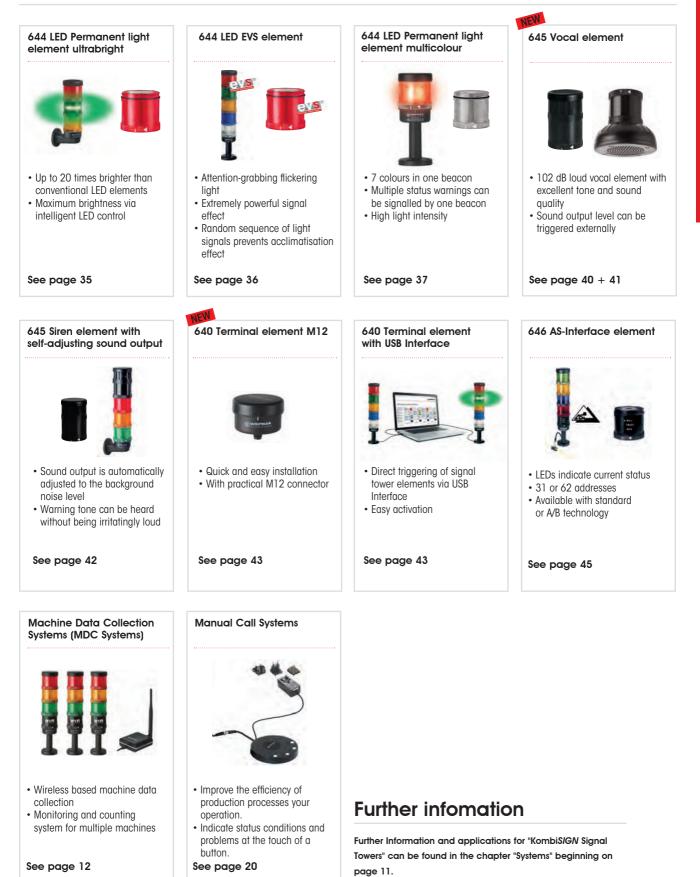
KombiSIGN 71 Signal Tower

The Highlights for KombiSIGN 71





This is how you can assemble your KombiSIGN 71 signal tower

▶ STEP 1

Select the required optical or audible elements in the correct voltage (for details see page 33).

Many Kombi*SIGN* highlights are also available (for details see page 31).



WERMA

SIGNALTECHNIK

▶ STEP 2

Select the appropriate mounting option for your application.

▶ STEP 3

Select the correct terminal element for your mounting option (for details see page 43).

▶ STEP 4

Where appropriate, select a base and the desired tube length (only for tube mounting) (For details see page 67).

▶ STEP 5

Where appropriate, select the bracket and the contact box (for details see page 67).



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

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

641/644

Optical Signal Elements KombiSIGN 71

70 mm x 65.5 mm



KombiSIGN signal tower with bracket (accessory)



Base with tube (accessory)

• Signal tower system 70 mm Ø with modular construction

Dimensions (Ø x Height):

TECHNICAL SPECIFICATIONS:

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• Improved illumination

Lens:	PC, transparent		
Socket:	Bayonet, BA15d, for b	oulbs max. 5 W	
Element seal:	Pre-mounted with each	ch module	
Protection rating:	IP 65		
Permanent light element	12-240 V AC/DC Bulb not included in (
Life duration:	Dependent upon the	bulbs used	
LED Permanent light element Current consumption: Life duration:	24 V AC/DC < 30 mA 50,000 hrs	115 V AC < 20 mA	230 V AC < 20 mA
LED Permanent light element ultrabright Current consumption: Life duration: Technical specifications see page 35.	24 V DC Max. 195 mA Up to 50,000 hrs		
Flashing light element (Xenon) Current consumption: Life duration: Reduced for AS-Interface: Flash frequency:	24 V DC 125 mA 4 x 10 ⁶ flashes 80 mA C. 1 Hz	115 V AC 22 mA	230 V AC 15 mA
LED Flashing light element Current consumption: Life duration: Flash frequency:	24 V DC < 35 mA 50,000 hrs C. 1 Hz (Double Flash	ו)	
LED EVS* element Current consumption: Life duration: * EVS = Enhanced Visibility System Technical specifications see page 36.	24 V AC/DC 350 mA (red/yellow) 50,000 hrs	250 mA (green	/clear/blue)
LED Blinking light element Current consumption: Life duration: Blink frequency:	24 V AC/DC 25 mA 50,000 hrs C. 1 Hz	115 V AC 25 mA	230 V AC 25 mA
LED Rotating light element Current consumption: Life duration: Rotation frequency:	24 V AC/DC 40 mA 50,000 hrs C. 120 r.p.m.		
LED Permanent light element multicolour Life duration: Current consumption: Possible colours: Technical specifications see page 37.	24 V DC 50.000 h < 120 mA Red, yellow, green, w	/hite, blue, violet,	turquoise





