "Tech-Talk" on page 324.



Simple monitoring of signal towers out of view

### **📐** TECHNICAL DIAGRAMS:

see page 289



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



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

Patent  
approved



- 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

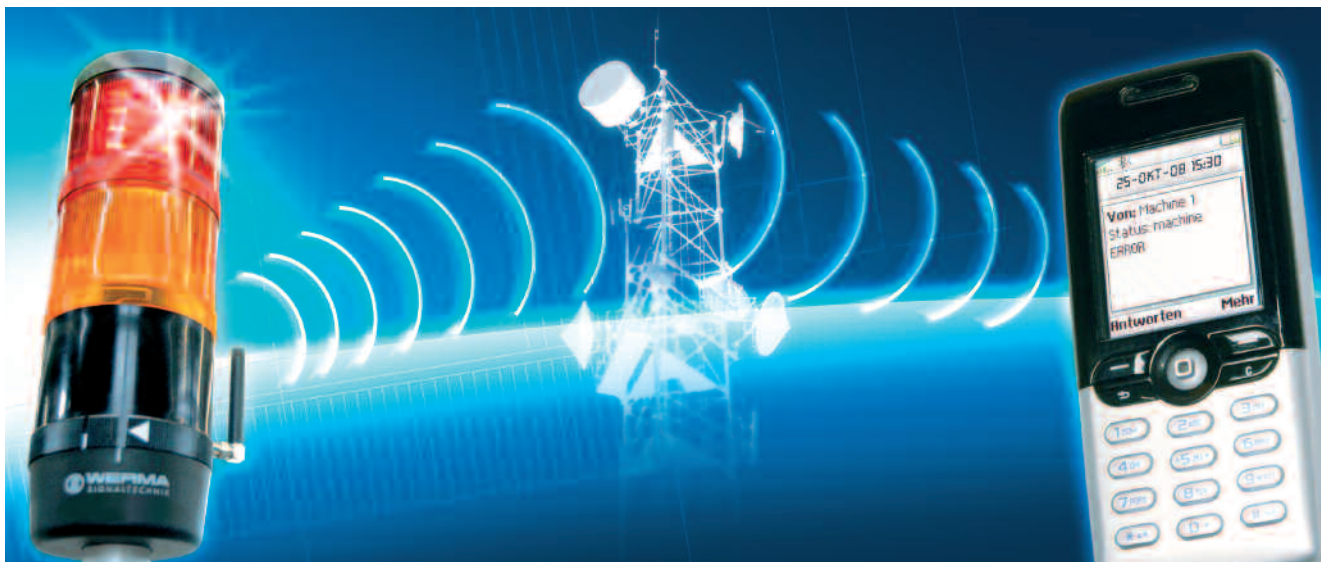


#### TECHNICAL DIAGRAMS:

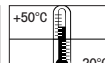
see page 285



Also suitable for  
US frequencies



Class 2



# AS-Interface Element for KombiSIGN 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

## **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 +/- 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 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 285

Class 2

Standard Slave A/B-Slave

# 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

Life duration up to 50,000 hrs

**i 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	843 180 55
green	843 280 55
yellow	843 380 55
clear	843 480 55
blue	843 580 55

**⚠️ 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 informationen can be found in the chapter "Tech-Talk" beginning on page 325.

**📏 TECHNICAL DIAGRAMS:**

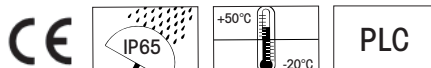
see page 285



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



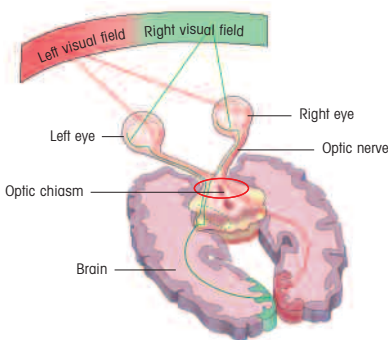
Maximum brightness via intelligent LED control



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

Life duration up to 50,000 hrs

**i 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:	red / yellow: 200 mA green / blue / clear: 150 mA

**🛒 ORDER SPECIFICATIONS:**

Voltage	24 V <sub>DC</sub>
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 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.

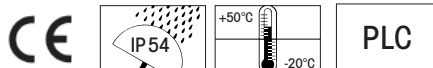
In order to be consciously registered there, incoming stimuli first have to pass through a form of filter. This filter has a "protective" function. During sleep it reduces disturbing stimuli to a minimum and assists in "overlooking" regular or continuous signals.

