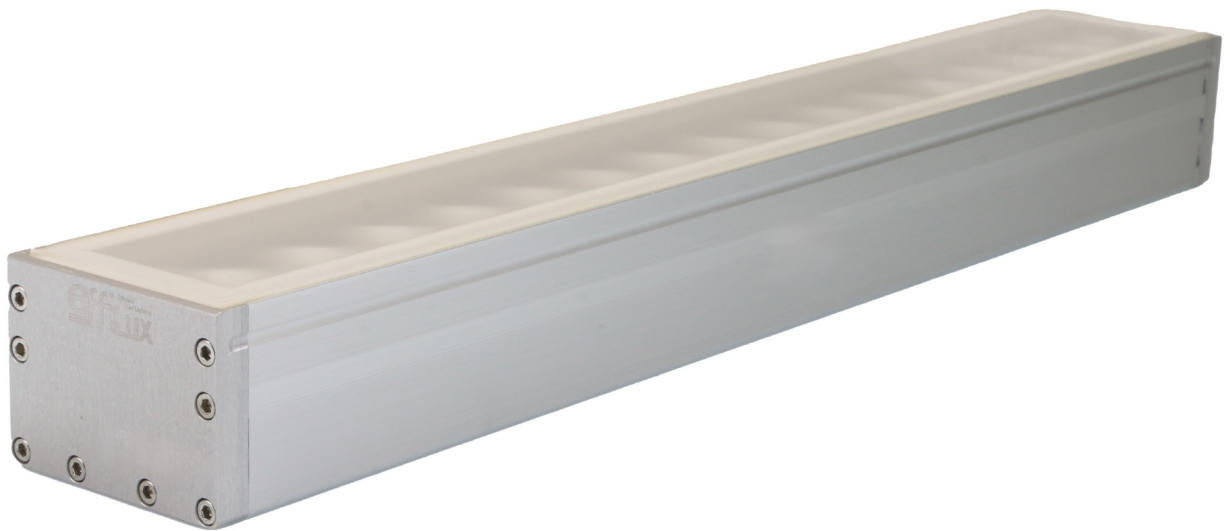




Easy to install

**Full range of
colors**

Flexible

IP67

**Intense and
uniform**

Robust



effiFLEX-CPT

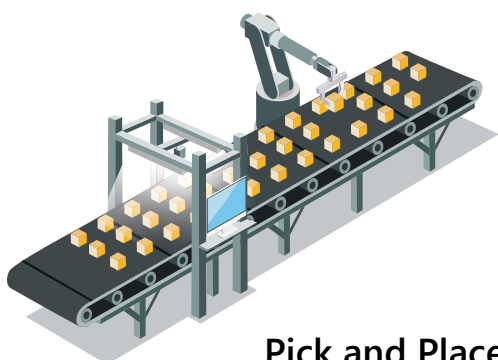
IP67 compact LED bar light

INTRODUCTION

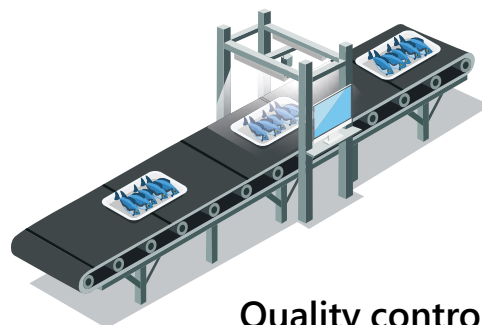
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APPLICATIONS



Pick and Place



Quality control

RELATED PRODUCT

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

EFFI-FLEX



Ajustable beam angle LED bar

EFFI-FLEX IP69K



IP69K version for
Food Industry & Washdown Environments

EFFI-FLEX2



Multimode flexible LED bar light

PART NUMBERING

STANDARD VERSION

EFFI-FLEX-CPT - XXX - ZZZ - WW - PP				
	Number of LEDs	Wavelength (nm)	Windows	Position
	1 (20 mm)	● 365* (UV)	TR (Transparent)	P0 (90°)
	3 (60 mm)	● 405 (UV)	SD (Semi-diffuse)	P1 (45°)
	5 (100 mm)	● 465 (Blue)	OP (Opaline)	P2 (25°)
	10 (200 mm)	● 525 (Green)		P3 (10°)
	... Every 5 LED (every 100mm)	● 625 (Red)		
	145 (2900mm)	● 850 (Infrared)		
		○ 000 (White)		

