Overview Signal Towers

Modular Signal Towers

- **KombiSIGN 71**
  - IP 65 - Ø 70 mm
  - Page 16

- **KombiSIGN 70**
  - IP 54 - Ø 70 mm
  - Page 36

- **KombiSIGN 50**
  - IP 54 - Ø 50 mm
  - Page 54

Wireless-based Signal Tower Solutions

- **WIN – Wireless Information Network**
  - For KombiSIGN 70 + 71
  - Page 43 + 24

- **KombiSIGN reflect**
  - For KombiSIGN 70 + 71
  - Page 44 + 23

- **GSM Transmitter Element**
  - For KombiSIGN 70 + 71
  - Page 45 + 26

Completely pre-assembled Signal Towers

- **KOMPAKT 36**
  - IP 65 - Ø 36 mm
  - Page 63

- **KOMPAKT 71**
  - IP 65 - Ø 70 mm
  - Page 64

- **deSIGN 42**
  - IP 65 - Ø 42 mm
  - Page 66

- **FlatSIGN**
  - IP 65 - With curved front
  - Page 68

- **FlatSIGN Design Highlights**
  - IP 65 - Customer-specific Design
  - Page 71

- **VarioSIGN**
  - IP 65 - Innovative Design
  - Page 72

- **CleanSIGN**
  - IP 67/IP 69k - Hygienic Design
  - Page 76

Sound

The sounds can be played from our website www.werma.com under the heading „Signal Towers“.

Further Information

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

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

Page 16 onwards.

KombiSIGN 71
- Ø 70 mm
- Protection rating IP 65
- For use in extreme conditions
Page 16 onwards.

KombiSIGN 70
- Ø 70 mm
- Protection rating IP 54
- For use in normal conditions
Page 36 onwards.

KombiSIGN 50
- Ø 50 mm
- Protection rating IP 54
- For use in normal conditions
Page 54 onwards.

NEW Wireless-based solutions for KombiSIGN 70 + 71
- WIN – Wireless Information Network
- KombiSIGN reflect
- GSM Transmitter Element

Page 23 onwards.

TIP
The Signal Devices Site on the internet:
With our “Configurator” you can put together a signal tower quickly and easily according to your requirements.
The configurator interactively guides the user through a series of pictures and questions to create an individual signal tower solution in just a few clicks.
Completely pre-assembled Signal Towers

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

From Page 63 onwards.

**KOMPAKT 36**
**KOMPAKT 71**
- Ø 36 mm / Ø 70 mm
- Protection rating IP 65
- 2 or 3 tier
- Available in 2 sizes

Page 63 + 64.

**deSIGN 42**
- Ø 42 mm
- Protection rating IP 65
- 2 or 3 tier
- High-quality stainless steel housing

Page 66 onwards.

**FlatSIGN**
- Protection rating IP 65
- 2 or 3 tier
- With curved front
- 160° signal visibility

Page 68 onwards.

**VarioSIGN**
- Protection rating IP 65
- Electronic modularity
- Unique design

Page 72 onwards.

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

Page 76 onwards.

www.werma.com
Signals to combine – At the twist of a hand

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

KombiSIGN 71
Protection Rating IP 65
Modular signal tower system with 70 mm diameter for use in extreme conditions.
Not compatible with KombiSIGN 70

Terminal Element
- Either: improved screw terminal
- Or: terminal element with CAGE CLAMP™ technology

See page 16.

KombiSIGN 70
Protection Rating IP 54
Modular signal tower system with 70 mm diameter for use in normal conditions.
Not compatible with KombiSIGN 71

Terminal Element
- Screw terminal

See page 36.

KombiSIGN 50
Protection Rating IP 54
Modular signal tower system with 50 mm diameter for use on smaller machines.

Terminal Element
- Practical bayonet fixing system tool-free bulb-change.

See page 54.
Simple operation thanks to bayonet mechanism

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

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

A fitting solution for every mounting requirement

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

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

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

Safe and efficient connection thanks to CAGE CLAMP® technology

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

1. Insert screwdriver at a slight angle into opening as far as possible.
2. Open spring-loaded clamp with the help of the screwdriver and insert wire as far as possible.
3. Remove screwdriver – the wire is firmly clamped.

CAGE CLAMP® is a registered trademark of WAGO Kontakttechnik GmbH.
Signal Tower KombiSIGN 71

This is how you can assemble your KombiSIGN 71 signal tower!

STEP 1
Select the required optical or audible elements.
Many KombiSIGN highlights are also available (for details see page 17).

STEP 2
Select the appropriate mounting option for your application.

STEP 3
Select the correct terminal element for your mounting option.

STEP 4
Where appropriate, select a base and the desired tube length (only for tube mounting).

STEP 5
Where appropriate, select the bracket and the contact box.

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

Base Mounting
- Improved screw terminal
  Order no. 640 820 00

Tube Mounting
- Terminal element with CAGE CLAMP® technology
  Order no. 640 800 00

- Improved screw terminal
  Order no. 640 830 00

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

- Tube Ø 25 mm, all anodized
  Order no. 975 845 10

- 100 mm long 975 840 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

- 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

- 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

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

With our new signal tower configurator you can put together your own individual signal tower.
### The Highlights for KombiSIGN 71

#### WIN – Wireless Information Network

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

See page 24

#### KombiSIGN reflect

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

See page 23

#### GSM Transmitter Element

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

See page 26

#### AS-Interface Element

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

See page 27

#### LED Permanent Light Element ultrabright

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

See page 28

#### LED Flashing Light Element

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

See page 18

#### LED EVS Element

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

See page 29

#### Vocal Element

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

See page 30

#### Siren Element with self-adjusting sound output

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

See page 31

#### Terminal Element with USB Interface

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

See page 32

#### Customer-specific coloured coatings

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

See page 33

#### Foldaway base

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

See page 35
640

Signal Tower KombiSIGN 71

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

### Technical Specifications:

**Dimensions (Ø x Height):**
- Terminal element: 70 mm x 26.5 mm
- Light element: 70 mm x 65 mm
- Audible element: 70 mm x 72/79/111 mm

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

**Lens:**
- Base transparent
- Audible and ASI elements: PC

**Fixing:**
- Base mounting
- Tube mounting, for tube Ø 25 mm
- Bracket mounting (accessory)

**Socket:**
- Bayonet, B15d, for bulbs max. 7 W

**Connection:**
- CAGE CLAMP® technology max. 2.5 mm²
- or 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 65
- Audible elements: IP 65
  (Order no. 645 830 55 = IP 40)

**Number of modules possible:**
- Max. 5 / max. 10 elements with 2-sided bracket

**Permanent light element**
- 12 - 240 V~
- Bulb not included in assembly.

**LED Permanent light element**
- 24 V~
- Current consumption:
  - 115 V: < 30 mA
  - 230 V: < 20 mA

**LED Permanent light element ultrabright**
- 24 V~
- Life duration:
  - Up to 50,000 hrs
- Current consumption:
  - Max. 190 mA
  - Up to 20 times brighter than conventional LED beacons.

**Flashing light element (Xenon)**
- 24 V~
- Life duration:
  - 4 x 10⁶ flashes
- Current consumption:
  - 125 mA
  - 22 mA
  - 15 mA
- Reduced for AS-Interface:
  - 80 mA
- Flash frequency:
  - c. 1 Hz

**LED Flashing light element**
- 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)

**LED EVS* element**
- 24 V~
- Current consumption:
  - 350 mA (red/yellow)
  - 250 mA (green/clear/blue)
* EVS = Enhanced Visibility System

**LED Blinking light element**
- 24 V~
- Current consumption:
  - 25 mA
- Blink frequency:
  - c. 1 Hz

**LED Rotating light element**
- 24 V~
- Current consumption:
  - 70 mA
- Rotation frequency:
  - c. 120 r.p.m.
**ORDER SPECIFICATIONS OPTICAL ELEMENTS:**

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Voltage Options</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent light element</td>
<td>12-240 V</td>
<td>641 100 00 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>641 200 00 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>641 300 00 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>641 400 00 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>641 500 00 blue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bulb not included in assembly. Accessories see page 22.</td>
</tr>
<tr>
<td>LED Permanent light element</td>
<td>24 V</td>
<td>644 100 75 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 200 75 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 300 75 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 400 75 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 500 75 blue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bulb not included in assembly. Accessories see page 22.</td>
</tr>
<tr>
<td>LED Permanent light element ultrabright</td>
<td>24 V</td>
<td>644 180 55 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 280 55 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 380 55 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 480 55 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 580 55 blue</td>
</tr>
<tr>
<td>LED Flashing light element</td>
<td>24 V (ASI)</td>
<td>643 110 55 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 210 55 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 310 55 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 410 55 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 510 55 blue</td>
</tr>
<tr>
<td>Flashing light (Xenon)</td>
<td>115 V</td>
<td>643 100 55 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 200 55 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 300 55 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 400 55 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>643 500 55 blue</td>
</tr>
<tr>
<td>LED EVS element</td>
<td>24 V</td>
<td>644 140 55 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 240 55 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 340 55 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 440 55 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 540 55 blue</td>
</tr>
<tr>
<td>LED Blinking light element</td>
<td>115 V</td>
<td>644 110 75 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 210 75 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 310 75 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 410 75 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 510 75 blue</td>
</tr>
<tr>
<td>LED Rotating light element</td>
<td>24 V</td>
<td>644 130 75 red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 230 75 green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 330 75 yellow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 430 75 clear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>644 530 75 blue</td>
</tr>
</tbody>
</table>

Further voltages on request.

