

# **MACHINE ILLUMINATION AND SIGNAL LIGHTS**

MAXIMUM EFFICIENCY

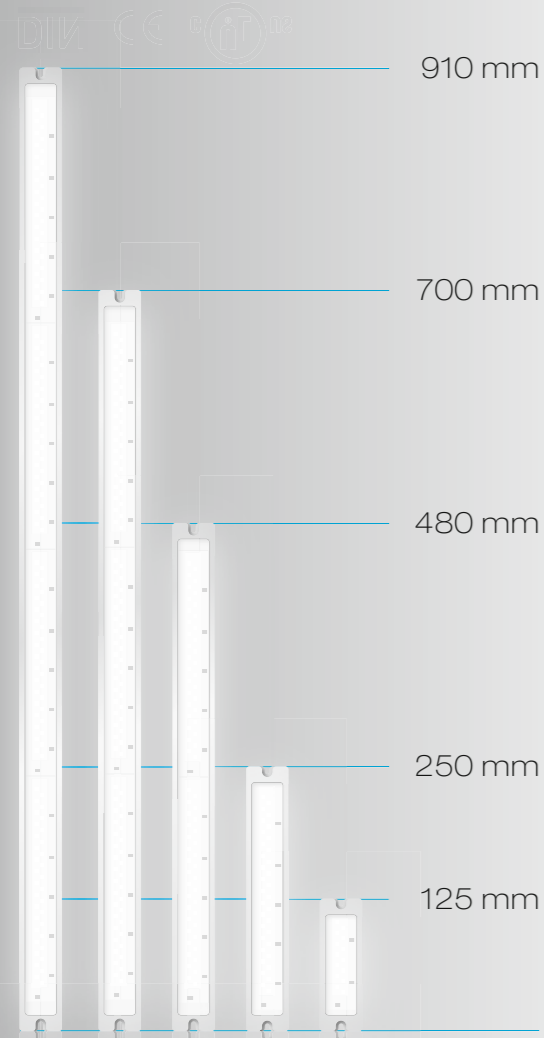
 **di-soric**

# MACHINE ILLUMINATION

## MB-N

### MAXIMUM EFFICIENCY IN MACHINES.

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



### Efficient machine lighting - extreme light intensity and very easy to install

- Comprehensive range of lengths: 125 / 250 / 480 / 700 / 910 mm often means that the lights don't have to be cascaded
- Compact design with width of just 40 mm allows lighting to be used anywhere
- Mounted using set of magnets rather than time-consuming drilling and screwing
- Swivel-mounted retaining bracket for low-glare installation
- Casing in Aluminium, nature anodized

### Very long life thanks to tested quality

- Extremely durable – up to 50000 h – thanks to intelligent thermal management and trigger input
- Outstanding energy efficiency
- Maximum robustness from shock- and vibration-resistant casing with protection class IP 67
- Quality German product

### Very good color reproduction for maximum safety at the workplace

- Very good color reproduction guarantees safety at the workplace (color rendering index 85)
- New high-performance LEDs with very high light intensity ensure reliable and even illumination
- Energy-saving system light yield of >100 lumens/watt
- Very homogeneous wide-angle illumination of 120°
- Suitable as workplace lighting

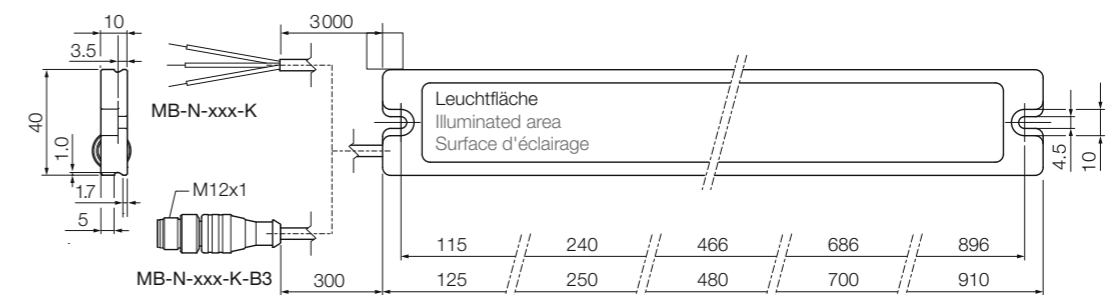
# TECHNICAL DATA

## MB-N

Technical data (typ.)	+20 °C, 24 VDC	Connection diagram
Light color	white 5000 K (LED)	
Angle of reflected beam	typ. 120°	
Color rendering index CRI	85	
Service voltage	24 VDC ± 5 %	
Shock-/vibration loading	30g / 10 – 55Hz, 1mm	
Trigger input low level	0 ... ≤ 5.0 V	
Trigger input high level	≥ 8.0 ... 25.2 V	
Trigger PWM Signal: T <sub>on</sub> / T <sub>off</sub>	< 50 / < 50 μs	
Inverse polarity protection	yes	
Ambient temperature	-20 ... +40 °C	
Protection class	IP67	<b>BN = Brown</b> <b>BK = Black</b> <b>BU = Blue</b>
Protection degree	III, Operation on protective low voltage	
Risk group (DIN EN 62471)	free	
Casing material	Aluminium, nature anodized	
Illuminated area	PU crystal clear	

