MACHINE LIGHTING AND SIGNAL LIGHTS

:::di-soric

MACHINE
LIGHTING

THE RIGHT LIGHT FOR EVERY APPLICATION

Our extremely luminous and reliable machine lighting is designed for industrial use. From our MB-R series for use in more simple industrial settings to the MB-NP series for very harsh environments. Highly efficient power LEDs and industrial potting encapsulation guarantee outstanding performance data in all series.

The MB-RGBWs combine the high-quality, white light of our machine lighting (with the best color reproduction) with a high-performance RGB signal light element to display machine status.

MB-R

MB-N

MB-NP

MB-RGBW

MACHINE LIGHTING	Page

SIGNAL LIGHTING
& SIGNAL LIGHTS

OPTIMAL DISPLAY OF SYSTEM STATES THROUGH
IMPRESSIVE BRIGHTNESS AND GREATEST COLOR BRILLIANCE

With IO-Link, intelligent signal lighting is available that can be adapted to individual requirements and which display machine status optimally. The Segment and the Level modes offer many new options.

Signal lighting and signal lights can be configured during operation by means of IO-Link (process data) – light functions such as color, individual brightnesses and the flashing of individual segments can befreely adjusted. Even without IO-Link, it can be used immediately out of the box thanks to eight color presets that can be triggered (predefined or user-defined).
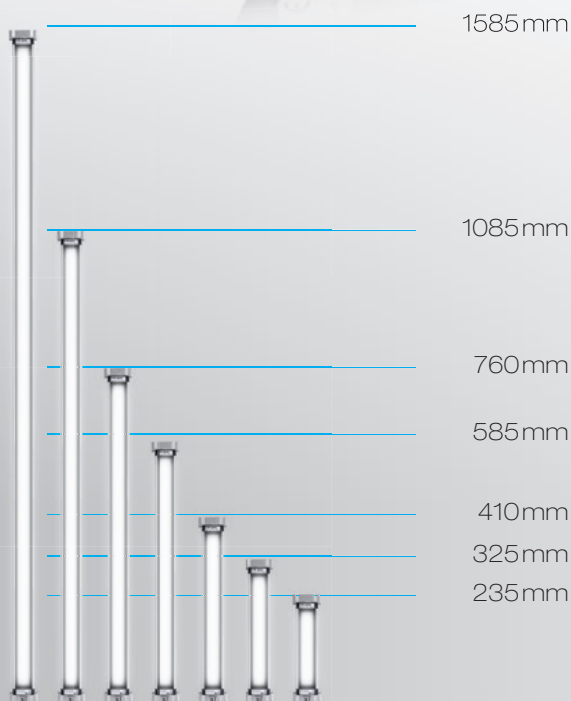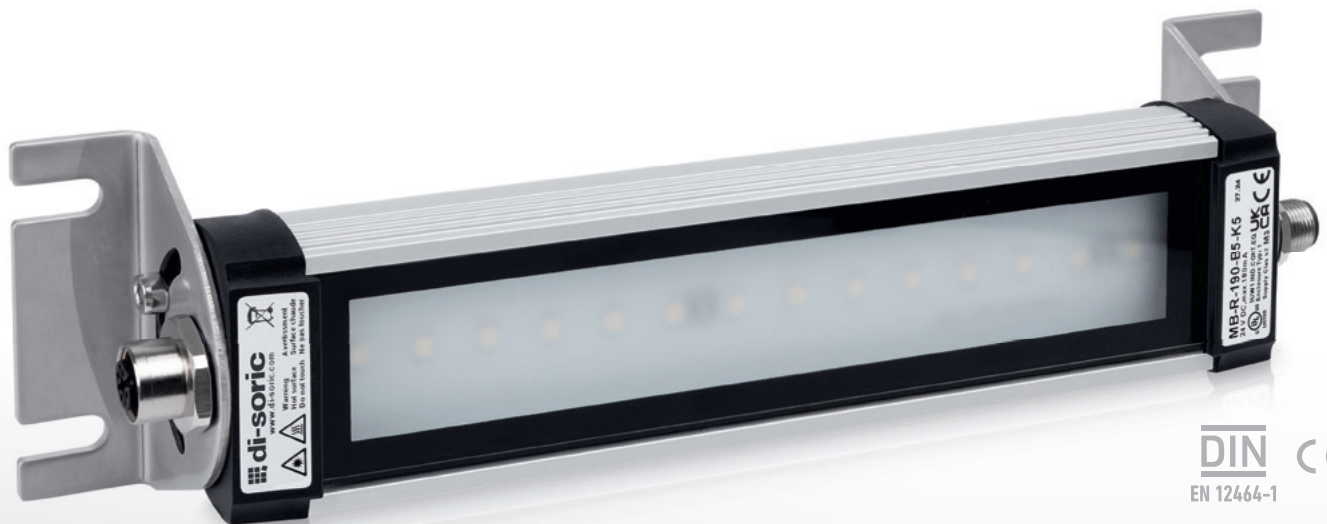
SB-RGB

SBT-RGB

SBP-RGB

MACHINE LIGHTING
MB-R SEMICIRCULAR

OUR ALL-IN-ONE MACHINE LIGHTING

Our robust, semicircular machine lighting. It is ideal for use in machines or in rough production environments due to its expanded temperature range, modern plug connection technology and hardened safety glass. The neutral white light ensures pleasant lighting conditions. The MB-R machine lighting can also be cascaded. This allows it to be wired even more efficiently.

DIN
EN 12464-1

CE

1585 mm

1085 mm

760 mm

585 mm

410 mm

325 mm

235 mm

Highlights

- Expanded temperature range -20 - +50°C
- Integrated diffuser
- Pleasant, neutral white light
- Simple wiring and integration
- IP67 - industry-ready
- Homogeneous light distribution
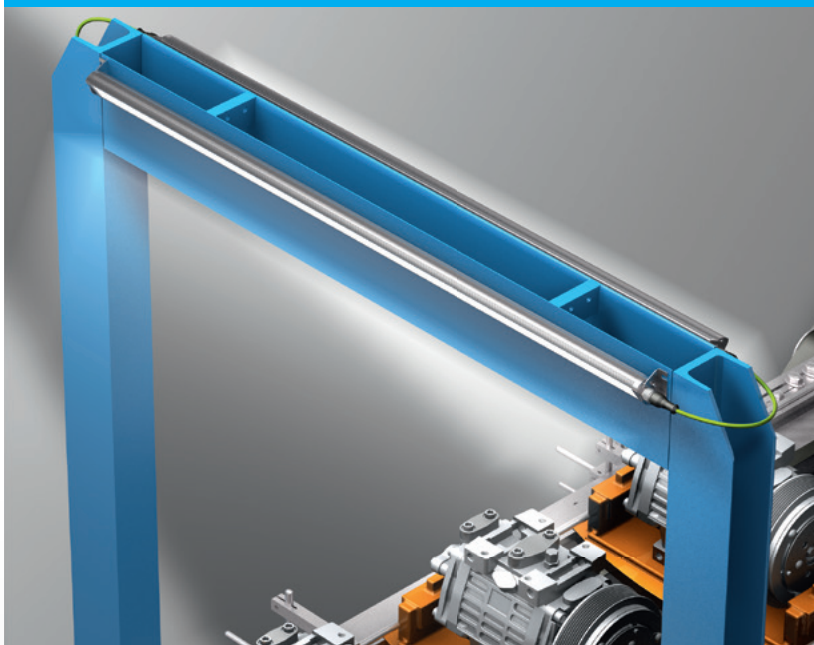- Shock- and vibration-resistant
- Cascadable

