

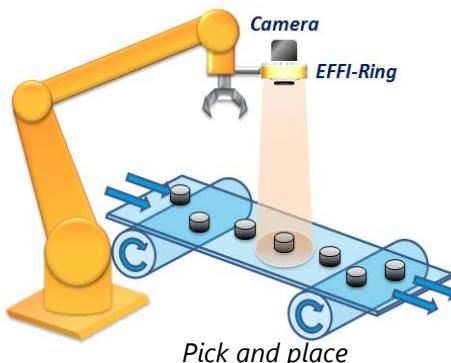
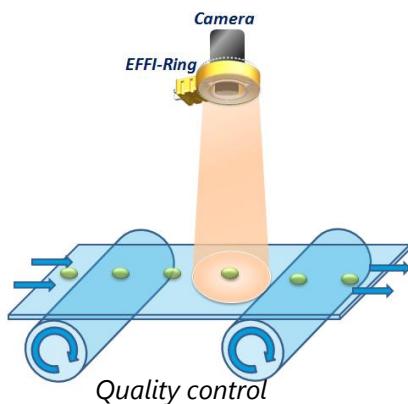


Strobe version
available

- Very intense and uniform illuminated area
- Full range of colors : from UV to IR, white, tricolor
- Long lifetime and few maintenance
- Compatible with most objectives

Electronics	Connectors	M12 - 5 Contacts	M8 - 4 Contacts	
	Power supply	24V DC	Direct current (No driver = No protection)	
	Illumination mode	Continuous or strobe mode	Continuous or strobe mode	
	Power consumption	72W	Depends on your configuration	
Optics	Wavelength	Single (from UV to IR, white) or three different (RGB or WUI) wavelengths		
Mechanics	Weight	400 g		
	Width x length x height	117 mm x 151 mm x 40 mm		
	Inside diameter	58 mm		
	Fastener	M4 screw (4 on heat sink & 4 on outgrowth)		
	Material	Device body : Aluminum alloy & ABS ; Window : PMMA		
Environment	Working temperature	-10°C to 50°C		
	IP code	IP65		

Applications



Part Number



Reference:

EFFI-RING-XXX-YY-ZZ

XXX: Wavelength (nm) / Color (other wavelengths available on demand)

• UV 405	• Blue 465	• Green 525	• Red 625	• IR 850	○ White 000 (T° = 5500 K ± 500 K)	Tricolor versions If RGB : -RGB If WUI (White-UV-IR) : -WUI
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YY: Windows

TR : Transparent	SD : Semi-Diffuse	OP : Opaline
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+ Powerful ← → + Homogeneous

If not specified, default semi-diffuse window

ZZ: Position / Emission angle according to the lens position

P0 *	P1	P2	P3
90° * without lens			

If not specified, default position P2

Option Polarizer



Without polarizer



With polarizer

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

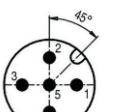
The polarizer option entails a transparent window.

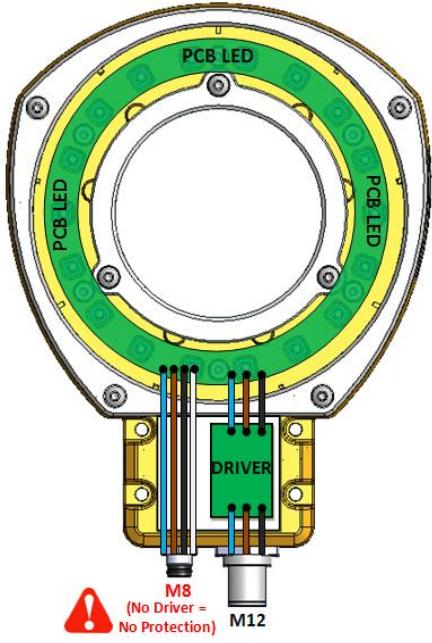
Part number: EFFI-RING-XXX-YY-ZZ-POL

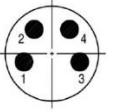
Electronical considerations



Contact arrangement

M12 connector – Smart control (Strobe)				
Contact arrangement	Number	Color Contact	Designation Monochrome version	Designation RGB/WUI versions
 <i>M12 Male connector</i>	1	Brown	+24V	+24V
	2	White	n.a.	Blue/UV TRIG - 24V
	3	Blue	GND	GND
	4	Black	TRIG – max 24V	Red/White TRIG - 24V
	5	Grey	n.a.	Green/IR TRIG - 24V

