Signal Tower Kombi*SIGN* 70

This is how you can assemble your Kombi*SIGN* 70 signal tower!

▸ STEP 1
Select the required optical or audible elements.

Many Kombi*SIGN* highlights are also available (for details see page 37).

Audible Signal Elements
- Buzzer Element
- Siren Element
- Vocal Element

Optical Signal Elements
- (LED) Permanent Light
- NEW • 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

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**

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.

WERMA SIGNALTECHNIK

The Highlights for Kombi*SIGN* 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

Kombi*SIGN* 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 Kombi*SIGN* 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:

Dimensions (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
Housing:	Terminal element: PA fibreglass, high-impact Cap: PC/ABS-Blend
Lens:	PC, transparent Audible and ASI elements: PC/ABS-Blend
Fixing:	Base mounting Tube mounting, for tube Ø 25 mm Bracket mounting (accessory)
Socket:	Bayonet, B15d, for bulb max. 7 W
Connection:	Screw terminal max. 2.5 mm² Contact protection according to VDE
Cable entry:	Cable diameter max. 14 mm
Element seal:	Pre-mounted with each module
Protection rating:	Light elements: IP 54 Audible elements: IP 54 (Order no. 844 123 55 = IP 40)
Number of modules possible:	Max. 5 / with 2-sided bracket max. 10 elements
Permanent light element	12 - 240 V≂ Bulb not included in assembly
LED Permanent light element Current consumption:	24 V≂ 115 V~ 230 V~ < 30 mA < 20 mA < 20 mA
NEW **LED Permanent light element ultrabright** Life duration: Current consumption: Up to 20 times brighter than conventional LED beacons.	24 V⎓ Up to 50,000 hrs Max. 190 mA
Flashing light element (Xenon) Life duration: Current consumption: Reduced for AS-Interface: Flash frequency:	24 V⎓ 115 V~ 230 V~ 4 x 10^6 flashes 125 mA 22 mA 15 mA 80 mA c. 1 Hz
LED Flashing light element Life duration: Current consumption: Flash frequency:	24 V⎓ 50,000 hrs < 30 mA (red/yellow) < 25 mA (green/clear/blue) c. 1 Hz (Double Flash)
LED EVS* element Current consumption: * EVS = Enhanced Visibility System	24 V⎓ 350 mA (red/yellow) 250 mA (green/clear/blue)
LED Blinking light element Current consumption: Blink frequency:	24 V≂ 115 V~ 230 V~ 25 mA 25 mA 25 mA c. 1 Hz
LED Rotating light element Current consumption: Rotation frequency:	24 V≂ 70 mA c. 120 r.p.m.

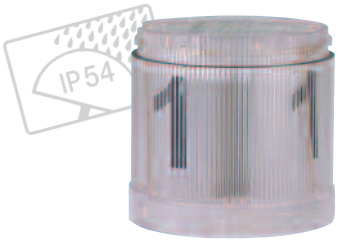
Improved light effect

24 V

IP54 +50°C -20°C 2 Ws 105 dB PLC

WERMA SIGNALTECHNIK

(LED) Permanent/ Flashing light element



Permanent light, clear with info

LED EVS element

LED element

ORDER SPECIFICATIONS OPTICAL ELEMENTS:

Permanent light element	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.

LED Permanent light element	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

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**

Flashing light (Xenon)	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

LED Flashing light element	24 V⎓
red	**843 120 55**
green	**843 220 55**
yellow	**843 320 55**
clear	**843 420 55**
blue	**843 520 55**

LED EVS element	24 V⎓
red	**843 140 55**
green	**843 240 55**
yellow	**843 340 55**
clear	**843 440 55**
blue	**843 540 55**

LED Blinking light element	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**

Life duration up to 50,000 hrs

LED Rotating light element	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 Kombi*SIGN* 70

Audible element
844 123 55

Terminal element with cap

Vocal element

GSM transmitter element

ORDER SPECIFICATIONS AUDIBLE ELEMENTS:

