DATASHEET

Efficient Led Lighting

Flexible light

Up to 2.4 meters

High Speed

MegaStrobe™

Easy-to-mount

Adjustable angle

MEGASTROBE

IP5X

CE

effiFLEX-LG

Ultra high-power logistic bar light

PART NUMBERING

Product base

EFFI-FLEX-LG - XXXX - ZZZ - WW - PP

Optical Length (mm)	Wavelength (nm)	Window	Lens position
200	**465** (Blue)	**TR** (Transparent)	**P0** (90°)
400	**625** (Red)	**SD** (Semi-diffuse)	**P1** (45°)
... All 200mm	**850** (Infrared)	**OP** (Opaline)	**P2** (25°)
2400	**000** (White)		**P3** (10°)

Available options: References

OPTICS	
Kit with all diffusers	EFFI-FLEX-LG-XXXX-ZZZ-**KIT** The light is delivered assembled in the default configuration with the lens plate positioned at Position 2 (25°) and the Lightly-diffusive window.
Polarizer accessory	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**POL**
Custom wavelength	EFFI-FLEX-LG-XXXX-**ZZZ**-WW-PP Other wavelengths upon request. *Please contact Effilux.*
ELECTRONICS	
Customized software (Strobe length & frequency modification)	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**SWxxxxxx** Specific reference xxxxxx for each customized software. *If the device consumption exceed 150W, regulations' compliancy may be impacted, please contact Effilux.*
External power supply Version	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**CPW**-SWxxxxxx Customized software mandatory. *Please contact Effilux.*
Daisy Chain Version	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**CHS** Number of chainable bars depending on the software version, see Annex. *Please contact Effilux.*
Daisy Chain Version with output female connector on the opposite cap	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**CHO** Number of chainable bars depending on the software version, see Annex. *Please contact Effilux.*
NPN trigger Version	EFFI-FLEX-LG-XXXX-ZZZ-WW-PP-**NPN** NPN trigger on pin 2 instead of PNP trigger on pin 4
MECHANIC	
Longer length (Up to 2800mm)	EFFI-FLEX-LG-**XXXX**-ZZZ-WW-PP *If the device consumption exceeds 150W, regulations' compliancy may be impacted, please contact Effilux.*

TECHNICAL SPECIFICATIONS

effiFLEX-LG

Illumination Mode		Ultra High-Power Strobe *(Strobe only)*			
Wavelengths		465nm, 625nm, 850nm (+/- 5%) *(Other wavelength upon request)* White (5500K ±500K)			
Power Supply		24V DC +/- 10%			
Connector configuration		**Standard**	**CPW**	**CHS**	**CHO**
Connector(s)	INPUT (male)	M12 - 5pins or M12Power (T-Coded) - 4pins	**MAIN**: M12 - 5pins **AUX**: M12 - 5pins or M12Power - 4pins	M12 - 5pins or M12Power - 4pins	M12 - 5pins or M12Power - 4pins
	OUTPUT (female)	None	None	M12 - 5pins or M12Power - 4pins (same than INPUT)	M12 - 5pins or M12Power - 4pins (same than INPUT)
Power Consumption	Average	Approx. 20W for each 200mm - See page 6 *(Can be modifed via customized software)*			
	Peak (Max.)	6A max for XXXX ≤ 800mm - 12A max for XXXX ≤ 1600mm - 18A max for XXXX ≤ 2400mm - See page 6 Exact value indicated on the product label *(Can be modifed via customized software)*			
Built-in driver version		MegaStrobe™ feature			
Response Time		< 1µs			
Frequency		Internal Frequency protection: 150Hz Max (Standard electronical configuration) *(Can be modified via customized software)*			
Strobe duration		Internal Strobe length protection: 400µs Max (Standard electronical configuration) *(Can be modified via customized software)*			
Input signal		PNP trigger input: Light ON: from 4V to 24V / Max. signal consumption: 2mA *(Option NPN: Light ON: from 0V to 1.5V / Max. signal consumption: 2mA)*			
Weight		Please refer to General Drawing			
Dimensions		60mm x 47mm x Length = Optical length + 35mm (Please refer to General Drawing)			
Material		Device body: Aluminum alloy & ABS / Window and caps: PMMA			
Fastener		One T-slot on the back for M6 T-nuts 8mm slot (2x M6 T-nuts included)			
IP rating		IP5X (dust protected)			
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 - FCC - ICES-3/NMB-3 - cTÜVus (The supply of the device has to fulfill SELV and Limited Energy according IEC 61010-1 9.4)			
Environmental Standards		RoHS Directives (2011/65/EU, 2015/863/EU and China RoHS) - REACH Regulation - WEEE Regulation			
Country of Origin		France			

