# Airport

- **Highest safety on the runway**
- **Tested in accordance with ICAO type C** (for more information see page 77)

We also offer warning systems for airport traffic management and escort vehicles, with functions specially designed for use on the runway. Special Hänsch "FOLLOW ME" features ensure quick and easy operation by the user.

## COMET LED

Further information on beacons can be found on page 8 & 9.

### Fix mounting

**PRODUCT FEATURES:**

- Fix mounting in accordance with DIN 14620, form B1
- Colours: also available in blue (with function monitoring)

### Magnetic fixing

**PRODUCT FEATURES:**

- With spiral cable and triple magnetic fixing
- Optimum bonding even on curved vehicle roofs
- Rubber-coated magnets to protect paintwork from scratches
- Tested at up to 250 km/h

### Flexible arm

**PRODUCT FEATURES:**

- For fitting on a mounting tube in accordance with DIN 14620
- Impact-resistant housing base

## COMET S

Further information on beacons can be found on page 5 & 6.

### Fix mounting

**PRODUCT FEATURES:**

- Fix mounting in accordance with DIN 14620, form B1
- Two rows of LEDs provide full-area illumination
- Colours: also available in blue (with function monitoring)

### Flexible arm

**PRODUCT FEATURES:**

- For fitting on a mounting tube in accordance with DIN 14620
- Impact-resistant housing base
- Two rows of LEDs provide full-area illumination



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# DBF 4000

The DBF 4000 warning system combines the advantages of the DBS 4000 with a range of functions specially developed for use in airports. The system's individually selectable features ensure that traffic control and Follow Me vehicles are optimally equipped for use. The amber DBF 4000 warning system is tested in accordance with ICAO type C.

## Configured to customer requirements

- Mounted using a modular system
- Easily adaptable to individual needs
- Switching of flash patterns possible

## Aerodynamic housing

- Low wind resistance and reduced noise levels

## Variety of mounting options

- Quick and easy mounting options for flat or curved vehicle roofs
- Vehicle-specific carrier systems offer additional mounting options

## Maximum warning effect

- State-of-the-art lighting technology
- Automatic day/night switching

## Easy operation

- Digital control using the CANBus protocol, based on the CANopen Standard 447 using the HBE 300 Follow Me hand-held control unit

## Variety of lengths

- Lengths: 1100, 1200, 1400, 1600, 1800 and 2000 mm

# DBF 4000

## RANGE OF FUNCTIONS AVAILABLE:

- Direction indicator (turning light)
- Working light
- Additional flashers
- Alley lights: 0° or 20° tilt
- Full matrix display amber or red
- Front cover glass printing
- Day/night switching (automatic)
- also available as switchable blue/amber version (tested in accordance with ICAO type C). Further information on page 41.

## FOLLOW ME FEATURES:

- LED main beacons with amber or red* high-performance LEDs
- Rear-facing full matrix with amber or red high-performance LEDs and displaying message "FOLLOW ME", "STOP" and arrows
- Option to activate arrows using the vehicle's direction indicator
- Contact with brakes activates the "STOP" message
- Control of the lightbar using CANopen Standard 447 with HBE 300 Follow Me digital control unit
- Integration of a 614/624 amplifier for public address with an undercarriage loudspeaker for public address via the HBE 300 Follow Me control unit possible
- Mounting of undercarriage loudspeakers possible
- Switching of flash pattern (between ECE-R65 and ICAO type C) possible

* if red LEDs are mounted, the warning system does not comply with the test in accordance with ICAO type C

| ***Technical data:*** | |
|---|---|
| Designation: | DBF 4000 |
| Voltage: | 12 V |
| Flash frequency (ECE-R65): | > 2 Hz (beacon) |
| Flash frequency (ICAO type C) | 1 - 1.5 Hz (beacon) |
| Average power consumption: | from 4 A (at 12 V) |
| Lengths: | 1100, 1200, 1400, 1600, 1800, 2000 mm |
| Depth: | 300 mm |
| Height: | 135 mm |
| Weight: | from 9.5 kg |
| Material: | Lamp dome/cover glass: PC / housing: Aluminium |
| Type of protection: | IP5K4K/IPX9K |
| ***Homologation: (Germany and international)*** | |
| Light in accordance with ECE-R65: | TA2(E1)00 3111 (amber) |
| EMC in accordance with ECE-R10: | (E1)10R-05 6209 |