**TECHNICAL DIAGRAMS:**

see page 277 onwards
## ORDER SPECIFICATIONS AUDIBLE ELEMENTS:

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Voltage</th>
<th>Current</th>
<th>Sound Level</th>
<th>UL Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buzzer element</td>
<td>24 V</td>
<td>25 mA</td>
<td>85 dB, 65 V</td>
<td></td>
</tr>
<tr>
<td>Siren element</td>
<td>24 V</td>
<td>150 mA</td>
<td>105 dB, 40 V</td>
<td></td>
</tr>
<tr>
<td>Multi-functional Siren</td>
<td>24 V</td>
<td>80 mA</td>
<td>100 dB, 65 V</td>
<td></td>
</tr>
<tr>
<td>Multi-functional Siren, can be triggered externally</td>
<td>24 V</td>
<td>80 mA</td>
<td>100 dB, 65 V, 7 diff. tones</td>
<td></td>
</tr>
<tr>
<td>Siren element with self-adjusting sound output</td>
<td>24 V</td>
<td></td>
<td>105 dB, 40 mA</td>
<td></td>
</tr>
</tbody>
</table>

## ORDER SPECIFICATIONS TERMINAL ELEMENTS:

<table>
<thead>
<tr>
<th>Terminal Element Type</th>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal element for tube mounting</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>including cap</td>
<td>810</td>
<td>810</td>
</tr>
<tr>
<td>Terminal element for bracket or base mounting</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>including cap and seal</td>
<td>830</td>
<td>830</td>
</tr>
<tr>
<td>Terminal element with USB Interface</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>(for tube mounting)</td>
<td>840</td>
<td>840</td>
</tr>
</tbody>
</table>

## ORDER SPECIFICATIONS KOMBI/SIGN-HIGHLIGHTS:

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIN system for KombiSIGN 71</td>
<td>860</td>
</tr>
<tr>
<td>Technical specifications see page 24.</td>
<td></td>
</tr>
<tr>
<td>WIN complete for KombiSIGN 71</td>
<td>860</td>
</tr>
<tr>
<td>Technical specifications see page 24.</td>
<td></td>
</tr>
<tr>
<td>WIN slave for KombiSIGN 71</td>
<td>860</td>
</tr>
<tr>
<td>Technical specifications see page 24.</td>
<td></td>
</tr>
<tr>
<td>KombiSIGN 71 reflect</td>
<td>861</td>
</tr>
<tr>
<td>Technical specifications see page 23.</td>
<td></td>
</tr>
<tr>
<td>GSM Transmitter Element</td>
<td>646</td>
</tr>
<tr>
<td>for KombiSIGN 71</td>
<td>700</td>
</tr>
<tr>
<td>Technical specifications see page 26.</td>
<td></td>
</tr>
<tr>
<td>Vocal Element</td>
<td>645</td>
</tr>
<tr>
<td>for KombiSIGN 71</td>
<td>840</td>
</tr>
<tr>
<td>Technical specifications see page 30.</td>
<td></td>
</tr>
<tr>
<td>AS-Interface Element</td>
<td>646</td>
</tr>
<tr>
<td>for KombiSIGN 71</td>
<td>830</td>
</tr>
<tr>
<td>Technical specifications see page 27.</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
</tbody>
</table>
# Accessories for Signal Tower KombiSIGN 71

## ORDER SPECIFICATIONS ACCESSORIES:

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact box for cable exit at side, with mounting material</td>
<td>975 840 01</td>
</tr>
<tr>
<td>Contact box with magnetic base and cable exit at side</td>
<td>975 840 04</td>
</tr>
<tr>
<td>Bracket for tube mounting with cable gland</td>
<td>960 000 01</td>
</tr>
<tr>
<td>Bracket for surface mounting with cable gland</td>
<td>960 000 02</td>
</tr>
<tr>
<td>Bracket for base mounting with concealed cable entry, incl. rubber seals</td>
<td>960 000 14</td>
</tr>
<tr>
<td>Bracket for 1-sided mounting, incl. rubber seals</td>
<td>975 840 85</td>
</tr>
<tr>
<td>Bracket for 2-sided mounting, incl. rubber seals</td>
<td>975 840 86</td>
</tr>
<tr>
<td>Tube with clamp, Ø 25 mm, 250 mm long, with cable gland</td>
<td>960 000 18</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium</td>
<td>975 845 10</td>
</tr>
<tr>
<td>100 mm long</td>
<td>975 840 10</td>
</tr>
<tr>
<td>250 mm long</td>
<td>975 840 25</td>
</tr>
<tr>
<td>400 mm long</td>
<td>975 840 40</td>
</tr>
<tr>
<td>600 mm long</td>
<td>975 840 60</td>
</tr>
<tr>
<td>800 mm long</td>
<td>975 840 80</td>
</tr>
<tr>
<td>1000 mm long</td>
<td>975 840 03</td>
</tr>
<tr>
<td>Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 35)</td>
<td>960 000 30</td>
</tr>
<tr>
<td>Tube Ø 25 mm, plastic for mounting the Terminal Element directly on the Foldaway Base</td>
<td>960 000 31</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, plastic, incl. rubber seal</td>
<td>975 840 90</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer</td>
<td>975 840 91</td>
</tr>
<tr>
<td>Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal</td>
<td>975 840 10</td>
</tr>
<tr>
<td>Adaptor for tube mounting, Ø 25 mm / 1/2&quot; NPT thread</td>
<td>975 840 02</td>
</tr>
<tr>
<td>Adaptor for single hole mounting Ø 25 mm, M 18</td>
<td>960 000 25</td>
</tr>
<tr>
<td>Cable gland for surface mounting M 16 x 1.5 mm</td>
<td>960 000 04</td>
</tr>
</tbody>
</table>

## TECHNICAL DIAGRAMS:

see page 292 onwards
Accessories for Signal Tower KombiSIGN 71

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 641)
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 KombiSIGN Signal Towers on pages 60 and 61.

TECHNICAL DIAGRAMS:

see page 292 onwards
KombiSIGN reflect for KombiSIGN 71

- 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 71 reflect 861 640 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 were not previously network-capable can now be remotely monitored.

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

TECHNICAL DIAGRAMS:
see page 289
WIN* for KombiSIGN 71

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

### TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>WIN slave</th>
<th>WIN master</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (Ø x Height):</td>
<td>Dimensions (Ø x Height):</td>
</tr>
<tr>
<td>70 mm x 65.5 mm</td>
<td>76 mm x 30 mm x 80 mm (without antenna)</td>
</tr>
<tr>
<td>Housing:</td>
<td>Housing:</td>
</tr>
<tr>
<td>PC, black</td>
<td>ABS, black</td>
</tr>
<tr>
<td>Connection:</td>
<td>Connection:</td>
</tr>
<tr>
<td>Bayonet</td>
<td>Via USB</td>
</tr>
<tr>
<td>Operating voltage:</td>
<td>Operating voltage:</td>
</tr>
<tr>
<td>24 V</td>
<td>Via USB</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>Current consumption:</td>
</tr>
<tr>
<td>40 mA</td>
<td>&lt; 100 mA</td>
</tr>
</tbody>
</table>

| Suitable for: |

**Wireless connection**

- ISM frequency: 868 MHz (WIN conforms to the EU’s EN 300220 harmonised standard and can thus be used in all EU member countries. Further countries upon request.)
- Transmission range: Up to 300 m (unobstructed line of sight)
  Every slave simultaneously functions as a “repeater”, enabling the transmission range to be significantly increased.

**WIN complete**

- With the all inclusive kit “WIN complete” you can immediately start monitoring up to three machines. All you have to do is mount the signal towers from the kit onto your machines. After installing the supplied software on to your PC you can immediately start monitoring the status of your machines.
- Assembly: WIN master, 3 WIN slaves for KombiSIGN 71 (pre-configured), 3 KombiSIGN 71 signal towers (LED permanent light elements in red, yellow and green, terminal element, base with integrated tube), software

**WIN system**

- With “WIN system” the user has even more choice. The kit consists of a WIN master including the software, a USB cable and three pre-configured WIN slaves. The slaves are fitted to the existing WERMA signal towers which need to be monitored. Or you can order your own signal towers from WERMA’s wide range of KombiSIGN products - enabling you to combine audible elements, different light effects, colours and mounting options as required.
- Assembly: WIN master, 3 WIN slaves for KombiSIGN 71 (pre-configured), Software
**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIN system for KombiSIGN 71</td>
<td>860 640 01</td>
</tr>
<tr>
<td>Assembly: WIN master, 3 WIN slaves KombiSIGN 71 (pre-configured), Software</td>
<td></td>
</tr>
<tr>
<td>WIN complete for KombiSIGN 71</td>
<td>860 640 03</td>
</tr>
<tr>
<td>Assembly: WIN master, 3 WIN slaves for KombiSIGN 71 (pre-configured), 3 KombiSIGN signal towers (LED permanent light elements in red, yellow and green, terminal element, base with integrated tube), software</td>
<td></td>
</tr>
<tr>
<td>WIN slave for KombiSIGN 71</td>
<td>860 640 02</td>
</tr>
</tbody>
</table>

To expand WIN complete or WIN system. Both networks can be expanded to up to 50 WIN slaves per network as required.