	Illuminated area (mm)	Internal power consumption at 24 V	Power consumption at 24 V	Illumination intensity at 0.5 m	Illumination intensity bei 1.0 m	Luminous flux	Cable 300 mm with connector M12, 3-poled	Cable, 3000 mm, flying leads	Weight (without packaging)	Maximal cable length at cross section at 0.34 mm <sup>2</sup> (3x) / min. 24 V DC	Product-ID
	30 x 95	190 mA	4.6 W	720 lx	220 lx	440 lm	■	■	115 g	70 m	<b>MB-N-126-K-B3</b>
							■	■	175 g	67 m	<b>MB-N-126-K</b>
	30 x 220	450 mA	10.8 W	1800 lx	530 lx	1100 lm	■	■	210 g	25 m	<b>MB-N-251-K-B3</b>
							■	■	260 g	22 m	<b>MB-N-251-K</b>
	30 x 440	900 mA	21.6 W	3200 lx	1000 lx	2200 lm	■	■	390 g	13 m	<b>MB-N-481-K-B3</b>
							■	■	440 g	10 m	<b>MB-N-481-K</b>
	30 x 660	1350 mA	32.4 W	3900 lx	1300 lx	3300 lm	■	■	550 g	8 m	<b>MB-N-701-K-B3</b>
							■	■	600 g	5 m	<b>MB-N-701-K</b>
	30 x 870	1800 mA	43.2 W	4400 lx	1600 lx	4400 lm	■	■	700 g	6 m	<b>MB-N-911-K-B3</b>
							■	■	750 g	3 m	<b>MB-N-911-K</b>

### Drawing (mm, typ.)

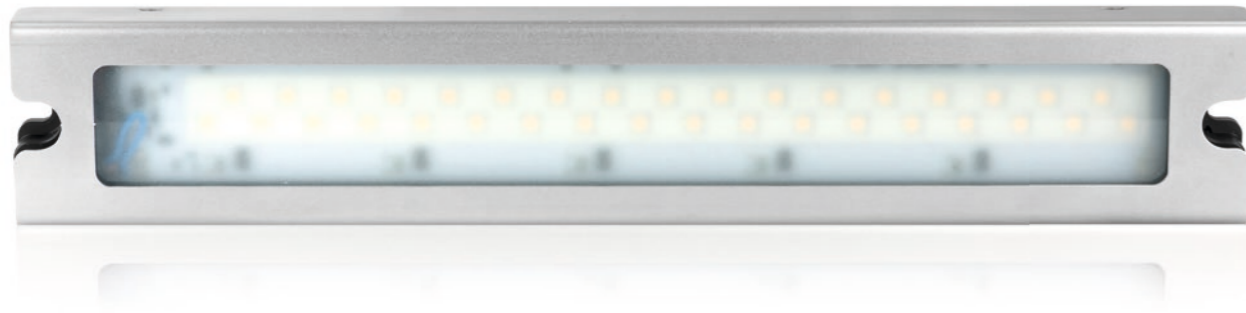


# MACHINE ILLUMINATION

## MB-NP

### MAXIMUM EFFICIENCY UNDER TOUGH 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 hit by hot shavings. It is also chemically resistant to a large number of media.



### Excellent reliability, even under the toughest application conditions

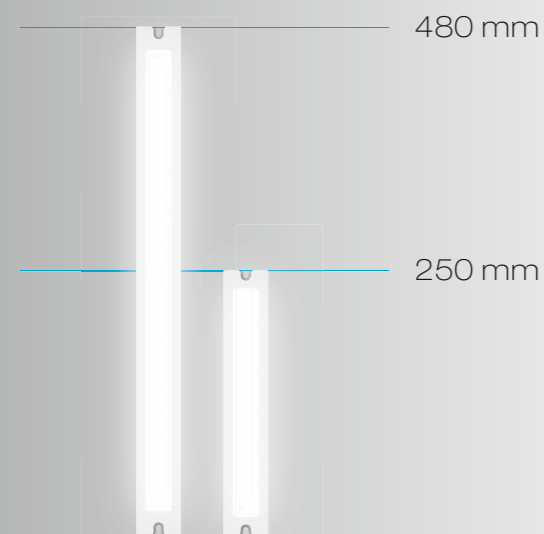
- Resistant to being hit by hot shavings, i.e. from milling machines
- Resistant to materials such as bases, saline solutions, oils and greases
- Maximum robustness from shock- and vibration-resistant casing with protection class IP 67
- Leak test in accordance with DIN EN 60529, IP67

### Very long life thanks to tested quality

- Extremely durable – up to 50000 h – thanks to intelligent thermal management and trigger input
- Outstanding energy efficiency
- Quality German product

### Very good color reproduction for maximum safety at the workplace

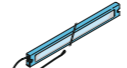
- Very good color reproduction guarantees safety at the workplace (color rendering index 85)
- New high-performance LEDs with very high light intensity ensure reliable and even illumination
- Energy-saving system light yield of >100 lumens/watt
- Very homogeneous wide-angle illumination of 120°