(*) Only available in TR-P0

AVAILABLE VERSIONS & OPTIONS

VERSIONS	
Watercooling version	EFFI-FLEX-CPT- WTR -XXX-ZZZ-WW-PP Allow the use of a watercooling system for thermal regulation.
L2: Economical version	EFFI-FLEX-CPT- L2 -XXX-ZZZ-WW-PP 1 LED every 40mm vs 1 LED every 20mm for standard
OPTICAL OPTIONS	
RGB	EFFI-FLEX-CPT-XXX- RGB -WW-PP RGB: Red, Green, Blue LED alternated. See corresponding annex.
WUI	EFFI-FLEX-CPT-XXX- WUI -WW-PP WUI: White, UV, Infrared LED alternated. See corresponding annex.
Pure UV (for fluorescence applications)	EFFI-FLEX-CPT-XXX- 365-TR-P0-PUV Innovative EFFILUX system that drastically improves the fluorescence effect while concurrently removing glare and improving contrast. Only for 365nm.
Polarizer	EFFI-FLEX-CPT-XXX-ZZZ-WW-PP- POL2 Eliminate glare from the workpiece making it easier to acquire a suitable image for the application with no hot spot.
Linescan film	EFFI-FLEX-CPT-XXX-ZZZ- TR-P3-LS Transforms the EFFI-Flex light into a uniform line light ideal for either brightfield or darkfield illumination. Classic configuration with TR window and lens in position P3.
Cylindrical lens	EFFI-FLEX-CPT-XXX-ZZZ- TR-P1-LS-CYL Focus the light, into a very bright line. Classic configuration with linescan accessory and lens in position P1.

TECHNICAL SPECIFICATIONS

effiFLEX-CPT

Illumination Mode	AutoStrobe or Continuous	
Wavelengths	Single wavelength (from UV to IR) / White / Multispectral	
Power Supply	24V DC	
Connector(s)	M12 - 5 pins	M12 Power - 4 pins
Power Consumption	Depends on the amount of LEDs	
Weight	Depends on the amount of LEDs	
Dimensions	50mm x 37mm x length depends on the amount of LEDs	
Material	Device body: Aluminum alloy & ABS; Window: PMMA	
Fastener	1 rail for M4 T-nut on the back	
IP rating	IP67	
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

MANY POSSIBLE CONFIGURATIONS IN JUST ONE LIGHT

Diffusers

TR : Transparent

SD : Semi-diffuse

OP : Opaline

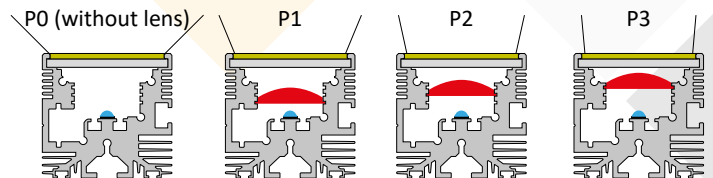


Choose the best configuration for your use-case : More diffusion (left to right) yields greater uniformity but reduces light power.

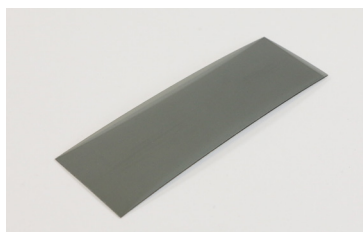
UV365: Only Transparent and P0 (without lens) configuration is available.

Lens position

With the EFFI-Flex-CPT, users can customize the light beam angle. The default position is P2, but alternate specifications are available upon ordering: placing the lenses closer to the window narrows the light angle.



POLARIZER

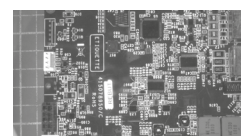


Using polarizers, on the Effilux light and on the camera, it is possible to eliminate glare from your workpiece making it easier to acquire a suitable image for the application.

The user can insert directly the polarizer inside the EFFI-FLEX-CPT, under the window.



Without polarizer



With polarizer

The polarizer film is positioned just under the window on demand when ordering.