**ADDITIONAL INFORMATION:**

* WIN = Wireless Information Network

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

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

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

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

**Examples:**

- **Module 1:** Status indication of the networked signal towers
- **Module 2:** Productivity per machine
- **Module 3:** Failure analysis over time

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

**TECHNICAL DIAGRAMS:**

see page 288
GSM Transmitter Element for KombiSIGN 71

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

**TECHNICAL SPECIFICATIONS:**

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

**ORDER SPECIFICATIONS:**

- GSM Transmitter Element 24 V
  - 646 700 55

**TECHNICAL DIAGRAMS:**

- see page 278

![Image of the product](Image)
AS-Interface Element for KombiSIGN 71

- 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:**

<table>
<thead>
<tr>
<th></th>
<th>Standard Slave</th>
<th>A/B-Slave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of addresses:</td>
<td>Max. 31</td>
<td>Max. 62</td>
</tr>
<tr>
<td>Number of signal elements:</td>
<td>Max. 4</td>
<td>Max. 3</td>
</tr>
<tr>
<td>IO-Code:</td>
<td>8</td>
<td>B</td>
</tr>
<tr>
<td>ID-Code:</td>
<td>F</td>
<td>A</td>
</tr>
<tr>
<td>ID2-Code:</td>
<td>–</td>
<td>E</td>
</tr>
<tr>
<td>Outputs:</td>
<td>4 semiconductor relays</td>
<td>3 semiconductor relays</td>
</tr>
<tr>
<td>Approved in accordance with:</td>
<td>Spec. V 3.0</td>
<td>Spec. V 3.0</td>
</tr>
</tbody>
</table>

**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 ~

With internal add. voltage With external add. voltage

<table>
<thead>
<tr>
<th></th>
<th>200 mA</th>
<th>200 mA per signal element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current carrying cap. Σ Imax:</td>
<td>250 mA</td>
<td>75 mA</td>
</tr>
<tr>
<td>Current consumption max:</td>
<td>18 V - 31 V</td>
<td>24 V +/- 10%</td>
</tr>
<tr>
<td>Voltage at signal element:</td>
<td>Integrated</td>
<td>Pre-fuse M 1.6 A</td>
</tr>
<tr>
<td>Short circuit/overload protection:</td>
<td>Integrated</td>
<td></td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>AS-Interface Element</th>
<th>Standard Slave</th>
<th>A/B-Slave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>646 830 55</td>
<td>646 810 55</td>
</tr>
</tbody>
</table>

**ADDITIONAL INFORMATION:**

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

**TECHNICAL DIAGRAMS:**

see page 278
LED Permanent Light Element ultrabright for KombiSIGN 71

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

**TECHNICAL SPECIFICATIONS:**

| Dimension (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 | 644 180 55 |
| | | green | 644 280 55 |
| | | yellow | 644 380 55 |
| | | clear | 644 480 55 |
| | | blue | 644 580 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 information can be found in the chapter “Tech-Talk” beginning on page 325.

**TECHNICAL DIAGRAMS:**

see page 277
**LED EVS* Element for KombiSIGN 71**

- 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:**

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

**ORDER SPECIFICATIONS:**

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

---

**ADDITIONAL INFORMATION:**

* EVS = Enhanced Visibility System
Further 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 effectiveness in attracting attention. In a multistage laboratory experiment 20 test candidates were asked to judge a series of different light signals and to determine the most eye-catching light. The result of the study was a stochastic flickering light with optimal attention-grabbing characteristics: EVS – Enhanced Visibility System! The light effect of this system is completely new and distinguishes it from all previous systems.

**TECHNICAL DIAGRAMS:**

see page 277
**Vocal Element for KombiSIGN 71**

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

### TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Dimension (Ø x Height)</th>
<th>70 mm x 111 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>PC</td>
</tr>
<tr>
<td>Current consumption</td>
<td>400 mA</td>
</tr>
<tr>
<td>Integrated memory</td>
<td>Approx. 60 min. of replay capacity</td>
</tr>
<tr>
<td>Number of sequences recordable</td>
<td>15, depending on the number of signal elements</td>
</tr>
<tr>
<td>Number of additionally signal elements</td>
<td>Max. 3</td>
</tr>
<tr>
<td>Programming</td>
<td>Via USB connection cable from PC</td>
</tr>
<tr>
<td>Sound output</td>
<td>Adjustable, max. 85 dB</td>
</tr>
</tbody>
</table>

Assembly includes USB connection cable.

### ORDER SPECIFICATIONS:

- Vocal element
  - 24 V
  - 645 840 55

### ACCESSORIES:

- Headset with microphone
  - 960 645 01

### TECHNICAL DIAGRAMS:

see page 278

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

**German utility model approved**

**mp3 compatible**
Siren Element with self-adjusting sound output for KombiSIGN 71

- 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:**

<table>
<thead>
<tr>
<th>Dimension (Ø x Height):</th>
<th>70 mm x 111 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing:</td>
<td>PC</td>
</tr>
<tr>
<td>Tone type:</td>
<td>Pulse tone</td>
</tr>
<tr>
<td>Tone frequency:</td>
<td>2.5 KHz</td>
</tr>
<tr>
<td>Sound output:</td>
<td>80 dB - max. 100 dB</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

- Voltage: 24 V
- Current consumption: < 150 mA

**ADDITIONAL INFORMATION:**

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

**TECHNICAL DIAGRAMS:**

see page 278
Terminal Element with USB Interface for KombiSIGN 71

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

**TECHNICAL SPECIFICATIONS:**

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

**ORDER SPECIFICATIONS:**

- Terminal element USB 24 V = 640 840 00

**ACCESSORIES:**

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

**ADDITIONAL INFORMATION:**

Direct triggering via USB Interface

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

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

**TECHNICAL DIAGRAMS:**

see page 277
The KombiSIGN 71 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
- High protection rating IP 65

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Elements (Ø x Height)</td>
<td>70 mm x 26.5 mm</td>
</tr>
<tr>
<td>Housing Terminal Elements</td>
<td>PA-GF, fibreglass, high-impact, Cap: PC</td>
</tr>
<tr>
<td>Connection</td>
<td>CAGE CLAMP® technology max. 2.5 mm²</td>
</tr>
<tr>
<td>Contact protection</td>
<td>according to VDE</td>
</tr>
<tr>
<td>Cable entry</td>
<td>Cable diameter max. 14 mm</td>
</tr>
<tr>
<td>Number of modules possible</td>
<td>Max. 5</td>
</tr>
<tr>
<td>Minimum order quantity</td>
<td>10 pieces</td>
</tr>
<tr>
<td>Delivery time</td>
<td>By arrangement</td>
</tr>
<tr>
<td>Colour Finish</td>
<td>Matt or gloss</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS TERMINAL ELEMENTS:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Code 1</th>
<th>Code 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal element for tube mounting, coated, including cap</td>
<td>640 710 00</td>
<td>640 730 00</td>
</tr>
<tr>
<td>Terminal element for bracket or base mounting, coated including cap and seal</td>
<td>640 700 00</td>
<td>640 720 00</td>
</tr>
</tbody>
</table>

**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 (matte or gloss) with each of your orders. Slight colour deviations are possible.

**TECHNICAL DIAGRAMS:**

see page 277
**Interface Box for KombiSIGN 71**

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

**TECHNICAL SPECIFICATIONS:**

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

**Assembly:**

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

**ORDER SPECIFICATIONS:**

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

**TECHNICAL DIAGRAMS:**

see page 292 + 293
Foldaway Base for KombiSIGN 71

- 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:**

<table>
<thead>
<tr>
<th>Dimension (Ø x Height)</th>
<th>70 mm x 117 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>PA-GF</td>
</tr>
<tr>
<td>Cable diameter</td>
<td>Max. 14 mm</td>
</tr>
<tr>
<td>Assembly</td>
<td>Incl. rubber seals</td>
</tr>
<tr>
<td>Fixing</td>
<td>Vertical, horizontal</td>
</tr>
<tr>
<td>Positioning in 7.5° steps</td>
<td>Tube, Ø 25 mm, all anodized aluminium, not included in assembly (accessory)</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

| Foldaway base for KombiSIGN 71 | 960 000 30 |

**ACCESSORIES:**

- Tube Ø 25 mm, plastic 45 mm long, for direct mounting of the Terminal Element onto the Foldaway Base | 960 000 31 |
- Tube Ø 25 mm, all anodized aluminium, see page 21 |
- Cable gland M 16 x 1.5 mm | 960 000 04 |

**QUICK AND SIMPLE MOUNTING:**

1. Place the lower part of the Foldaway Base in the desired position
2. Attach the upper part directly onto the signal tower tube. Insert the connection cable
3. Place the upper and lower parts together at the desired angle
4. Place the upper and lower parts together at the desired angle

**TECHNICAL DIAGRAMS:**

see page 293

Vertical alignment of signal towers even on sloping surfaces

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
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).

STEP 2
Select the appropriate mounting option for your application.

STEP 3
Select the correct terminal element for your mounting option.

STEP 4
Where appropriate, select a base and the desired length (only for tube mounting).

STEP 5
Where appropriate, select the bracket and the contact box.

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

Base Mounting
Terminal element for base mounting
Order no. 840 085 00

Tube Mounting
Terminal element for tube mounting
Order no. 840 080 00

Tube Ø 25 mm, all anodized
Order no.
100 mm long 975 840 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

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

www.werma.com

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.