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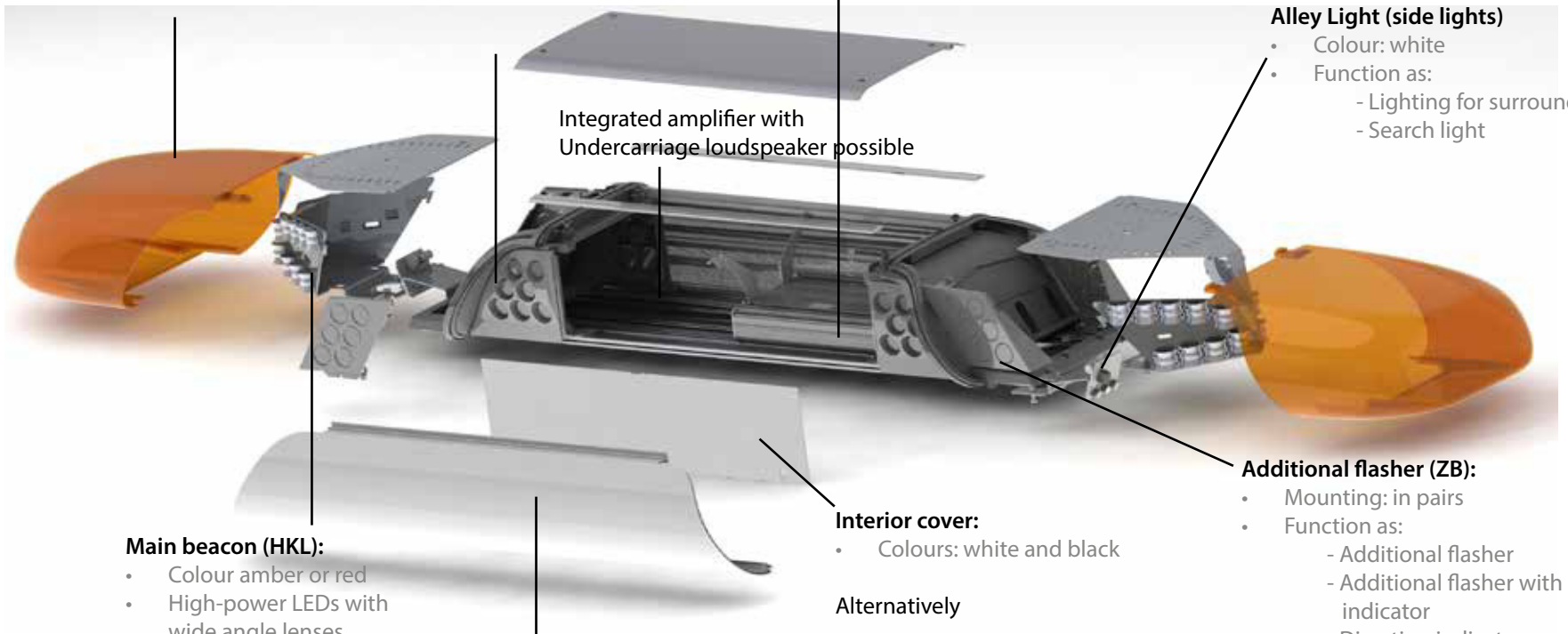
# DBF 4000

**Lamp dome** for the main beacon:
- Colour: red or amber

**Optional light module (OLM):**
- Working light

**Control module (KM):**
- Digital control CAN447



**Alley Light (side lights)**
- Colour: white
- Function as:
  - Lighting for surrounding area
  - Search light

Integrated amplifier with
Undercarriage loudspeaker possible

**Additional flasher (ZB):**
- Mounting: in pairs
- Function as:
  - Additional flasher
  - Additional flasher with direction indicator
  - Direction indicator

