



Very intense



Uniform



**Focus
configuration**

Long lifetime



effiFLEX-BL

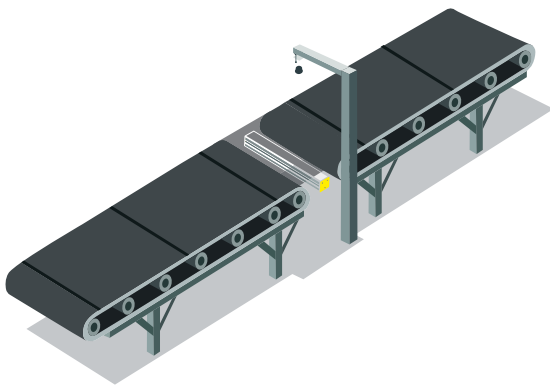
LED Bar for backlight inspections

INTRODUCTION

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APPLICATION



Inspection:

Web and linescan inspection for:

- Paper
- Glass
- Plastic film
- Any semi-transparent materials

RELATED PRODUCT

Refer to the datasheets of the products below for more details on those related products.

EFFI-LINE3



Power LED Line Light

PART NUMBERING

STANDARD VERSION

EFFI-FLEX-BL	- XXX	- ZZZ
	Optical length (mm)	Wavelength (nm)
	100	● 465 (Blue)
	200	● 525 (Green)
	300	● 625 (Red)
	...Every 100mm steps	● 850 (Infrared)
	2900	○ 000 (White)

AVAILABLE VERSIONS & OPTIONS

VERSIONS	
CPT (IP67)	EFFI-FLEX- CPT -BL-XXX-ZZZ The product is IP67-rated, making it dustproof and water-resistant up to 1m deep.
IP69K	EFFI-FLEX- IP69K -BL-XXX-ZZZ The IP69K series features a 100% waterproof stainless steel profile, specifically designed for the food industry and washdown environments.
PWR	EFFI-FLEX-BL-XXX-ZZZ- PWR Multiply the output power per x1.5.
OPTICAL OPTIONS	
Polarizer	EFFI-FLEX-BL-XXX-ZZZ- POL2 Eliminate glare from the workpiece making it easier to acquire a suitable image for the application with no hot spot.
Cylindric lens	EFFI-FLEX-BL-XXX-ZZZ- CYL Improves collimation (concentration of the luminous flux), making it possible to increase the luminance on the exit glass by a factor of 20: the illuminated area becomes then finer.
Zebra	EFFI-FLEX-BL-XXX-ZZZ- ZB-MMM The zebra mask is used by EFFILUX in metrology and deflectometry to reveal defects (stripe, impact, or positioning, etc.) on reflective, transparent, or semi-transparent surfaces.

TECHNICAL SPECIFICATIONS

effiFLEX-BL

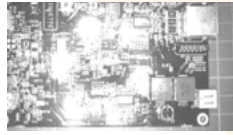
Illumination Mode	Continuous with AIC (Analog Intensity Control)
Wavelengths	465nm, 525nm, 625nm, 850nm, White
Power Supply	24V DC
Connector(s)	M12 - 5 pins
Power Consumption	Depends on the amount of LEDs
Analog Intensity Control (AIC)	The output optical power is adjustable from 20% to 100% by applying a signal from [5V-24V DC] Total voltage range [0V-24VDC] / Don't exceed 24V DC / Max. signal consumption: 3mA
Weight	135g + 285g every 100mm
Dimensions	Width x height x length: 51mm x 49mm x length depends on the amount of LEDs
Material	Device body: Aluminum alloy & ABS; Window: PMMA
Fastener	2 rails for M6 T-nut: one on the back and one on the side
IP rating	IP5X / IP67 / IP69K
Operation environment	Temperature: 0°C to 40°C - Humidity: 20 to 85%RH (with no condensation) - Altitude: Up to 2000m
Storage environment	Temperature: -20° to 60°C - Humidity: 20 to 85%RH (with no condensation)
Informations	Overvoltage category I - Protective class III - Pollution degree 3
Regulations & Marking	CE - UKCA
Environmental Standards	RoHS Directives (2011/65/EU, 2015/863/EU and China RoHS) - REACH Regulation - WEEE Regulation
Country of Origin	France

