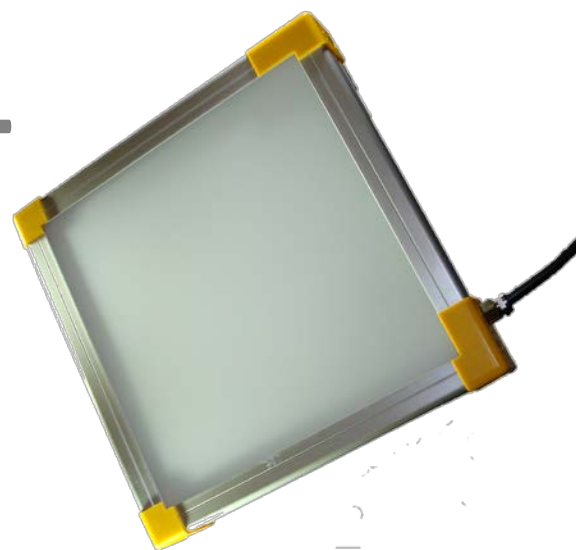




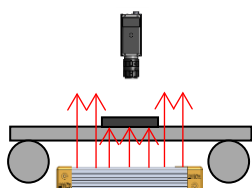
HOMOGENOUS AND POWERFUL LED BACKLIGHT

EFFI-BL



- **Intense illumination**
- **Homogeneity**
- **Standard connections and fasteners**
- **Anti-reflection coating** on the diffusive window
- Available from **50*50 mm²** to **1000*1500 mm²**
- **Long lifetime** and few maintenance

APPLICATIONS:



EFFI-BL has been designed by EFFILUX for inspection applications which require an in-direct illumination.

Inspection: Edges measurement, absence/presence, size control...

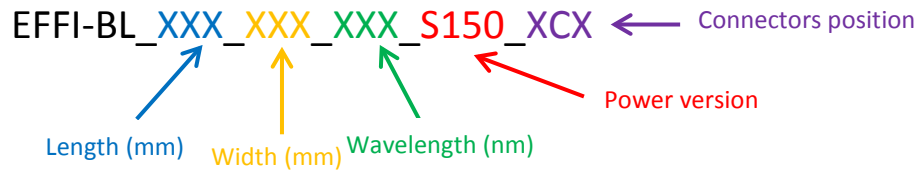
Robotics: Object localization for pick and place.

OVERVIEW OF THE CHARACTERISTICS

Electronics	<i>Power supply</i>	24V DC
	<i>Illumination mode</i>	Continuous with a DIM process [0,24V]
	<i>Connectors</i>	M12 4 pins
	<i>Power consumption</i>	Related to the dimensions
	<i>Cable length</i>	500mm from the side to the connector
Optics	<i>Wavelength</i>	Various wavelengths (blue, red, green, IR and white)
	<i>Output window</i>	Opalin to homogenize the light repartition
Mechanics	<i>Thickness</i>	43.2mm
	<i>Dimensions</i>	Any multiple of 50mm
	<i>Fastener</i>	A groove all around the device
	<i>Material</i>	Base and side panels : Aluminum alloy ; Diffusion plate : acrylic
Environment	<i>Working temperature</i>	0°C to 50°C (no condensation)
	<i>IP code</i>	IP54

TECHNICAL CHARACTERISTICS

How to create the EFFI-BL?



Available wavelengths:

- White – reference **000**
- Blue – reference **465**
- Green – reference **525**
- Red – reference **625**
- Infrared – reference **850**

Other wavelengths are available upon request

Power version

- **150** mA configuration → Strobe mode. Only for white (000)

NB: Standard configuration is at 50mA

Other current options are available upon request

Multiple connectors' positions

- **XCA**: connectors on the same side (config. A)
- **XCB**: connectors on opposite side (config. B)

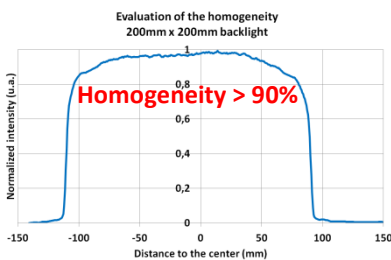
NB: Details on those two configurations are addressed in the following section

Additional configuration:

- Thin edge configuration : add a 'T' after the dimension that needs to be reduced
- The backlight is designed to present a connector on the longer side of the device. Nevertheless, it can be modified and be placed on the smallest side. In this configuration, a "C" is added at the end of the device