**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



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

**i 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==
	<b>844 840 55</b>

**🏠 ACCESSORIES:**

Headset with microphone	<b>960 645 01</b>
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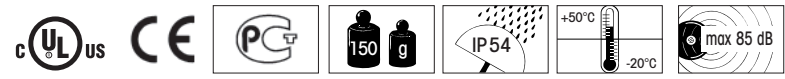
**📐 TECHNICAL DIAGRAMS:**

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 KombiSIGN 70



- 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

## **i** 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

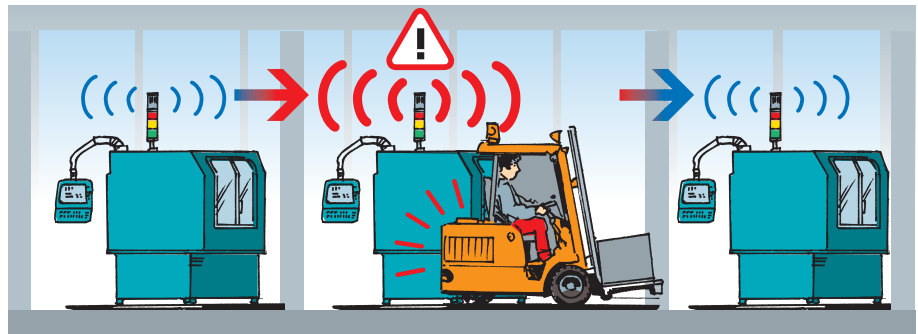
Loud enough  
yet  
not disturbing!

## **🛒** ORDER SPECIFICATIONS:

Voltage:	24 V $\overline{\text{=}}$
Current consumption:	< 150 mA
	<b>844 810 55</b>

## **⚠️** 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 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

### **i** 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.

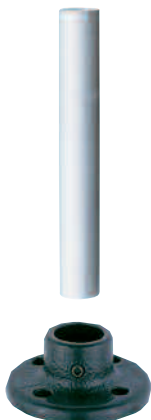
This innovation in the field of signal towers is controlled directly from the PC and can therefore be put into operation easily and in an uncomplicated manner. Neither a separate power supply nor additional hardware is required because the terminal element with USB interface is based on a standard USB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

### **📏** TECHNICAL DIAGRAMS:

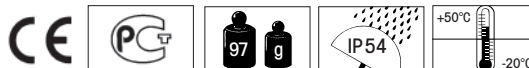
see page 285



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

### **i** 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>	<b>840 780 00</b>
<b>Terminal element for Bracket- or base mounting, coated including cap and seal</b>	<b>840 785 00</b>

### **🏠** ACCESSORIES:

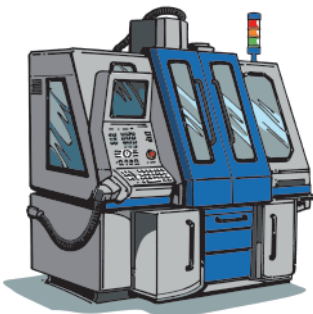
Base with integrated tube, coated Ø 25 mm, 110 mm long, plastic, incl. rubber seals	<b>960 000 24</b>
Bracket for 1-sided mounting, coated, incl. rubber seals	<b>960 000 22</b>

### **⚠️** 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 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

### **i** 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**

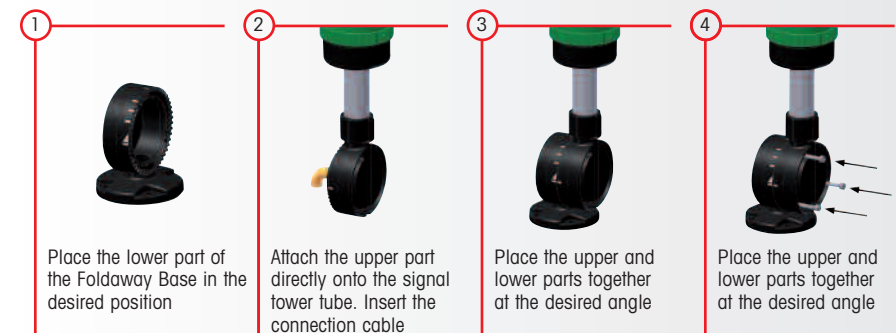
### **🏠** ACCESSORIES:

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:



### **📏** TECHNICAL DIAGRAMS:

see page 293



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