Important notes: The polarization is optimal with a TR window, the use of diffuser (SD or OP) can depolarize the light. This option isn't available for UV365.

LINESCAN CONFIGURATIONS

Linescan film (TR-P3-LS)



Without Linescan film With Linescan film

With the lens in the upper position (P3) and the transparent window (TR), the linescan filter accessory transforms the EFFI-Flex-CPT into a uniform line light ideal for either brightfield or darkfield illumination.

Notes: The linescan option isn't available for UV365.

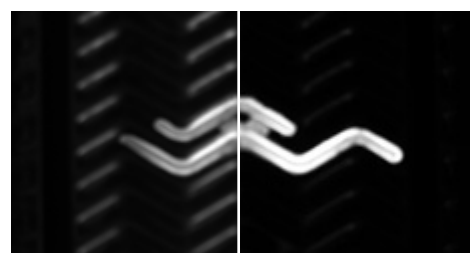
Cylindrical lens (TR-P1-LS-CYL)

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.

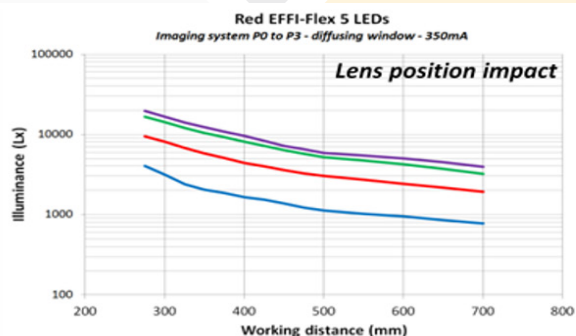
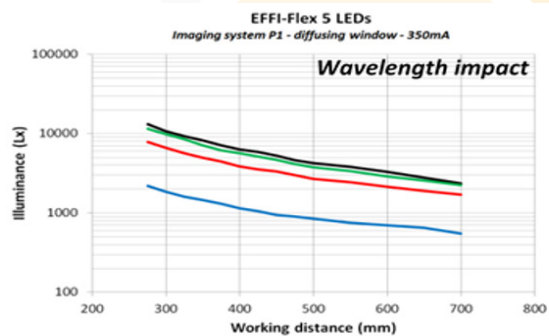


PURE UV

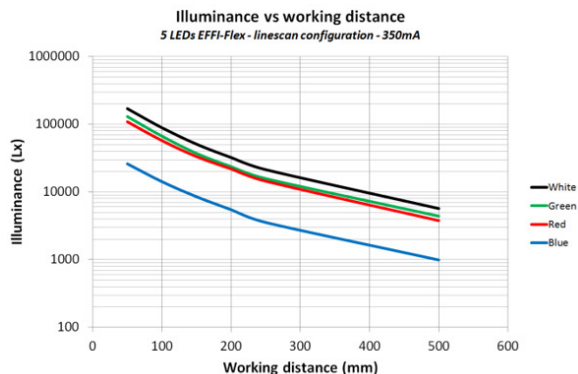
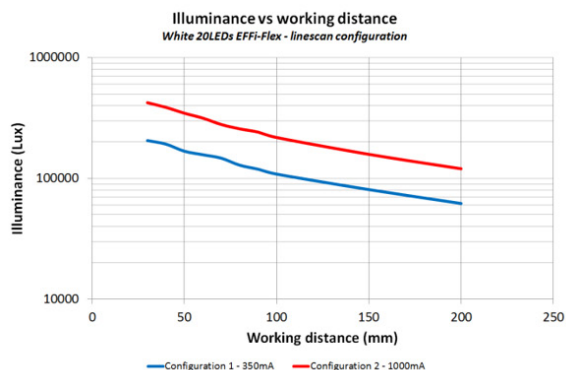
EFFILUX's PureUV technology, adapted to EFFI-Flex-CPT at 365nm, eliminates unwanted reflections and provides the best possible contrast for fluorescence applications