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

ORDER SPECIFICATIONS TERMINAL ELEMENTS :

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

ORDER SPECIFICATIONS KOMBI*SIGN*-HIGHLIGHTS:

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

WERMA SIGNALTECHNIK

Accessories for Signal Tower Kombi*SIGN* 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 Kombi*SIGN* 70

IP54

ORDER SPECIFICATIONS ACCESSORIES:

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

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**

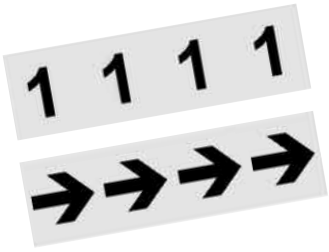
LED bulb BA15d, total length max. 42 mm
(for permanent light 840)

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

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**



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	**975 840 49**	number „6"	**975 840 56**
number „0"	**975 840 50**	number „7"	**975 840 57**
number „1"	**975 840 51**	number „8"	**975 840 58**
number „2"	**975 840 52**	number „9"	**975 840 59**
number „3"	**975 840 53**	number „10"	**975 840 92**
number „4"	**975 840 54**	arrow	**975 840 62**
number „5"	**975 840 55**		

ADDITIONAL INFORMATION:

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

TECHNICAL DIAGRAMS:

see page 290 + 291

WERMA SIGNALTECHNIK

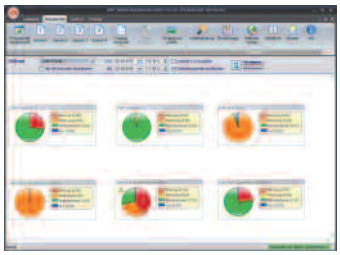
WIN* for Kombi*SIGN* 70

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

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.

ORDER SPECIFICATIONS:

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

WIN slave for Kombi*SIGN* 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

CE IP54 +50°C -20°C PLC

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

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

- 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

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**

ADDITIONAL INFORMATION:

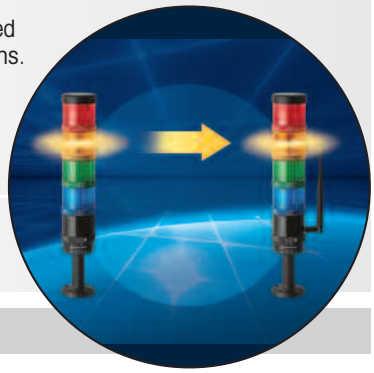
Signal tower "reflection"
WERMA Signaltechnik provides a simple solution for the remote wireless monitoring of machinery. The new "KombiSIGN reflect" kit can be integrated into existing signal towers which are already installed on your machines. KombiSIGN reflect "reflects" the status of the machine 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 where not previously network-capable can now be remotely monitored.

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

TECHNICAL DIAGRAMS:

see page 289



Simple monitoring of signal towers out of view

CE IP65 +50°C -20°C PLC

WERMA SIGNALTECHNIK

840 GSM Transmitter Element for Kombi*SIGN* 70

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)**

Also suitable for US frequencies

TECHNICAL SPECIFICATIONS:

