



Strobe version
available

Very intense and uniform illuminated area
Full range of colors: from UV to IR, white, tricolor

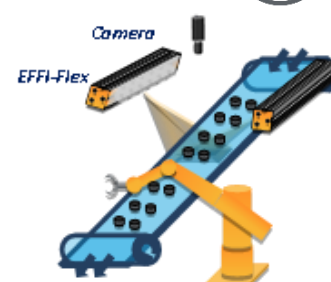
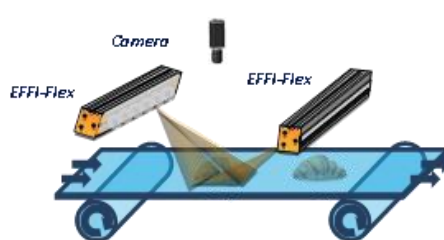
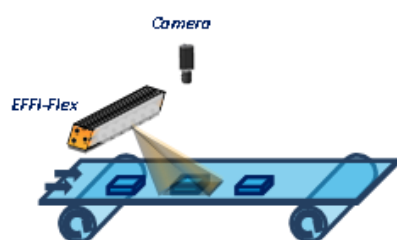
Long lifetime and few maintenance

Standard connections and fasteners

Flexible: Adjustable illumination angles (4 angles) & different projection windows

Electronics	Connectors	M12 – 4 Pins
	Power supply	24V DC
	Illumination mode	Continuous or strobe mode
	Power consumption	Depends on the amount of LEDs
	Electronic mode	Standard or ELS
Optics	Wavelength	Single (from UV to IR, white) wavelengths
Mechanics	Weight	Depends on the amount of LEDs
	Width x height x length	50mm x 37.1mm x length depends on the amount of LEDs
	Fastener	1 rails for M4 T-nut: one on the back
	Material	Device body: Aluminum alloy & ABS; Window: PMMA (or glass window for 365nm)
Environment	Working temperature	0°C to 50°C
	IP code	IP67

Applications



Quality control

Pick and place

Part Number



Reference:

EFFI-FLEX-CPT-**VVV**-**WW**-**XXX**-**YY**-**ZZ**

VVV: Cooling version

No water cooling

WTR: Water cooling

WW: Number of LED

WW	1	3	5	10	15	...
Standard version	55 mm	95 mm	135 mm	235 mm	335 mm	More than 4 m
1 LED / 2 positions version*	-	-	235 mm	435 mm	635 mm	More than 4 m

* If 1 LED / 2 version, add -L2 (Length X2) after the number of LED

XXX: Color / Wavelength (nm)

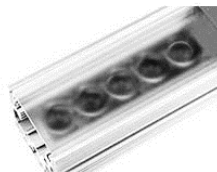
RGB RGB* * Optional	• UV 365* *no lens & glass window OR option filter (fluo) + UV lens	• UV 405	• Blue 465	• Green 525	• Red 625	• IR 850	○ White 000 (T°= 5500 K ± 500 K)
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YY: Windows (if not specified, default semi-diffusive window)

TR: Transparent

SD: Semi-diffusive

OP: Opaline



+ Powerful

+ Homogeneous

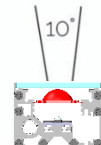
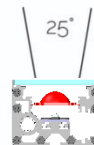
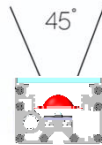
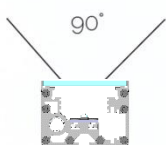
ZZ: Position (if not specified, default position P2) / Emission angle according to the lens position

P0 (Without lens)

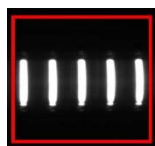
P1

P2

P3



Option Linescan (linear lighting or a darkfield lighting)



Without Linescan



With Linescan

If linescan, add **-LS** in the part number. Possibility to buy only the accessory.