OPTICAL SPECIFICATIONS

MANY POSSIBLE CONFIGURATIONS IN JUST ONE LIGHT

Diffusers

TR : Transparent

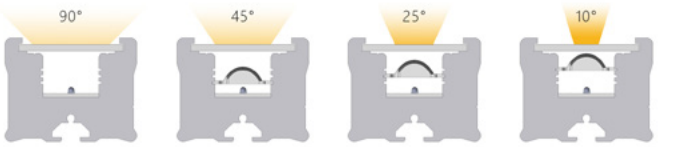
SD : Semi-diffuse

OP : Opaline

Depending on the uniformity needed for the application, the user can easily change the diffuser to one that fulfills the application requirements.

Lens position

The EFFI-Flex-LG offers flexible lens positioning to control the beam angle. The user can adjust it by himself: the angle can be widened by moving the lens closer to the LEDs or narrowed by moving the lens further away from the LEDs.



P0 (without lens) P1 P2 P3

How to change the optical configuration of your EFFI-Flex-LG?

The EFFI-Flex-LG offers flexible lens positioning to control the beam angle and different type of diffusers to adapt the uniformity. The user can easily change the diffuser and the lens position.

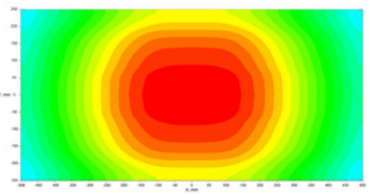
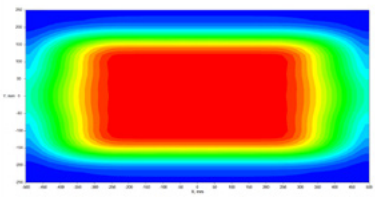
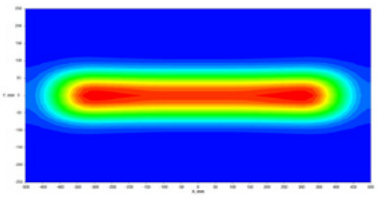
Unscrew the M4 screws and remove the cap (without connector)

Slide out the window and all lenses

Place the lenses & window in desired configuration

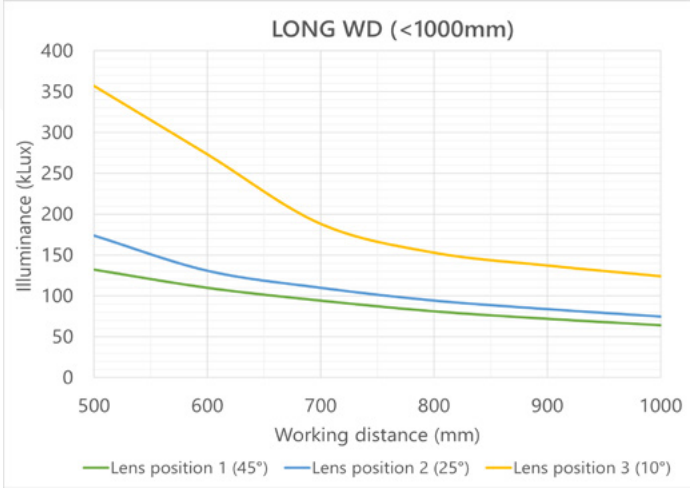
OPTICAL IMPACT

Lens position VS Illuminated area

Optical configuration	TR-P1	TR-P2	TR-P3
Working Distance 1000mm 0% 100%			

Optical impact

Lens position VS Illuminance



Note: Measurement done with a White 800 mm light, TR window

Option: Polarizer accessory

Using polarizers, on the Effilux 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-LG, under the window.