Features

- 7 different lengths
- Semicircle, anodized aluminum housing
- 3 mm safety glass with opal-white glare reduction
- M12 plug connector technology
- Permanently integrated retaining bracket
- White light (5,000K)

MB-R	MB-R-190-B5	MB-R-190-B5-K5	MB-R-280-B5	MB-R-280-B5-K5	MB-R-365-B5	MB-R-365-B5-K5
Cascadable (max. number)	✖	✔ (max. 10)	✖	✔ (max. 8)	✖	✔ (max. 5)
Dimensions (HxWxD)	37 x 235 x 60 mm		37 x 325 x 60 mm		37 x 410 x 60 mm	
Illuminated area	23.5 x 150 mm		23.5 x 240 mm		23.5 x 325 mm	

MB-R
APPLICATION EXAMPLES
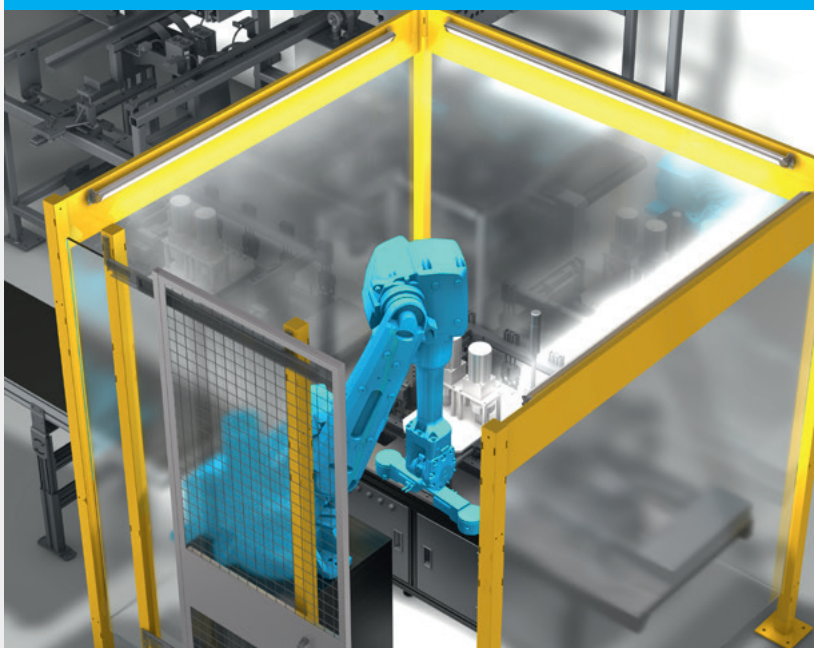
Illumination of conveyor belts

The MB-R is excellently suited for assembly on conveyor belts. Through their cascadability, wiring can be done especially efficiently. The integrated diffuser of our MB-R also ensures pleasant lighting conditions.

With the undetachable retaining bracket, the machine lighting can be optimally aligned to the conveyor path.

Cascadable machine lighting
MB-R-1040-B5-K5

Illumination of a robot cell

Based on differently sized lighting areas in the portfolio of 19 cm up to 1.5 m, even robotic cells can be illuminated very well with our MB-R. The retaining brackets ensure optimal alignment. The machine operator thereby always has a good view of the machine process.
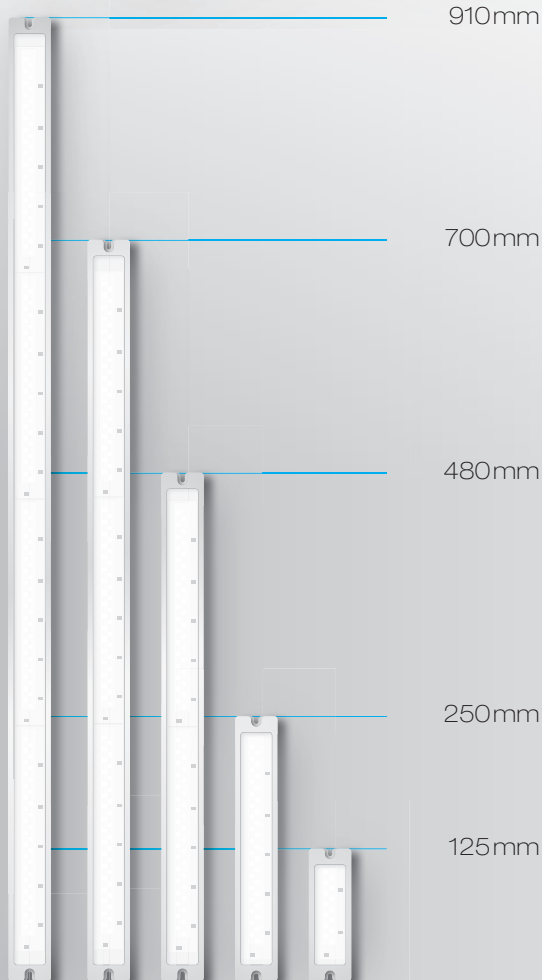
Machine lighting
MB-R-1540-B5

MB-R-540-B5	MB-R-540-B5-K5	MB-R-715-B5	MB-R-715-B5-K5	MB-R-1040-B5	MB-R-1040-B5-K5	MB-R-1540-B5	MB-R-1540-B5-K5
✗	✔ (max. 4)	✗	✔ (max. 3)	✗	✔ (max. 3)	✗	✔ (max. 2)
37 x 585 x 60 mm		37 x 760 x 60 mm		37 x 1085 x 60 mm		37 x 1585 x 60 mm	
23.5 x 500 mm		23.5 x 675 mm		23.5 x 1000 mm		23.5 x 1500 mm	

MACHINE LIGHTING
MB-N

HIGHEST EFFICIENCY AND BEST POSSIBLE ILLUMINATION IN MACHINERY

The MB-N machine lighting can be used, due to its flat construction, in narrow machinery spaces. With the load-free trigger input, the lighting can be switched on or off or dimmed directly from the control. They also offer the highest quality light in white. Through a robust, vibration-resistant housing and slim designs, the machine lighting are ideal for a large number of industrial applications.