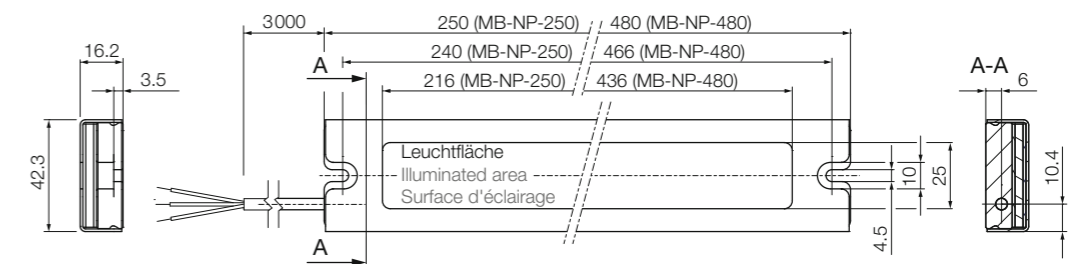
# TECHNICAL DATA

## MB-NP

Technical data (typ.)	+20 °C, 24 VDC	Connection diagram
Light color	white 5000 K (LED)	
Angle of reflected beam	typ. 120°	
Color rendering index CRI	85	
Service voltage	24 VDC ± 5 %	
Shock-/vibration loading	30g / 10 – 55Hz, 1mm	
Trigger input low level	0 ... ≤ 5.0 V	
Trigger input high level	≥ 8.0 ... 25.2 V	
Trigger PWM Signal: T <sub>on</sub> / T <sub>off</sub>	< 50 / < 50 μs	
Inverse polarity protection	yes	
Ambient temperature	-20 ... +40 °C	
Protection class	IP67	BN = Brown BK = Black BU = Blue
Protection degree	III, Operation on protective low voltage	
Risk group (DIN EN 62471)	free	
Casing material	Aluminium, black anodized	
Material	V2A (front frame)	
Illuminated area	Safety glass ESG, diffuse (window)	

	Illuminated area (mm)	Internal power consumption, at 24 V	Power consumption at 24 V	Illumination intensity at 0.5 m	Illumination intensity bei 1.0 m	Luminous flux	Cable, 3000 mm, flying leads	Weight (without packaging)	Maximal cable length at cross section at 0.34 mm² (3x) / min. 24 V DC	Product-ID
Machine illumination protected MB-NP										
	25 x 216	450 mA	10.8 W	1400 lx	430 lx	900 lm	■	410 g	25 m	MB-NP-250-K
	25 x 436	900 mA	21.6 W	2600 lx	800 lx	1700 lm	■	700 g	13 m	MB-NP-480-K

### Drawing (mm, typ.)



# MACHINE ILLUMINATION MB-RGBW WITH IO-LINK

The MB-RGBW offers a combination of the standard-compliant, high-quality white light provided by our machine lights and the display of machine status using a freely configurable RGB light element.



**DIN** EN 12464-1  
**CE**  
**UL** LISTED US

### Highlights

- High light intensity thanks to state-of-the-art power LEDs
- Light functions are freely configurable via IO-Link – fully functional, even without IO-Link – and can be used immediately, “out of the box”, by selecting color presets
- The best light quality, as always
- High color reproduction guarantees safety at the work-place
- Large illuminated RGB area for optimum display of machine status
- Long life – up to 50000h – thanks to intelligent thermal management and trigger input
- All accessories in the MB-N family can be used
- Casing in Aluminium, nature anodized

### IO-Link Features

- The RGB light element’s individual light functions are easy to configure:
  - 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

The MB-RGBW provides exceptional illumination for machines, with high-quality white light to give the best color reproduction and also a powerful RGB light element, which is fully functional even when IO-Link is not in use.