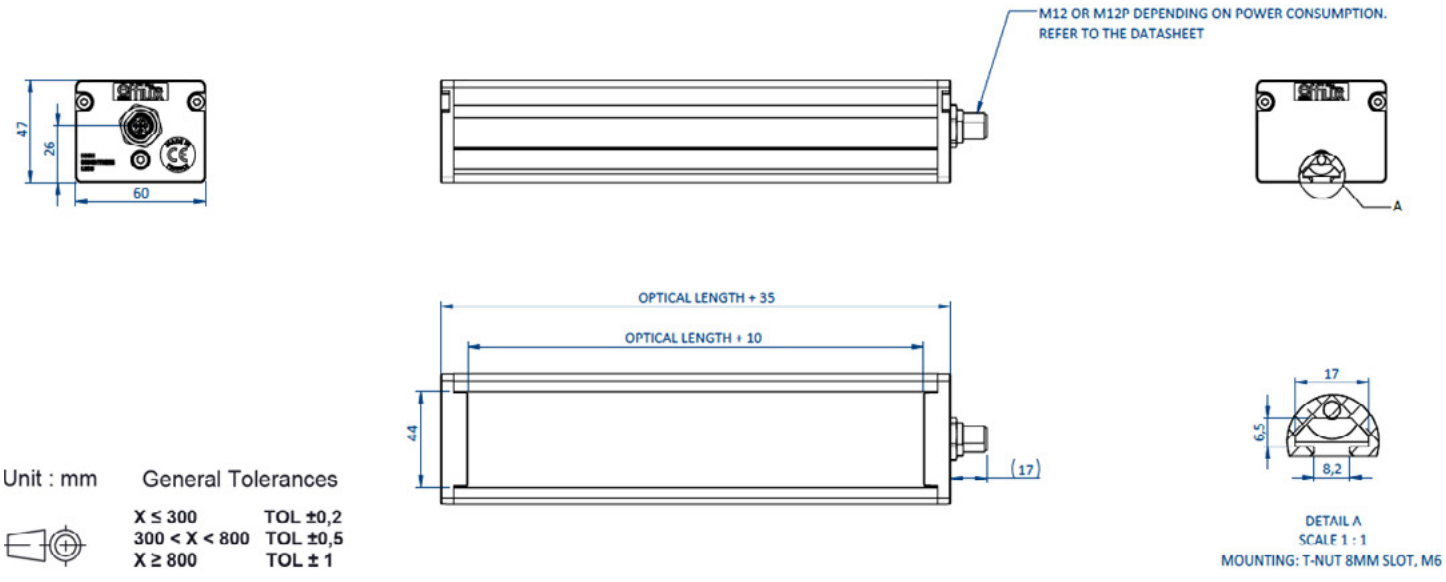
Without polarizer

With polarizer

Important note: The polarization is optimal with an TR window, the use of diffuser (SD or OP) can depolarize the light.

MECHANICAL SPECIFICATIONS

Dimensions (in mm)



Unit : mm

General Tolerances

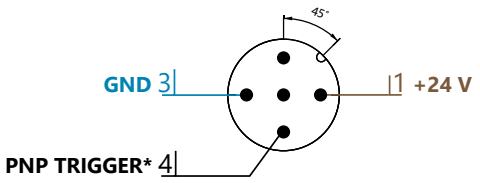
X ≤ 300	TOL ±0,2
300 < X < 800	TOL ±0,5
X ≥ 800	TOL ± 1

ELECTRONICAL SPECIFICATIONS

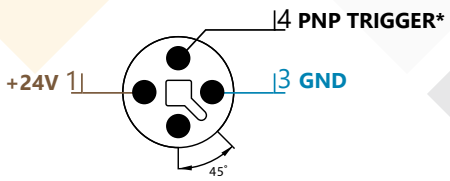
Wiring layout - Standard connector version

- The EFFI-Flex-LG requires 24V DC input power.
- The trigger pin needs to be connected to a PNP trigger signal.
- If a continuous signal is applied to the PNP trigger pin, the output light is strobed by default at maximum Frequency and Strobe length (150 Hz - 400 µs), although it appears continuous for human eye.