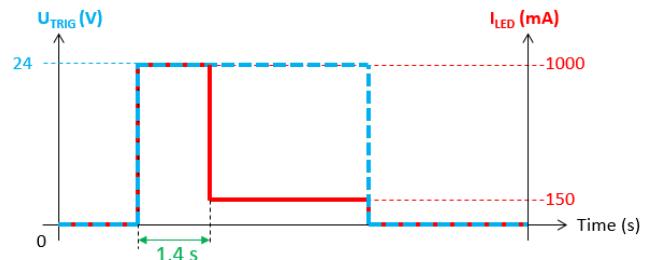


⚠️ M8 connector – direct control (expert mode) ⚠️				
Contact arrangement	Number	Color Contact	Designation Monochrome version	Designation RGB/WUI versions
 <i>M8 Male connector</i>	1	Brown	+V _{common} *	+V _{common} *
	2	White	GND 1	GND Red/White
	3	Blue	GND 2	GND Blue/UV
	4	Black	GND 3	GND Green/IR

* See ANNEX for more information

Trigger control (M12 connector)

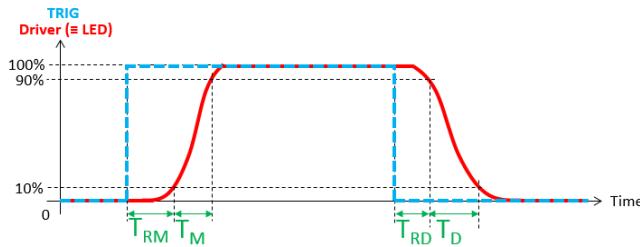
TRIG Voltage U _{DIM} (V)	Light intensity	TRIG consumption
0-3	OFF	0,1 mA@3V
3-5	INSTABLE ⚠️	/
10-24	ON	0,8 mA@24V



Characteristics of the pulse (M12 connector)

Designation	Time (μs)
Rise time (T_M) ^{1,5}	4-15
Response rise time (T_{RM}) ²	25
Fall time (T_D) ³	10
Response fall time (T_{RD}) ⁴	5

- (1) From 10% to 90% of the peak value of driver signal
- (2) From 90% to 10% of the peak value of driver signal
- (3) From the beginning of the TRIG signal to 10% of the peak value of driver signal
- (4) From the ending of the TRIG signal to 90% of the peak value of driver signal
- (5) T_M increases when U_{TRIG} or/and the frequency increases



Characteristics of the pulse (M8 connector)

Be aware that the maximum current for a given frequency and a given T_{pulse} , in the following table, cannot be exceeded.