**Main beacon (HKL):**
- Colour amber or red
- High-power LEDs with wide angle lenses
- Flash pattern: Strobe flash

**Interior cover:**
- Colours: white and black

Alternatively

**Display:**
- Full matrix with following texts
  - FOLLOW ME
  - STOP
  - Direction arrow left
  - Direction arrow right

  various additional texts possible on request

**Cover glass:**
- Colours: white, clear and grey

# Basic lightbar

| Possible lengths: |
|---|
| 1100, 1200, 1400, 1600, 1800, 2000 mm |

| Main beacon (HKL) | |
|---|---|
| Function | |
| Main beacon<br>(red or amber) | • High-power LEDs with wide angle lenses<br>• K2 homologation with day/night switching<br>• Integrated function monitoring<br>• Flash pattern: Strobe flash<br>• Optional: helicopter recognition, fourfold, infrared rotating, for night vision devices |

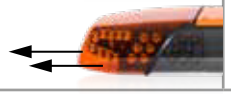
| Control module (KM) | |
|---|---|
| Function | |
| Digital control | • For CAN447 control units (HBE 300 Follow Me)<br>• Serial control by 2-wire cable<br>• Compatibility of other control units on request |

| Roof mounting | |
|---|---|
| Rubber mouldings | • For flat or curved vehicle roofs |
| Mounting brackets | • Universal and various vehicle-specific models available |
| Flat sealing | • For flat vehicle roofs |

| Electrical connection | |
|---|---|
| Function | |
| Cable outlet | • Cable outlet, passenger side: Standard<br>• Cable outlet, driver side<br>• Separate cable outlet (power supply and signal line are laid separately) |

# Options

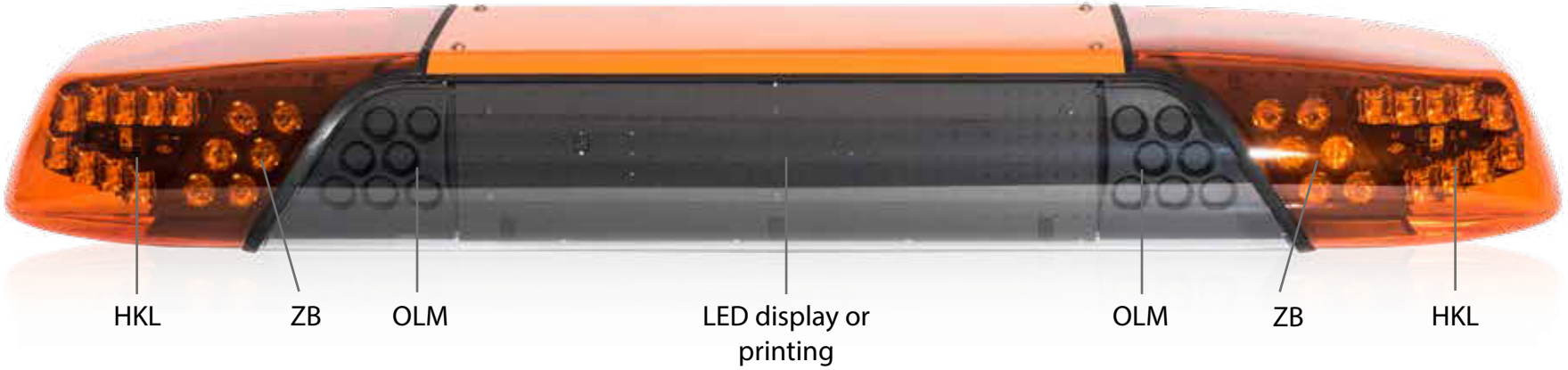
| Acoustics | | |
|---|---|---|
| Function | | Possible for |
| Acoustic SV 614/624 | • Integrated amplifier for public address<br>• Undercarriage loudspeaker directed towards the rear and/or the front for public address* | • 12 V |
| * A second undercarriage loudspeaker directed towards the rear or the front can be optionally mounted. | | |

| Alley lights (side lights) | | | |
|---|---|---|---|
| Function | | | Possible for |
|  | lighting for surrounding area | • Colour: white<br>• Tilt angle: 20°<br>• Mounted in pairs (left and right) | • 12 V |
|  | Search lights | • Colour: white<br>• Without tilt angle<br>• Mounted in pairs (left and right) | • 12 V |

| Display and printing | |
|---|---|
| Function | |
| Cover glass<br>(colours: white, clear, blue and grey) | • Standard: white without printing<br>• Optional: white with printing (backlighting possible)<br>• Optional: clear without printing (interior cover or display required). A clear cover glass is mandatory when OLMs or a display are used |
| Interior cover<br>(colours: white and black) | • Standard: white without printing<br>• Optional: white with printing<br>• Optional: black without printing |
| Display | • Full matrix with the following messages:<br>- FOLLOW ME<br>- STOP<br>- Direction arrow, left<br>- Direction arrow, right<br>• Various additional messages possible on request (traffic control, accident, oil slick, slow, and many more)<br>• With red or amber high-performance LEDs |