Optical characteristics

Homogeneity

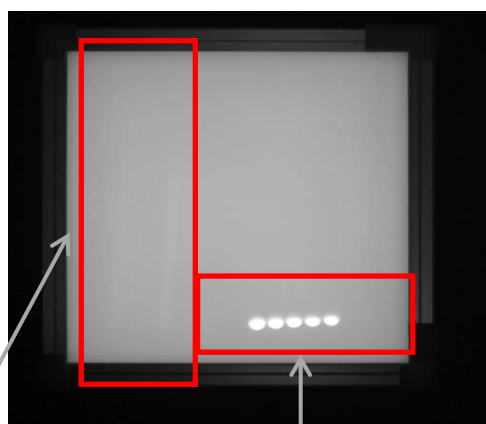


Pieces on the side of the device
present a high contrast



Anti-reflection effect

Standard backlight



Ambient light reflection
(neon light)

Bar light reflection

effiBL

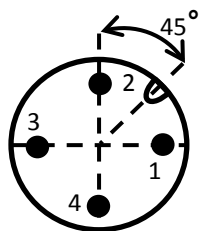


No reflection

Electrical characteristics

Electrical connections of the backlight

The backlight is connected to the power supply using a 4 pins connector.



Pin number	Cable color	Designation
1	Brown	+24V
2	White	n.a.
3	Blue	GND
4	Black	DIM – max 24V

**Make sure that you never exceed the maximum voltage.
The device is supplied with a 24V (±5%) constant voltage source.**



Depending on the size of the device, different configurations are considered.

White device – 50mA		Optical length (mm)											
		50	100	150	200	250	300	400	500	600	800	1000	1500
Optical width (mm)	50	2	4	5	7	9	11	14	18	21	28	35	53
	100	4	7	11	14	18	21	28	35	42	56	70	105
	150	5	11	16	21	26	32	42	53	63	84	105	158
	200	7	14	21	28	35	42	56	70	84	112	140	210
	250	9	18	26	35	44	53	70	88	105	140	175	263
	300	11	21	32	42	53	63	84	105	126	168	210	315
	350	12	25	37	49	61	74	98	123	147	196	245	368
	400	14	28	42	56	70	84	112	140	168	224	280	420
	450	16	32	47	63	79	95	126	158	189	252	315	473
	500	18	35	53	70	88	105	140	175	210	280	350	525
	600	21	42	63	84	105	126	168	210	252	336	420	630
800	28	58	84	112	140	168	224	280	336	448	560	840	
1000	35	70	105	140	175	210	280	350	420	560	700	1050	

Power	Amount of connectors
Until 85W	1
85W to 170W	2
170W to 270W	3
270W to 370W	4
More than 370W	Specific configuration

Remark: For devices operating at 150mA, the amount of connectors will have to be discussed.

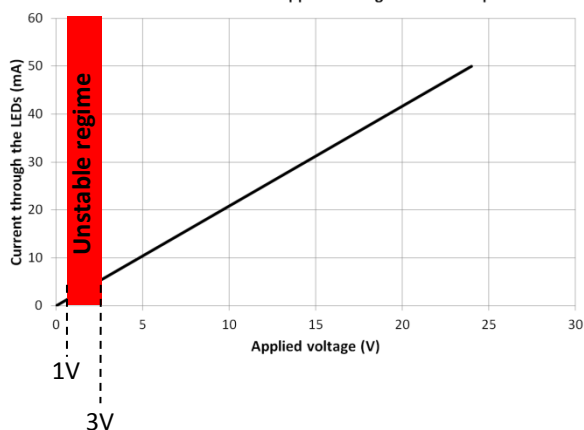
Electrical behavior of the device

The DIM pin has to be used: if not, the device is OFF.

Apply a constant voltage, *lying between 0V and 24V*, on this pin.

When a 24V voltage is applied, the device is at full power; if a 0V voltage is applied, the device is completely off.