641/644

Optical Signal Elements KombiSIGN 71



LED element (multicolour)

2

			11111
	OPTICAL ELEMENTS		65 \
Permanent light element red green yellow clear blue Bulb not included in assembly. Access	12-240 V AC/DC 641 100 00 641 200 00 641 300 00 641 400 00 641 500 00 ssories see page 67.		
LED Permanent light element red green yellow clear blue	24 V AC/DC 644 100 75 644 200 75 644 300 75 644 400 75 644 500 75	115 V AC 644 100 67 644 200 67 644 300 67 644 400 67 644 500 67	230 V AC 644 100 68 644 200 68 644 300 68 644 400 68 644 500 68
LED Permanent light element ultrab red green yellow clear blue	oright 24 V DC 644 180 55 644 280 55 644 380 55 644 480 55 644 580 55		
Flashing light (Xenon)24 V DCred643 11green643 21yellowcompare the pricesand advantages of643 31clearan LED Flashing lightblue643 51	0 55 643 100 55 0 55 643 200 55 0 55 643 300 55 0 55 643 400 55 0 55 643 400 55	115 V AC 643 100 67 643 200 67 643 300 67 643 400 67 643 500 67	230 V AC 643 100 68 643 200 68 643 300 68 643 400 68 643 500 68
LED Flashing light element red green yellow clear blue	24 V DC 644 120 55 644 220 55 644 320 55 644 420 55 644 520 55		
LED EVS element red green yellow clear blue	24 V DC 644 140 55 644 240 55 644 340 55 644 440 55 644 540 55		
LED Blinking light element red green yellow clear blue	24 V AC/DC 644 110 75 644 210 75 644 310 75 644 410 75 644 510 75	115 V AC 644 110 67 644 210 67 644 310 67 644 410 67 644 510 67	230 V AC 644 110 68 644 210 68 644 310 68 644 410 68 644 510 68
LED Rotating light element red green yellow clear blue	24 V AC/DC 644 130 75 644 230 75 644 330 75 644 430 75 644 530 75		
LED Permanent light element multion multicolour Further voltages on request.	colour 24 V DC 644 450 55		

TECHNICAL DIAGRAMS: see page 309



34 www.werma.com

LED Permanent Light Element ultrabright for KombiSIGN 71



- Up to 20 times brighter than conventional LED elements
- Extremely good visibility even in direct sunlight
- Maximum brightness via intelligent LED control

Life duration to 50,000 hrs



Maximum brightness via intelligent LED control

TECHNICAL SPECIFICATIONS: Dimensions (Ø x Height): 70 mm x 65.5 mm Lens: PC, transparent

Seal: Number of modules possible:

Pre-mounted with each element

5, with 2-sided bracket max. 10

₩ **ORDER SPECIFICATIONS:**

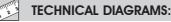
Voltage	24 V DC
Current consumption	Max. 195 mA
red	644 180 55
green	644 280 55
yellow	644 380 55
clear	644 480 55
blue	644 580 55

ADDITIONAL INFORMATION: /ì

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.