OPTICAL SPECIFICATIONS

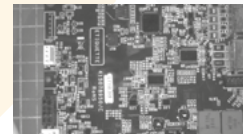
POLARIZER



Using polarizers, on the Efflux light and on the camera, it is possible to eliminate glare from your workpiece making it easier to acquire a suitable image for the application. The user can insert directly the polarizer inside the EFFI-Flex-BL, under the window.



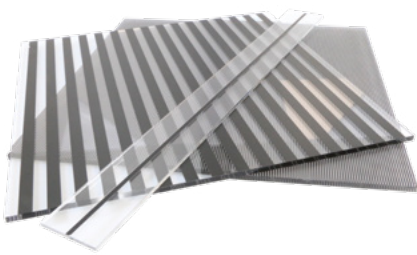
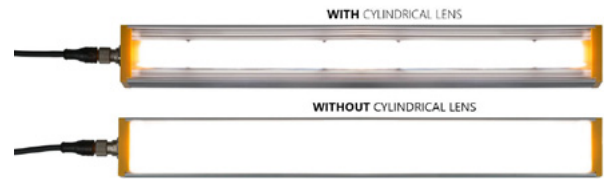
Without polarizer



With polarizer

CYLINDRICAL LENS (CYL)

Used in combination with the internal lenses in the lowest position (P1), and the Linescan film (LS), the additional Cylindrical lens (CYL) allows to focus even more the light into a very bright line.

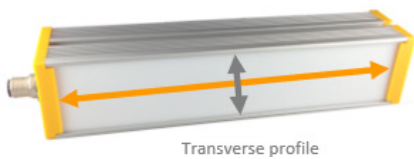


ZEBRA

The zebra mask from EFFILUX is the ideal mask for metrology and deflectometry to reveal defects (stripe, impact, or positioning, etc) on reflective / transparent surfaces /or semi transparent.

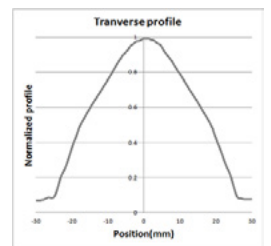
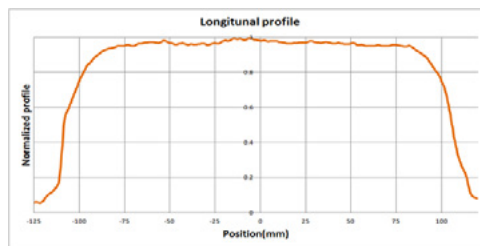
The goal of ZB lighting is to provide maximum contrast so that machine vision software can evaluate and make necessary judgment. On the image, the defect will be revealed in white on black.

HOMOGENEITY



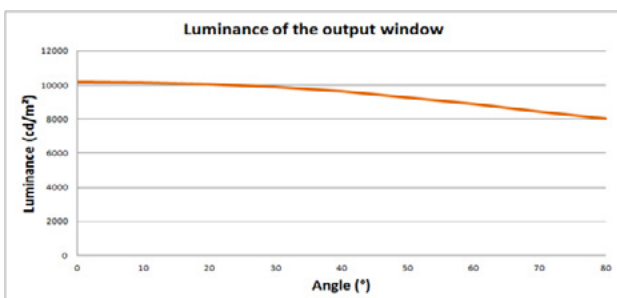
Longitudinal profile

Transverse profile



Longitudinal profile: for length of 200mm

OPTICAL POWER



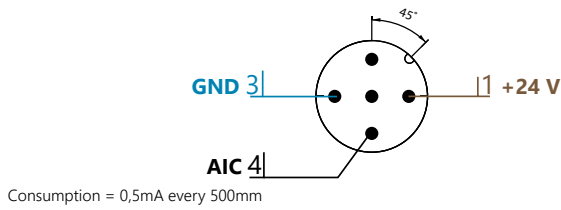
(Luminance in the middle of the output window)