DIN
EN 12464-1

CE

c UL us
LISTED

910mm

700mm

480mm

250mm

125mm

Efficient, extreme light intensity, quick and easy installation

- Comprehensive range of lengths
- Compact construction with only 10 mm height and 40 mm width
- Mounted using a magnetic holder set rather than time-consuming drilling and screwing
- Swivel-mounted retaining bracket for non-glaring installation

Reliable operation through tested quality

- Extremely durable thanks to intelligent thermal management
- Outstanding energy efficiency
- Maximum robustness thanks to shock-resistant and vibration-resistant housing with protection class IP67

Maximum safety thanks to extremely good color reproduction

- Color rendering index R_a 85
- High-performance LEDs with a very high light intensity ensure reliable and even illumination
- Energy-saving system light yield of >100 lumens per watt
- Very homogeneous wide-angle illumination of 120°
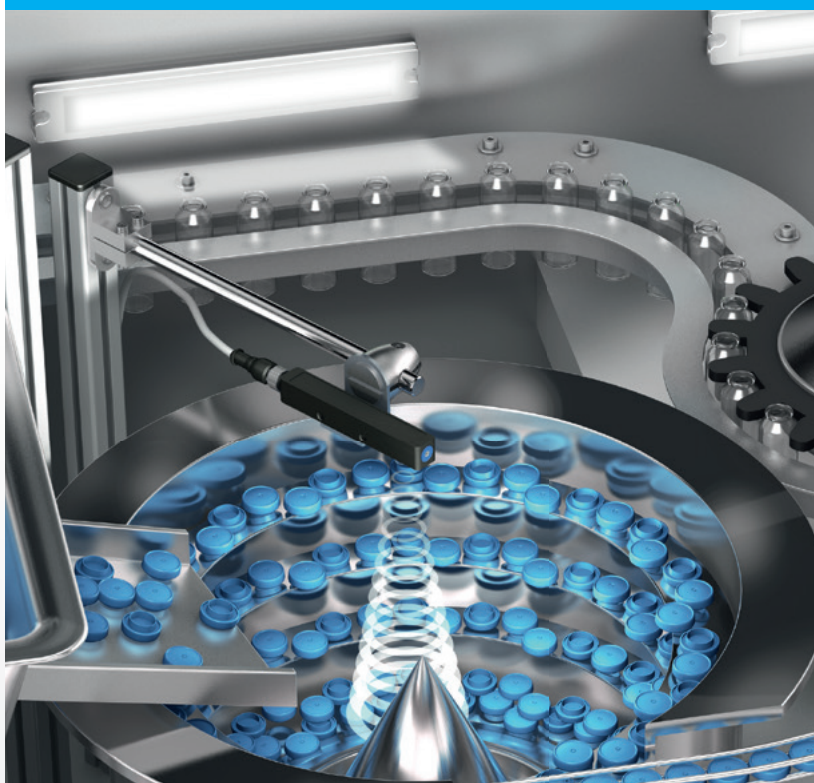- Suitable for workstation lighting

MB-N
APPLICATION EXAMPLE

WITH INTENSE LIGHT AND QUICKLY INTEGRATED

The MB-N LED machine lighting allows for ongoing processes in machines to be observed with accuracy as well as rapid retooling and maintenance – guaranteeing maximum efficiency in the machines.

Illumination of machinery

The MB-N ensures a wide-area and homogeneous illumination of a machine. With the plug & play PWM dimmer MB-DIM-2, the illumination intensity can be adapted as needed.

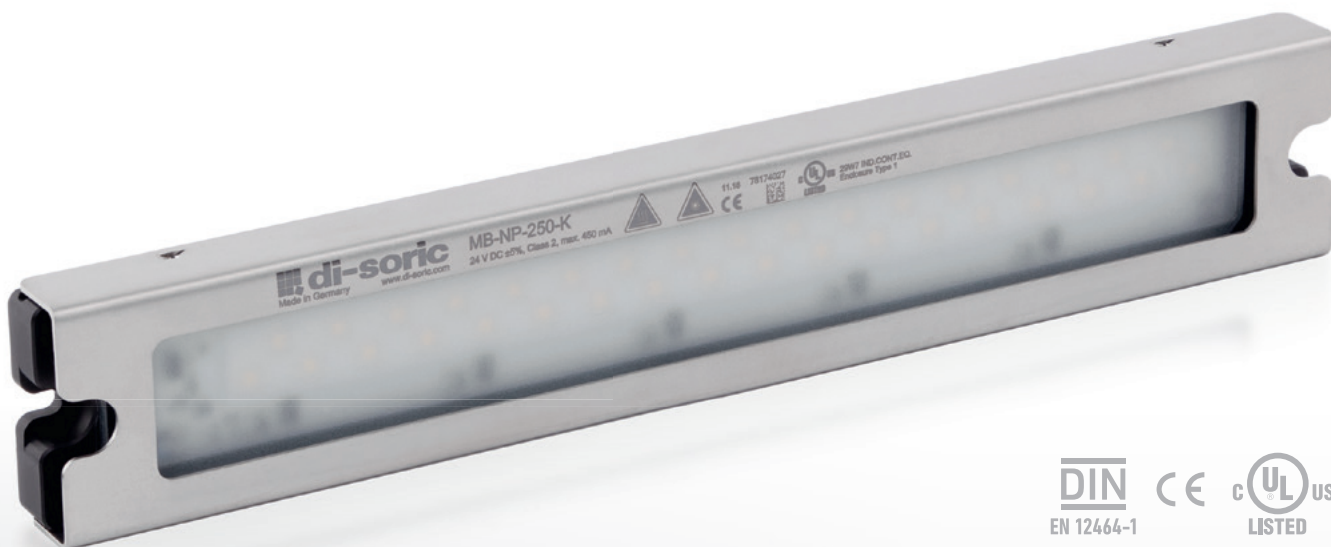Machine lighting
MB-N-701-K-B3

MB-N	MB-N-126	MB-N-251	MB-N-481	MB-N-701	MB-N-911
Dimensions (HxWxD)	40 x 125 x 10 mm	40 x 250 x 10 mm	40 x 480 x 10 mm	40 x 700 x 10 mm	40 x 910 x 10 mm
Illuminated area	30 x 95 mm	30 x 220 mm	30 x 440 mm	30 x 660 mm	30 x 870 mm
Cable: 0.3 m / with M12 connector, 3-pin	MB-N-126-K-B3	MB-N-251-K-B3	MB-N-481-K-B3	MB-N-701-K-B3	MB-N-911-K-B3
Cable 3.0 m / with open end, 3 leads	MB-N-126-K	MB-N-251-K	MB-N-481-K	MB-N-701-K	MB-N-911-K

MACHINE LIGHTING
MB-NP PROTECTED

MAXIMUM EFFICIENCY UNDER HARSH AMBIENT CONDITIONS

Thanks to their robust housing technologies and high degree of protection, Protected MB-NP machine lighting can be operated under mechanical loads and while being inundated with hot shavings. It is also chemically resistant to a large number of media.