ILLUMINANCE VS THE WORKING DISTANCE

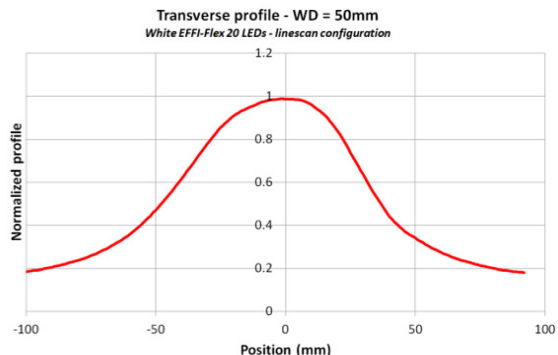
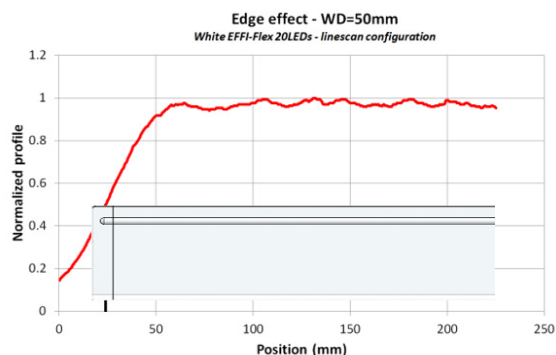


LINESCAN CONFIGURATION



Note: Configuration 2 requires an additional thermal management system.

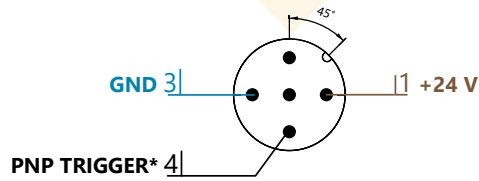
PROFILE



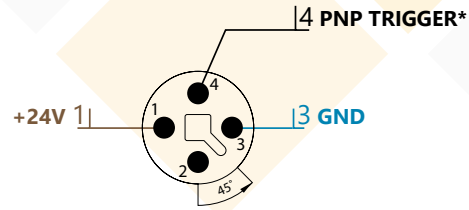
ELECTRONICAL SPECIFICATIONS

WIRING LAYOUT

M12 5pins - male connector



M12P 4pins - male connector



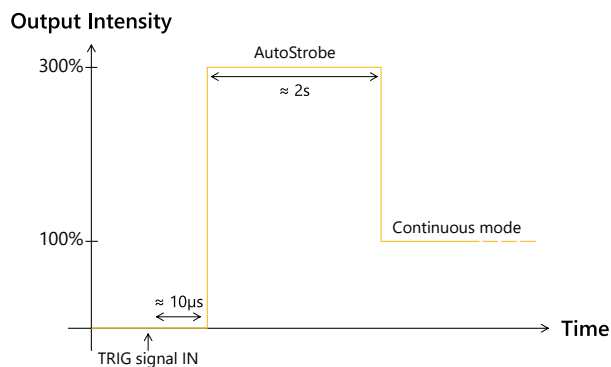
Notes:

- (*) AIC (Analog Intensity Control) for the ELS version.
- The EFFI-Flex-CPT requires 24V DC input power. Note the trigger pin needs to be connected either to the 24V DC signal for Continuous mode or to a PNP Trigger signal for Overdrive strobe mode.

DRIVER VERSIONS

Standard version : Autostrobe driver

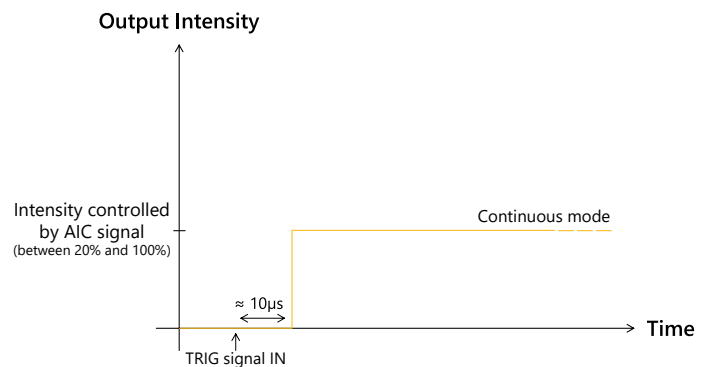
EFFI-FLEX-CPT-XXX-ZZZ-WW-PP



Dimmable version : ELS driver

(AIC instead of PNP)