Further information can be found in the chapter "General Information" beginning on page 366.



see page 309



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





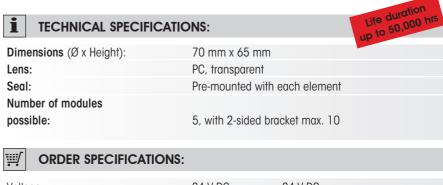
LED EVS* Element for KombiSIGN 71



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

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



Voltage	24 V DC	24 V DC
Current consumption	350 mA	250 mA
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 Information can be found in the chapter "General Information" on page 352.

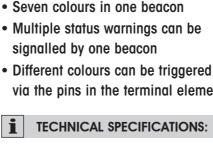
Please note the photosensitive epilepsy warning on page 352.

TECHNICAL DIAGRAMS:





LED Permanent Light Element multicolour for KombiSIGN 71



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Lens:

Seal:

Light effect:

- Positive and negative control logic
- The three basic colours (red/ yellow/green) can be triggered using only two PLC outputs
- via the pins in the terminal element High light intensity



Dimensions Terminal Elements (Ø x Height): 70 mm x 65.5 mm PC, transparent LED permanent **Possible Colours:** Pre-mounted with each element Number of modules possible: Max. 3 (including multicolour element)

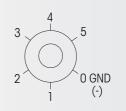
₩ **ORDER SPECIFICATIONS:**

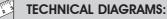
Voltage Current consumption LED permanent light multicolour 24 V DC < 120 mA 644 450 55

∕∖ **ADDITIONAL INFORMATION:**

Simple external activation via the pins in the terminal element.

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





see page 309





and turquoise

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

The LED permanent light ele-

ment multicolour offers a life

duration of up to 50,000 hrs



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





Audible Elements KombiSIGN 71



Bracket (accessory)



Three tier signal tower with vocal element and tube with integrated base (accessory)

- Audible element sound output up to 105 dB
- Plays back pre-recorded music files or customised audio files

	Roite
i TECHNICAL SPECIFIC	CATIONS: Life duration up to 5,000 hrs
Dimensions (Ø x Height): Lens: Element seal: Protection rating:	See below PC Pre-mounted with each module IP 65 (Order no. 645 830 55 = IP 40)
Buzzer element Current consumption: Dimensions (Ø x Height): Sound output: Number/Tone type:	24 V AC/DC 115 V AC 230 V AC 25 mA 70 mm x 72 mm 85 dB Continuous or pulse tone
Siren element Current consumption: Dimensions (Ø x Height): Sound output: Number/Tone type: Further Information:	24 V DC 150 mA 70 mm x 79 mm 105 dB Continuous tone alternating No UL approval
Multi-functional Siren Current consumption: Dimensions (Ø x Height): Sound output: Number/Tone type:	24 V AC/DC115 V AC230 V AC80 mA40 mA40 mA70 mm x 72 mm100 dB, adjustable sound output8 tones adjustable
Multi-functional Siren, with external control Current consumption: Dimensions (Ø x Height): Sound output: Number/Tone type: Further Information: Tone triggering:	24 V DC 80 mA 70 mm x 72 mm 100 dB, adjustable sound output Number of tones dependent on the number of optical elements No UL approval 7 diff. tones can be triggered externally
Siren element with self-adjusting sound output Technical specifications see page	24 V DC ge 42.
Vocal element Technical specifications see pag	24 V DC ge 40.
High output vocal element Further Information: Technical specifications see pag	24 V DC No UL approval ge 41.
	ONS AUDIBLE ELEMENTS: see next page







