

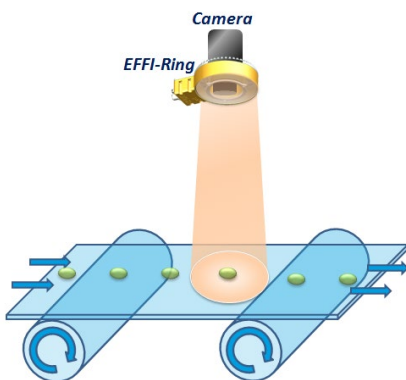
Strobe version available

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

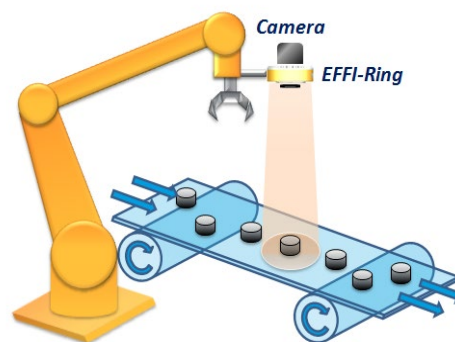
Electronics	Connectors	M12 - 5 pins	M8 - 4 pins
	Power supply	24V DC	Direct current (No driver = No protection)
	Illumination mode	Continuous or strobe mode	Continuous or strobe mode
	Power consumption (Max.)	72W*	Depends on your configuration
Optics	Wavelength	Single (from UV to IR, white) or three different (RGB or WUI) wavelengths	
Mechanics	Weight	400g	
	Width x length x height	117mm x 151mm x 40mm	
	Inside diameter	58mm	
	Fastener	M4 screws (4 on heat sink & 4 on outgrowth)	
	Material	Device body: Aluminum alloy & ABS; Window: PMMA	
Environment	Working temperature	0°C to 40°C	
	IP code	IP65 (except with polarizer accessory: IP50) <i>For extended use with water please ensure to use a plastic cap on the unused connector (M8 or M12)</i>	

* For any wavelength. The value is given for White which is the worst case for consumption.

Applications



Quality control



Pick and place

Part Number



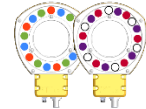
Reference:

EFFI-RING-**ZZZ**-**WW**-**PP**

ZZZ: 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**

WW: Windows

TR: Transparent

SD: Semi-Diffuse

OP: Opaline



+ Powerful

+ Homogeneous

If not specified, default semi-diffuse window

PP: Position / Emission angle according to the lens position

P0

P1

P2

P3



90°
= without lens



45°



25°



10°

Without specifications from the customer the default position is P2.

Option Polarizer



Without polarizer



With polarizer

To add a polarizer, add **-POL** in the part number. It is possible to buy only the accessory.

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

Note that with the polarizer accessory, the EFFI-Ring becomes IP50.

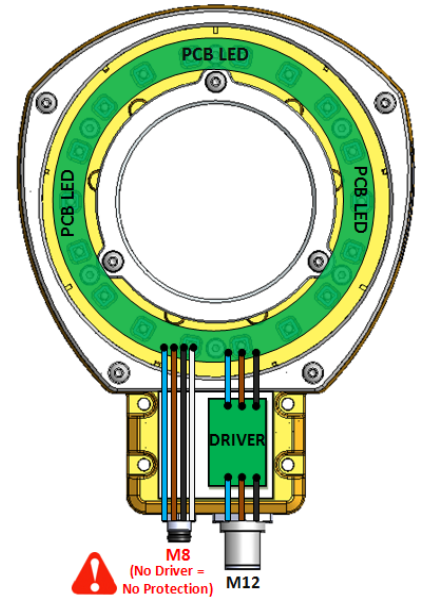
For IP65 polarized version, choose **-POL-IP** option (polarizer directly glued on a transparent window).

Electronical considerations



Contact arrangement

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

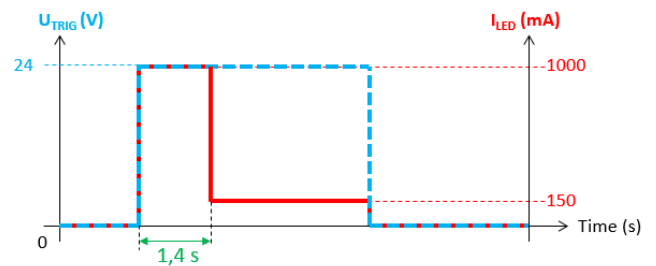


⚠ M8 connector – direct control (expert mode) ⚠				
Contact arrangement	Number	Color Contact	Designation Monochrome version	Designation RGB/WUI versions
<p>M8 Male connector</p>	1	Brown	+V _{common} *	+V _{common} *
	2	White	GND 1	GND Red/White
	3	Blue	GND 2	GND Blue/UV
	4	Black	GND 3	GND Green/IR

* See ANNEX for more information

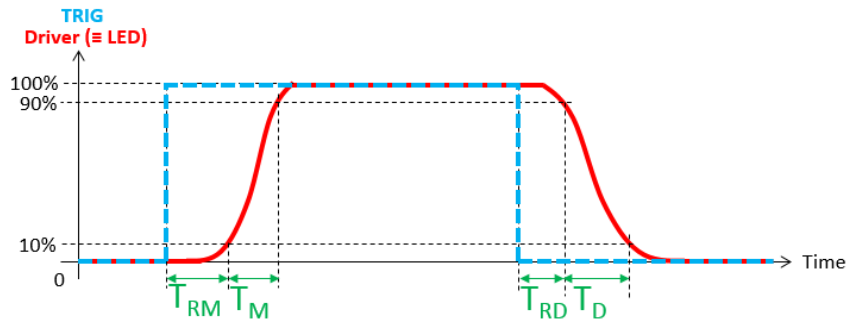
Trigger control (M12 connector)