910 mm

700 mm

480 mm

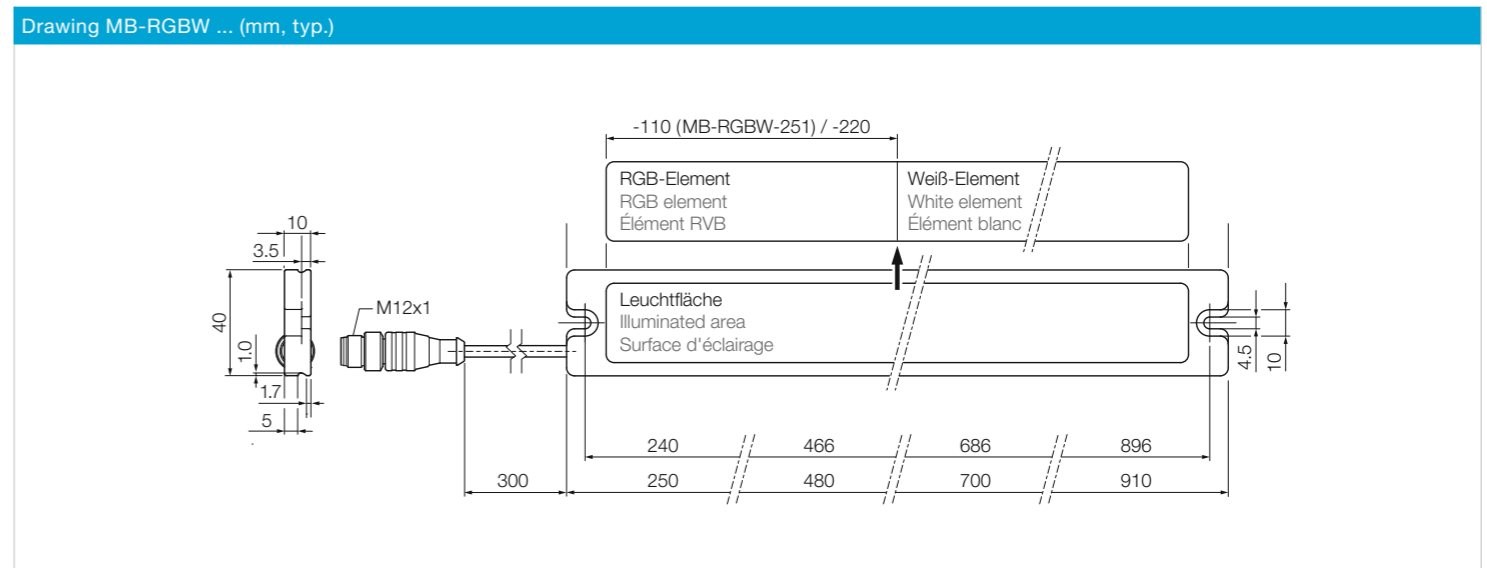
250 mm

RGB element

# TECHNICAL DATA MB-RGBW

Technical data (typ.)	+20 °C, 24 VDC	Connection diagram																												
Operating modes	RGB: constant, blink, flash	<p>BN = Brown WH = White BK = Black</p> <p>BU = Blue GY = Gray</p> <table border="1" style="margin-top: 10px;"> <caption>Presets / Factory settings</caption> <thead> <tr> <th>TRIG1</th> <th>TRIG2</th> <th>TRIG3</th> <th>Farbe/Color</th> </tr> </thead> <tbody> <tr> <td>Lo</td> <td>Lo</td> <td></td> <td>RGB: aus/off</td> </tr> <tr> <td>Hi</td> <td>Lo</td> <td></td> <td>RGB: rot/red</td> </tr> <tr> <td>Lo</td> <td>Hi</td> <td></td> <td>RGB: grün/green</td> </tr> <tr> <td>Hi</td> <td>Hi</td> <td></td> <td>RGB: gelb/yellow</td> </tr> <tr> <td></td> <td></td> <td>Lo</td> <td>WH: aus/off</td> </tr> <tr> <td></td> <td></td> <td>Hi</td> <td>WH: ein/on</td> </tr> </tbody> </table>	TRIG1	TRIG2	TRIG3	Farbe/Color	Lo	Lo		RGB: aus/off	Hi	Lo		RGB: rot/red	Lo	Hi		RGB: grün/green	Hi	Hi		RGB: gelb/yellow			Lo	WH: aus/off			Hi	WH: ein/on
TRIG1	TRIG2		TRIG3	Farbe/Color																										
Lo	Lo			RGB: aus/off																										
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Lo	Hi			RGB: grün/green																										
Hi	Hi			RGB: gelb/yellow																										
			Lo	WH: aus/off																										
			Hi	WH: ein/on																										
Light color	White (5000 K), RGB + custom																													
Beam angle per LED	typ. 120°																													
Light intensity can be adjusted	RGB, 10 ... 100 %, by IO-Link																													
Service voltage	24 VDC ± 5 % , (Supply Class 2)																													
Shock-/vibration load	30g / 10 – 55 Hz, 1 mm																													
Trigger input low level	0 ... ≤ 5.0 V																													
Trigger input high level	≥ 8.0 ... 25.2 V																													
Trigger input	3 color presets: selectable by Trigger 1 + 2, white: selectable by Trigger 3																													
Interface	IO-Link V1.1, COM2 (38,4kBd), 2300 µs, for parameterization																													
Inverse polarity protection	yes																													
Ambient temperature	0 ... +40 °C																													
Protection class	IP67																													
Protection degree	III, Operation on protective low voltage																													
Risk group (DIN EN 62471)	free																													
Casing material	Aluminium, nature anodized																													
Material	PU, crystal clear (Window)																													
Illuminated area	Cable 300 mm with connector M12, 5-poled																													

	Illuminated area (mm)	Internal power consumption at 24 V	Power at 24 V	Illumination intensity at 0.5 m	Illumination intensity bei 1.0 m	Luminous flux	Weight (without packaging)	Maximal cable length at cross section at 5 x 0.34 mm² (AVG 22) / min. 24 V DC	Product-ID
Machine illumination with signal light element MB-RGBW ...									
	30 x 220	max. 305 mA	max. 7.3 W	720 lx	220 lx	440 lm	210 g	25 m	MB-RGBW-251-K-B5
	30 x 440	max. 650 mA	max. 15.6 W	1800 lx	530 lx	1100 lm	390 g	10 m	MB-RGBW-481-K-B5
	30 x 660	max. 1100 mA	max. 26.4 W	3200 lx	1000 lx	2200 lm	550 g	7.5 m	MB-RGBW-701-K-B5
	30 x 870	max. 1520 mA	max. 36.5 W	3900 lx	1300 lx	3300 lm	700 g	5 m	MB-RGBW-911-K-B5