DIN EN 12464-1   CE   c (UL) us LISTED

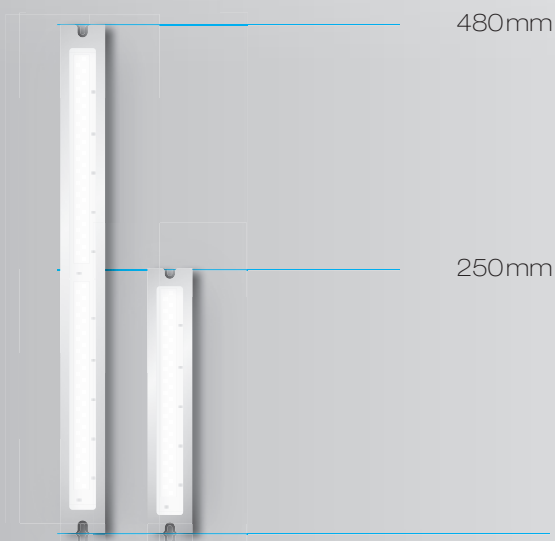## Excellent reliability, even under the toughest application conditions

- Resistant to being hit by hot shavings, i.e. from milling machines
- Resistant to materials such as bases, saline solutions, oils and greases
- Maximum robustness thanks to shock-resistant and vibration-resistant housing
- Leak test in accordance with DIN EN 60529, IP67

Reliable operation through tested quality

- Large and homogeneous field of illumination for optimal machine lighting
- Outstanding energy efficiency
- Made-in-Germany quality

Maximum safety thanks to extremely good color reproduction

- Color rendering index R_a 85
- High-performance LEDs with a very high light intensity ensure reliable and even illumination
- Energy-saving system light yield of >100 lumens per watt
- Very homogeneous wide-angle illumination of 120°

480mm

250mm

MB-NP
APPLICATION EXAMPLE

The MB-MP is used when increased mechanical loads occur in an application or higher requirements with respect to chemical resistance, such as in washing environments, are called for.

Illumination of a processing center

Due to its resistance to inundation with hot shavings, the MB-NP represents an optimal solution for illumination in harsh working environments. Due to their slim design, MB-NP machine lights are optimal in narrow installation situations.

Machine lighting
MB-NP-480-K

MB-NP	MB-NP-250-K	MB-NP-480-K
Dimensions (H x W x D)	42.3 x 250 x 16.2 mm	42.3 x 480 x 16.2 mm
Illuminated area	25 x 216 mm	25 x 436 mm
Connection	Cable 3.0 m, open end, 3 leads	

MB-RGBW MACHINE LIGHTING
WITH STATUS DISPLAY

The MB-RGBW housing combines the high-quality white light provided by our machine lighting with the option to show additional status displays using a freely configurable RGB light element.

DIN
EN 12464-1   CE   c UL us LISTED

910 mm

700 mm

480 mm

250 mm

RGB element

Highlights

- High light intensity thanks to state-of-the-art Power LEDs
- Can be used immediately out-of-the-box through color presets
- The best light quality, as always
- Very good color reproduction guarantees safety
- Large illuminated RGB area for optimal display of machine status
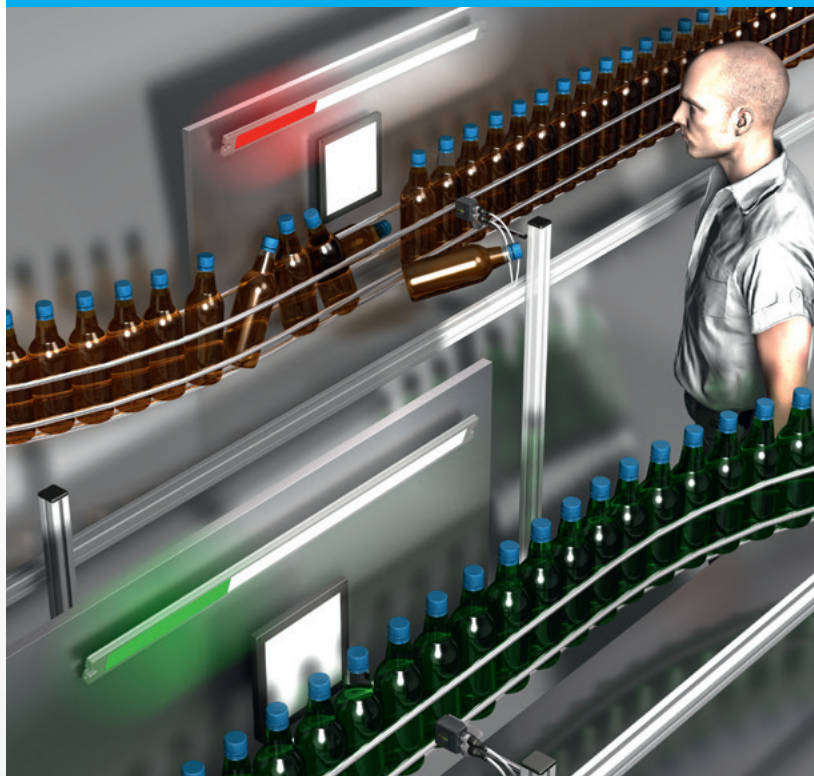
Features

- The RGB light element's individual light functions are easy to configure offline via IO-Link:
  - Virtually infinite number of possible colors
  - Individual brightness levels
  - Different flashing patterns can be assigned to individual colors
- Reduced costs
  - Just one device for every requirement
  - so less inventory is needed

MB-RGBW
APPLICATION EXAMPLE

The MB-RGBWs are used when, in addition to illumination, a status display is also needed in one application.

Illumination and optical display of system states

To minimize the damage during downtime of the system as much as possible, fast optical detection of the area of the fault is necessary. This is the prerequisite for quick elimination of the fault and a fast restart of the system.