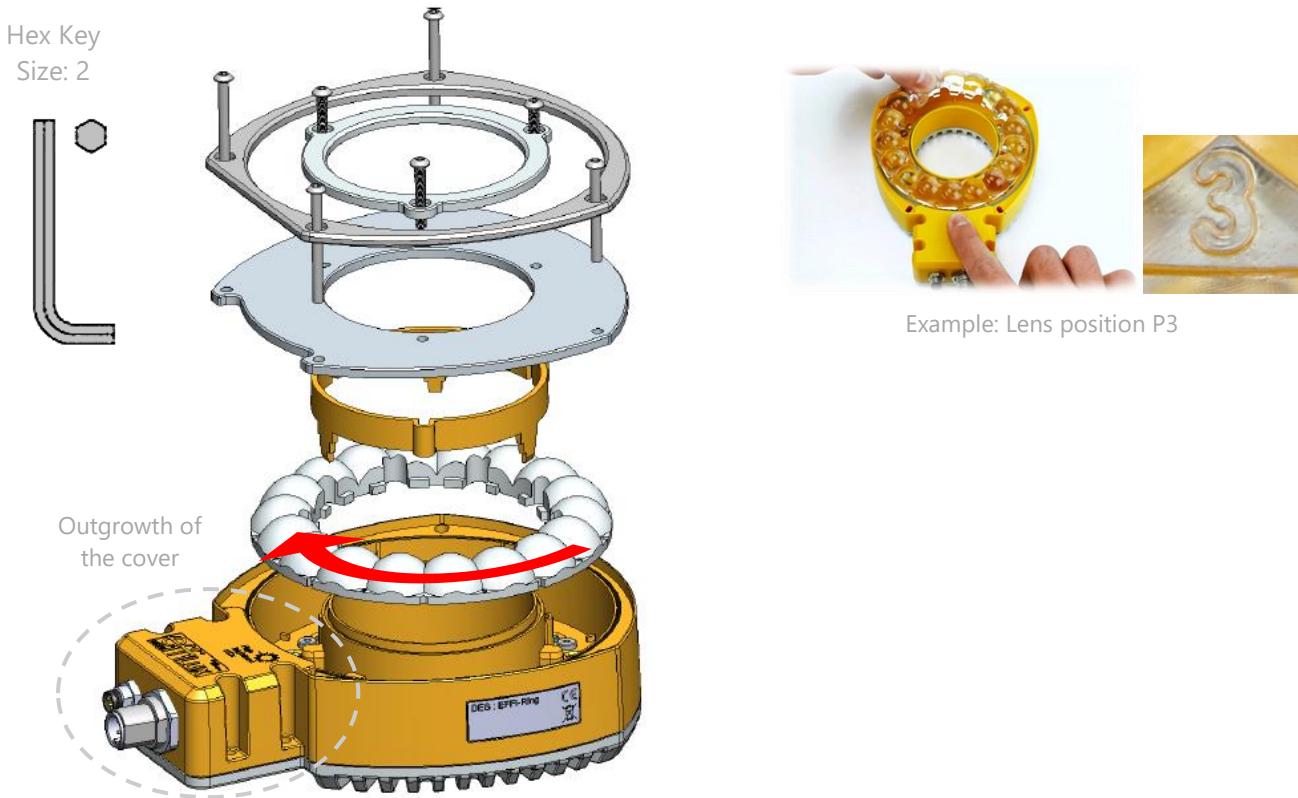
T pulse (μs)	F (Hz)				
	1	5	10	15	20
100 000	1.0 A				
50 000	1.2A				
10 000	1.5 A	1.0 A			
1000			2.0 A		
100			2.5 A		

Optical considerations



How to use the EFFI-RING ?

The numbers 1, 2 and 3 are inscribed in the lens and correspond to the lens position. Match the number of the desired position lens with the outgrowth of the cover.