Part number: EFFI-FLEX-**WW**-**XXX**-**YY**-**ZZ**-**LS**

Option Polarizer (to eliminate glare caused by the lighting)



Without polarizer



With polarizer

If polarizer, add **-POL** in the part number. Possibility to buy only the accessory.

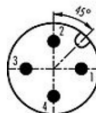
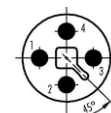
Part number: EFFI-FLEX-**WW**-**XXX**-**YY**-**ZZ**-**POL**

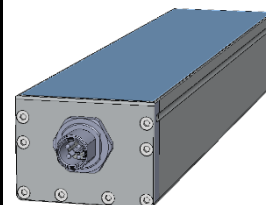
Electronical considerations



Contact arrangement

The EFFI-Flex-BL is supplied with a 24V constant voltage. The DIM contact needs to be connected.

Contact arrangement ⁽¹⁾	Number	Color Contact	Designation
  M12 Male connector M12 Power connector Connector depends on electrical power consumption	1	Brown	+24V
	2	White	n.a.
	3	Blue	GND
	4	Black	TRIG ⁽²⁾ - max 24V Analog Voltage

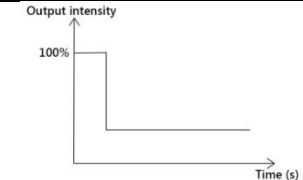
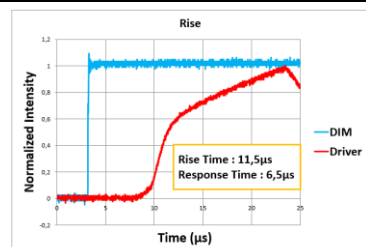
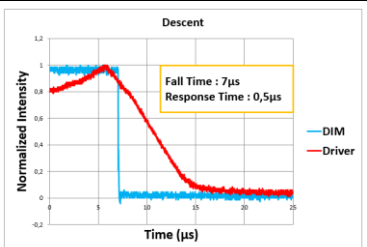


(1) Contact arrangement is different for RGB Option

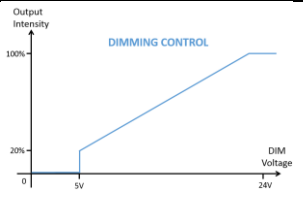
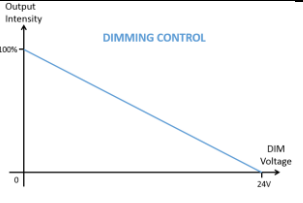
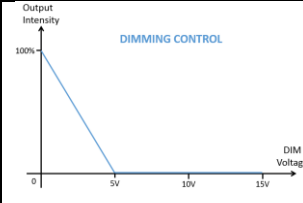
(2) Or DIM if ELS version

Dimming control

Auto-Strobe: Standard electronic

Part number	EFFI-FLEX-WW-XXX-YY-ZZ		
Signal	 After 2s at 1000mA, LEDs are supplied with 350mA. Respect a duty cycle lower than 30% in strobe mode.		

OPTION : ELS version: EFFI-FLEX-WW-XXX-YY-ZZ-ELS-VVV-24V

Part number	ELS-VVV-24V	ELS-IN-VVV-24V	ELS-IN-VVV-5V
Signal	 OFF : 0-5V & ON : 5V-24V	 ON : 0-22V & OFF : 22V-24V	 ON : 0-4.5V & OFF : 4.5V-15V

Recommended Cooling system for ELS version (contact EFFILUX for more information)

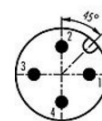
Part number: EFFI-FLEX-CPT-VVV-WW-XXX-YY-ZZ-ELS-UUU-24V

UUU	Output current (mA)[0-100%]	EFFI-Flex CPT	EFFI-Flex CPT 1 LED/2
350	0-350 mA	 Passive cooling	 Passive cooling
500	0-500 mA	 Passive cooling + fan* (if duty cycle > 50%)	
700	0-700 mA	 Passive cooling + fan* (if duty cycle > 30%)	
1000	0-1000 mA	From a duty cycle > 30%, contact us.	