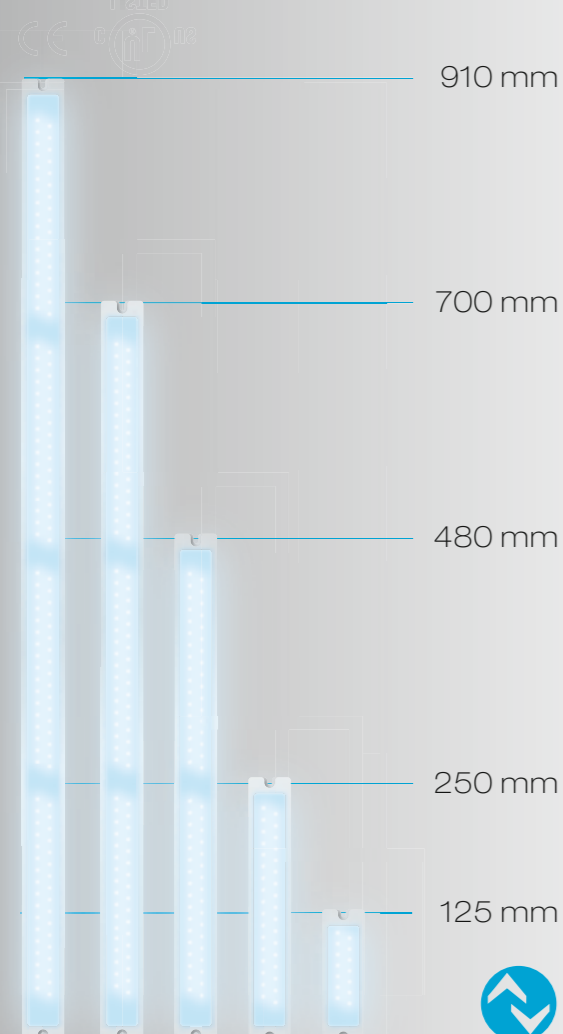


# SIGNAL LIGHTS

## SB-RGB WITH IO-LINK

With its pure color signal lights, the SB-RGB clearly displays the status of machines or machine segments in vibrant, unmistakable colors.

Ready for use right away – and can be customized to suit every requirement.



### Highlights

- Full-area RGB lighting with state-of-the-art power LEDs
- Light functions are freely configurable via IO-Link – fully functional, even without IO-Link – and can be used immediately, “out of the box”, by selecting color presets
- Optimal display of the machine status thanks to the large light field
- Long life – up to 50000h – thanks to intelligent thermal management and trigger input
- All accessories in the MB-N family can be used
- Signal the status of machines so that it is visible from afar
- Casing in Aluminium, nature anodized

### IO-Link Features

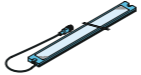
- The individual light functions are easy to configure:
  - Virtually infinite number of possible colors
  - Individual brightness levels
  - Different flashing patterns can be assigned to individual colors
- Reduced costs
  - Just one device for every requirement so less inventory is needed

The SB-RGB functions superbly as a multi-color status light system to indicate operating statuses for access control.

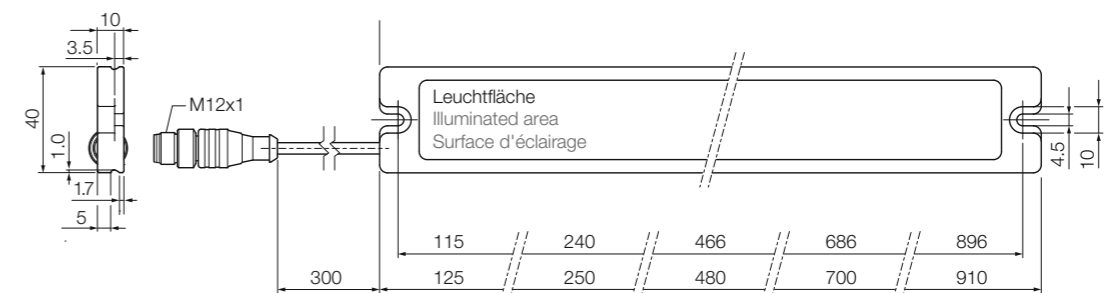
# TECHNICAL DATA

## SB-RGB

Technical data (typ.)	+20 °C, 24 VDC	Connection diagram															
Operating modes	constant, blink, flash	<table border="1"> <caption>Presets / Factory settings</caption> <thead> <tr> <th>Trigger 1</th> <th>Trigger 2</th> <th>Farbe / Color</th> </tr> </thead> <tbody> <tr> <td>Lo</td> <td>Lo</td> <td>aus / off</td> </tr> <tr> <td>Hi</td> <td>Lo</td> <td>rot / red</td> </tr> <tr> <td>Lo</td> <td>Hi</td> <td>grün / green</td> </tr> <tr> <td>Hi</td> <td>Hi</td> <td>gelb / yellow</td> </tr> </tbody> </table> <p>BN = Brown      BU = Blue WH = White      GY = Gray BK = Black</p>	Trigger 1	Trigger 2	Farbe / Color	Lo	Lo	aus / off	Hi	Lo	rot / red	Lo	Hi	grün / green	Hi	Hi	gelb / yellow
Trigger 1	Trigger 2		Farbe / Color														
Lo	Lo		aus / off														
Hi	Lo		rot / red														
Lo	Hi		grün / green														
Hi	Hi		gelb / yellow														
Light color	RGB + custom																
Beam angle per LED	typ. 120°																
Light intensity can be adjusted	10 ... 100 %, by IO-Link																
Service voltage	24 VDC ± 5 % , (Supply Class 2)																
Shock/vibration load	30g / 10 – 55 Hz, 1 mm																
Trigger input low level	0 ... ≤ 5.0 V																
Trigger input high level	≥ 8.0 ... 25.2 V																
Trigger input	3 color presets: selectable by Trigger 1 + 2																
Interface	IO-Link V1.1, COM2 (38.4 kBd), 2300 µs, for parameterization																
Inverse polarity protection	yes																
Ambient temperature	0 ... +40 °C																
Protection class	IP67																
Protection degree	III, Operation on protective low voltage																
Risk group (DIN EN 62471)	free																
Casing material	Aluminium natur anodized																
Material	PU, crystal clear (Window)																
Connection	Cable 300 mm with connector M12, 5-poled																