Example: Lens position P3

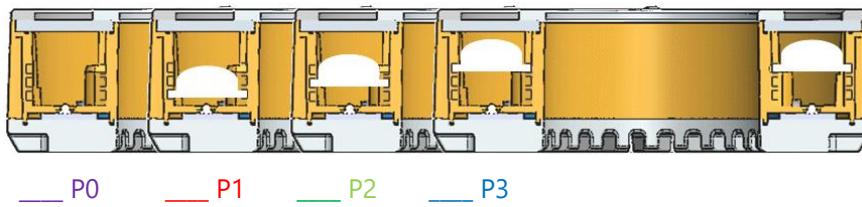
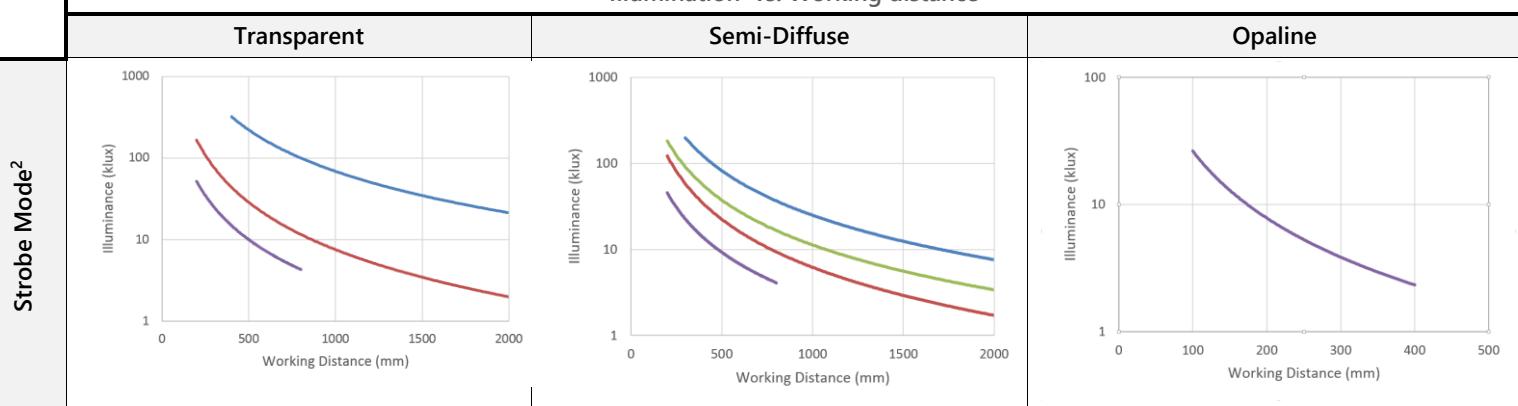
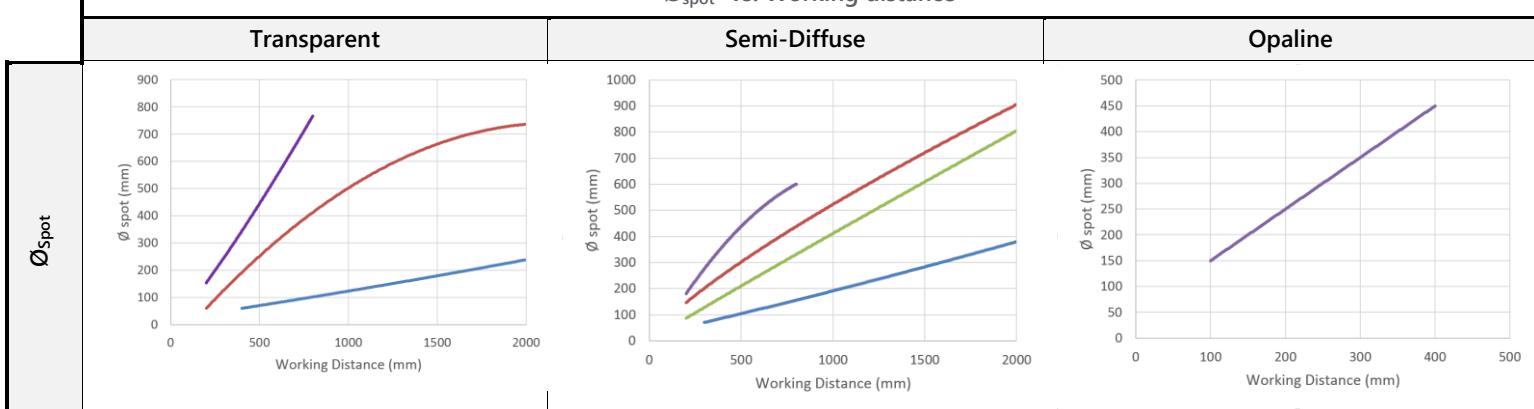
Handle & clean optical components

To handle the optical components, wearing gloves is strongly recommended.

To clean the optical components:

- > Use compressed air duster if there is dust.
- > To remove marks on the lens or the window, just a drop or two wiped of alcohol based lens cleaning fluid in a gentle circular motion with a cleaning tissue. Always apply the fluid to a tissue rather than the lens itself.