EFFI-FLEX-CPT-XXX-ZZZ-WW-PP-ELS-VVV-UUU

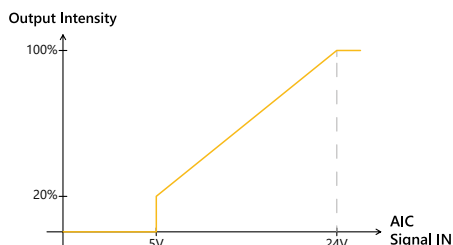


ELS DRIVER VARIANTS

AIC control range (UUU)

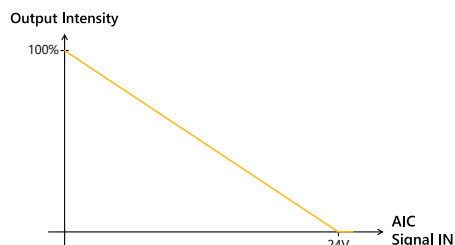
Standard 0-24V

ELS-VVV-24V



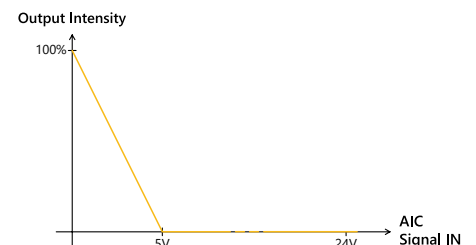
Inverse 0-24V

ELS-IN-VVV-24V



Inverse 5-0V

ELS-IN-VVV-5V



LED current (VVV) vs cooling system in ELS configuration

Part number: VVV	Output current (mA) [0-100%]	EFFI-FLEX-CPT (Standard)		EFFI-FLEX-CPT-L2 (1LED/ 2 version)
350 (Standard)	0-350 mA			
500	0-500mA	Duty cycle <70% 	Duty cycle >70% 	
700	0-700mA	Duty cycle <50% 	Duty cycle >50% 	
1000	0-1000 mA	Duty cycle <30% 		Duty cycle >30% 

Note: For the water cooling version, EFFI-FLEX-CPT version is required. Please refer to the corresponding datasheet.

POWER CONSUMPTION

Number of LED	Max power consumption (W) (White-2m cable)					
	Standard version		ELS 350mA	ELS 500mA	ELS 700mA	ELS 1000mA
	P _{peak_2s}	P _{cw} *				
1	5	2	5	5	5	5
3	15	5	5	10	10	15
5	20	8	10	10	15	20
10	40	15	15	20	30	40
15	60	20	20	30	40	60
20	80	30	30	40	55	80
25	95	35	35	50	70	95
30	115	45	45	60	80	115
35	135	50	50	70	95	135
40	155	55	55	80	110	155
45	175	60	60	90	120	175
50	190	65	70	95	135	190
55	210	70	75	105	150	210
60	230	75	80	115	160	230
65	250	85	90	125	175	250
70	270	90	95	135	190	270

* : With standard version: M12 connector can accept more electrical power thanks to its strobe mode

● M12 standard (A-coded) Male connector

● M12 power (T-coded) Male connector

Importante notes: For the wavelengths 365 nm and 405 nm, you need to account for an additional 25% power consumption.

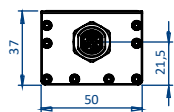
SIGNAL CONSUMPTIONS

PNP Trigger Signal consumption (Standard AutoStrobe version)			
Amount of LED	Consumption @5V (mA)	Consumption @10V (mA)	Consumption @24V (mA)
1	0.05	0.1	1.5
3	0.05	0.1	0.25
5	0.05	0.1	0.25
10	0.1	0.2	0.45
15	0.05	0.1	0.25
20	0.1	0.2	0.45
30	0.1	0.2	0.45
40	0.15	0.3	0.7
50	0.2	0.4	0.9
75	0.25	0.45	1.1
100	0.35	0.65	1.55
125	0.41	0.82	2
150	0.45	0.9	2.2