TIP
## The Highlights for KombiSIGN 70

### 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**

### 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

**See page 45**

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

**See page 46**

### 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 48**

### LED EVS Element
- Attention-grabbing flickering light
- Extremely powerful signal effect
- Random sequence of light signals prevents acclimatisation effect

**See page 49**

### 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**

### 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**
**Signal Tower KombiSIGN 70**

- 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:**

<table>
<thead>
<tr>
<th>Dimensions (Ø x Height):</th>
<th>Terminal element: 70 mm x 30.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light element:</td>
<td>70 mm x 65.5 mm</td>
</tr>
<tr>
<td>Audible element:</td>
<td>70 mm x 72/79/110 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing:</th>
<th>Terminal element: PA fibreglass, high-impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cap: PC/ABS-Blend</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lens:</th>
<th>PC, transparent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audible and ASI elements:</td>
<td>PC/ABS-Blend</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fixing:</th>
<th>Base mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tube mounting, for tube Ø 25 mm</td>
</tr>
<tr>
<td></td>
<td>Bracket mounting (accessory)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socket:</th>
<th>Bayonet, B15d, for bulb max. 7 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection:</td>
<td>Screw terminal max. 2.5 mm²</td>
</tr>
<tr>
<td></td>
<td>Contact protection according to VDE</td>
</tr>
<tr>
<td></td>
<td>Cable diameter max. 14 mm</td>
</tr>
<tr>
<td>Element seal:</td>
<td>Pre-mounted with each module</td>
</tr>
<tr>
<td>Protection rating:</td>
<td>Light elements: IP 54</td>
</tr>
<tr>
<td></td>
<td>Audible elements: IP 54</td>
</tr>
<tr>
<td></td>
<td>(Order no. 844 123 55 = IP 40)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of modules possible:</th>
<th>Max. 5 / with 2-sided bracket max. 10 elements</th>
</tr>
</thead>
</table>

**Permanent light element**

- 12 - 240 V =
- Bulb not included in assembly

**LED Permanent light element**

- 24 V = 115 V ~ 230 V ~
- Current consumption: < 30 mA < 20 mA < 20 mA

**LED Permanent light element ultrabright**

- 24 V ~
- Life duration: Up to 50,000 hrs
- Current consumption: Max. 190 mA
- Up to 20 times brighter than conventional LED beacons.

**Flashing light element (Xenon)**

- 24 V = 115 V ~ 230 V ~
- 4 x 10⁶ flashes
- Current consumption: 125 mA 22 mA 15 mA
- Reduced for AS-Interface: 80 mA
- Flash frequency: c. 1 Hz

**LED Flashing light element**

- 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)

**LED EVS* element**

- 24 V =
- Current consumption: 350 mA (red/yellow) 250 mA (green/clear/blue)
- * EVS = Enhanced Visibility System

**LED Blinking light element**

- 24 V =
- Current consumption: 24 V = 115 V ~ 230 V ~
- 26 mA 25 mA 25 mA
- Blink frequency: c. 1 Hz

**LED Rotating light element**

- 24 V =
- Current consumption: 70 mA
- Rotation frequency: c. 120 r.p.m.

**Signal Tower KombiSIGN 70**

- Base with tube (accessory)
- Bracket (accessory)
- Tube mounting (accessory)
### ORDER SPECIFICATIONS OPTICAL ELEMENTS:

<table>
<thead>
<tr>
<th>Permanent light element</th>
<th>12-240 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>840 100 00</td>
<td>840 200 00</td>
<td>840 300 00</td>
</tr>
<tr>
<td>green</td>
<td>840 400 00</td>
<td>840 500 00</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>840 600 00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>840 700 00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>840 800 00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bulb not included in assembly. Accessories see page 42.

<table>
<thead>
<tr>
<th>LED Permanent light element</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 100 55</td>
<td>843 200 55</td>
<td>843 300 55</td>
</tr>
<tr>
<td>green</td>
<td>843 400 55</td>
<td>843 500 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 600 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 700 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 800 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LED Permanent light element ultrabright</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 180 55</td>
<td>843 280 55</td>
<td>843 380 55</td>
</tr>
<tr>
<td>green</td>
<td>843 480 55</td>
<td>843 580 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 680 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 780 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 880 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>LED Flashing light element</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 120 55</td>
<td>843 220 55</td>
<td>843 320 55</td>
</tr>
<tr>
<td>green</td>
<td>843 420 55</td>
<td>843 520 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 620 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 720 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 820 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LED EVS element</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 140 55</td>
<td>843 240 55</td>
<td>843 340 55</td>
</tr>
<tr>
<td>green</td>
<td>843 440 55</td>
<td>843 540 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 640 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 740 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 840 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LED Blinking light element</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 110 55</td>
<td>843 210 55</td>
<td>843 310 55</td>
</tr>
<tr>
<td>green</td>
<td>843 410 55</td>
<td>843 510 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 610 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 710 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 810 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LED Rotating light element</th>
<th>24 V ~</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 130 55</td>
<td>843 230 55</td>
<td>843 330 55</td>
</tr>
<tr>
<td>green</td>
<td>843 430 55</td>
<td>843 530 55</td>
<td></td>
</tr>
<tr>
<td>yellow</td>
<td>843 630 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clear</td>
<td>843 730 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blue</td>
<td>843 830 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further voltages on request.

**TECHNICAL DIAGRAMS:**

see page 285 onwards

www.werma.com
### Audible Elements

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Specifications</th>
<th>24 V</th>
<th>115 V</th>
<th>230 V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buzzer element</strong></td>
<td>85 dB, 25 mA, IP 54, Continuous or pulse tone</td>
<td>844 118 55</td>
<td>844 118 67</td>
<td>844 118 68</td>
</tr>
<tr>
<td><strong>Siren element</strong></td>
<td>105 dB, 150 mA, IP 40, Continuous tone alternating</td>
<td>844 123 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multi-functional Siren</strong></td>
<td>100 dB, IP 54, Continuous or pulse tone</td>
<td>844 126 55</td>
<td>844 126 67</td>
<td>844 126 68</td>
</tr>
<tr>
<td><strong>Multi-functional Siren</strong>, can be triggered externally</td>
<td>100 dB, 80 mA, IP 65, 7 different tones</td>
<td>844 126 95</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Siren element with self-adjusting sound output</strong></td>
<td>844 810 55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Terminal Elements

- **Terminal element for tube mounting incl. cap**
  - Technical specifications see page 51.
- **Terminal element for bracket or base mounting incl. cap and rubber seal**
  - Technical specifications see page 51.
- **Terminal element with USB Interface (for tube mounting)**
  - Technical specifications see page 51.

### Technical Specifications

- **WIN system for KombiSIGN 70**
  - Technical specifications see page 43.
- **WIN slave for KombiSIGN 70**
  - Technical specifications see page 43.
- **GSM Transmitter Element for KombiSIGN 70**
  - Technical specifications see page 44.
- **Vocal Element for KombiSIGN 70**
  - Technical specifications see page 49.
- **AS-Interface Element for KombiSIGN 70**
  - Technical specifications see page 46.
## Accessories for Signal Tower KombiSIGN 70

### ORDER SPECIFICATIONS ACCESSORIES:

<table>
<thead>
<tr>
<th>Accessory Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact box for cable exit at side, with mounting material</td>
<td>975 840 01</td>
</tr>
<tr>
<td>Contact box with magnetic base and cable exit at side</td>
<td>975 840 04</td>
</tr>
<tr>
<td>Bracket for tube mounting with cable gland</td>
<td>960 000 01</td>
</tr>
<tr>
<td>Bracket for surface mounting with cable gland</td>
<td>960 000 02</td>
</tr>
<tr>
<td>Bracket for base mounting with concealed cable entry, incl. rubber seals</td>
<td>960 000 14</td>
</tr>
<tr>
<td>Bracket for 1-sided mounting, incl. rubber seals</td>
<td>975 840 85</td>
</tr>
<tr>
<td>Bracket for 2-sided mounting, incl. rubber seals</td>
<td>975 840 86</td>
</tr>
<tr>
<td>Tube with clamp, Ø 25 mm, 250 mm long, with cable gland</td>
<td>960 000 18</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 100 mm long</td>
<td>975 845 10</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 250 mm long</td>
<td>975 840 25</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 400 mm long</td>
<td>975 840 40</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 600 mm long</td>
<td>975 840 60</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 800 mm long</td>
<td>975 840 80</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium, 1000 mm long</td>
<td>975 840 03</td>
</tr>
<tr>
<td>Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 53)</td>
<td>960 000 30</td>
</tr>
<tr>
<td>Tube Ø 25 mm, plastic, for mounting the Terminal Element directly on the Foldaway Base</td>
<td>960 000 31</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, plastic, incl. rubber seal</td>
<td>975 840 90</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer</td>
<td>975 840 91</td>
</tr>
<tr>
<td>Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal</td>
<td>975 840 10</td>
</tr>
<tr>
<td>Adaptor for tube mounting, Ø 25 mm / 1/2&quot; NPT thread</td>
<td>975 840 02</td>
</tr>
<tr>
<td>Adaptor for single hole mounting Ø 25 mm, M 18</td>
<td>960 000 25</td>
</tr>
<tr>
<td>Cable gland for surface mounting M 16 x 1.5 mm</td>
<td>960 000 04</td>
</tr>
</tbody>
</table>