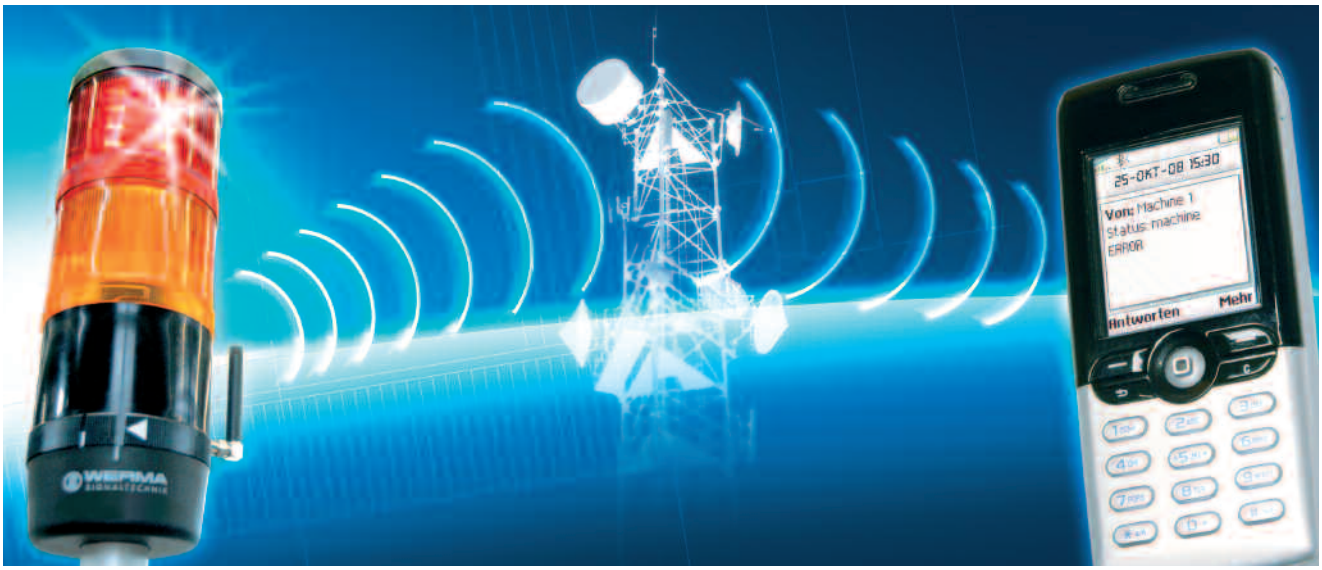
Dimensions (Ø x Height):	70 mm x 65.5 mm (without antenna)
Housing:	PC
Current consumption:	50 mA
Max. current draw (momentary):	450 mA
GSM frequency:	850, 900, 1800/1900 MHz
Plug-in slot for SIM card:	Integrated (SIM card is not included in assembly)
Antenna connection:	FME plug connector (bracket antenna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

ORDER SPECIFICATIONS:

GSM Transmitter Element	24 V ⎓
	840 700 55

TECHNICAL DIAGRAMS:

see page 285



Class 2

840 AS-Interface Element for 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

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. Σ Imax:	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
	840 830 55	**840 810 55**

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 Approval No. 66301

A/B-Slave Approval No. 66202

77 g

IP54

+50°C -20°C

WERMA SIGNALTECHNIK

843 LED Permanent Light Element ultrabright for Kombi*SIGN* 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

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

Maximum brightness via intelligent LED control

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.

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

TECHNICAL DIAGRAMS:

see page 285

CE IP65 +50°C -20°C PLC

843 LED EVS* Element for Kombi*SIGN* 70

- **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

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

ORDER SPECIFICATIONS:

Voltage	24 V ⎓
red	**843 140 55**
green	**843 240 55**
yellow	**843 340 55**
clear	**843 440 55**
blue	**843 540 55**

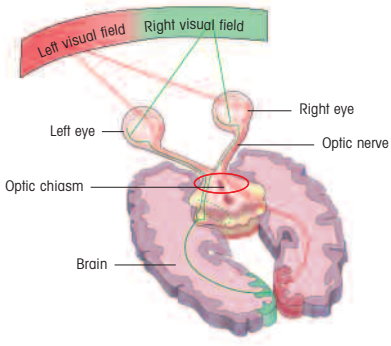
ADDITIONAL INFORMATION:

*** EVS** = Enhanced Visibility System or Enhanced Visibility System
Further 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.



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

TECHNICAL DIAGRAMS:

see page 285

CE IP54 +50°C -20°C PLC

WERMA SIGNALTECHNIK

Vocal Element for Kombi*SIGN* 70

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**

mp3 compatible

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.