Machine lighting
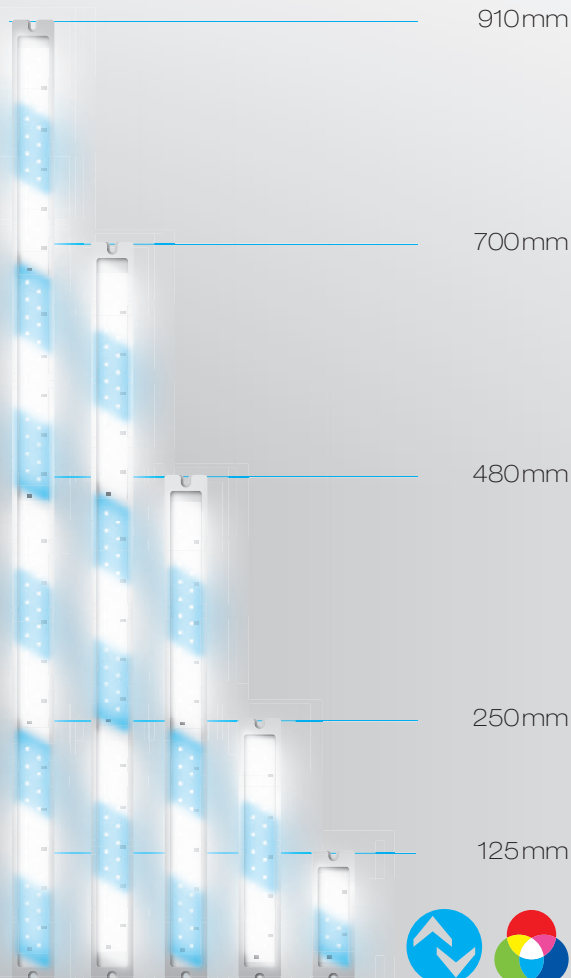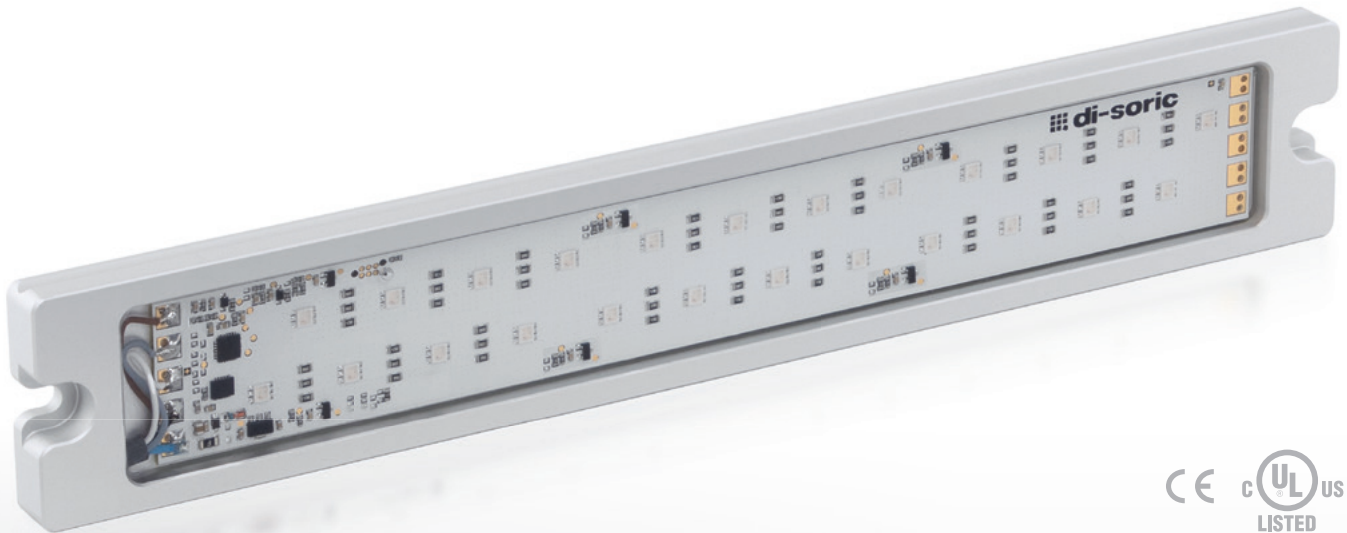with status indicator
MB-RGBW-481-K-B5

MB-RGBW	MB-RGBW-251-K-B5	MB-RGBW-481-K-B5	MB-RGBW-701-K-B5	MB-RGBW-911-K-B5
Dimensions (H x W x D)	40 x 250 x 10 mm	40 x 480 x 10 mm	40 x 700 x 10 mm	40 x 910 x 10 mm
Illuminated area	30 x 220 mm	30 x 440 mm	30 x 660 mm	30 x 870 mm
Connection	Cable: 0.3 m with M12 connector, 5-pin			

SB-RGB
MULTI-SEGMENT IOL SIGNAL LIGHTING

With its pure color signal lighting, the SB-RGB clearly displays the status of machines or machine segments in vibrant, unmistakable colors, even at great distances.
Ready for use right away – and can be customized to suit every requirement.

CE   c(UL)us LISTED

910mm

700mm

480mm

250mm

125mm

Highlights

- Segment and Level mode (IO-Link process data)
- Freely configurable light functions via IO-Link
- Large illuminated area for optimal display of machine status
- Up to 8 color displays (predefined and user-defined via IO-Link) are possible through 3 digital trigger inputs
- Machine status visible over great distances

IO-Link features

- Easy configuration of individual functions during operation via IO-Link process data:
  - Segment and Level mode
  - Virtually infinite number of possible colors
  - Individual brightness levels
  - Different flashing patterns can be assigned to individual colors
- Reduced costs
  - Just one device for every requirement
  - so less inventory is needed

SB-RGB
APPLICATION EXAMPLES

Optical hazard display
in combination with a safety light curtain

When a workpiece is machined in a machining cell, the SB-RGB can be used as an optical hazard display. A cell that is illuminated red displays a hazard for the operator. When the cell lights up green, the operator can remove the workpiece from the cell. Mistakes can thereby be avoided and the availability of the system can be increased.

Signal lighting
SB-RGB-701-K-B5

Optical visualization
of progress in processes

In machining centers, signal lighting can be used for displaying progress in Segment mode. The machine operator can thus immediately determine the current status and act accordingly in case of error messages.
A large amount of information can be clearly displayed optically.

Signal lighting
SB-RGB-901-K-B5

SG-RGB	SB-RGB-126-K-B5	SB-RGB-251-K-B5	SB-RGB-481-K-B5	SB-RGB-701-K-B5	SB-RGB-911-K-B5
Dimensions (HxWxD)	40 x 125 x 10 mm	40 x 250 x 10 mm	40 x 480 x 10 mm	40 x 700 x 10 mm	40 x 910 x 10 mm
Segments	2	3	6	9	12
Illuminated area	30 x 95 mm	30 x 220 mm	30 x 440 mm	30 x 660 mm	30 x 870 mm
Connection	Cable 0.3 m / M12, 5-pin				

SIGNAL LIGHTS
SIGNAL COLUMNS
SBT-F FIXED COLOR

CAN BE USED IMMEDIATELY – ECONOMICAL – EFFICIENT

The multi-segment signal columns from the SBT-F series with their fix defined colors can be used immediately, since each of the 3-5 individual segments can be triggered via its digital inputs.

The signal columns from the SBT-F series are available with 3-5 segments and optionally with a buzzer that is easily audible over long distances.