### TECHNICAL DIAGRAMS:

See page 292 onwards

www.werma.com
# Accessories for Signal Tower KombiSIGN 70

## ORDER SPECIFICATIONS ACCESSORIES:

<table>
<thead>
<tr>
<th>Bulb BA15d, total length max. 42 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>(for permanent light 641)</td>
</tr>
<tr>
<td>12 V, 5 Watt</td>
</tr>
<tr>
<td>24 V, 5 Watt</td>
</tr>
<tr>
<td>30 V, 5 Watt</td>
</tr>
<tr>
<td>115 V, 5 Watt</td>
</tr>
<tr>
<td>230 V, 5 Watt</td>
</tr>
<tr>
<td>955 840 34</td>
</tr>
<tr>
<td>955 840 35</td>
</tr>
<tr>
<td>955 840 32</td>
</tr>
<tr>
<td>955 840 57</td>
</tr>
<tr>
<td>955 840 38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LED bulb BA15d, total length max. 42 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>(for permanent light 840)</td>
</tr>
<tr>
<td>Voltage</td>
</tr>
<tr>
<td>24 V ~</td>
</tr>
<tr>
<td>115 V ~</td>
</tr>
<tr>
<td>230 V ~</td>
</tr>
<tr>
<td>Current consumption</td>
</tr>
<tr>
<td>&lt; 45 mA</td>
</tr>
<tr>
<td>&lt; 15 mA</td>
</tr>
<tr>
<td>&lt; 15 mA</td>
</tr>
<tr>
<td>red</td>
</tr>
<tr>
<td>956 100 75</td>
</tr>
<tr>
<td>956 100 67</td>
</tr>
<tr>
<td>956 100 68</td>
</tr>
<tr>
<td>green</td>
</tr>
<tr>
<td>956 200 75</td>
</tr>
<tr>
<td>956 200 67</td>
</tr>
<tr>
<td>956 200 68</td>
</tr>
<tr>
<td>yellow</td>
</tr>
<tr>
<td>956 300 75</td>
</tr>
<tr>
<td>956 300 67</td>
</tr>
<tr>
<td>956 300 68</td>
</tr>
<tr>
<td>white</td>
</tr>
<tr>
<td>956 400 75</td>
</tr>
<tr>
<td>956 400 67</td>
</tr>
<tr>
<td>956 400 68</td>
</tr>
<tr>
<td>blue</td>
</tr>
<tr>
<td>956 500 75</td>
</tr>
<tr>
<td>956 500 67</td>
</tr>
<tr>
<td>956 500 68</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>neutral</th>
<th>number „0“</th>
<th>number „6“</th>
</tr>
</thead>
<tbody>
<tr>
<td>975 840 49</td>
<td>975 840 50</td>
<td>975 840 56</td>
</tr>
<tr>
<td>number „1“</td>
<td>975 840 51</td>
<td>975 840 57</td>
</tr>
<tr>
<td>number „2“</td>
<td>975 840 52</td>
<td>975 840 58</td>
</tr>
<tr>
<td>number „3“</td>
<td>975 840 53</td>
<td>975 840 59</td>
</tr>
<tr>
<td>number „4“</td>
<td>975 840 54</td>
<td>975 840 92</td>
</tr>
<tr>
<td>number „5“</td>
<td>975 840 55</td>
<td>975 840 62</td>
</tr>
<tr>
<td>arrow</td>
<td></td>
<td>975 840 62</td>
</tr>
</tbody>
</table>

### 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
WIN* for KombiSIGN 70

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

**TECHNICAL SPECIFICATIONS:**

**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

**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 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

www.werma.com
KombiSIGN reflect for KombiSIGN 70

- 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

**NEW**

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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th><strong>Slave</strong></th>
<th><strong>Dimensions (Ø x Height):</strong> 70 mm x 65.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Housing:</strong> PC, black</td>
</tr>
<tr>
<td></td>
<td><strong>Connection:</strong> Bayonet</td>
</tr>
<tr>
<td></td>
<td><strong>Operating voltage:</strong> 24 V +</td>
</tr>
<tr>
<td></td>
<td><strong>Current consumption:</strong> 40 mA</td>
</tr>
<tr>
<td><strong>Master</strong></td>
<td><strong>Dimensions (Ø x Height):</strong> 70 mm x 65.5 mm (without antenna)</td>
</tr>
<tr>
<td></td>
<td><strong>Housing:</strong> PC, black</td>
</tr>
<tr>
<td></td>
<td><strong>Connection:</strong> Bayonet</td>
</tr>
<tr>
<td></td>
<td><strong>Operating voltage:</strong> 24 V –</td>
</tr>
<tr>
<td></td>
<td><strong>Current consumption:</strong> 40-90 mA</td>
</tr>
</tbody>
</table>

**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 were 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

www.werma.com
840  GSM Transmitter Element for KombiSIGN 70

- 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:**

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

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>GSM Transmitter Element</th>
<th>24 V=</th>
</tr>
</thead>
<tbody>
<tr>
<td>840 700 55</td>
<td></td>
</tr>
</tbody>
</table>

**TECHNICAL DIAGRAMS:**

see page 285
840 AS-Interface Element for KombiSIGN 70

- 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:

<table>
<thead>
<tr>
<th></th>
<th>Standard Slave</th>
<th>A/B-Slave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of addresses:</td>
<td>Max. 31</td>
<td>Max. 62</td>
</tr>
<tr>
<td>Number of signal elements:</td>
<td>Max. 4</td>
<td>Max. 3</td>
</tr>
<tr>
<td>IO-Code:</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>ID-Code:</td>
<td>F</td>
<td>A</td>
</tr>
<tr>
<td>ID2-Code:</td>
<td>–</td>
<td>E</td>
</tr>
<tr>
<td>Outputs:</td>
<td>4 semiconductor relays</td>
<td>3 semiconductor relays</td>
</tr>
<tr>
<td>Approved in accordance with:</td>
<td>Spec. V 3.0</td>
<td>Spec. V 3.0</td>
</tr>
</tbody>
</table>

- 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
- Current carrying cap. Σ I_max: 200 mA
- Current consumption max: 250 mA
- Voltage at signal element: 18 V - 24 V
- Short circuit/overload protection: Integrated

- With external add. voltage
- Pre-fuse M 1.6 A

### ORDER SPECIFICATIONS:

<table>
<thead>
<tr>
<th>AS-Interface Element</th>
<th>Standard Slave</th>
<th>A/B-Slave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>840 830 55</td>
<td>840 810 55</td>
</tr>
</tbody>
</table>

### 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
843

LED Permanent Light Element ultrabright for KombiSIGN 70

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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimension (Ø x Height):</th>
<th>70 mm x 65.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens:</td>
<td>PC, transparent</td>
</tr>
<tr>
<td>Seal:</td>
<td>Pre-mounted with each element</td>
</tr>
<tr>
<td>Number of modules possible:</td>
<td>5, with 2-sided bracket max. 10</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>Max. 190 mA</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>LED Permanent light element ultrabright</th>
<th>24 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>red</td>
<td>843 180 55</td>
</tr>
<tr>
<td>green</td>
<td>843 280 55</td>
</tr>
<tr>
<td>yellow</td>
<td>843 380 55</td>
</tr>
<tr>
<td>clear</td>
<td>843 480 55</td>
</tr>
<tr>
<td>blue</td>
<td>843 580 55</td>
</tr>
</tbody>
</table>

**ADDITIONAL INFORMATION:**

Sophisticated triggering
Thanks to its sophisticated triggering, the innovative LED element “ultrabright” is up to 20 times brighter than conventional LED elements – making it almost certainly the brightest permanent light that the world of signalling technology currently has to offer.

Furthermore, the intelligent electronics ensure that the LEDs operate at maximum brightness, depending on the ambient and operating temperatures. The “ultrabright” LED element is therefore always working at its optimum, and the energy-saving LED technology ensures that power consumption is kept to a minimum.

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

**TECHNICAL DIAGRAMS:**

see page 285
843

LED EVS* Element for KombiSIGN 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

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
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 effectiveness 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
Vocal Element for KombiSIGN 70

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

**TECHNICAL SPECIFICATIONS:**

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

Assembly includes USB connection cable.

**ORDER SPECIFICATIONS:**

Vocal element 24 V 844 840 55

**ACCESSORIES:**

Headset with microphone 960 645 01

**TECHNICAL DIAGRAMS:**

see page 286

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

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

Easy programming via USB interface

Excellent sound quality

Up to 60 minutes replay capacity

Adjustable sound output

www.werma.com
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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimension (Ø x Height)</th>
<th>70 mm x 111 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>PC</td>
</tr>
<tr>
<td>Tone type</td>
<td>Pulse tone</td>
</tr>
<tr>
<td>Tone frequency</td>
<td>2.5 KHz</td>
</tr>
<tr>
<td>Sound output</td>
<td>80 dB - max. 100 dB</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

- Voltage: 24 V
- Current consumption: < 150 mA

**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
Terminal Element with USB Interface 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

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

**ADDITIONAL INFORMATION:**

**Direct triggering via USB Interface**

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

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

**TECHNICAL DIAGRAMS:**

see page 285
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

**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

**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
Foldaway base for KombiSIGN 70

- 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
- **Suitable for:** Tube, Ø 25 mm, all anodized aluminium, not included in assembly (accessory)

**ORDER SPECIFICATIONS:**

Foldaway base for KombiSIGN 70 960 000 30

**ACCESSORIES:**

- Tube Ø 25 mm, plastic 45 mm long, for direct mounting of the Terminal Element onto the Foldaway Base 960 000 31
- Tube Ø 25 mm, all anodized aluminium, see page 41
- Cable gland M 16 x 1.5 mm 960 000 04

**QUICK AND SIMPLE MOUNTING:**

1. Place the lower part of the Foldaway Base in the desired position
2. Attach the upper part directly onto the signal tower tube. Insert the connection cable
3. Place the upper and lower parts together at the desired angle
4. Place the upper and lower parts together at the desired angle

**TECHNICAL DIAGRAMS:**

see page 293

- Vertical alignment of Signal Towers even on sloping surfaces
- When transporting the machine, the signal tower can be folded away in a few simple steps
- Maximum stability even with strong shocks and vibrations thanks to the locking mechanism
- German utility model approved

www.werma.com
Signal Tower KombiSIGN 50

This is how you can assemble your KombiSIGN 50 signal tower!