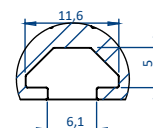
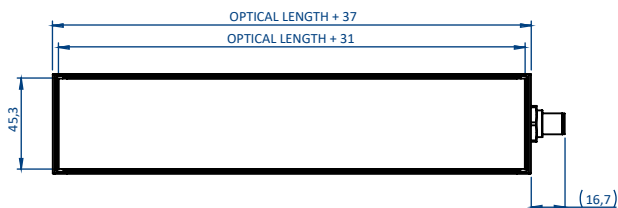
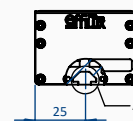
AIC Signal consumption (ELS version)				
ELS Version (DIM)	ELS-IN- VVV -24V VVV = 350, 500, 700 or 1000	ELS-IN- VVV -5V VVV = 350, 500, 700 or 1000	ELS- 350 -24V	ELS- VVV -24V VVV = 500, 700 or 1000
	DIM consumption (mA)	DIM consumption (mA)	DIM consumption (mA)	DIM consumption (mA)
	4.5mA @24V every 5 LEDs	3mA @24V every 5 LEDs	0.2mA @24V every 10 LEDs	2mA @24V every 5 LEDs

MECHANICAL SPECIFICATIONS

EFFI-FLEX-CPT



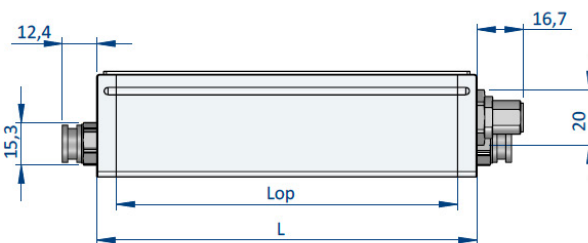
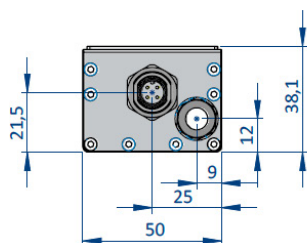
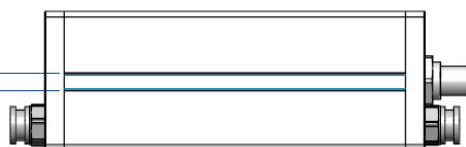
M12 OR M12P DEPENDING ON POWER CONSUMPTION.
REFER TO THE DATASHEET



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

EFFI-FLEX-CPT-WTR

6,1 FOR T-NUT BOLT M4



WATER FITTING FOR PIPE $\varnothing 8$



M12 MALE 5 PINS

ACCESSORIES

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



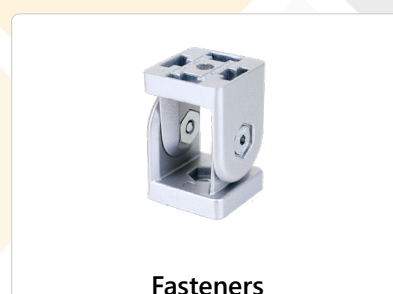
Camera Filters

EFFO-FLR-...



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

Kit T-nut M4: EFFV-BOLT-0012
Pivot joint – not drilled: EFFM-1-0002



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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effiFLEX-CPT RGB/WUI

Multimode, Flexible & Multispectral bar light



PART-NUMBERING

EFFI-FLEX-CPT - XXX	- ZZZ	- WW	- PP
Number of LED	Wavelength	Windows	Lens position
6* (120 mm)	RGB  (Red, Green Blue)	TR: Transparent	P0
9* (180 mm)	WUI  (White, UV, IR)	SD: Semi-diffuse	P1
12 (240 mm)		OP: Opaline	P2
15 (300mm) ... Every 3 LED (every 60mm)			P3
39 (780mm)			

Note:

- (*) Only available in autostrobe version: Autostrobe starts at 6 LEDs and ELS versions at 12 LEDs.
- Other multispectral (multiple different wavelengths) configurations can be made as custom products.

COMPATIBLE VERSIONS	
ELS	EFFI-FLEX-CPT-XXX-ZZZ-WW-PP- ELS-VVV-UUU (no ELS-IN and only M12 configurations allowed)
COMPATIBLE OPTIONS	
Polarizer	EFFI-FLEX-CPT-XXX-ZZZ-WW-PP- POL2
Linescan film	EFFI-FLEX-CPT-XXX-ZZZ- TR-P3-LS
Cylindrical lens	EFFI-FLEX-CPT-XXX-ZZZ- TR-P1-LS-CYL

WIRING LAYOUT (M12 ONLY)