Lens position

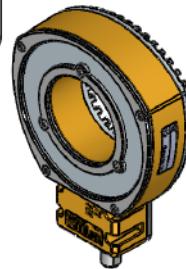
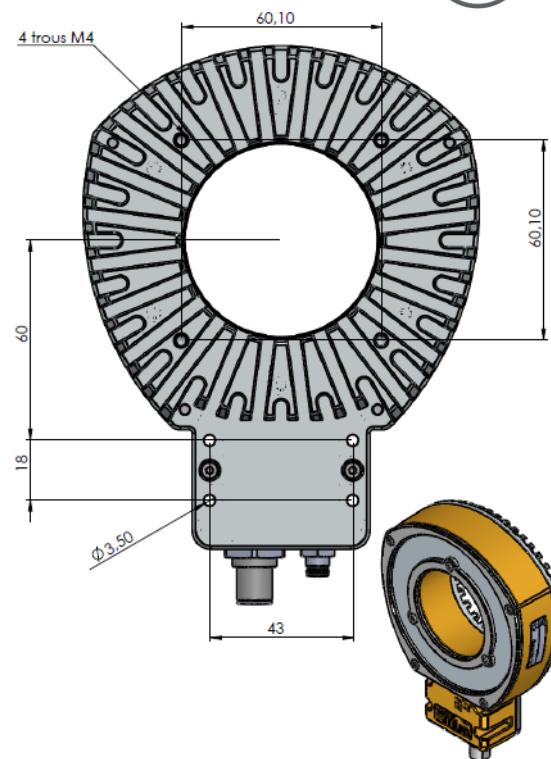
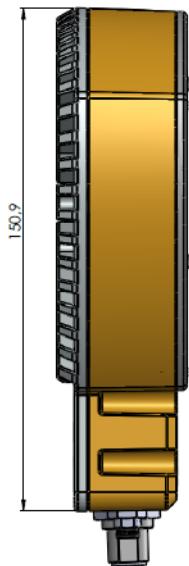
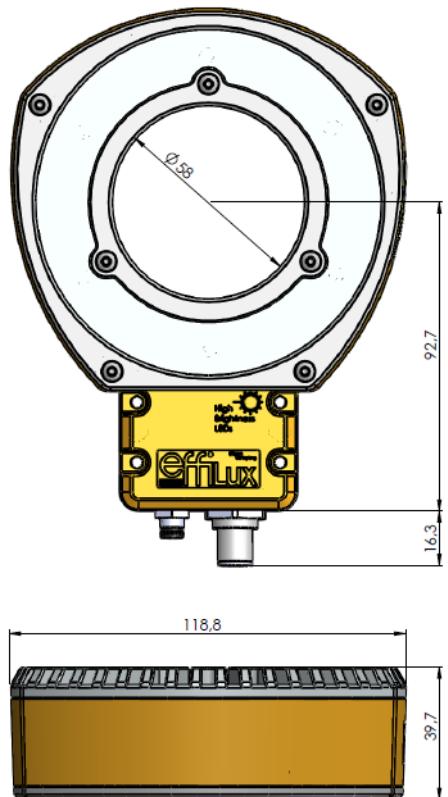

 Illumination¹ vs. Working distance

 $\varnothing_{\text{Spot}}^3$ vs. Working distance


(1) Maximum illumination at the center of the spot

 (2) Continuous Mode : Illuminance X4

(3) From 50% to 100% of the peak value of illumination

Mechanical considerations (Dimensions in mm)