Signal lights SB-RGB ...	Illuminated area (mm)	Internal power consumption at 24 V	Power consumption at 24 V	Weight (without packaging)	Maximal cable length at cross section at 5 x 0.34 mm <sup>2</sup> (AWG 22) / min. 24 VDC	Product-ID
	30 x 95	115 mA RMS / 150 mA Peak	2.8 W	115 g	50 m	SB-RGB-126-K-B5
	30 x 220	195 mA RMS / 390 mA Peak	4.7 W	210 g	20 m	SB-RGB-251-K-B5
	30 x 440	385 mA RMS / 750 mA Peak	9.2 W	390 g	10 m	SB-RGB-481-K-B5
	30 x 660	565 mA RMS / 1100 mA Peak	13.5 W	550 g	7.5 m	SB-RGB-701-K-B5
	30 x 870	745 mA RMS / 1400 mA Peak	17.8 W	700 g	5 m	SB-RGB-911-K-B5

Drawing SB-RGB ... (mm, typ.)



# SBE-RGB INSTALLATION STATUS LIGHTS

With a length up to 2 m, the status light makes it possible to visually indicate the status of machines or access control to protected areas.

The built-in lighting can even be installed in the floor. The controller can be used to connect up to three status lights. The color options are red, yellow, green and blue.



2000 mm

## Highlights

### Status lighting

- Operation even in tough environments thanks to a rugged aluminum housing with a high degree of protection
- Can be used as floor lighting based on the high crush-resistance
- Free of LABS-critical components
- Easy fastening using retaining brackets (available as an accessory)

### Controller

- Fast commissioning as a result of pre-configuration
- Load-free switching of up to three built-in lights
- Easy adjustment of the brightness using a potentiometer
- High degree of safety thanks to the integrated overload switch-off

1000 mm

SBE-RGB



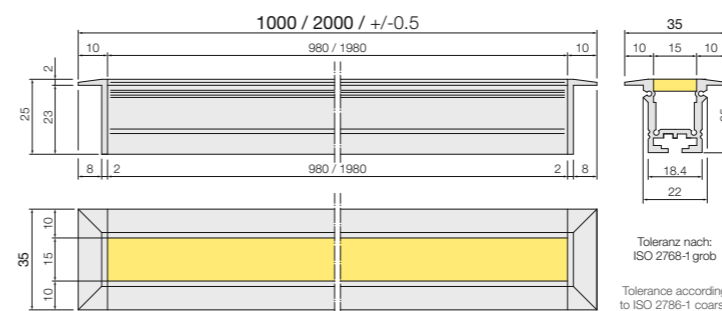
SBI-RGB-Controller

# TECHNICAL DATA SBE-RGB

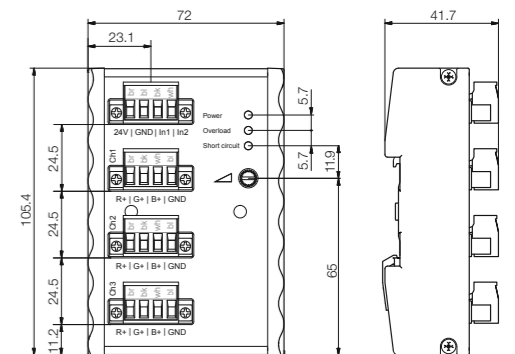
Technical data (typ.)	+20 °C, 24 VDC
Light color	Red/yellow/green/blue
Wave length	620/580/523/465 nm
Service voltage	24 VDC ± 5 %
Operating mode for multiple SBE-RGB lights	Connection to the maximum of three outputs of the SBI-RGB controllers
Protection class	IP68
Risk group (DIN EN 62471)	free
Protection degree	III, Operation on protective low voltage
Ambient temperature	-20 ... +40 °C
Casing material	Aluminium, nature anodized
Illuminated area	PMMA, walk-on (window)
Connection	Cable 300 mm with connector M12, 4-poled
Crush-resistance	100kg/cm <sup>2</sup> (typical crush-resistance that may result in deformation of the lighting and may deviate depending on the shape, material and surface quality of the load)
Norms	DIN EN 60598-1, 2015, Luminaire - Part 1: General requirements and tests DIN EN 62471, 2009, Photobiological safety of lamps and lamp systems

	Illuminated area (mm)	Number of LEDs	Total power consumption per light color	Total current per light color	Weight (without packaging)	Product-ID
Installation status light SBE-RGB	15 x 980 mm	60 pieces	approx. 4.8 W	approx. 200mA	770 g	SBE-RGB-1000-K-B3
	15 x 1980 mm	120 pieces	approx. 9.6 W	approx. 200mA	1540 g	SBE-RGB-2000-K-B3

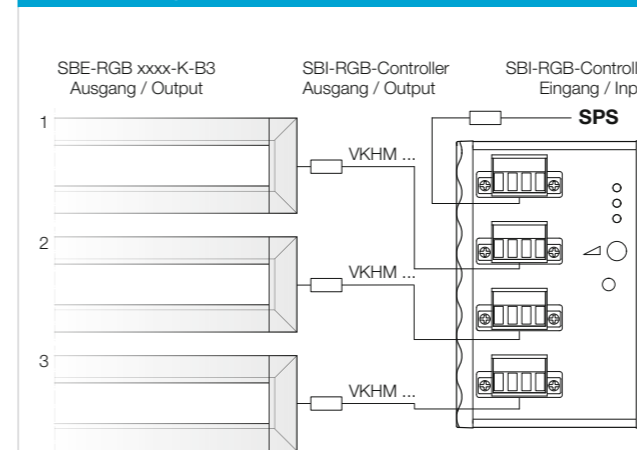
Drawing SBE-RGB ... (mm, typ.)