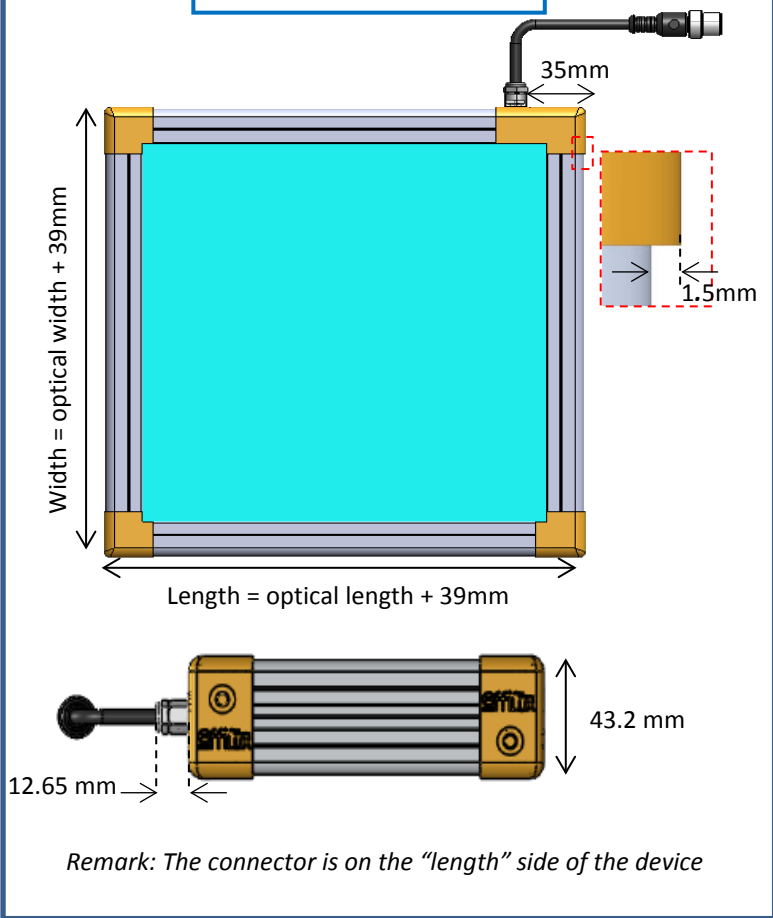
Current evolution with the applied voltage on the DIM pin



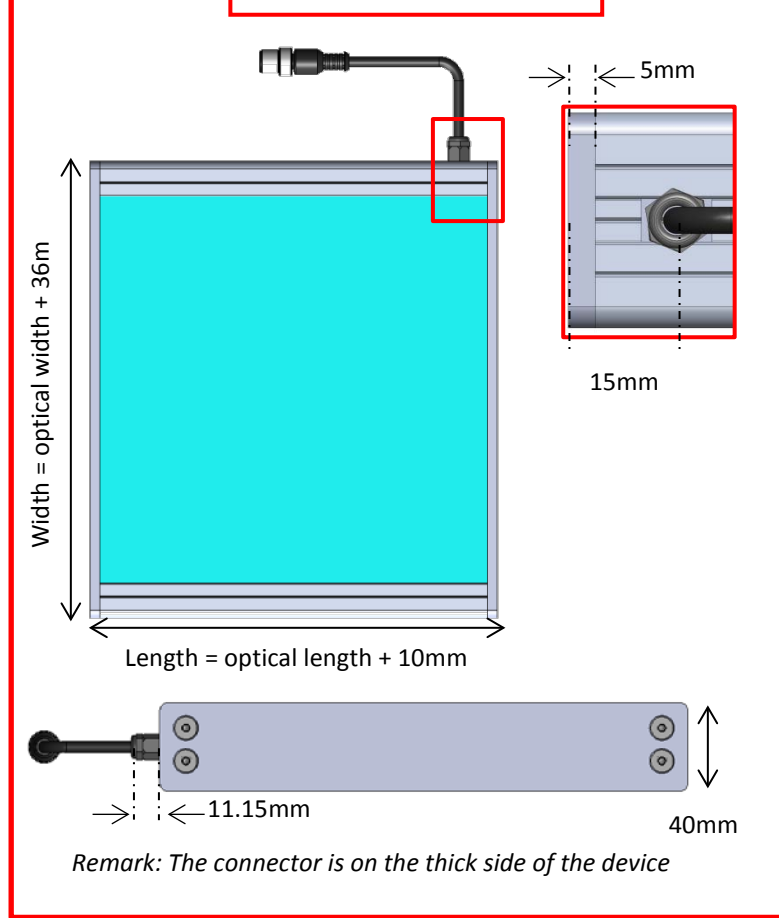
**Make sure that you never exceed the maximum voltage.
The device is supplied with a 24V (±5%) constant voltage source.**