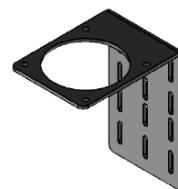
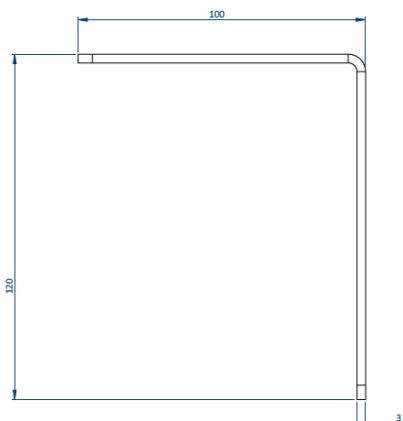
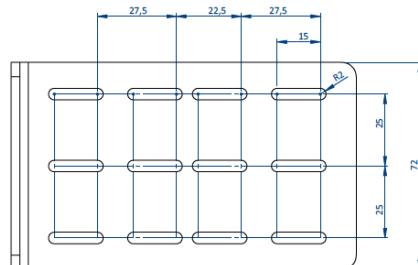
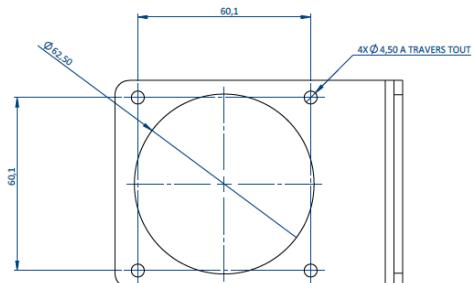


Accessories (to purchase separately)

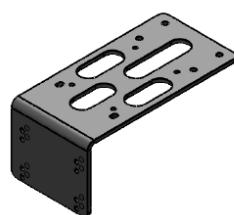
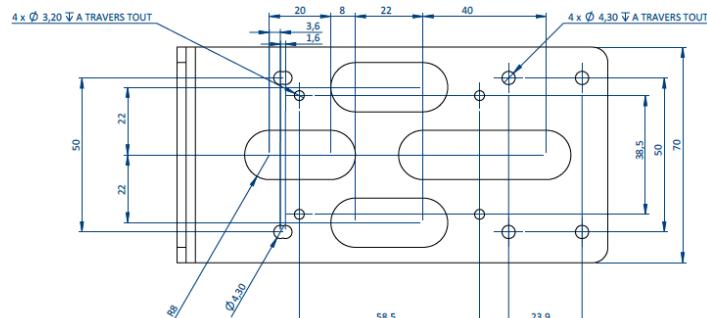
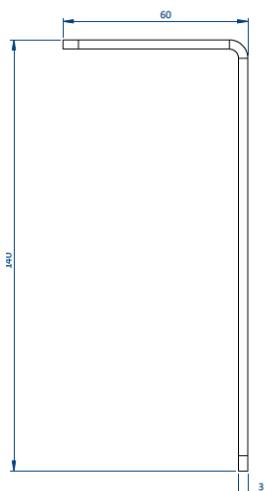
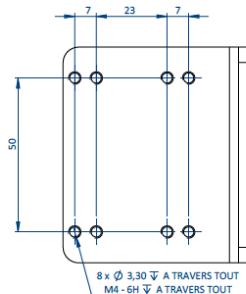