## Options - forward mounting

Configuration example




| Additional flasher (ZB) | | | |
|---|---|---|---|
| Function | | | Possible for |
| ZB | • Additional flashers (pair) | • Consists of 12 amber LEDs<br>• Directional<br>• Synchronisation with respective main flasher<br>• Deactivated in night mode | • 12 V |
| ZB | • Additional flasher with direction indicator (pair) | • Consist of 6 amber LEDs (ZB) and 8 amber LEDs (direction indicator)<br>• Directional<br>• Additional flasher: deactivated in night mode; synchronisation with respective main flasher<br>• Direction indicator: Function as direction indicator or hazard warning light (synchronisation with vehicle direction indicator required) | • 12 V |
| ZB | • Direction indicators (pair) | • Consist of 8 amber LEDs<br>• Directional<br>• Function as direction indicator or hazard warning light (synchronisation with vehicle direction indicator required) | • 12 V |

| Optional light module (OLM) | | | |
|---|---|---|---|
| OLM | • Working light (ASW) | • Consists of 3 white LEDs per module<br>• Standard: mounted right (passenger side)<br>• An additional unit may be mounted on the left side (driver side) as an option<br>• Light value:<br>- 600 lumens<br>- 1500 lumens<br>(with a 15° tilt angle in each case) | <br><br><br><br><br>• 12 V<br>• 12 V |



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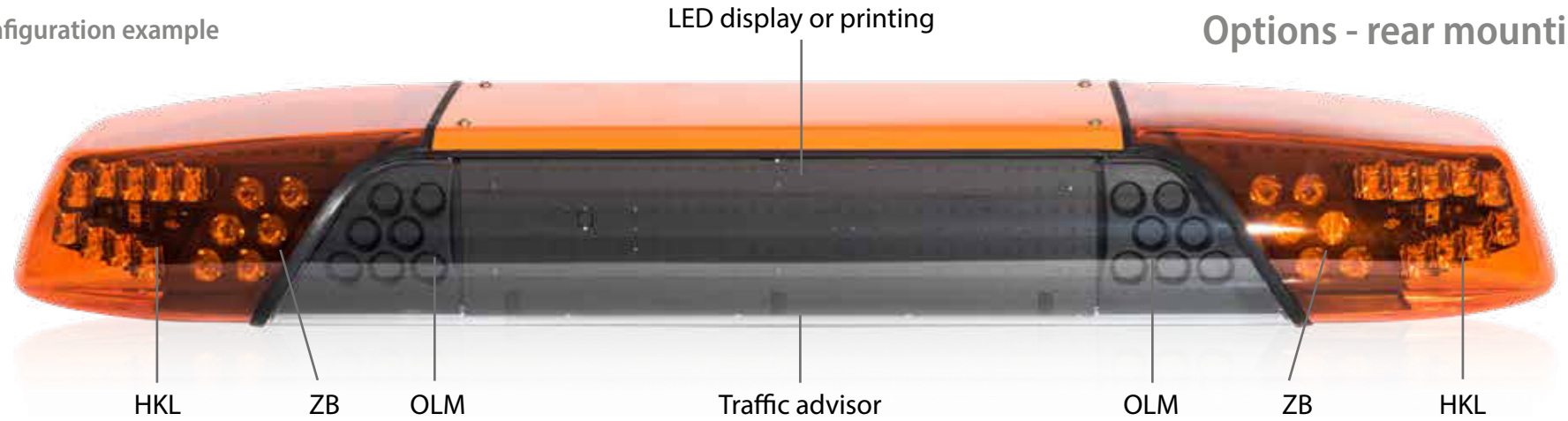
# DBF 4000