Drawing SBI-RGB-Controller (mm, typ.)



Connection diagram with Controller for SBE-RGB ...



Light color by means of SBI-RGB-Controller	Trigger input	
	IN 1	IN 2
Red	Hi	Lo
Yellow	Lo	Lo
Green	Lo	Hi
Blue	Hi	Hi

# SMART THANKS TO IO-LINK. SAVE TIME AND MONEY.

## GET STRAIGHT TO THE POINT.

IO-Link provides a point-to-point connection within any network, fieldbus or backplane bus. The IO-Link master can be installed either directly in the field or in the control cabinet.

The international IO-Link standard (in accordance with IEC 61131-9) is now regarded as an **“Enabler for Industry 4.0”**



Photos of PLCs and modules: © Siemens AG 2017, all rights reserved.

## 4 REASONS TO CHOOSE OUR ILLUMINATION AND LIGHTS WITH IO-LINK.

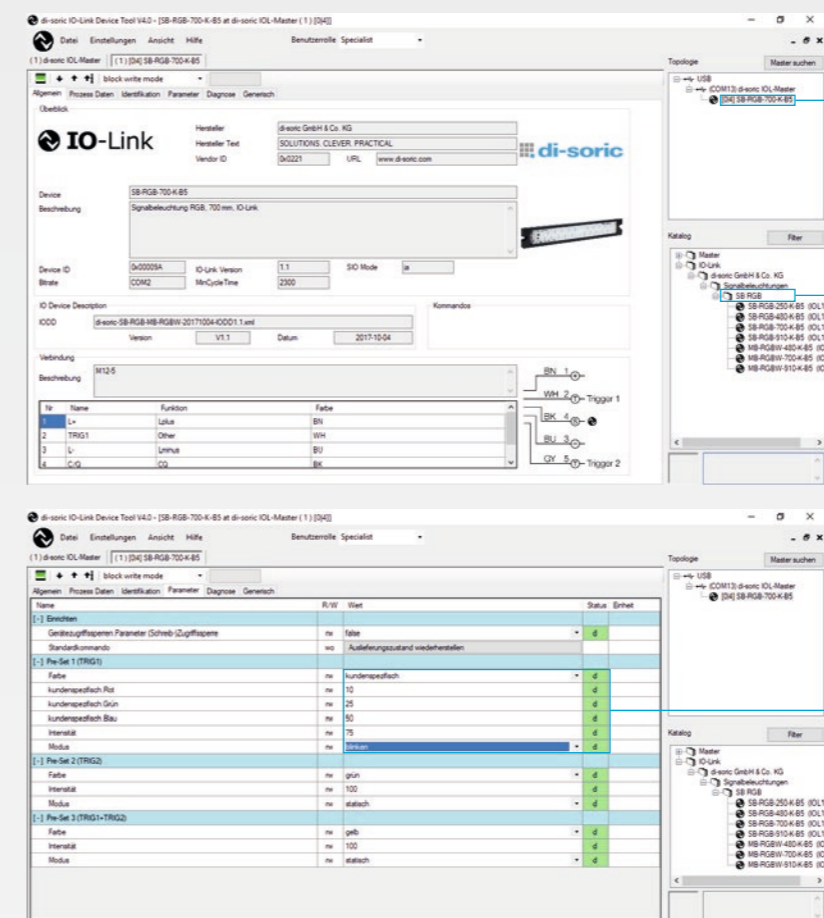
- 1 CUSTOMIZED LIGHTING**
  - Above and beyond the preset colors, you can customize colors individually in IO-Link. The machine and products can be illuminated with freely selectable colors and brightness levels.
- 2 READY FOR USE OUT OF THE BOX**
  - Ready to run, thanks to 3 color presets (red, yellow, green)
- 3 TEACH WITH IO-LINK – WORK INDEPENDENTLY**
  - IO-Link provides simple, intuitive functionality for custom color configurations.
  - Once the new lighting functions have been defined, simply disconnect the IO-Link master – The illumination/light works independently with the new configuration.
- 4 REDUCED COSTS**
  - Thanks to a virtually infinite number of possible combinations of colors, brightness levels and flash patterns, just one device can meet every individual requirement, so
  - less inventory is needed.

# IO-LINK IODD – IO DEVICE DESCRIPTION

## THE IODD

describes sensors and actuators. It holds information to identify devices, device parameters, process and diagnostics data, communications properties and the structure of user interfaces in engineering tools.

At di-soric, three user levels (operator, maintenance and specialist) are implemented. Each level contains the appropriate range of services.