Mechanical considerations

Standard configuration



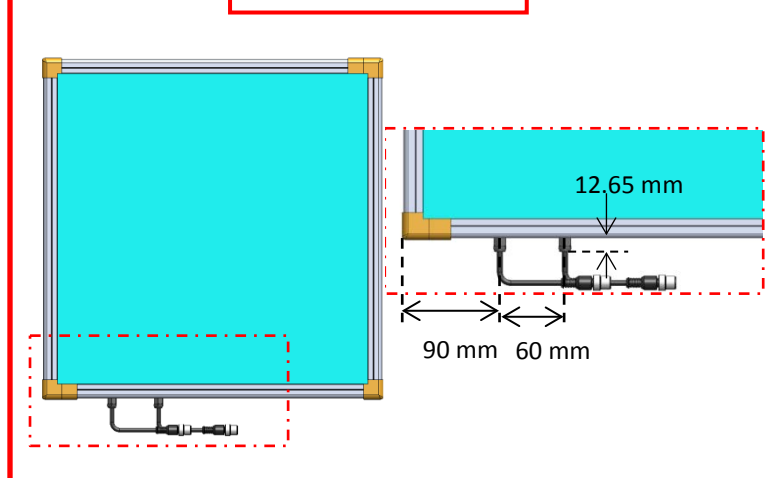
Thin edge configuration



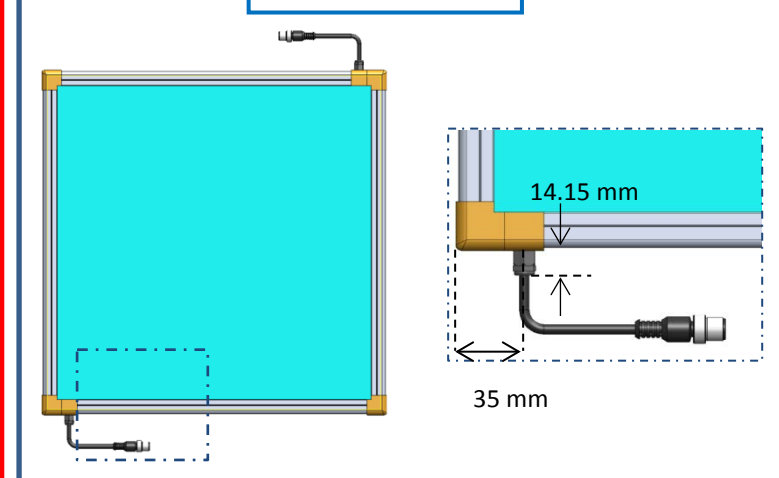
Devices are provided with a 500mm cable.

Depending on your needs, the light system can be designed according to the following mechanical constraints.

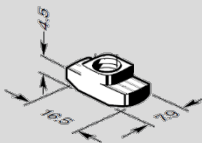
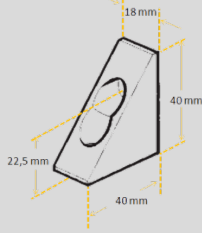
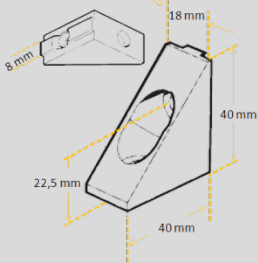
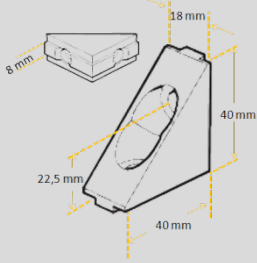
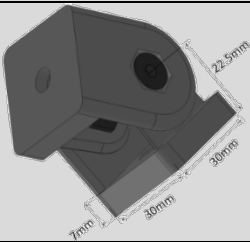
Configuration A



Configuration B



ACCESSORIES

	EFFILUX reference	Description
Mechanics	EFFV-Bolt_0011	 <p>T-nut to insert in the slot – For M6 screw</p>
	EFFM_1_0017	 <p>Bracket to fasten the EFFI-BL (no ridge) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0019	 <p>Bracket to fasten the EFFI-BL (1 ridge) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0021	 <p>Bracket to fasten the EFFI-BL (2 ridges) <i>Delivered with 2 EFFV-Bolt_0011, 2 screws and 2 flat washers</i></p>
	EFFM_1_0002	 <p>Fastener used to simplify the projector integration (orientation) <i>Delivered with EFFV-Bolt_0011 and 2 M6x14 screws</i></p>
Electronics	EFFC-Cable_M12_0002 Binder : 79 343 13 04	M12 cable – 4 pins – 2m long
	EFFC-Cable_M12_0003 Binder : 79 3430 17 04	M12 cable – 4 pins – 5m long
	EFFC-Cable_M12_0004 Binder : 79 3430 30 04	M12 cable – 4 pins – 10m long
	EFFC-Cable_M12_0025 Phoenix : 1456938	M12 cable – 4 pins – High Flex- 1500mm long
	EFFC-Cable_M12_0026 Phoenix : 1456941	M12 cable – 4 pins – High Flex- 3000mm long