Highlights

- Good signal effect
- Low energy consumption
- Can be used immediately
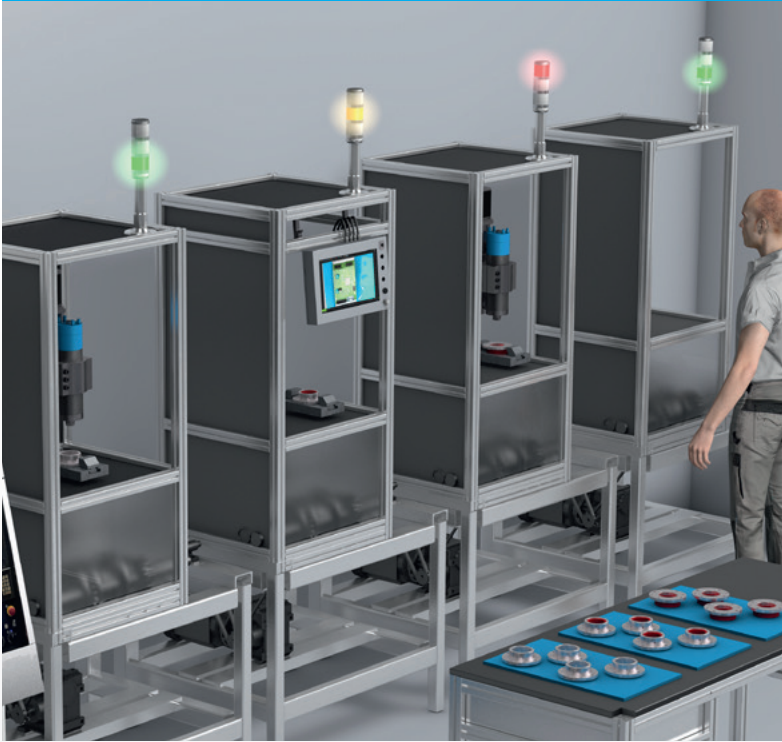- Simple installation (M30 threading)

Features

- 6 different variants (3-5 segments, with and without buzzer)
- Predefined segments with fixed colors
- 360° status display
- Highly efficient LEDs

SBT-F with buzzer

CE

SBT-F
APPLICATION EXAMPLE

Display of machine conditions visible 360°

Our SBT-F signal simply signals the machine condition to the operator.
The SBT-F can be used immediately with its permanently allocated colors per segment. The signal tone sounds as soon as the process is concluded.
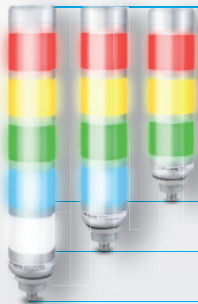
Signal lighting
SBT-F-GYR-R50-3B-B5

SBT-F

The compact design and high protection type of the series without a buzzer enable use in rough ambient conditions.

165 mm
212 mm
259 mm

SBT-F with Buzzer

The greatest flexibility in applications is achieved in the combination of optical and acoustic signals with a buzzer, which additionally increases perceptibility.

184 mm
231 mm
278 mm

SBT-F	SBT-F-GYR-R50-3S-B5	SBT-F-BGYR-R50-4S-B8	SBT-F-WBGYR-R50-5S-B8
Dimensions (ØxH)	Ø 50.6 x 165 mm	Ø 50.6 x 212 mm	Ø 50.6 x 259 mm
SBT-F with buzzer	SBT-F-GYR-R50-3B-B5	SBT-F-BGYR-R50-4B-B8	SBT-F-WBGYR-R50-5B-B8
Dimensions (ØxH)	Ø 50.6 x 184 mm	Ø 50.6 x 231 mm	Ø 50.6 x 278 mm
Segments	3	4	5
Segment colors	Red / yellow / green	Red / yellow / green / blue	Red / yellow / green / blue / white
Illuminated area (Ø x H)	3 x Ø 50 x 37 mm	4 x Ø 50 x 37 mm	5 x Ø 50 x 37 mm

SIGNAL LIGHTS
SIGNAL COLUMNS SBT-RGB MULTICOLOR

CAN BE USED IMMEDIATELY – CAN BE INDIVIDUALLY CONFIGURED - HIGHLY EFFICIENT

The multi-segment signal columns from the SBT-RGB series achieve their maximum flexibility through control by IO-Link, through which they offer a nearly infinite number of colors and possible representation options independent of segment.

Additionally, by way of IO-Link, the individual brightness and the flashing behavior per segment can be parameterized. The signal columns from the SBT- RGB series are available with 3-5 segments and optionally with a buzzer that is easily audible over far distances.

Highlights

- Strong signal effect through bright and homogeneous illumination
- Low energy consumption
- Can be used and integrated immediately
- Simple configuration, reproducibility and control via IO-Link
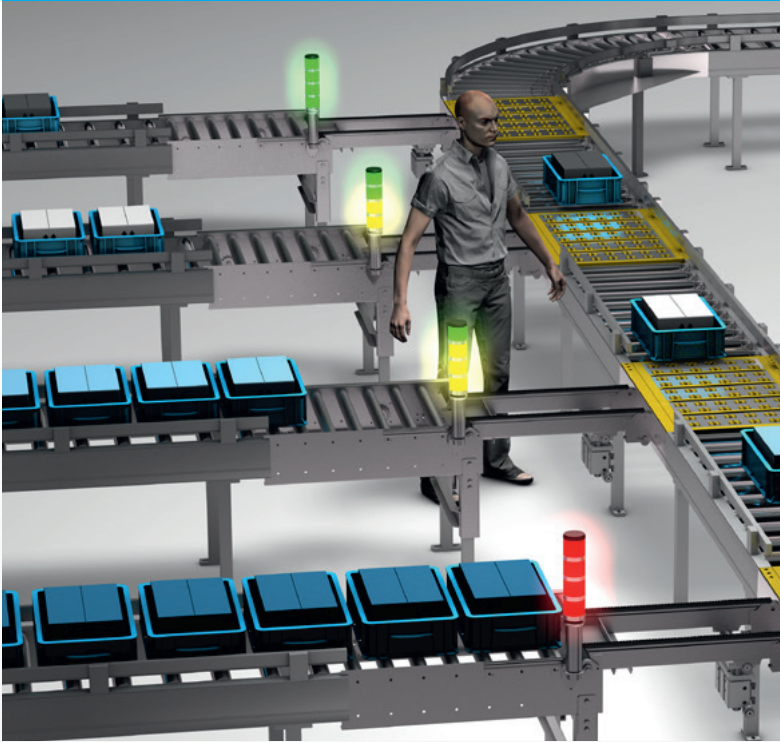- Simple installation (M30 threading)

Features

- 6 different variants
  (3-5 segments, with and without buzzer)
- Three trigger inputs (eight predefined / user-defined color settings)
- Easy configuration of individual functions during operation via IO-Link process data:
  - Virtually infinite number of possible colors
  - Individual brightness levels (dimmable segments)
  - Flashing patterns of individual colors
- 360° status display
- Highly efficient LEDs

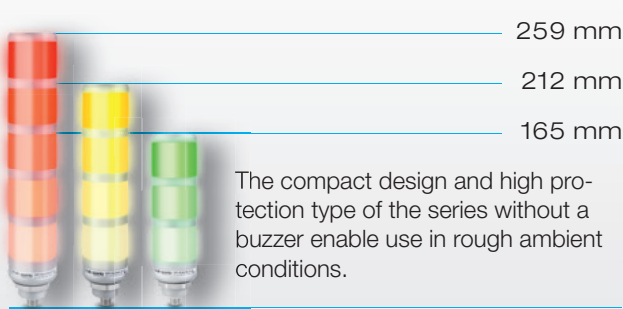SBT-RGB with buzzer

CE

SBT- RGB
APPLICATION EXAMPLE

Resource display on conveyor belts visible 360°

Through the integrated Level mode, our SBT-RGB shows the worker at the conveyor belt which belt must be cleared or which belt has no more free resources.