1. Select the required optical or audible elements.
   - Audible Signal Elements
     - Buzzer Element
   - Optical Signal Elements
     - Permanent Light
     - LED Permanent Light
     - LED Flashing Light
     - LED Blinking Light

2. Select the terminal element.
   - Terminal element for surface, tube, single hole and bracket mounting
     Order no. 845 000 00

3. Select the appropriate mounting option for your application.

4. Select the appropriate accessory for your mounting option.

5. Where appropriate, select the bracket and the contact box.

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

With our new signal tower configurator you can put together your own individual signal tower.
**Signal Tower KombiSIGN 50**

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

### TECHNICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Dimensions (Ø x Height):</th>
<th>Terminal element: 52 mm x 16 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light element: 52 mm x 67 mm</td>
</tr>
<tr>
<td></td>
<td>Audible element: 52 mm x 72 mm</td>
</tr>
<tr>
<td>Housing:</td>
<td>Terminal element: PA fibreglass, high-impact</td>
</tr>
<tr>
<td></td>
<td>Cap: PC</td>
</tr>
<tr>
<td>Lens:</td>
<td>PC, transparent</td>
</tr>
<tr>
<td></td>
<td>Audible and ASI: PC/ABS-Blend</td>
</tr>
<tr>
<td>Fixing:</td>
<td>Base mounting (accessory)</td>
</tr>
<tr>
<td></td>
<td>Tube mounting, for tube Ø 25 mm</td>
</tr>
<tr>
<td></td>
<td>Single hole mounting (accessory)</td>
</tr>
<tr>
<td></td>
<td>Bracket mounting (accessory)</td>
</tr>
<tr>
<td>Socket:</td>
<td>Bayonet, B15d, for bulb max. 5 W</td>
</tr>
<tr>
<td>Connection:</td>
<td>Screw terminal max. 1.5 mm²</td>
</tr>
<tr>
<td></td>
<td>Contact protection according to VDE</td>
</tr>
<tr>
<td>Cable entry:</td>
<td>Cable diameter max. 10.5 mm</td>
</tr>
<tr>
<td>Protection rating:</td>
<td>Light elements: IP 54</td>
</tr>
<tr>
<td></td>
<td>Audible elements: IP 54</td>
</tr>
<tr>
<td>Number of modules possible:</td>
<td>Max. 4</td>
</tr>
<tr>
<td>Permanent light element</td>
<td>12 - 240 V~</td>
</tr>
<tr>
<td></td>
<td>Bulb not included in assembly</td>
</tr>
<tr>
<td>LED Permanent light element</td>
<td>24 V = 115 V ~ 230 V ~</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>45 mA 25 mA 25 mA</td>
</tr>
</tbody>
</table>

### ACCESSORIES:

see page 57

### TECHNICAL DIAGRAMS:

see page 286
845

**Signal Tower KombiSIGN 50**

**ORDER SPECIFICATIONS OPTICAL ELEMENTS:**

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Voltage</th>
<th>115 V</th>
<th>230 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent light element</td>
<td>12-240 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>846 100 00</td>
<td>846 100 67</td>
<td>846 100 68</td>
</tr>
<tr>
<td>Green</td>
<td>846 200 00</td>
<td>846 200 67</td>
<td>846 200 68</td>
</tr>
<tr>
<td>Yellow</td>
<td>846 300 00</td>
<td>846 300 67</td>
<td>846 300 68</td>
</tr>
<tr>
<td>Clear</td>
<td>846 400 00</td>
<td>846 400 67</td>
<td>846 400 68</td>
</tr>
<tr>
<td>Blue</td>
<td>846 500 00</td>
<td>846 500 67</td>
<td>846 500 68</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS AUDIBLE ELEMENT:**

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Voltage</th>
<th>115 V</th>
<th>230 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buzzer element</td>
<td>24 V=</td>
<td>849 000 75</td>
<td>849 000 77</td>
</tr>
<tr>
<td></td>
<td>80 dB, max. 25 mA,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IP 54, Continuous or pulse tone,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>adjustable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS TERMINAL ELEMENT:**

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal element</td>
<td>845 000 00</td>
<td>for base mounting, tube mounting, single hole and bracket mounting, including cap</td>
</tr>
</tbody>
</table>

**TECHNICAL DIAGRAMS:**

see page 286

Life duration up to 50,000 hrs
### Accessories for Signal Tower KombiSIGN 50

**ORDER SPECIFICATIONS ACCESSORIES:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact box for cable exit at side, with mounting material</td>
<td>975 840 01</td>
</tr>
<tr>
<td>Contact box with magnetic base and cable exit at side</td>
<td>975 840 04</td>
</tr>
<tr>
<td>Bracket for tube mounting incl. cable gland</td>
<td>960 000 01</td>
</tr>
<tr>
<td>Bracket for base mounting with concealed cable entry, incl. rubber seals</td>
<td>960 000 14</td>
</tr>
<tr>
<td>Bracket for wall mounting</td>
<td>975 845 02</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium</td>
<td></td>
</tr>
<tr>
<td>100 mm long</td>
<td>975 845 10</td>
</tr>
<tr>
<td>250 mm long</td>
<td>975 840 25</td>
</tr>
<tr>
<td>400 mm long</td>
<td>975 840 40</td>
</tr>
<tr>
<td>600 mm long</td>
<td>975 840 60</td>
</tr>
<tr>
<td>800 mm long</td>
<td>975 840 80</td>
</tr>
<tr>
<td>1000 mm long</td>
<td>975 840 03</td>
</tr>
<tr>
<td>Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium</td>
<td>960 000 30</td>
</tr>
<tr>
<td>(Technical specifications see page 35)</td>
<td></td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, plastic, incl. rubber seal</td>
<td>975 840 90</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, metal, incl. rubber seal</td>
<td>975 840 91</td>
</tr>
<tr>
<td>Base for surface mounting, incl. rubber seal</td>
<td>975 845 01</td>
</tr>
<tr>
<td>Adaptor for single hole mounting M 18</td>
<td>975 845 03</td>
</tr>
</tbody>
</table>

**TECHNICAL DIAGRAMS:**

see page 292 onwards

Visit [www.werma.com](http://www.werma.com)
You will find an overview of the entire range of accessories for KombiSIGN 50 on pages 60 and 61.

**ORDER SPECIFICATIONS ACCESSORIES:**

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

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

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

<table>
<thead>
<tr>
<th>Voltage</th>
<th>24 V =</th>
<th>115 V ~</th>
<th>230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td>&lt; 45 mA</td>
<td>&lt; 15 mA</td>
<td>&lt; 15 mA</td>
</tr>
<tr>
<td>red</td>
<td>956 100 75</td>
<td>956 100 67</td>
<td>956 100 68</td>
</tr>
<tr>
<td>green</td>
<td>956 200 75</td>
<td>956 200 67</td>
<td>956 200 68</td>
</tr>
<tr>
<td>yellow</td>
<td>956 300 75</td>
<td>956 300 67</td>
<td>956 300 68</td>
</tr>
<tr>
<td>white</td>
<td>956 400 75</td>
<td>956 400 67</td>
<td>956 400 68</td>
</tr>
<tr>
<td>blue</td>
<td>956 500 75</td>
<td>956 500 67</td>
<td>956 500 68</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Watts</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 V</td>
<td>5</td>
<td>955 840 34</td>
</tr>
<tr>
<td>24 V</td>
<td>5</td>
<td>955 840 35</td>
</tr>
<tr>
<td>30 V</td>
<td>5</td>
<td>955 840 32</td>
</tr>
<tr>
<td>115 V</td>
<td>5</td>
<td>955 840 57</td>
</tr>
<tr>
<td>230 V</td>
<td>5</td>
<td>955 840 38</td>
</tr>
</tbody>
</table>

**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 292 onwards
ADDITIONAL INFORMATION:

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

ORDER SPECIFICATIONS:

AS-Interface-Element with add. external voltage

845 800 68

TECHNICAL DIAGRAMS:

see page 286
## Accessories KombiSIGN 50, 70 and 71

<table>
<thead>
<tr>
<th>KombiSIGN 50</th>
<th>KombiSIGN 70 and 71</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base for surface mounting, incl. rubber seal</strong>&lt;br&gt;Order no. 975 845 01</td>
<td><strong>Bracket for 1-sided mounting, incl. rubber seals</strong>&lt;br&gt;Order no. 975 840 85</td>
</tr>
<tr>
<td><img src="image1.png" alt="Base for surface mounting" /></td>
<td><img src="image2.png" alt="Bracket for 1-sided mounting" /></td>
</tr>
<tr>
<td><strong>Bracket for wall mounting</strong>&lt;br&gt;Order no. 975 845 02</td>
<td><strong>Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal</strong>&lt;br&gt;Order no. 975 840 10</td>
</tr>
<tr>
<td><img src="image3.png" alt="Bracket for wall mounting" /></td>
<td><img src="image4.png" alt="Base with integrated tube" /></td>
</tr>
<tr>
<td><strong>Adaptor for single hole mounting</strong>&lt;br&gt;Order no. 975 845 03</td>
<td><strong>Bracket for surface mounting incl. cable gland</strong>&lt;br&gt;M 16 x 1.5&lt;br&gt;Order no. 960 000 02</td>
</tr>
<tr>
<td><img src="image5.png" alt="Adaptor for single hole mounting" /></td>
<td><img src="image6.png" alt="Bracket for surface mounting" /></td>
</tr>
<tr>
<td><strong>Adaptor for single hole mounting</strong>&lt;br&gt;Order no. 975 845 02</td>
<td><strong>Cable gland for surface mounting, M 16 x 1.5</strong>&lt;br&gt;Order no. 960 000 04</td>
</tr>
<tr>
<td><img src="image7.png" alt="Adaptor for single hole mounting" /></td>
<td><img src="image8.png" alt="Cable gland for surface mounting" /></td>
</tr>
<tr>
<td><strong>Info transparencies: neutral, arrow, numbers “0” – “10”</strong>&lt;br&gt;Order no. see page 22 + 42</td>
<td><strong>Tube with clamp, Ø 25 mm, 250 mm long, incl. cable gland</strong>&lt;br&gt;Order no. 960 000 18</td>
</tr>
<tr>
<td><img src="image9.png" alt="Info transparencies" /></td>
<td><img src="image10.png" alt="Tube with clamp" /></td>
</tr>
</tbody>
</table>