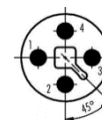
*Fan is not included in the product / Duty Cycle : $DC = T_{ON} / (T_{ON} + T_{OFF})$

Power supply

Amount of LED	Max Electrical power consumption (W)					
	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	40	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



M12 Male connector



M12 Power Male connector

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

Signal consumption

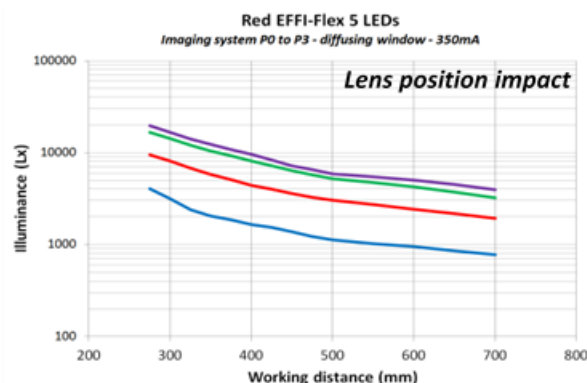
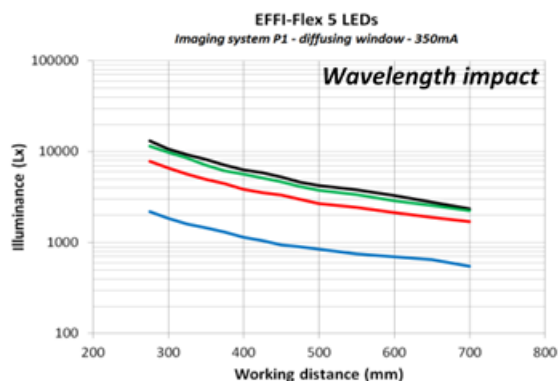
DIM consumption				
ELS version (DIM)	ELS-IN- VVV -24V VVV = 350, 500, 700 or 1000	ELS-IN- VVV -5V VVV = 350, 500, 700 or 1000	ELS- 350 -24V	ELS- VVV -24V VVV = 500, 700 or 1000
DIM consumption (mA)	4.5mA @24V every 5 LEDs	3mA @24V every 5 LEDs	0.2mA @24V every 10 LEDs	2mA @24V every 5 LEDs

TRIG consumption			
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

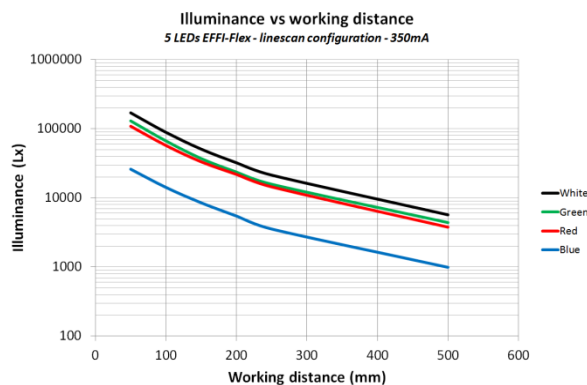
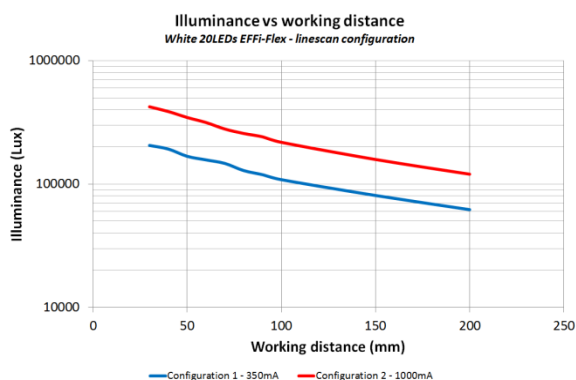
Optical considerations