ELECTRONICAL SPECIFICATIONS

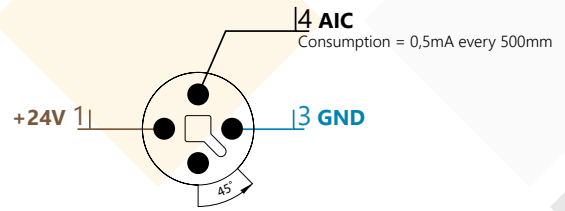
WIRING LAYOUT

The EFFI-Flex-BL is supplied with a 24V constant voltage. The AIC poles need to be connected.

M12 5pins - male connector



M12P 4pins - male connector



POWER SUPPLY

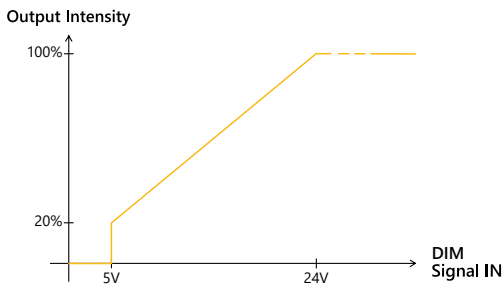
MAX POWER CONSUMPTION IN WATTS (+/-5%) - White LED - 10m cable

Number of LEDs	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
Electrical power @24V (W)	10	15	20	25	30	35	40	45	50	55	60	65	70	75
Number of LEDs	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900
Electrical power @24V (W)	80	85	90	95	100	105	110	115	120	125	130	135	140	145

■ M12 5 pins - male connector ■ M12P 4 pins - male connector

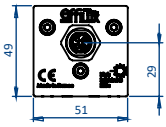
AIC (ANALOG INTENSITY CONTROL)

Using the AIC pin, the lighth intensity can be linearly increased:

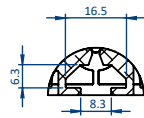
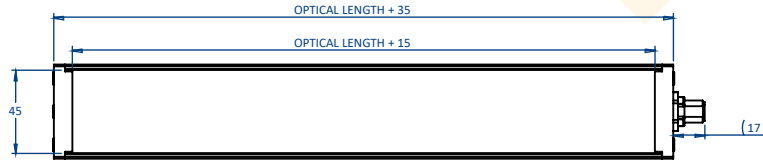
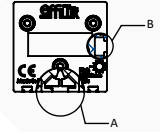


MECHANICAL SPECIFICATIONS

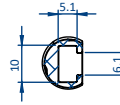
STANDARD VERSION



M12 OR M12P DEPENDING ON POWER CONSUMPTION.
REFER TO THE DATASHEET

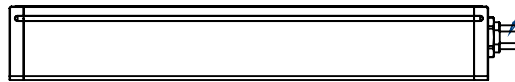
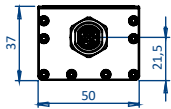


DETAIL A
SCALE 1 : 1
MOUNTING: T-NUT 8MM SLOT, M6

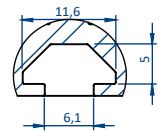
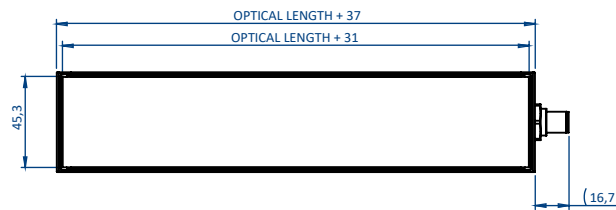
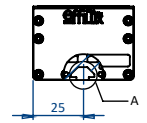


DETAIL B
SCALE 1 : 1
MOUNTING : NUT M6

COMPACT VERSION (IP67)