M12 5pins - 1 input



M12P 4pins - male connector



Power consumption & connector definition

The EFFI-Flex-LG integrates **boosters technology** to limit the power consumption.

Depending on the average power consumption, the EFFI-Flex-LG comes with a **standard M12 connector** or an **M12 Power T-coded connector**. The values below are maximum values, the exact power consumption of the product is always indicated on the product label.

MAX POWER CONSUMPTION (+/- 5%) at 150Hz - 400µs (Red version - Standard software - 2 meters cable)												
Optical Length XXXX (mm)	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
Average power consumption	20W	40W	60W	80W	100W	120W	140W	160W	180W	200W	220W	240W

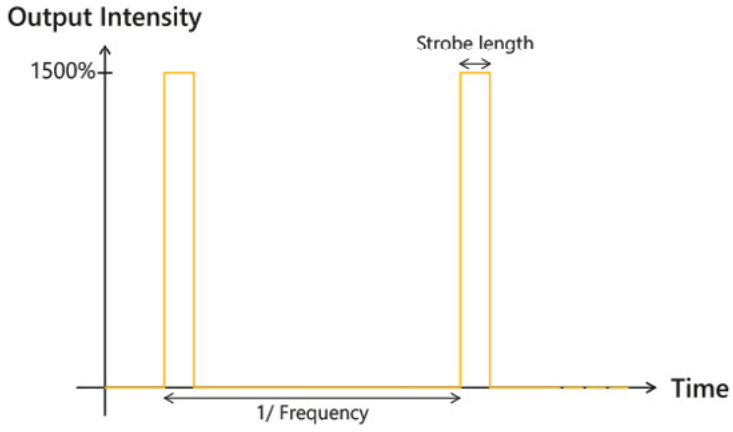
M12 5 pins	M12 Power 4 pins

Initialization phase

When EFFI-Flex-LG is supplied, the product first enters in a few seconds initialization phase. This initialization is a sequence of very short strobes of increasing intensity. Please wait until the end of this initialization to use the product (max 5 seconds).

MegaStrobe feature

The integrated driver with MegaStrobe feature allows Ultra high-power strobes.



MegaStrobe	
Strobing time (internal protection)	400µs max
Frequency (internal protection)	150Hz max
Rising time	<1µs
Falling time	<2µs

ACCESSORIES

Please refer to the specific documentation for additional information on the accessories of the EFFI-Flex-LG.

Diffusers

Transparent: EFFO-FLEX2-TR-XXXX
Semi-diffuse: EFFO-FLEX2-SD-XXXX
Opaline: EFFO-FLEX2-OP-XXXX

Polarizer

EFFO-FLEX2-POL-XXXX

Extension Cables

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

Fasteners

T-Nut Kit: EFFV-BOLT-0011
Pivot joint Kit: EFFM-1-0002

Power supplies

Power supply: EFFI-PWR- ...
Compact power supply: EFFI-SPWR-090W-24V-102-YY**

Camera Filters

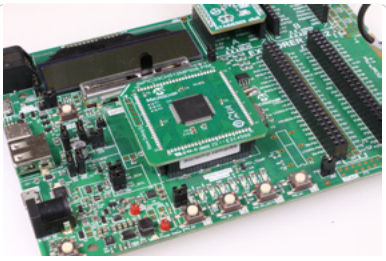
EFFO-FLR-...

*YY = Type of outlet UK, CH, EU, US, ...

CUSTOMIZATION

Please ask your sales contact for a custom device.

Extra power



Software

Caps color

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 Jan-2022 and may be changed without prior notice.

EFFILUX
1, Rue de Terre Neuve
Mini Parc du Verger - Bâtiment E
91940 Les Ulis - FRANCE

Tel: +33 9 72 38 17 80
Fax: +33 9 72 11 21 69
Mail: sales@effilux.fr

Copyright 2022 Effilux - All rights Reserved

ANNEX: CPW CONNECTOR VERSION

SmartSense Function

The EFFI-Flex-LG CPW version has 2 operating modes and 2 M12 connectors.

Depending on the wiring, the light can be used either with direct connection to the camera or with an additional external power supply for longer strobes.

A custom software is needed to define those two specific modes, depending on the camera and external power supply characteristics.