Illuminance vs the working distance

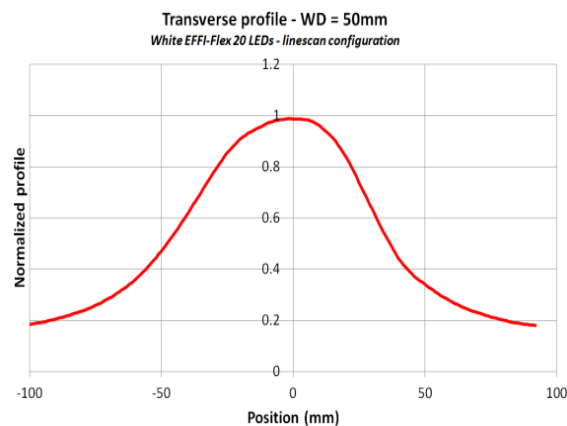
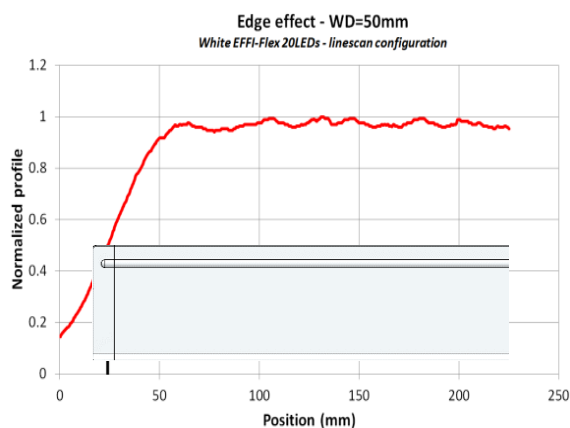
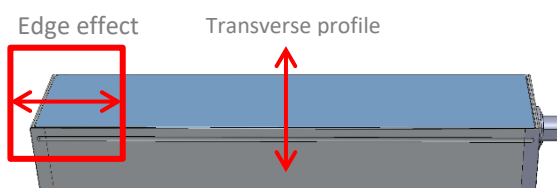