## Configuration example




## Options - rear mounting

| Additional flasher (ZB) | | | |
|---|---|---|---|
| Function | | | Possible for |
| ZB | • Additional flashers (pair) | • Consists of 12 amber LEDs<br>• Directional<br>• Synchronisation with respective main flasher<br>• Deactivated in night mode | • 12 V |
| ZB | • Additional flasher with direction indicator (pair) | • Consists of 6 amber LEDs (ZB) and 8 amber LEDs (direction indicator)<br>• Directional<br>• Additional flasher: deactivated in night mode; synchronisation with respective main flasher<br>• Direction indicator: Function as direction indicator or hazard warning light (synchronisation with vehicle direction indicator required) | • 12 V |
| ZB | • Direction indicators (pair) | • Consist of 8 amber LEDs<br>• Directional<br>• Function as direction indicator or hazard warning light (synchronisation with vehicle direction indicator required) | • 12 V |

| Optional light module (OLM) | | | |
|---|---|---|---|
| OLM | • Working light (ASW) | • Consists of 3 white LEDs per module<br>• Standard: mounted right (passenger side)<br>• An additional unit may be mounted on the left side (driver side) as an option<br>• Light value:<br>- 600 lumens<br>- 1500 lumens<br>(with a 15° tilt angle in each case) | <br><br><br><br><br>• 12 V<br>• 12 V |

| Special functions | |
|---|---|
| Designation | |
| Helicopter detection | • 4 integrated infrared LEDs<br>• Rotating flash pattern<br>• Allows detection by night vision devices |
| Traffic advisor* | • Consists of 6 amber LED modules with 3 LEDs each<br>• For rear mounting<br>• Choice of different flash patterns (warning function, RWS function) or traffic advisor function (arrow stick function) |
| * Special approval is required in Germany at the present. | |

# DBW 5000

The DBW 5000 warning system combines modern design, a versatile range of functions and high-performance LED lighting technology. A maximum warning effect ensures increased attention at the airports. The low-profile design not only ensures low air resistance and reduced noise, but also makes it possible to pass sites where clearance height is an issue. The amber DBW 5000 warning system is tested in accordance with ICAO type C.

reddot award 2017
winner

## Configured to customer requirements

- Mounted using a modular system
- Easily adaptable to individual needs
- Switching of flash patterns possible

## aerodynamic housing

- Low wind resistance and reduced noise levels
- Low-profile design height

## Variety of mounting options

- Fast and easy mounting options for flat or curved vehicle roofs
- Vehicle-specific carrier systems offer additional mounting options

## Maximum warning effect

- State-of-the-art lighting technology
- Automatic day/night switching

## Easy operation

- Digital control using the CANBus protocol, based on the CANopen Standard 447
- Converters for analogue control available

## Variety of lengths

- Lengths: 700, 1100, 1200, 1400, 1600 or 1800 mm

# DBW 5000

## RANGE OF FUNCTIONS AVAILABLE

- Working lights
- Environment light sensor for reducing beacons at night-time
- Alley lights: 0° or 20° tilt
- Acoustics (undercarriage loudspeaker for public address)
- Additional flashers
- Direction indicator (turning light)*
- Traffic controller unit (special approval required)
- also available as switchable blue/amber version (tested in accordance with ICAO type C). Further information on page 32.
- also available with red radiation colour (without test in accordance with ICAO type C)
- Switching of flash pattern (between ECE-R65 and ICAO type C) possible

*CAN447 requires an I/O-Box to feed in the signals.

| ***Technical data:*** | |
|---|---|
| Designation: | DBW 5000 |
| Voltage: | 12 V / 24 V |
| Flash frequency (ECE-R65): | > 2 Hz (beacon) |
| Flash frequency (ICAO type C) | 1 - 1.5 Hz (beacon) |
| Average power consumption: | from 4 A (at 12 V) |
| Lengths: | 700, 1100, 1200, 1400, 1600, 1800 mm |
| Depth: | 285 mm |
| Height: | 63 mm |
| Weight: | from 5.1 kg |
| Material: | Lamp dome: PC / cover glass: PMMA housing: Aluminium |
| Type of protection: | IP5K4K/IPX9K |
| ***Homologation: (Germany and international)*** | |
| Light in accordance with ECE-R65: | TA2(E1)00 4448 |
| EMC in accordance with ECE-R10: | (E1)10R-05 7981 |
| Direction indicator: Light in accordance with ECE-R 6 | 1 01(E1)4453 (front), 2a 01 (E1)4453 (rear) |