Camera supports

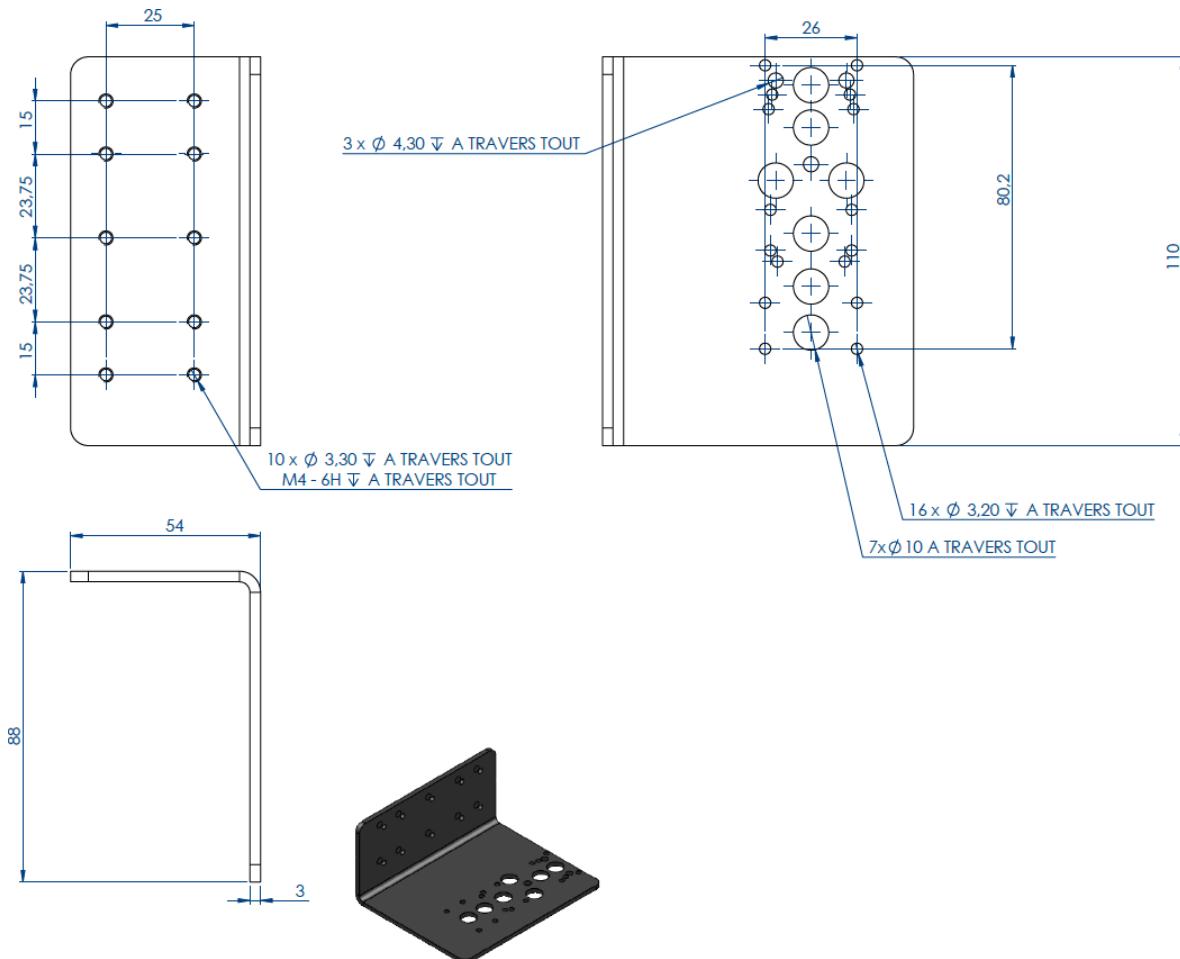
EFFM-1-0024



EFFM-1-0025

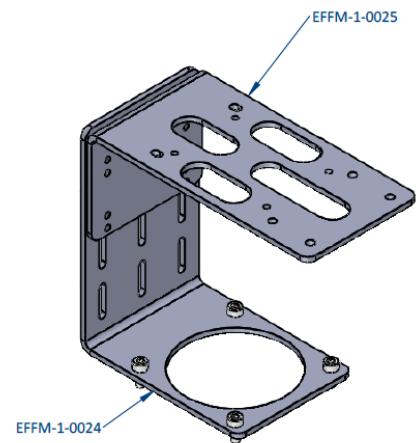
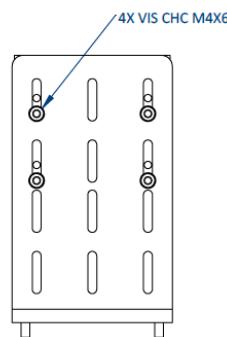
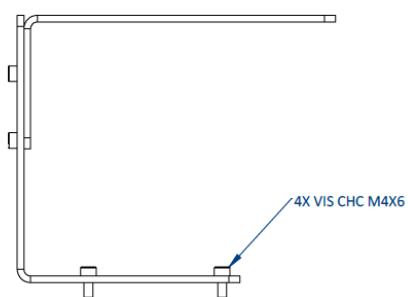
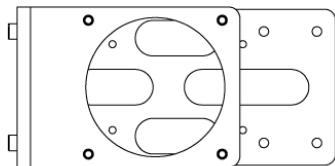


