



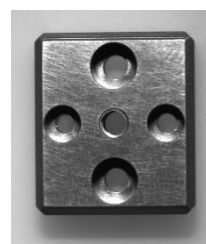
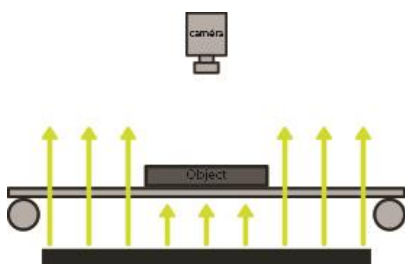
Dimming control



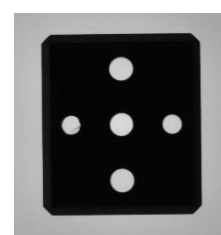
- Space-saving small backlight with thin edges
- IP67 Standard-compliant for water and dust protection
- Standard size from 25mm x 25mm to 200mm x200mm
- Dimming driver: built-in or cable type
- High uniformity (>90% homogeneous illumination)
- Easy-to-use standard M12 cable and fasteners
- Long lifetime and minimal maintenance

Electronics	Connectors	M12 – 5 contacts (Standard version) or M8 – 8 contacts (Strobe version)
	Power supply	24V DC (Standard version) or Continuous current (Strobe version)
	Illumination mode	Continuous or Strobe mode
	Power consumption	Depending on the current and the LED version
Optics	Wavelength	White, Red, Infrared (<i>Other wavelengths upon request</i>)
Mechanical	Weight	Related to the dimensions
	Dimensions	Any multiple of 25mm
	Thickness	15mm
	Material	Device body: Aluminum alloy; Window: PMMA
Environment	Working temperature	0°C to 50°C
	IP code	IP67

Applications



Inspected Part



High contrasted result

Part Number



Reference:

EFFI-SBL-XXX-YYY-ZZZ-VVV

XXX: Optical width (mm) (**dimension with the connector**) & **YYY:** Optical length (mm)

Dimensions are available for every 25mm steps, from 25mm x 25mm up to 200mm x 200mm

EFFI-SBL									
Optical length (mm) - YYY									
	25	50	75	100	125	150	175	200	
Optical width (mm) - XXX	25	EFFI-SBL-25-25	EFFI-SBL-25-50	EFFI-SBL-25-75	EFFI-SBL-25-100	EFFI-SBL-25-125	EFFI-SBL-25-150	EFFI-SBL-25-175	EFFI-SBL-25-200
	50	EFFI-SBL-50-25	EFFI-SBL-50-50	EFFI-SBL-50-75	EFFI-SBL-50-100	EFFI-SBL-50-125	EFFI-SBL-50-150	EFFI-SBL-50-175	EFFI-SBL-50-200
	75	EFFI-SBL-75-25	EFFI-SBL-75-50	EFFI-SBL-75-75	EFFI-SBL-75-100	EFFI-SBL-75-125	EFFI-SBL-75-150	EFFI-SBL-75-175	EFFI-SBL-75-200
	100	EFFI-SBL-100-25	EFFI-SBL-100-50	EFFI-SBL-100-75	EFFI-SBL-100-100	EFFI-SBL-100-125	EFFI-SBL-100-150	EFFI-SBL-100-175	EFFI-SBL-100-200
	125	EFFI-SBL-125-25	EFFI-SBL-125-50	EFFI-SBL-125-75	EFFI-SBL-125-100	EFFI-SBL-125-125	EFFI-SBL-125-150	EFFI-SBL-125-175	EFFI-SBL-125-200
	150	EFFI-SBL-150-25	EFFI-SBL-150-50	EFFI-SBL-150-75	EFFI-SBL-150-100	EFFI-SBL-150-125	EFFI-SBL-150-150	EFFI-SBL-150-175	EFFI-SBL-150-200
	175	EFFI-SBL-175-25	EFFI-SBL-175-50	EFFI-SBL-175-75	EFFI-SBL-175-100	EFFI-SBL-175-125	EFFI-SBL-175-150	x	EFFI-SBL-175-200
	200	EFFI-SBL-200-25	EFFI-SBL-200-50	EFFI-SBL-200-75	EFFI-SBL-200-100	EFFI-SBL-200-125	EFFI-SBL-200-150	EFFI-SBL-200-175	EFFI-SBL-200-200

	STANDARD DIMENSIONS (Short delivery term)
	DIMENSIONS ON REQUEST
	EFFI-SBL WITH EXTERNAL DRIVER (ON THE CABLE): Driver on the cable for small SBL: 25-XXX and 50-XXX Integrated driver for other sizes (from 75-XXX to 200-XXX)

ZZZ: Color / Wavelength (nm) (*Other Wavelengths upon request*)

Red 625	Infrared 850	White 000 (T°= 5700 K ± 700 K)
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VVV: Control range of the AIC

5V Dimming control 0-5V	10V Dimming control 0-10V	24V Dimming control 0-24V
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OPTION -STR: Without driver

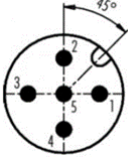
Caution: Direct current
Connector: M8 – 8 contacts
If strobe version, add -STR at the end of the part number

Electronical considerations



Contact arrangement

The EFFI-SBL is supplied with a 24V constant voltage. The AIC contact needs to be connected.