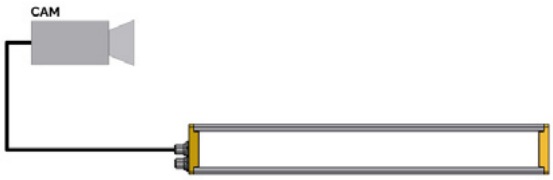
MAIN CONNECTOR (camera)

AUXILIARY CONNECTOR (ext. power supply)

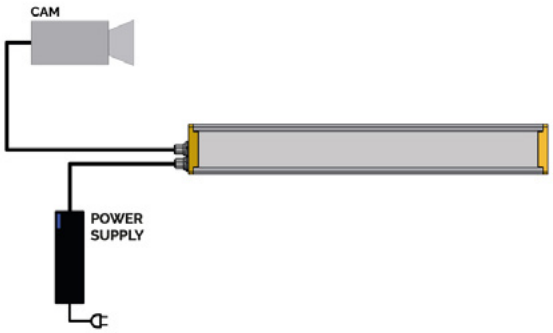
The EFFI-Flex-LG CPW detects **automatically** the operating mode, Thanks to this **SmartSense** function, the user can easily shift from standard mode to power mode (longer strobes) just by connecting the additional power supply:

- **Mode 1** (Direct connection): Connect only the **Main connector** to the camera.
- **Mode 2** (Longer strobe pulse): Connect also the **Auxiliary connector** to an external power supply.

Mode 1



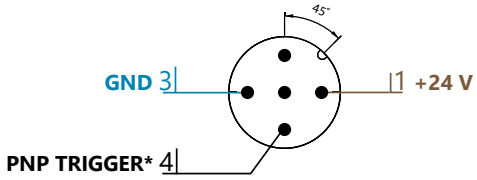
Mode 2



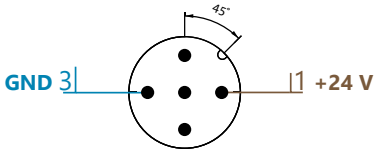
Wiring layout - External power supply connector version

The EFFI-Flex-LG CPW requires 24V DC input power. Note the trigger pin needs to be connected to a PNP trigger signal.

M12 5pins - Main connector



M12 5pins - Aux connector



ANNEX: DAISY-CHAIN VERSIONS (CHS / CHO)

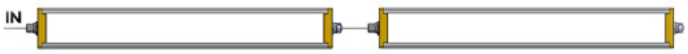
Daisy-Chain Configurations

You can chain several EFFI-Flex-LG-CHS by connecting the output connector directly to the next EFFI-Flex-LG bars. The EFFI-Flex-LG-CHS / EFFI-Flex-LG-CHO requires the use of a standard 5 pin M12 cable (or a 4 pins M12 Power cable depending on the product's connector) to effectively chain the lights.

The number of bars possible to chain depends on the product software and the cables' length.

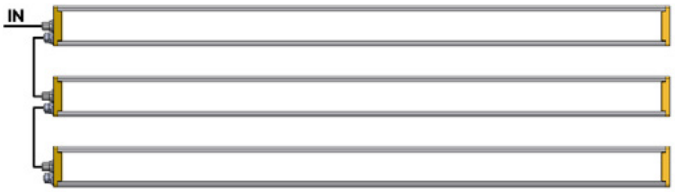
With the standard software and 1 meter cables, the number of chainable products is:

CHO Version



Connector configuration (OUTPUT connector with the same pinout specification than INPUT connector)		**Max number of chainable product VS Size**						
INPUT Connector	OUTPUT Connector	200mm	400mm	600mm	800mm	1000mm	1200mm	1400mm
1x M12 - 5 pins male	1x M12 - 5 pins female	4	2	X	X	X	X	X
1x M12P - 4 pins male	1x M12P - 4 pins female female	14	7	4	3	2	2	2

CHS Version



Connector configuration (OUTPUT connector with the same pinout specification than INPUT connector)		**Max number of chainable product VS Size**						
INPUT Connector	OUTPUT Connector	200mm	400mm	600mm	800mm	1000mm	1200mm	1400mm
1x M12 - 5 pins male	1x M12 - 5 pins female	4	2	X	X	X	X	X