**TECHNICAL DIAGRAMS:**
see page 292 onwards
KombiSIGN 50, 70 and 71

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

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

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

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

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

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

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

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

Tube Ø 25 mm, all anodized aluminium
100 mm long 975 845 10
250 mm long 975 840 25
400 mm long 975 840 40
600 mm long 975 840 60
800 mm long 975 840 80
1000 mm long 975 840 03

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

LED bulb BA15d
total length max. 42 mm
Colours: red, yellow, green, clear, blue
Voltage 24 V, 115 V, 230 V
Order specifications see page 166

Bulb BA15d,
total length max. 42 mm
12 V, 5 Watt 955 840 34
24 V, 5 Watt 955 840 35
30 V, 5 Watt 955 840 32
115 V, 5 Watt 955 840 57
230 V, 5 Watt 955 840 38

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

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

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

Order Specifications see page 63.
LED Signal Tower KOMPAKT 36

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

**TECHNICAL SPECIFICATIONS:**

Dimensions (Ø x Height):
- 2 tier: 38 x 112 mm
- 3 tier: 38 x 146 mm

Housing: Housing parts PC

Fixing: Surface mounting, tube mounting, bracket mounting

Connection:
- Cable connection: Cable, 2 m long, with adaptor M 25 / M 12 for fixing incl. rubber seal
- Plug Connection: M 12 plug with adaptor M 25 / M 20 for fixing incl. rubber seal

Current consumption: 40 mA per tier

**ORDER SPECIFICATIONS:**

KOMPAKT 36

<table>
<thead>
<tr>
<th>Connection</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 tier red/green</td>
<td>Cable</td>
</tr>
<tr>
<td>red/yellow</td>
<td>Cable</td>
</tr>
<tr>
<td>red/green</td>
<td>Plug</td>
</tr>
<tr>
<td>red/yellow</td>
<td>Plug</td>
</tr>
<tr>
<td>3 tier red/yellow/green</td>
<td>Cable</td>
</tr>
<tr>
<td>red/yellow/green</td>
<td>Plug</td>
</tr>
</tbody>
</table>

KOMPAKT 36 in silver finish

<table>
<thead>
<tr>
<th>Connection</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 tier red/green</td>
<td>Cable</td>
</tr>
<tr>
<td>red/yellow</td>
<td>Cable</td>
</tr>
<tr>
<td>3 tier red/yellow/green</td>
<td>Cable</td>
</tr>
<tr>
<td>red/yellow/green</td>
<td>Plug</td>
</tr>
</tbody>
</table>

KOMPAKT 36 available on request with negative logic.

**ACCESSORIES:**

Fixing bracket
- 960 693 01

To maintain IP 65 the cable gland 960 000 32 must be fitted to the cable version.

Cable gland M 12 x 1.5 mm
- 960 000 32
Base with integrated tube, black, M 25 x 1.5 mm incl. rubber seals
- 960 693 03
Base with integrated tube, silver, M 25 x 1.5 mm incl. rubber seals
- 960 693 06
M 12 counter-plug with 5 m cable
- 960 693 05

**ADDITIONAL INFORMATION:**

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

**TECHNICAL DIAGRAMS:**

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

www.werma.com
LED Signal Tower KOMPAKT 71

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

**TECHNICAL SPECIFICATIONS:**

Dimensions (Ø x Height):
- 2 tier: 70 x 140 mm
- 3 tier: 70 x 175 mm

Housing:
- Housing parts PC
- Terminal element: PA fibreglass, high-impact

Fixing:
- Base/Bracket mounting
- Tube mounting

Connection:
- Screw terminal max. 2.5 mm²
- Contact protection according to VDE

Cable entry:
- Cable diameter max. 14 mm

Operating voltage: 24 V DC/AC

Current consumption: 40 mA per tier

**ORDER SPECIFICATIONS:**

KOMPAKT 71

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 tier red/green base/bracket mounting</td>
<td>697 010 55</td>
</tr>
<tr>
<td>2 tier red/green tube mounting</td>
<td>697 410 55</td>
</tr>
<tr>
<td>3 tier red/yellow/green base/bracket mounting</td>
<td>697 000 55</td>
</tr>
<tr>
<td>3 tier red/yellow/green tube mounting</td>
<td>697 400 55</td>
</tr>
</tbody>
</table>

KOMPAKT 71 with negative logic (common +)

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 tier red/yellow/green base/bracket mounting</td>
<td>697 100 55</td>
</tr>
<tr>
<td>3 tier red/yellow/green tube mounting</td>
<td>697 500 55</td>
</tr>
</tbody>
</table>

KOMPAKT 71 with USB Interface

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 tier red/yellow/green tube mounting</td>
<td>697 430 53</td>
</tr>
</tbody>
</table>

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

**TECHNICAL DIAGRAMS:**

see page 279
## ORDER SPECIFICATIONS ACCESSORIES KOMPAKT 71:

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact box for cable exit at side, with mounting material</td>
<td>975 840 01</td>
</tr>
<tr>
<td>Contact box with magnetic base and cable exit at side</td>
<td>975 840 04</td>
</tr>
<tr>
<td>Bracket for tube mounting with cable gland</td>
<td>960 000 01</td>
</tr>
<tr>
<td>Bracket for surface mounting with cable gland</td>
<td>960 000 02</td>
</tr>
<tr>
<td>Bracket for base mounting with concealed cable entry, incl. rubber seals</td>
<td>960 000 14</td>
</tr>
<tr>
<td>Bracket for 1-sided mounting, incl. rubber seals</td>
<td>975 840 85</td>
</tr>
<tr>
<td>Bracket for 2-sided mounting, incl. rubber seals</td>
<td>975 840 86</td>
</tr>
<tr>
<td>Tube with clamp, Ø 25 mm, 250 mm long, with cable gland</td>
<td>960 000 18</td>
</tr>
<tr>
<td>Tube Ø 25 mm, all anodized aluminium</td>
<td></td>
</tr>
<tr>
<td>100 mm long</td>
<td>975 845 10</td>
</tr>
<tr>
<td>250 mm long</td>
<td>975 840 25</td>
</tr>
<tr>
<td>400 mm long</td>
<td>975 840 40</td>
</tr>
<tr>
<td>600 mm long</td>
<td>975 840 60</td>
</tr>
<tr>
<td>800 mm long</td>
<td>975 840 80</td>
</tr>
<tr>
<td>1000 mm long</td>
<td>975 840 03</td>
</tr>
<tr>
<td>Foldaway Base incl. rubber seals, suitable for tube, Ø 25 mm, all anodized aluminium (Technical specifications see page 35)</td>
<td>960 000 30</td>
</tr>
<tr>
<td>Tube Ø 25 mm, plastic for mounting the Terminal Element directly on the Foldaway Base</td>
<td>960 000 31</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, plastic, incl. rubber seal</td>
<td>975 840 90</td>
</tr>
<tr>
<td>Base for tube mounting Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer</td>
<td>975 840 91</td>
</tr>
<tr>
<td>Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal</td>
<td>975 840 10</td>
</tr>
<tr>
<td>Adaptor for tube mounting, Ø 25 mm / 1/2&quot; NPT thread</td>
<td>975 840 02</td>
</tr>
<tr>
<td>Adaptor for single hole mounting Ø 25 mm, M 18</td>
<td>960 000 25</td>
</tr>
<tr>
<td>Cable gland for surface mounting M 16 x 1.5 mm</td>
<td>960 000 04</td>
</tr>
</tbody>
</table>

## TECHNICAL DIAGRAMS:

see page 292 onwards
deSIGN 42 – LED Signal Tower with high-quality stainless steel housing

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

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

The advantages at a glance

- LED Signal Tower in award-winning metal design
- Winner of the red dot design award for superlative design quality
- Clear lenses ensure signalling effect even in direct sunlight
- LED Permanent light elements have a life duration of up to 50,000 hrs
- Can be operated with a PLC control system
LED Signal Tower deSIGN 42

- High-quality stainless steel housing
- Award-winning design – Winner of the red dot design award 2005
- Clear lenses ensure signalling effect even in direct sunlight

**TECHNICAL SPECIFICATIONS:**

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

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>2 tier Connection</th>
<th>red/green cable</th>
<th>694 010 55</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>red/yellow cable</td>
<td>694 020 55</td>
</tr>
</tbody>
</table>

| 3 tier Connection | red/yellow/green cable | 694 000 55 |

**ACCESSORIES:**

- Surface housing single 975 109 02
- Bracket, stainless steel (Protection rating IP 33) 960 694 01

**TECHNICAL DIAGRAMS:**

see page 278
FlatSIGN

Innovative LED Signal Tower in with curved front

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

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

Wide range of applications

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

The key advantages

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

Comprehensive fixing kit

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

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

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

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

**TECHNICAL SPECIFICATIONS:**

- **Dimensions** (L x H x W): 195 mm x 105 mm x 45 mm
- **Lower part:** PC-ABS, black
- **Upper part:** PC, transparent
- **Lens:** PC, transparent
- **Fixing:** Wall mounting
- **Connection:** Screw terminal max. 1.5 mm²
- **Current consumption:** Optical signal: 30 mA per tier
  Audible signal: 30 mA
- **Light effects:** Permanent or blinking light selectable
- **Audible signal:** Buzzer or multi-tone sounder (8 tones)

**ORDER SPECIFICATIONS:**

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

**ACCESSORIES:**

- **Fixing kit**
  - 975 691 01
  - Contents: 2 tube clamps for tube (Ø 24 - 25 mm) and adaptor
  - The fixing kit enables tube mounting (Ø 24 - 25 mm) or attachment to aluminium profile, over flush-mounted back-boxes or for surface-wiring options.
  - No special accessories needed for mounting on a flat surface.