The di-soric IO-Link master automatically detects which lighting device is connected

Just one IODD is needed to control all di-soric RGB(W) lights

The color, brightness and flashing patterns can be configured for the 3 color channels

## SIMPLE ADJUSTMENT OF LIGHT COLOR(S), BRIGHTNESS AND FLASHING PATTERNS WITH SB-RGB AND MB-RGBW:

- Load the IODD, which can be downloaded from our SB/MB product website, into our IO-Link device tool software (which can be downloaded from the IO-Link master website)
- Connect the lighting to the IO-Link master
- Open the “Parameters” menu in the IO-Link device tool
- Select/define the colors for the three available “Color slots” in the lighting memory
- Upload the data from the IO-Link device tool to the lighting memory
- Disconnect the lighting device
- All the colors you have just configured are now available

## IOL-MASTER – IO-LINK DEVICE TOOL



- Universal IO-Link Master with computer software for devices with IODD specification 1.0.1 and 1.1
- Status LED for IO-Link and SIO mode
- M12-connection for devices

# ACCESSORIES

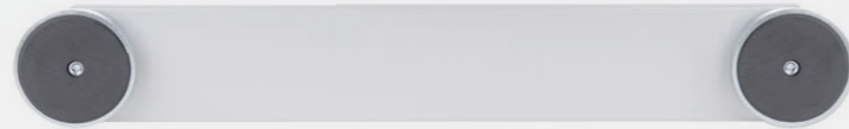
## MB/SB/SBE

### SIMPLE INSTALLATION.

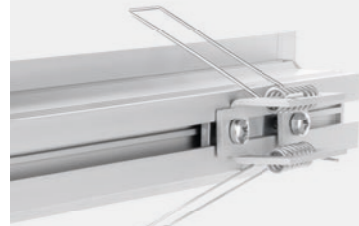


Fast, easy and adjustable installation without drilling or screws

Magnetic holding set MB-HS-2



Easy installation of the SBE-RGB lights with retaining brackets or retaining clips



Retaining brackets SBE-HKS



Retaining clips SBE-HKC

### LOW-GLARE.

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

Diffusor MB-DIF-R-250







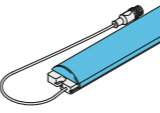
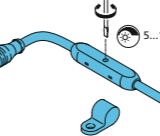
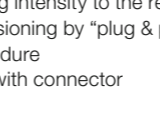

Adjustable mounting brackets BW-MB



PWM-Dimmer MB-DIM 2



Magnetic holding set MB-MHS-2	Mounting brackets set BW-MB	Retaining clips SBE-HKC	Retaining brackets SBE-HKS	Diffusor MB-DIF-R-125	Diffusor MB-DIF-R-250	Diffusor MB-DIF-R-480	Diffusor MB-DIF-R-700	Diffusor MB-DIF-R-910	PWM Dimmer MB-DIM 2	Connector BK-Z-12	IOL-MASTER IO-Link Device Tool	with Product-ID
■	■			■					■			MB-N-126-K-B3
■	■			■					■	■		MB-N-126-K
■	■				■				■			MB-N-251-K-B3
■	■				■				■	■		MB-N-251-K
■	■					■			■			MB-N-481-K-B3
■	■					■			■	■		MB-N-481-K
■	■						■		■			MB-N-701-K-B3
■	■						■		■	■		MB-N-701-K
■	■							■	■			MB-N-911-K-B3
■	■							■	■	■		MB-N-911-K
■	■								■	■		MB-NP-250-K
■	■								■	■		MB-NP-480-K
■	■				■						■	MB-RGBW-251-K-B5
■	■					■					■	MB-RGBW-481-K-B5
■	■						■				■	MB-RGBW-701-K-B5
■	■							■			■	MB-RGBW-911-K-B5
■	■			■							■	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
		■	■									SBE-RGB-1000-K-B3
		■	■									SBE-RGB-2000-K-B3

Details		Product-ID
Magnetic holding set 2		Set consists of 2 high power magnets with M4 thread, 2 Allen screws M4x10, 2 washers
		MB-MHS-2
Mounting brackets		Set consists of short limb (2x2), long limb (2x1) and the necessary mounting material
		BW-MB
Retaining clips for SBE		Set consists of 4 stainless steel holding clips and the necessary mounting material
		SBE-HKC
Retaining brackets for SBE		Set consists of 3 holding brackets and the necessary mounting material
		SBE-HKS
Diffusor		Length
		125 mm
		250 mm
		480 mm
		700 mm
		910 mm
		MB-DIF-R-125
		MB-DIF-R-250
		MB-DIF-R-480
		MB-DIF-R-700
		MB-DIF-R-910
PWM-Dimmer		Service voltage 24 VDC ± 5 % Input Trigger (Pin 4) Operating principle Pulse-Width Modulation Maximum rating max. 4000 mA Dimming range 5 ... 100 % Protection class IP67 Protection degree III Shock-/vibration load 30g/10-55 Hz, 1 mm Ambient temperature -20 ... +70 °C Casing material Plastics
		MB-DIM 2
Connector M12		Ø Cable 4.0 ... 6 mm Braids 0.75 mm² Protection class IP67 Connection / poles M12-4
		BK-Z-12
IOL-Master IO-Link Device Tool		Power supply 5 V / 500 mA (PC USB), 24 V / 80 mA (IO-Link Device from USB), 24 V / 1 A (IO-Link device from power supply) Communication IO-Link Spezifikation V 1.1, IO-Link Port Class A Connection USB 2.0, (Mini USB B) Protection class IP 20 Protection degree III, operation on protective low voltage
		IOL-Master



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