Audible element



Siren element with self-adjusting sound output



NEW

TECHNICAL DIAGRAMS: see page 309 onwards

Vocal element with up to 88 dB



High output vocal element with up to 102 dB

Image: With external control 24 V AC/DC 645 800 75 115 V AC 645 800 77 230 V AC 645 800 68 Siren element 24 V DC 645 830 55 645 800 77 645 800 68 Multi-functional Siren 24 V AC/DC 645 820 67 115 V AC 645 820 67 645 820 68 Multi-functional Siren, with external control 24 V DC 645 850 55 645 820 67 645 820 68 Siren element with self-adjusting sound output 24 V DC 645 810 55 Vocal element 24 V DC (max. 88 dB) 645 840 55 High output vocal element 24 V DC (max. 102 dB) 645 860 55 Siren self-adjusting sound element 24 V DC (max. 102 dB) 645 860 55				
A4 5 800 75 645 800 77 645 800 68 Siren element 24 V DC 645 830 55 Multi-functional Siren 24 V AC/DC 115 V AC 230 V AC 645 820 75 115 V AC 645 820 68 645 820 68 Multi-functional Siren, 24 V DC 645 850 55 55 Siren element with external control 24 V DC 645 810 55 55 Siren element with self-adjusting sound output 24 V DC 645 810 55 55 Vocal element 24 V DC (max. 88 dB) 545 840 55 55 High output vocal element 24 V DC (max. 102 dB) 55		ONS AUDIBLE ELE	MENTS:	
645 830 55Multi-functional Siren24 V AC/DC 645 820 75115 V AC 645 820 67230 V AC 645 820 68Multi-functional Siren, with external control24 V DC 645 850 555555Siren element with self-adjusting sound output24 V DC 645 810 555555Vocal element24 V DC (max. 88 dB) 645 840 5555High output vocal element24 V DC (max. 102 dB)	Buzzer element			
645 820 75 645 820 67 645 820 68 Multi-functional Siren, with external control 24 V DC 645 850 55 645 820 67 Siren element with self-adjusting sound output 24 V DC 645 810 55 645 820 67 Vocal element 24 V DC (max. 88 dB) 645 840 55 645 840 55 High output vocal element 24 V DC (max. 102 dB)	Siren element			
with external control645 850 55Siren element with self-adjusting sound output24 V DC 645 810 55Vocal element24 V DC (max. 88 dB) 645 840 55High output vocal element24 V DC (max. 102 dB)	Multi-functional Siren			
self-adjusting sound output 645 810 55 Vocal element 24 V DC (max. 88 dB) 645 840 55 High output vocal element 24 V DC (max. 102 dB)				
645 840 55 High output vocal element 24 V DC (max. 102 dB)				
	Vocal element		dB)	
	High output vocal element		2 dB)	

IP6



Vocal Element for KombiSIGN 71



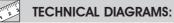
German utility model approved

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

uyes	playback moal possible
I TECHNICAL SPECIFICA	ATIONS: Life duration up to 5,000 hrs
Dimensions (Ø x Height):	70 mm x 111 mm
Housing:	PC
Number of signal elements:	Max. 4 additional signal elements possible
Sound output:	Adjustable, up to 88 dB
File Transfer:	Via USB connection and provided software
Possible data format:	Mp3 and wav files
Number of sequences:	15 files can be remotely triggered depending on the number of signal elements used or one sequence with max. 50 files
Suitable for:	Windows 2000 SP 4, Windows XP, Windows Vista, Windows 7
Assembly:	Vocal element, USB connection cable and software

W **ORDER SPECIFICATIONS:**

Voltage	24 V DC
Current consumption	< 500 mA
Vocal element	645 840 55





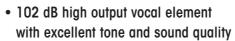
The vocal element can be combined with up to 4 signal elements





Vocal Element for KombiSIGN 71





- Plays customer-specific audio files (signal tones, music and spoken text)
- Easy transfer of audio files and simple operation
- Sound output level can be triggered externally
- Creation of individual playlists and playback modes possible



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



User-friendly software ensures easy transfer of audio files and simple operation

www.werma.com

İ TECHNICAL SPECIFICAT	IONS: Life duration up to 5,00
Dimensions (Ø x Height):	125 mm x 118 mm
Housing:	PC/ABS Blend
Lens:	PC
Number of signal elements:	Max. 4 additional signal elements possible
Sound output:	Adjustable, up to 102 dB
File Transfer:	Via USB connection and provided software
Possible data format:	Mp3 and wav files
Number of sequences:	15 files can be remotely triggered depending on the number of signal elements used or one sequence with max. 50 files
Suitable for:	Windows 2000 service pack 4, Windows XP, Windows Vista, Windows 7, Windows 8
Assembly:	Vocal element, USB connection cable and software

24 V DC $\leq 400 \text{ mA}$

645 860 55

₩ **ORDER SPECIFICATIONS:**

Voltage Current consumption Vocal element

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ADDITIONAL INFORMATION:

Further installation examples:



To ensure IP protection it is recommended that the vocal element is fitted with the sound outlet facing downwards.