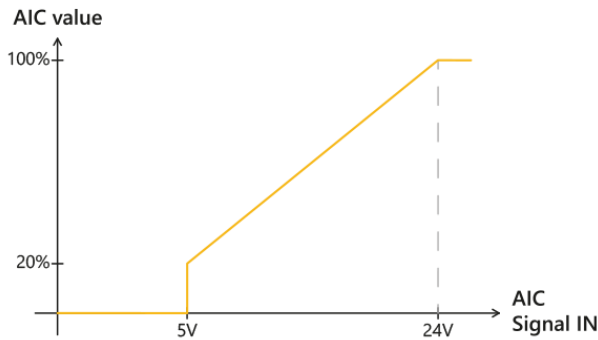
Contact arrangement	Number	Color Contact	Designation
 M12 Male connector	1	Brown	+24V
	2	White	N/A
	3	Blue	GND
	4	Black	AIC: Analog Intensity Control for Dimming Control max 24V - Analog Voltage
	5	Grey	N/A

Length M12 cable:

- **Driver on the cable:** Cable gland → Driver: 120mm & Driver → Connector: 120mm
- **Integrated driver** Cable gland → Connector: 500mm

Dimming control

EFFI-SBL with integrated driver



Power Supply

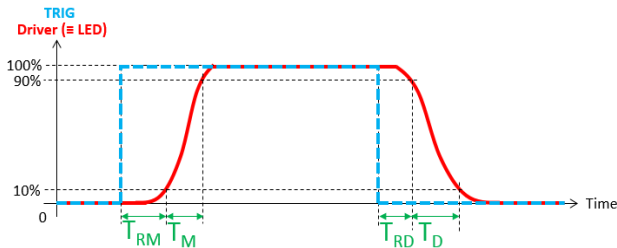
		Electrical Power consumption (W) - Standard EFFI-SBL							
		Optical length (mm) - YYY							
		25	50	75	100	125	150	175	200
Optical width (mm) - XXX	25	0.5	1	1.5	2.1	2.4	2.9	3.4	3.9
	50		2	2.9	3.9	4.8	5.8	6.8	7.7
	75			4.4	5.8	7.2	8.7	10.1	11.6
	100				7.7	9.6	11.6	13.5	15.4
	125					12	14.4	16.8	19.2
	150						17.3	20.2	23.1
	175							23.6	26.9
	200								30.8

DIM consumption	EFFI-SBL (driver on the cable)			EFFI-SBL (built-in driver)		
DIM signal	5V	10V	24V	5V	10V	24V
DIM consumption	1mA	1mA	1.1mA	0.1mA	0.2mA	0.3mA

Electronical characteristics

Designation	Time
Rise time (T_M) ¹	5 μ s
Response rise time (T_{RM}) ²	3 μ s
Fall time (T_D) ³	5 μ s
Response fall time (T_{RD}) ⁴	2 μ s

- (1) From 10% to 90% of the peak value of driver signal
- (2) From 90% to 10% of the peak value of driver signal
- (3) From the beginning of the TRIG signal to 10% of the peak value of driver signal
- (4) From the ending of the TRIG signal to 90% of the peak value of driver signal



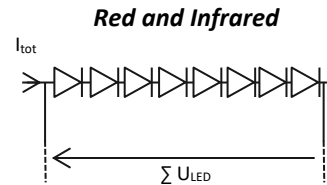
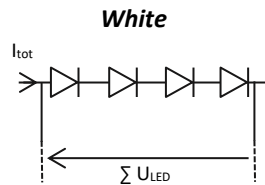
-STR OPTION (Without driver)

CONTACT ARRANGEMENT

The EFFI-SBL without driver (option -STR, cf. page 2) is supplied with a **direct current** through the M8-8 PINS (male). ⚠ Direct current

Depending on the size, the EFFI-SBL comes with 1 or 2 channels input (see table below).