Signal lighting
SBT-RGB-R50-4S-B5

SBT-RGB

259 mm
212 mm
165 mm

The compact design and high protection type of the series without a buzzer enable use in rough ambient conditions.

SBT-RGB with Buzzer

278 mm
231 mm
184 mm

The greatest flexibility in applications is achieved in the combination of optical and acoustic signals with a buzzer, which additionally increases perceptibility.

SBT-RGB	SBT-RGB-R50-3S-B5	SBT-RGB-R50-4S-B5	SBT-RGB-R50-5S-B5
Dimensions (ØxH)	Ø 50.6 x 165 mm	Ø 50.6 x 212 mm	Ø 50.6 x 259 mm
SBT-RGB with buzzer	SBT-RGB-R50-3B-B5	SBT-RGB-R50-4B-B5	SBT-RGB-R50-5B-B5
Dimensions (ØxH)	Ø 50.6 x 184 mm	Ø 50.6 x 231 mm	Ø 50.6 x 278 mm
Segments	3	4	5
Segment colors	Freely definable via IO-Link / 8 preconfigured presets		
Illuminated area (Ø x H)	3 x Ø 50 x 37 mm	4 x Ø 50 x 37 mm	5 x Ø 50 x 37 mm

SIGNAL LIGHTS
SBP-RGB MULTICOLOR

High-efficiency and multifunctionality: The dome-shaped signal lighting from di-soric offers 360° visibility, a nearly endless number of colors, individual brightness and blinking/flashing behaviors - all functions can be configured through IO-Link.

The compact design and high degree of protection (IP67) enable use in harsh ambient conditions.

IO-Link features

- Easy configuration of individual functions via IO-Link process data:
  - Nearly endless number of possible colors
  - Adjustable brightness
  - Operating modes: Constant, blinking and flashing
- Reduced costs
  - Just one device for every requirement
  - so less inventory is needed

Highlights

- Can be configured during operation via IO-Link process data
- Up to 8 predefined or user-defined color configurations can be displayed through 3 digital trigger inputs
- Optimal display of status
- Diffuse, very homogeneous light field
- IP67 as a robust (impact-resistant) design
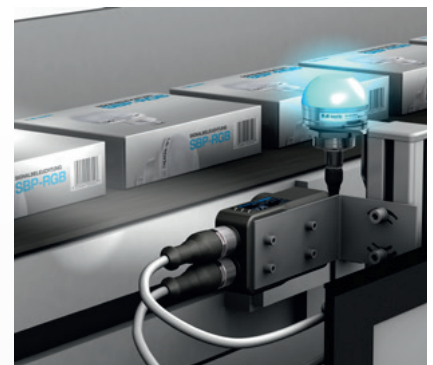- Easy installation and commissioning

SBP- RGB
APPLICATION EXAMPLE

The SBP-RGBs are used when a status display is needed in an application.

Optical signal display for assistance systems for manual assembly workplace systems

During the assembly process, the signal light lights up yellow, during correct implementation of the assembly step it lights up green and the system initiates the next step to make new specifications. But if an error arises during assembly, this is displayed immediately with corresponding indications to correct it by means of the IO-Link signal light that is lighting up red (possibly blinking).

Signal lights
SBP-RGB-R50D-B5

SBP-RGB	SBP-RGB-R50D-B5
Dimensions (H x Ø)	66 x 50 mm
Illuminated area	Ø 50 x 20 mm
Connection	M12 connector, 5-pin

SIGNAL LIGHTS
SBP-FK FIXED COLOR

COMPACT SIGNAL TRANSMITTERS WITH VERSATILE FUNCTIONALITY

Our SBP-FK signal lights feature simple commissioning and maximum flexibility: They have seven predefined colors and are ready to use immediately – without any programming. The basic colors red, green and blue can be controlled individually via separate 24V inputs, enabling clear visual communication.

Choose the exact version that suits your application: The SBP-FK series offers you a variety of options, including a standard model, one with an integrated buzzer and one with a practical touch button. You also remain flexible when it comes to the connection: Decide between variants with a plug or with a 2-meter cable connection.

| SBP-FK | with buzzer | with touch button |

Features:

- RGB multi-color LEDs
- Connection technology ideal for industrial applications
- Easy to handle 24V inputs
- High protection type IP 67 for standard & touch button variants
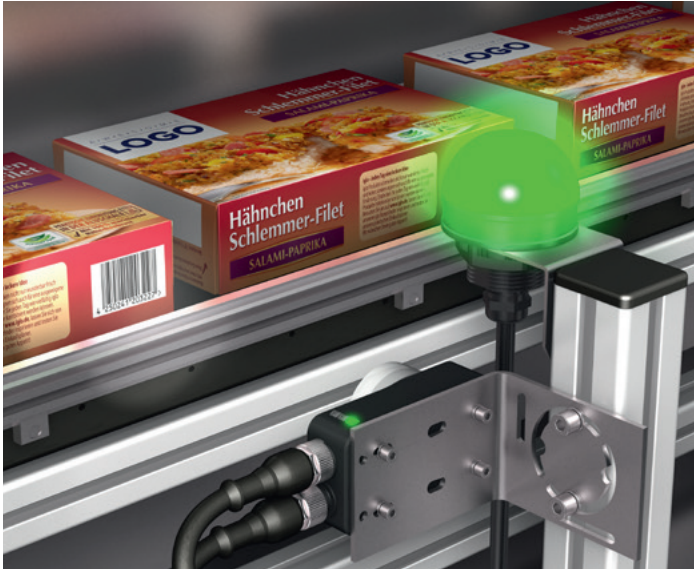
Highlights

- Can be used immediately out-of-the-box
- 3 different variants (standard, with buzzer, with touch button)
- 7 colors displayed with 24V power
- Diffuse, very homogeneous light field
- Control via shared 24V power or shared ground

SBP-FK	SBP-FK-R50D-1S-B5	SBP-FK-R50D-1S-2M
SBP-FK with buzzer	SBP-FK-R50D-1B-B5	SBP-FK-R50D-1B-2M
SBP-FK with touch button	SBP-FK-R50D-1TPNS-B5	SBP-FK-R50D-1TPNS-2M
Dimensions (ØxH)	Ø 50 x 64.7 mm	Ø 50 x 68.7 mm
Illuminated area (Ø x H)	Ø 50 x 20 mm	Ø 50 x 20 mm
Connection	Connector	Cable, 2 m

SBP-FK
APPLICATION EXAMPLES

Checking print quality

The basic variant of the SBP-FK is an ideal addition to our ID600 Code Reader. While the ID-600 performs code verification, the SBP-FK signals a faulty barcode or data matrix code to the machine operator.