ORDER SPECIFICATIONS:

Vocal element	24 V ⎓
	844 840 55

ACCESSORIES:

Headset with microphone	**960 645 01**

TECHNICAL DIAGRAMS:

see page 286

844

Siren Element with self-adjusting sound output for Kombi*SIGN* 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**

TECHNICAL SPECIFICATIONS:

Loud enough yet not disturbing!

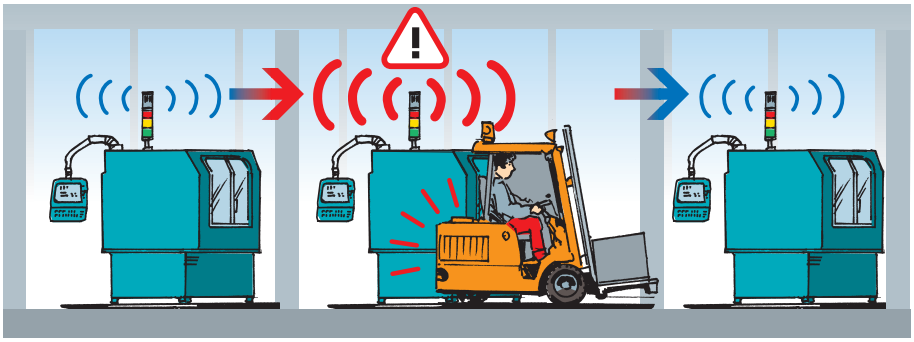
Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Tone type:	Pulse tone
Tone frequency:	2.5 KHz
Sound output:	80 dB - max. 100 dB

ORDER SPECIFICATIONS:

Voltage:	24 V ⎓
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.



TECHNICAL DIAGRAMS:

see page 286

c UL us CE PG 125 g IP 54 +50°C -20°C max100 dB PLC

WERMA SIGNALTECHNIK

840 Terminal Element with USB Interface for Kombi*SIGN* 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**

Direct triggering of the signal tower via USB Interface

TECHNICAL SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 30.5 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 Imax:	100 mA

ORDER SPECIFICATIONS:

Terminal element USB	24 V ⎓ **840 580 00**

ACCESSORIES:

Base with integrierted 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**

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

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 Kombi*SIGN* 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

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

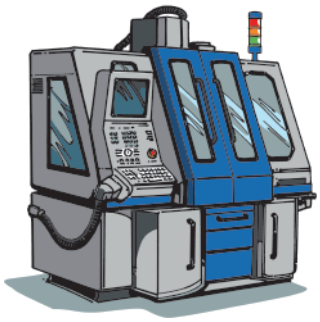
TECHNICAL SPECIFICATIONS:

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:

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



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

The Kombi*SIGN* Signal Towers 70 can be coated in any colour within the RAL spectrum

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 285

WERMA SIGNALTECHNIK

Foldaway base for Kombi*SIGN* 70

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)

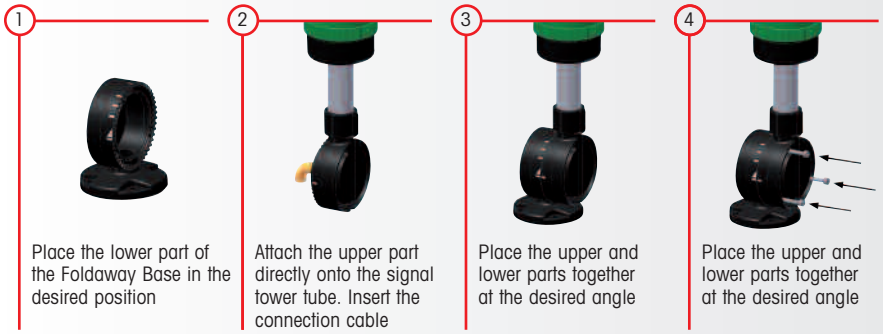
ORDER SPECIFICATIONS:

Foldaway base for Kombi*SIGN* 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 DIAGRAMS:

see page 293

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