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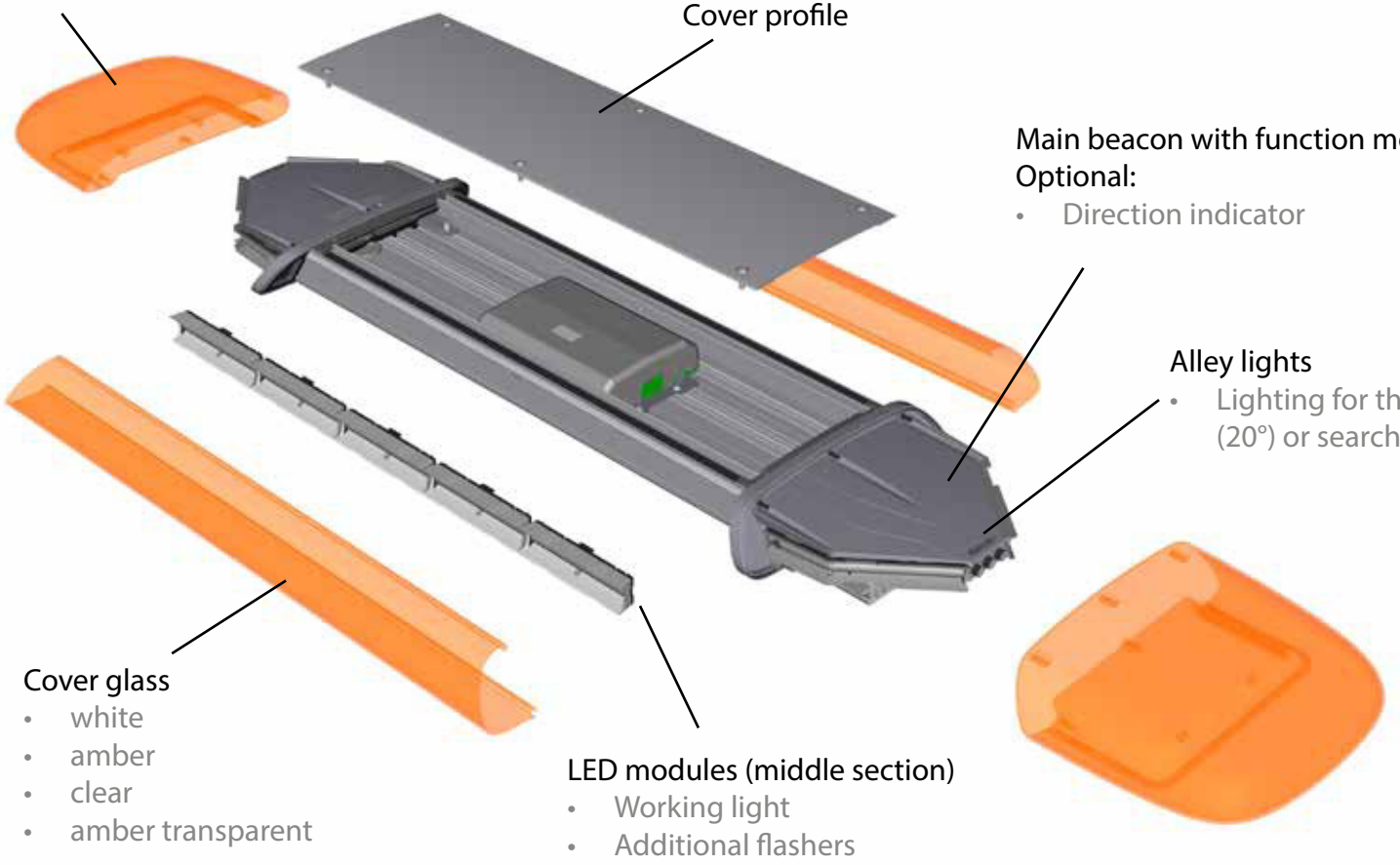
# DBW 5000


Lamp dome
• amber or red
Cover profile
Main beacon with function monitoring
Optional:
• Direction indicator
Alley lights
• Lighting for the surrounding area (20°) or search light (0°)
Cover glass
• white
• amber
• clear
• amber transparent
LED modules (middle section)
• Working light
• Additional flashers