Linescan configuration



NB: Configuration 2 requires an additional thermal management system

Profile

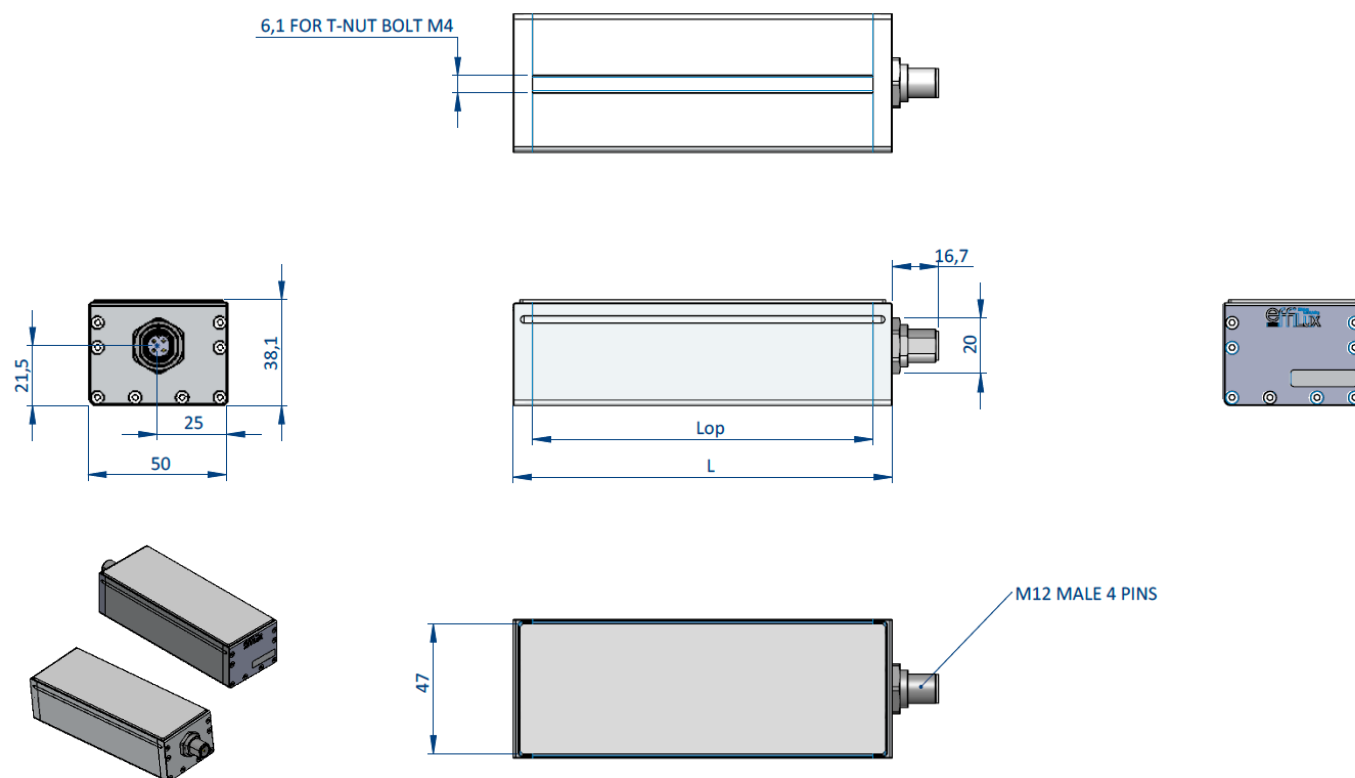


Mechanical considerations



Amount of LEDs	Designation	Mechanical Length L(mm)	Optical Length L op(mm)
		Standard: $L(\text{mm}) = [20 \times \text{nb_of_LED}] + 37$ L2: $L(\text{mm}) = [40 \times \text{nb_of_LED}] + 37$	Standard: $L \text{ op}(\text{mm}) = [20 \times \text{nb_of_LED}] + 23$ L2: $L \text{ op}(\text{mm}) = [40 \times \text{nb_of_LED}] + 23$
1	EFFI-FLEX-CPT-1-XXX-YY-ZZ	57	43
3	EFFI-FLEX-CPT-3-XXX-YY-ZZ	97	83
5	EFFI-FLEX-CPT-5-XXX-YY-ZZ	137	123
	EFFI-FLEX-CPT-5-L2-XXX-YY-ZZ	237	223
10	EFFI-FLEX-CPT-10-XXX-YY-ZZ	237	223
	EFFI-FLEX-CPT-10-L2-XXX-YY-ZZ	437	423
15	EFFI-FLEX-CPT-15-XXX-YY-ZZ	337	323
	EFFI-FLEX-CPT-15-L2-XXX-YY-ZZ	637	623
20	EFFI-FLEX-CPT-20-XXX-YY-ZZ	437	423
	EFFI-FLEX-CPT-20-L2-XXX-YY-ZZ	837	823
25	EFFI-FLEX-CPT-25-XXX-YY-ZZ	537	523
	EFFI-FLEX-CPT-25-L2-XXX-YY-ZZ	1037	1023
30	EFFI-FLEX-CPT-30-XXX-YY-ZZ	637	623
	EFFI-FLEX-CPT-30-L2-XXX-YY-ZZ	1237	1223
50	EFFI-FLEX-CPT-50-XXX-YY-ZZ	1037	1023
	EFFI-FLEX-CPT-50-L2-XXX-YY-ZZ	2037	2023
70	EFFI-FLEX-CPT-70-XXX-YY-ZZ	1437	1423
	EFFI-FLEX-CPT-70-L2-XXX-YY-ZZ	2837	2823

EFFI-FLEX-CPT



EFFI-FLEX-CPT-WTR