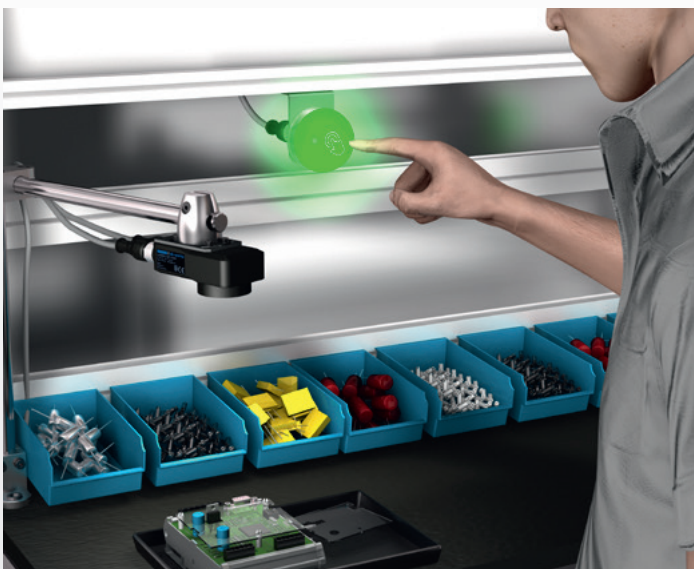Signal light
SBP-FK-R50D-1S-2M
SBP-FK-R50D-1S-B5

User guidance in semi-automated production

In semi-automated production, the SBP-FK with buzzer can be used to generate a higher output. The signal light notifies the machine operator of the manufacturing process and the SBP-FK with buzzer signals and prompts the machine operator to replace components.

Signal light
SBP-FP-R50D-1B-B5
SBP-FP-R50D-1B-2M

User guidance and documentation at a manual workstation

At manual workstations, the SBP-FK supports the assembler with a confirmation button during assembly, and the assembly process can also be documented and tracked.
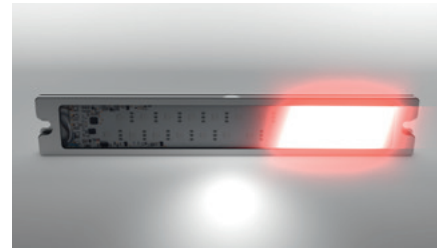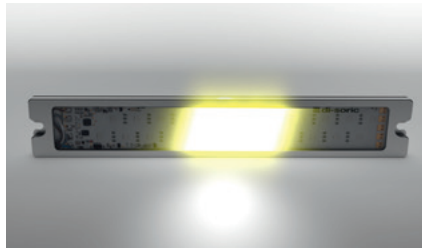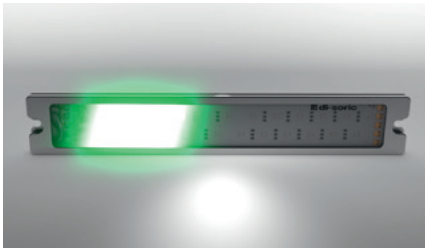
Signal light
SBP-FP-R50D-1TPNS-2M
SBP-FP-R50D-1TPNS-B5

SIGNAL LIGHTS WITH IO-LINK
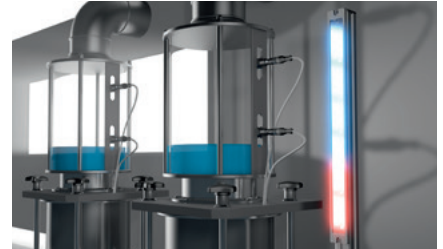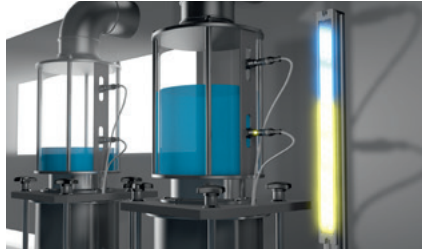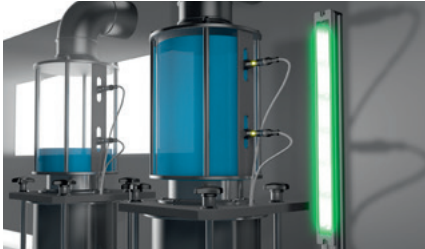## FLEXIBILITY THROUGH 3 OPERATING MODES

SEGMENT MODE

In Segment mode, individual segments can be activated via IO-Link, which enables countless color configurations. Colors can be adjusted for each segment on the fly via IO-Link, the intensity of 10-100% can be varied or blinking or flashing behavior can be adjusted.

LEVEL MODE

In Level mode, there is the option to define a background color (inactive segment) via IO-Link process data, and customers can adjust these, for example, as a corporate identity color, and the fill level is displayed with the active segments (predefined color selection possible).

EXTERNAL TRIGGER MODE

In External trigger mode, 8 preset color and light configurations (factory settings or freely defined in advance) can be called up via 3 digital trigger inputs – even without IO-Link.
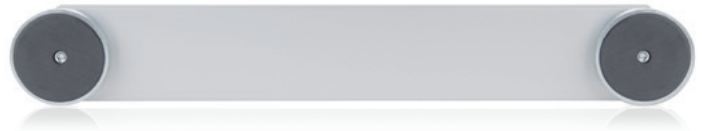
MACHINE AND SIGNAL LIGHTING
ACCESSORIES

SIMPLE INSTALLATION

Fast, easy and adjustable installation without drilling or screws

Magnet holder set MB-MHS

LOW-GLARE

Glare is prevented while the machine or workstation is optimally illuminated.

Diffusers MB-DIF-R… extend the existing dispersion angle from 120° to approx. 180°
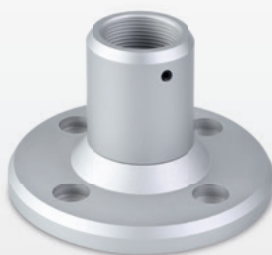
Flexible fastening bracket BW-MB

PWM dimmer MB-DIM 2

ACCESSORIES FOR SBT

To be able to assemble our new signal columns in an industry-suitable manner, we offer flexible assembly accessories - whether on the wall or standing on the machine.

SBT assembly flange
SBT-MF-M30

SBT extension tube
SBT-VR-100-M30

SBT mounting bracket
SBT-BW-M30

Our complete range of products and accessories can be found at www.di-soric.com

SOLUTIONS. CLEVER. PRACTICAL.

di-soric Headquarters

Germany: di-soric GmbH & Co. KG | Steinbeisstrasse 6 | 73660 Urbach
Phone +49 71 81 98 79-0 | Fax +49 71 81 98 79-179 | info@di-soric.com

di-soric Subsidiaries

Austria: di-soric GmbH & Co. KG | Phone +43 7228 72 366 | info.at@di-soric.com
China: di-soric Industrial Automation (Suzhou) Co. Ltd. | Phone +86 199 5127 5458 | info@di-soric.cn
France: di-soric SAS | Phone +33 476 61 65 90 | info.fr@di-soric.com
Singapore: di-soric Pte. Ltd. | Phone +65 6694 7866 | info.sg@di-soric.com

For further information visit www.di-soric.com/international   **www.di-soric.com**