# Basic lightbars

| Possible lengths |
|---|
| 700, 1100, 1200, 1400, 1600, 1800 mm |

| Main beacon (HKL) | |
|---|---|
| Function | |
| Main beacon<br>(amber or red) | • High-power LEDs with wide angle lenses<br>• K2 homologation with day/night switching<br>• Integrated function monitoring<br>• Flash pattern: Strobe flash<br>• Optional: Direction indicator, front and rear, in the main beacons* |

| Control module (KM) | |
|---|---|
| Function | |
| Digital control | • Serial control by 2-wire cable<br>• For CAN447 control units (HBE 300 Follow Me)<br>• Compatibility of other control units on request |
| Analogue control | • Converters for analogue control available<br>• Analogue control via signal line<br>• For limited range of functions (compatibility on request) |

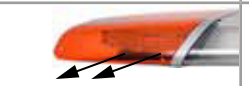
| Roof mounting | | |
|---|---|---|
| Function | | |
|  | Rubber mouldings | • For flat or curved vehicle roofs |
|  | Mounting brackets | • Universal and various vehicle-specific models available |

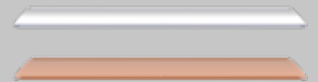
*CAN447 requires an I/O-Box to feed in the signals.

| Electrical connection | |
|---|---|
| Function | |
| Cable outlet | • Cable outlet, passenger side: Standard<br>• Cable outlet, driver side<br>• Separate cable outlet (power supply and signal line are laid separately)<br>• Vehicle-specific electrical connections on request |

## Options

| Acoustics (undercarriage loudspeaker for public address) | | |
|---|---|---|
| Function | | Possible for |
| Undercarriage loudspeaker | • Undercarriage loudspeaker directed towards the rear and/or the front for public address<br>• Exterior amplifier and cable harness required | • 12 V<br>• 24 V |

| Alley lights (side lights) | | | |
|---|---|---|---|
| Function | | | Possible for |
|  | lighting for surrounding area | • Tilt angle: 20°<br>• Mounted in pairs (left and right) | • 12 V<br>• 24 V |
|  | Search lights | • Without tilt<br>• Mounted in pairs (left and right) | • 12 V<br>• 24 V |

| Cover glass | | |
|---|---|---|
| Description | | |
|  | Cover glass in full colour:<br>• White (RAL 9010)<br>• Amber (RAL 2004) | |
|  | Cover glass, transparent:<br>• Clear<br>• Amber transparent | • Clear or tinted transparent cover glass<br>• Required when middle modules are mounted |

# HBE 300 Follow Me

The HBE 300 Follow Me model is specially designed to match the function range of the DBF 4000. It controls all the functions of the visual and acoustic DBF 4000 warning system and can also control non-CAN compatible products.


## PRODUCT FEATURES:

- CANopen Standard 447
- 8 fast access buttons
- 4 menu buttons
- Buttons with location and activation lighting
- Integrated microphone for public address
- High-contrast wide angle lens
- Easy to operate thanks to large buttons
- Convenient menu navigation with self-explanatory icons
- Analogue inputs for vehicle's turn signals
- Analogue outputs for additional functions
- Can be used in any vehicle (even without a 447 gateway)
- Various models available

| Functions of the fast access buttons (HBE 300) | |
|---|---|
| | Simultaneously switches on the main beacons, 3rd beacon and IR flasher together. Night dimming is activated during operation by pressing and holding the button (> 3 sec.). |
| FOL | Activates/deactivates the takedown display and displays a command to follow (e.g. "FOLLOW ME"). Acoustic feedback is provided while the text display is active. |
| STOP | Activates/deactivates the stop signal unit and displays a command to stop (e.g. "STOP"). Acoustic feedback is provided while the text display is active. |
| | Activates/deactivates the built-in front-facing working lights. A condition (approval signal) might be required or configurable. |
| | Activates/deactivates the working lights integrated on the left and right. A condition (approval signal) might be required or configurable. |

| Functions of the menu navigation buttons (HBE 300) | |
|---|---|
| | Navigate upwards through menu items and functions. |
| | Navigate downwards through menu items and functions. |
| OK | Select and choose menu items/functions. |
| | Return to the previous menu item level. By holding and pressing this button, you also switch off all active functions. |

| *Homologation: (Germany and international)* | |
|---|---|
| EMC in accordance with ECE-R10: | E1 10R-05 6932 |



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