Optimum distribution of sound is thus ensured.

TECHNICAL DIAGRAMS:







Siren Element with self-adjusting sound output for KombiSIGN 71



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

Dimensions (Ø x Height):	70 mm x 110 mm	
Housing:	PC	
Tone type:	Pulse tone	Loud en
Tone frequency:	2.5 KHz	ye'
Sound output:	80 dB - max. 100 dB	not dist

24 V DC Voltage Current consumption < 150 mA 645 810 55 Siren element

ADDITIONAL INFORMATION: /î

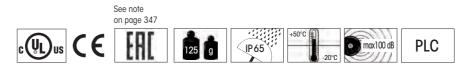
The siren element adjusts its sound output through continual measurement of the ambient noise level. The emitted tone is c. 5 dB louder than the background noise level. The warning signal can always be heard without being irritatingly loud for people in the sounder's vicinity.





TECHNICAL DIAGRAMS:

see page 310







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

645

Terminal Elements for KombiSIGN 71



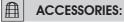
www.werma.com

SIGNALTECHNIK



<u> </u>	ORDER	SPECIF		ONS:
----------	-------	--------	--	------

	<u>Tube mounting</u>	Base mounting
Screw terminal	640 830 00	640 820 00
CAGE CLAMP®	640 810 00	640 800 00
Terminal element M12	640 860 55	640 850 55
Terminal element with USB interface	640 840 00	-

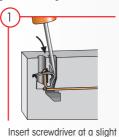


Base with integrated tube	975 840 10
Base for tube (metal)	975 840 91
Tube Ø 25 mm, Aluminium e	eloxiert
100 mm long	975 845 10
250 mm long	975 840 25
400 mm long	975 840 40
600 mm long	975 840 60
800 mm long	975 840 80
1000 mm long	975 840 03

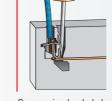
Suitable accessories can be found on page 67.

ADDITIONAL INFORMATION:

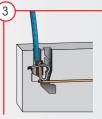
Terminal elements with CAGE CLAMP[®] technology enable leads to be quickly and easily wired, guaranteeing a secure and reliable contact.



angle into opening as far



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 $^{\scriptscriptstyle \otimes}$ is a registered trademark of WAGO Kontakttechnik GmbH.

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as possible.

TECHNICAL DIAGRAMS:





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
- **İ** TECHNICAL SPECIFICATIONS:
- Voltage supply switchable from internal bus supply to additional external voltage supply
- With addressing socket

-				
	Standard Slave	A/B-Slave		
Number of addresses:	Max. 31	Max. 62		
Number of signal elements:	Max. 4	Max. 3		
IO-Code:	8 _{HEX}	8 _{HEX}		
ID-Code:	F _{HEX}	A _{HEX}		
ID2-Code:	N/A	E _{HEX}		
Outputs:	4 semiconductor relays	3 semiconductor relays		
Approved in accordance with:	Spec. V 3.0	Spec. V 3.0		
Specif. Power supply				
AS-Interface Element:	Via bus conduction			
Operating voltage:	18.5 V 31.6 V according to the AS-Interface specification			
Reverse battery protection:	Integrated			
Watchdog:	Integrated			
Additional external voltage:	24 V DC			
	MCAL Sectors of ended one large	Market and a second second second second		
	With internal add. voltage	With external add. voltage		
Current carrying cap. Σ Imax:	200 mA	200 mA per signal element		
Current consumption max:	210 mA	≤ 50 mA		
Voltage at signal element:	20 V 30 V DC	24 V +/- 10%		
Short circuit/overload protection:	Integrated	Pre-fuse M 1.6 A		

AS-Interface Element for KombiSIGN 71

ORDER SPECIFICATIONS:

AS-Interface Element

Standard Slave **646 830 55**

A/B-Slave 646 810 55

45

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SIGNALTECHNIK

ADDITIONAL INFORMATION:



The Kombi*SIGN* Signal Tower 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 351).