**TECHNICAL DIAGRAMS:**

- see page 278
FlatSIGN in Metal Design

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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions (L x H x W):</th>
<th>195 mm x 105 mm x 45 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower part:</td>
<td>PC-ABS, black</td>
</tr>
<tr>
<td>Upper part:</td>
<td>PC, transparent</td>
</tr>
<tr>
<td>Lens:</td>
<td>PC, transparent</td>
</tr>
<tr>
<td>Fixing:</td>
<td>Wall mounting</td>
</tr>
<tr>
<td>Connection:</td>
<td>Screw terminal max. 1.5 mm²</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>Optical signal: 30 mA per tier</td>
</tr>
<tr>
<td></td>
<td>Audible signal: 30 mA</td>
</tr>
<tr>
<td>Light effects:</td>
<td>Permanent or blinking light selectable</td>
</tr>
<tr>
<td>Audible signal:</td>
<td>Buzzer or multi-tone sounder (8 tones)</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>FlatSIGN without Audible Signal</th>
<th>24 V</th>
<th>115-230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red/yellow/green</td>
<td>691 300 55</td>
<td>691 300 68</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FlatSIGN with Audible Signal</th>
<th>24 V</th>
<th>115-230 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audible Signal</td>
<td>Multi-Tone Sounder</td>
<td></td>
</tr>
<tr>
<td>red/yellow/green</td>
<td>691 400 55</td>
<td>691 400 68</td>
</tr>
</tbody>
</table>

**ACCESSORIES:**

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

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

No special accessories needed for mounting on a flat surface.

**TECHNICAL DIAGRAMS:**

see page 278

Clear lenses ensure signalling effect even in direct sunlight

---

FlatSIGN in metallic finish

The fixing kit enables attachment to aluminium profiles (accessories)

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

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

Set design trends

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

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

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

Individuality through colours, patterns and designs

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

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

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

Simple ordering procedure

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

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

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

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

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

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

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

The advantages at a glance

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

Adjustable lighting configuration and mounting positions

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

Tier-by-tier illumination of the lighting body

Colour intensive, complete illumination

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

Lighting body positioned upwards

Lighting body positioned downwards

www.werma.com
VarioSIGN – red/yellow/green

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

**TECHNICAL SPECIFICATIONS:**

- **Dimensions (L x H x W):** 62 mm x 220 mm x 90 mm
- **Housing:** PC/ABS-Blend, black
- **Lens:** PC, transparent
- **Fixing:** Base mounting
- **Connection:** Screw terminal max. 1.5 mm²
- **Current consumption:** Optical: 55 mA per tier
  Buzzer: 20 mA

**ORDER SPECIFICATIONS:**

- **VarioSIGN without Buzzer**
  - 24 V ~
  - 1-sided: 690 330 55
  - 2-sided: 690 320 55

- **VarioSIGN with Buzzer**
  - 24 V ~
  - 1-sided: 690 310 55
  - 2-sided: 690 300 55

**ADDITIONAL INFORMATION:**

Award Winning Design! LED Signal Tower VarioSIGN wins “iF product design award 2010”

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

Design as a success factor especially in times of economic uncertainty

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

**TECHNICAL DIAGRAMS:**

see page 278
VarioSIGN – RGY

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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Dimensions (L x H x W):</th>
<th>62 mm x 220 mm x 90 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing:</td>
<td>PC/ABS blend, black</td>
</tr>
<tr>
<td>Lens:</td>
<td>PC, transparent</td>
</tr>
<tr>
<td>Fixing:</td>
<td>Base mounting</td>
</tr>
<tr>
<td>Connection:</td>
<td>Screw terminal max. 1.5 mm²</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>Optical: depending on the colour combination, up to 120 mA Buzzer: 20 mA</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

- **VarioSIGN without Buzzer**
  - 24 V
  - 1-sided: 690 230 55
  - 2-sided: 690 220 55

- **VarioSIGN with Buzzer**
  - 24 V
  - 1-sided: 690 210 55
  - 2-sided: 690 200 55

**TECHNICAL DIAGRAMS:**

- see page 278

- Attention-grabbing illumination of the entire lighting body in one colour (can be triggered externally)
- Completely flexible colour distribution thanks to RGY LEDs
690

VarioSIGN – RGB

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

**TECHNICAL SPECIFICATIONS:**

- **Dimensions** (L x H x W):
  - 62 mm x 220 mm x 90 mm
- **Housing:**
  - PC/ABS blend, black
- **Lens:**
  - PC, transparent
- **Fixing:**
  - Base mounting
- **Connection:**
  - Screw terminal max. 1.5 mm²
- **Current consumption:**
  - Optical: depending on the colour, up to 300 mA max.
  - Buzzer: 20 mA
- **Possible colours:**
  - Red, yellow, green, clear, blue, violet, turquoise
- **Lighting effects:**
  - Tier-by-tier illumination: Flashing light
  - Complete illumination: EVS

**ORDER SPECIFICATIONS:**

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

**TECHNICAL DIAGRAMS:**

- see page 278

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

CleanSIGN – The LED Signal Tower in Hygienic Design

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

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

What is Hygienic Design?

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

What are the main applications?

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

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

Unique “Hygienic Design” Signal Tower

30° slope
- Min. 30° slope in accordance with EHEDG
- Allows fluids to drain quickly
- Ease of inspection
- Quick and simple cleaning

Compact design
- No uneven surfaces, grooves, raised or countersunk elements
- No additional joints where dirt could collect
- One-piece, welded construction

Terminal element and mounting
- Bracket in one piece
- No additional joints where dirt could collect

Polyamide housing
- Food safe
- FDA approval (Food & Drug Administration)

Continuation of the 30° slope
- Fixing and connection from the rear
- No holes at the front where dirt could collect
- Housing completely enclosed
- Pine Tree Clip® for quick and simple fixing

Durable seal
- Prevents any openings
- Hygienic material

The key advantages

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

www.werma.com
CleanSIGN - red/yellow/green

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

**TECHNICAL SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Dimensions (L x H x W)</td>
<td>112 mm x 485 mm x 125 mm</td>
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<tr>
<td>Housing:</td>
<td>PA, black</td>
</tr>
<tr>
<td>Lens:</td>
<td>PA, transparent</td>
</tr>
<tr>
<td>Fixing:</td>
<td>Wall mounting, integrated mounting bracket</td>
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<tr>
<td>Connection:</td>
<td>Cable, 2 m long, included in the assembly</td>
</tr>
<tr>
<td>Current consumption:</td>
<td>Optical: up to 120 mA per tier</td>
</tr>
<tr>
<td></td>
<td>Buzzer: 20 mA</td>
</tr>
</tbody>
</table>

**ORDER SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>CleanSIGN with Buzzer</th>
<th>24 V ~</th>
</tr>
</thead>
<tbody>
<tr>
<td>red/yellow/green</td>
<td>695 300 55</td>
</tr>
</tbody>
</table>

**ADDITIONAL INFORMATION:**

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

- **EHEDG* approval for the food industry:** this approval confirms that strict design criteria have been met to avoid constructional weaknesses and to minimise the risk of contamination. Further details can be found in the illustration on page 76.

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

* EHEDG = European Hygienic Engineering and Design Group

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

**TECHNICAL DIAGRAMS:**

see page 279
The new CleanSIGN from WERMA is equipped with a series of sophisticated technical, constructional and design features which make a significant contribution to the safety of your products.

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

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

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

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

The colours red, yellow and green can collect, facilitating quick and easy cleaning.

• Complete illumination in one colour possible (can be triggered externally)
• Integrated, high-output buzzer (85 dB)

**TECHNICAL SPECIFICATIONS:**

- **Dimensions (L x H x W):** 112 mm x 485 mm x 125 mm
- **Housing:** PA, black
- **Lens:** PA, transparent
- **Fixing:** Wall mounting, integrated mounting bracket
- **Connection:** Screw terminal max. 1.5 mm²
- **Current consumption:** Optical: depending on the colour combination, 240 mA max. Buzzer: 20 mA

**ORDER SPECIFICATIONS:**

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

**ADDITIONAL INFORMATION:**

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

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

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

- **Life duration up to 50,000 hrs**

**TECHNICAL DIAGRAMS:**

- see page 279

- Completely flexible colour distribution thanks to RGY LEDs

- New Wide range of sophisticated design features
- Complete illumination in one colour possible (can be triggered externally)
- Integrated, high-output buzzer (85 dB)
CleanSIGN - RGB

- LED Signal Tower for use in clean-room applications (Fraunhofer IPA approval) and the food industry (EHEDG approval)
- Permanent light and additional light effects
- 7 colours selectable (RGB LEDs)
- Colour distribution can be set and adjusted via switch as required
- Complete illumination in one colour possible (can be triggered externally)

**TECHNICAL SPECIFICATIONS:**

- **Dimensions** (L x H x W): 112 mm x 485 mm x 125 mm
- **Housing:** PA, black
- **Lens:** PA, transparent
- **Fixing:** Wall mounting, integrated mounting bracket
- **Connection:** Screw terminal max. 1.5 mm²
- **Current consumption:** Optical: depending on the colour combination, 250 mA max. Buzzer: 20 mA
- **Possible colours:** Red, yellow, green, clear, blue, violet, turquoise
- **Light effects:** Tier-by-tier illumination: Blinking light Complete illumination: EVS*

**ORDER SPECIFICATIONS:**

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

**ADDITIONAL INFORMATION:**

Additional light effects and 7 colours
The use of RGB LEDs guarantees complete flexibility: In addition to the permanent light, additional light effects (EVS* LED or blinking light) can also be set. Furthermore, the entire tower or the 3 individual tiers can be illuminated in seven different colours (red, yellow, green, blue, clear, violet, turquoise).

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

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

**TECHNICAL DIAGRAMS:**

see page 279