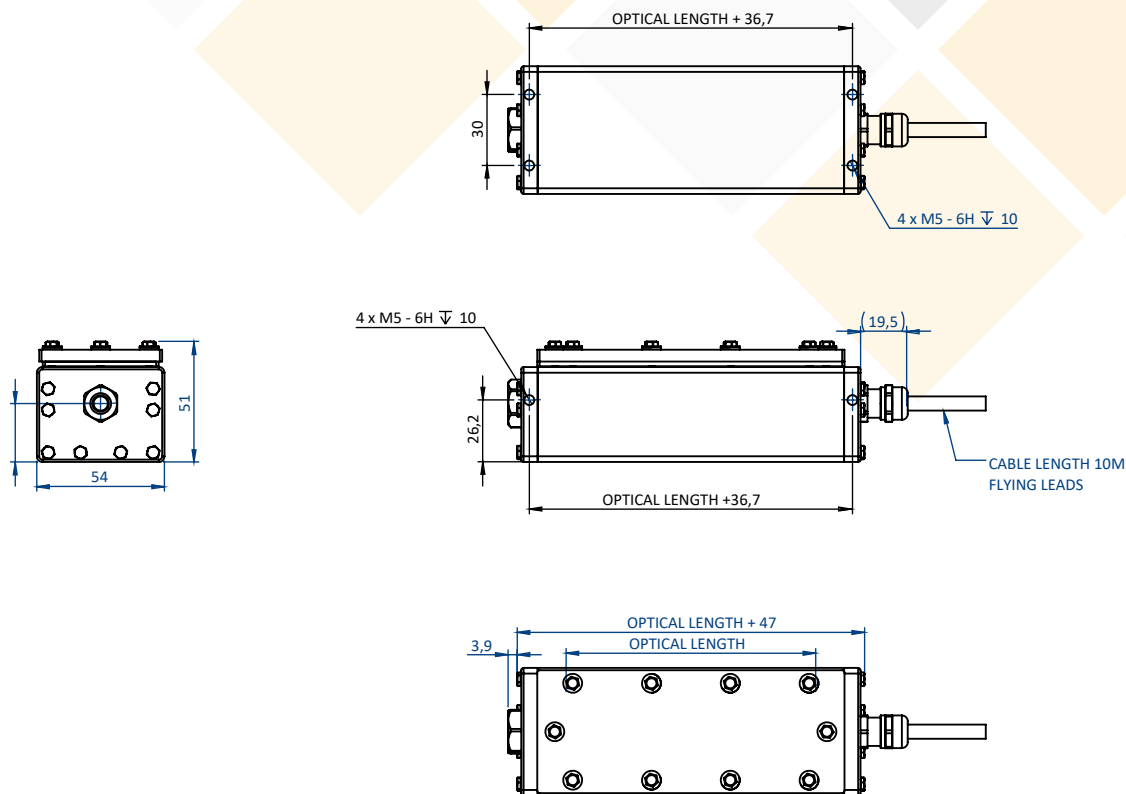


M12 OR M12P DEPENDING ON POWER CONSUMPTION.
REFER TO THE DATASHEET



DETAIL A
SCALE 2 : 1
MOUNTING: T-NUT 6MM SLOT, M4

IP69K VERSION



ACCESSORIES

Please refer to the specific documentation for additional information on the accessories of the EFFI-FLEX-BL



Extension cables

M12

2meters: EFFC-CAB-M12-FM-5-DD-L2
5meters: EFFC-CAB-M12-FM-5-DD-L5
10meters: EFFC-CAB-M12-FM-5-DD-L10

M12P

2meters: EFFC-CAB-M12P-FM-4-DD-L2
5meters: EFFC-CAB-M12P-FM-4-DD-L5
10meters: EFFC-CAB-M12P-FM-4-DD-L10



Fasteners

T-Nut Kit M6: EFFV-BOLT-0011
Pivot joint not drilled: EFFM-1-0002
Bracket: EFFM-1-0017/19/21



Potentiometer

EFFI-DIMMER
EFFI-DIMMER2

CONTACT INFORMATION

Please refer to the specific documentation (datasheet, user manual and drawing) for complementary information. Contents of this document are based on information available as of February-2025 and may be changed without prior notice.



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