EFFM-1-0026

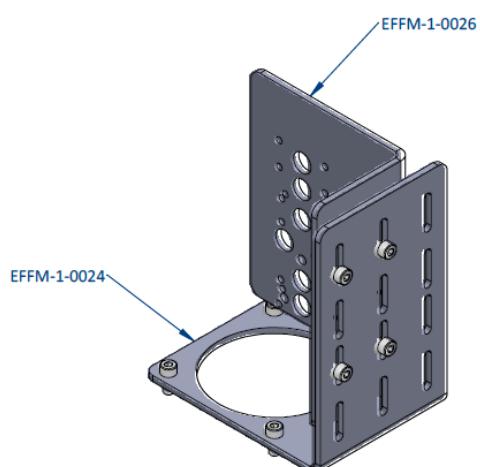
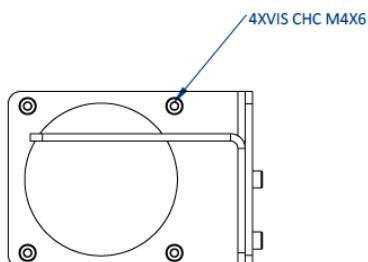
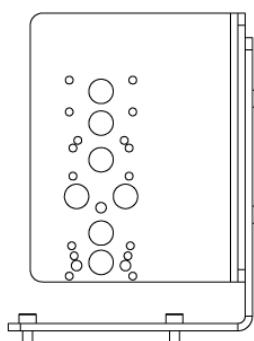
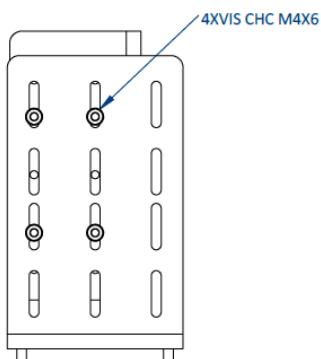


Combinations between camera supports

EFFM-1-HORI : EFFM-1-0024 + EFFM-1-0025



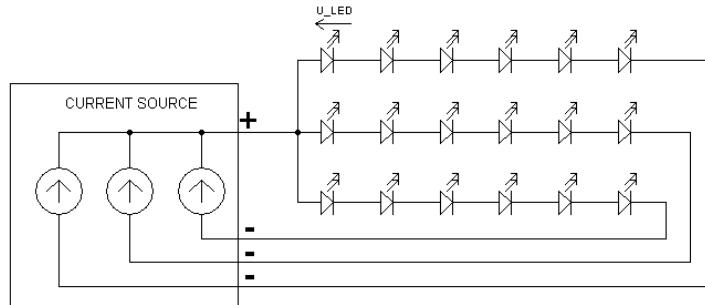
EFFM-1-VERT : EFFM-1-0024 + EFFM-1-0026



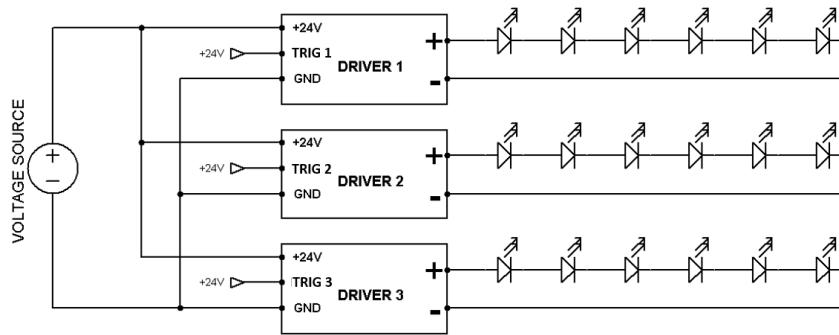
Annex

M8 connector block circuit diagram

LED	Forward Voltage U_{LED} (V)
UV	3.50 - 4.30
Blue	2.80 - 3.50
Green	2.90 - 3.70
Red	1.90 - 2.70
IR	1.50 - 2.00
White	3.10 - 3.70



M12 connector block circuit diagram



NB : TRIG 1,2 and 3 are conneted together inside the product for Monochrome version