Contact arrangement	Number	Color Contact	EFFI-SBL
<p>M8 Male connector</p>	1	White	-V _{LED} CH1
	2	Brown	+V _{LED} CH1
	3	Green	-V _{LED} CH2*
	4	Yellow	+V _{LED} CH2*
	5	Grey	n.a.
	6	Pink	n.a.
	7	Blue	n.a.
	8	Red	n.a.



Length M8 cable (Cable gland → Connector): 500mm

* To connect only if needed (see table below). All channels must be connected to switch ON the entire light.

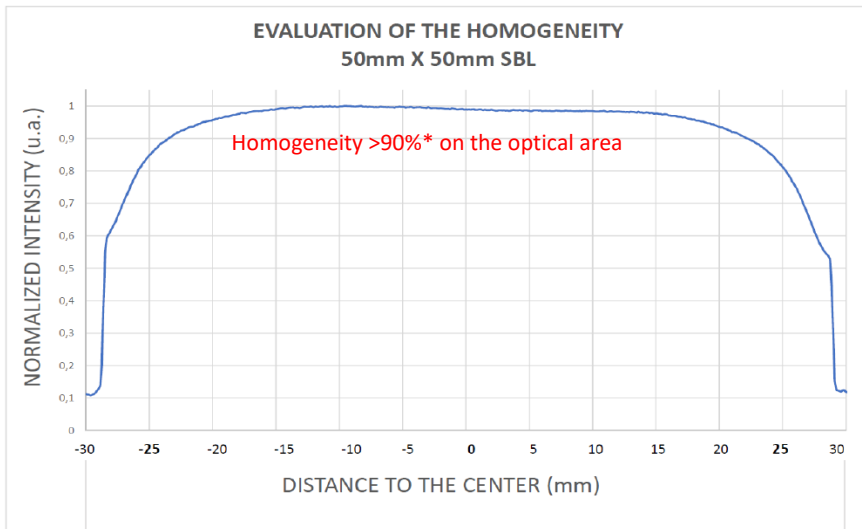
EFFILUX proposes an external driver (**EFFE-DRV-RD**) to easily supply your STROBE EFFI-SBL. *Contact EFFILUX for more information.*

EFFI-SBL-XXX-YYY-WWW-STR – Maximal current									
Optical length (mm) - YYY									
	25	50	75	100	125	150	175	200	
Optical width (mm) - XXX	25	1Ch 30mA max	1Ch 55mA max	1Ch 75mA max	1Ch 100mA max	1Ch 125mA max	1Ch 150mA max	1Ch 175mA max	1Ch 200mA max
	50		1Ch 80mA max	1Ch 120mA max	1Ch 160mA max	1Ch 200mA max	1Ch 240mA max	1Ch 280mA max	1Ch 320mA max
	75			1Ch 180mA max	1Ch 240mA max	1Ch 300mA max	1Ch 360mA max	1Ch 420mA max	1Ch 480mA max
	100				1Ch 320mA max	1Ch 400mA max	1Ch 480mA max	1Ch 560mA max	1Ch 640mA max
	125					1Ch 500mA max	1Ch 600mA max	1Ch 700mA max	1Ch 800mA max
	150						2Ch 360mA max	2Ch 420mA max	2Ch 480mA max
	175							1Ch 720mA max	2Ch 560mA max
	200								2Ch 640mA max

Optical considerations



Homogeneity



*Formula used: $1 - \frac{(I_{max} - I_{min})}{(I_{max} + I_{min})}$

Please note that the homogeneity is calculated on the optical area (10mm of edges not considered).

Optical power on the window

White version: 40kLux

Red version: 15mW/cm²

Infrared version: 7.5mW/cm²

Mechanical considerations (Dimensions in mm)



Standard sizes' drawings (STEP and PDF files) are available on:

<https://www.effilux.com/en/products/backlight/effi-SBL>

Please contact Effilux for other dimensions.

Accessories



Cables

Connectivity	Orientation	Length	Number
M12 – Female / Male - 5 contacts	Straight / Straight	2 m	EFFC-CAB-M12-FM-5-DD-L2
		5 m	EFFC-CAB-M12-FM-5-DD-L5
		10 m	EFFC-CAB-M12-FM-5-DD-L10
M12 – Female - 5 contacts	Straight / Flying leads	2 m	EFFC-CAB-M12-F-5-D-L2
		5 m	EFFC-CAB-M12-F-5-D-L5
		10 m	EFFC-CAB-M12-F-5-D-L10
M8 – Female - 8 contacts	Straight / Flying leads	2 m	EFFC-CAB-M8-F-8-D-L2
		5 m	EFFC-CAB-M8-F-8-D-L5
		10 m	EFFC-CAB-M8-F-8-D-L10