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



Strobe mode: Respect a duty cycle lower than 0.15

Characteristics of the pulse (M12 connector)



Designation	Time (μ s)
Response rise time (T_{RM}) ¹	10
Rise time (T_M) ²	4 to 12
Fall time (T_D) ³	10
Response fall time (T_{RD}) ⁴	5

- (1) From the beginning of the TRIG signal to 10% of the max intensity
- (2) From 10% to 90% of the maximum intensity
- (3) From 90% to 10% of the maximum intensity
- (4) From the end of the TRIG signal to 0% intensity

T_M increases when U_{TRIG} or/and the frequency increases

Characteristics of the pulse (M8 connector)

Do not exceed the maximum current for a given frequency and a given T_{pulse} indicated in the table below.

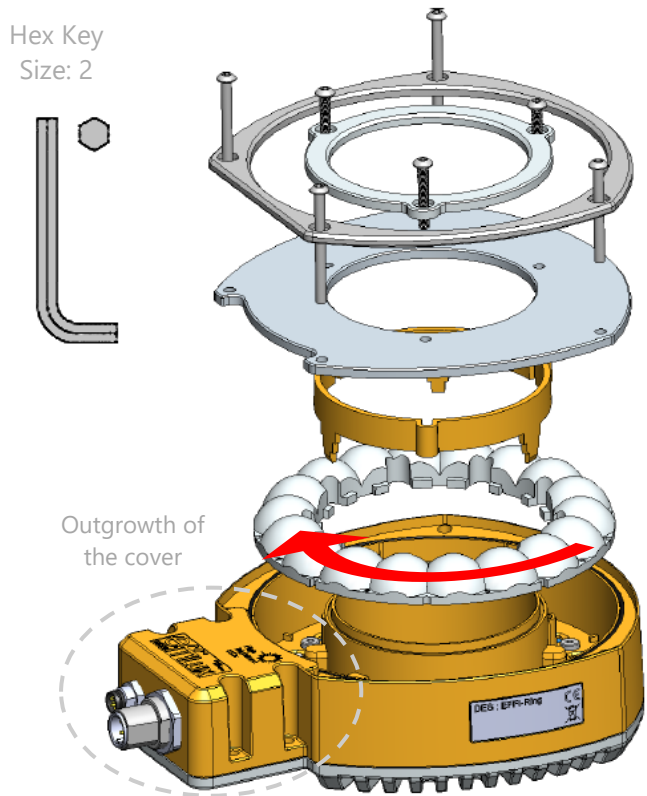
T pulse (μ s)	F (Hz)				
	1	5	10	15	20
100 000	1.0 A				
50 000	1.2A				
10 000	1.5 A	1.0 A			
1000	2.0 A				
100	2.5 A				

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

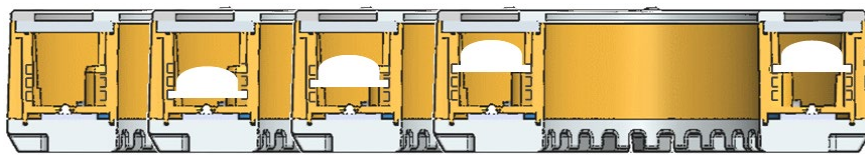
Handle & clean optical components

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

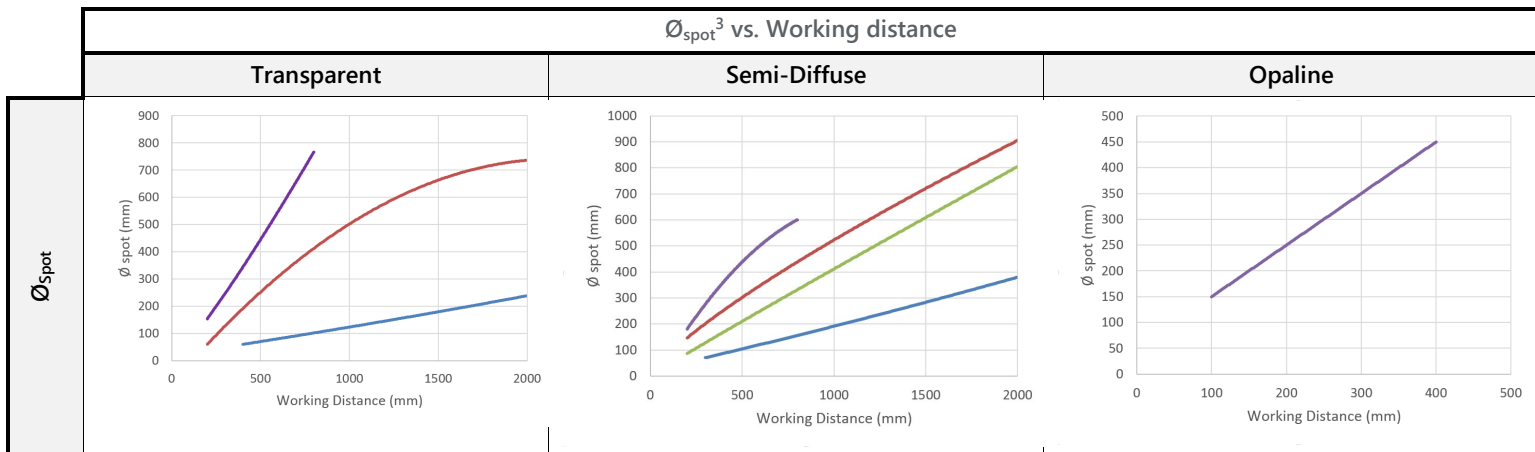
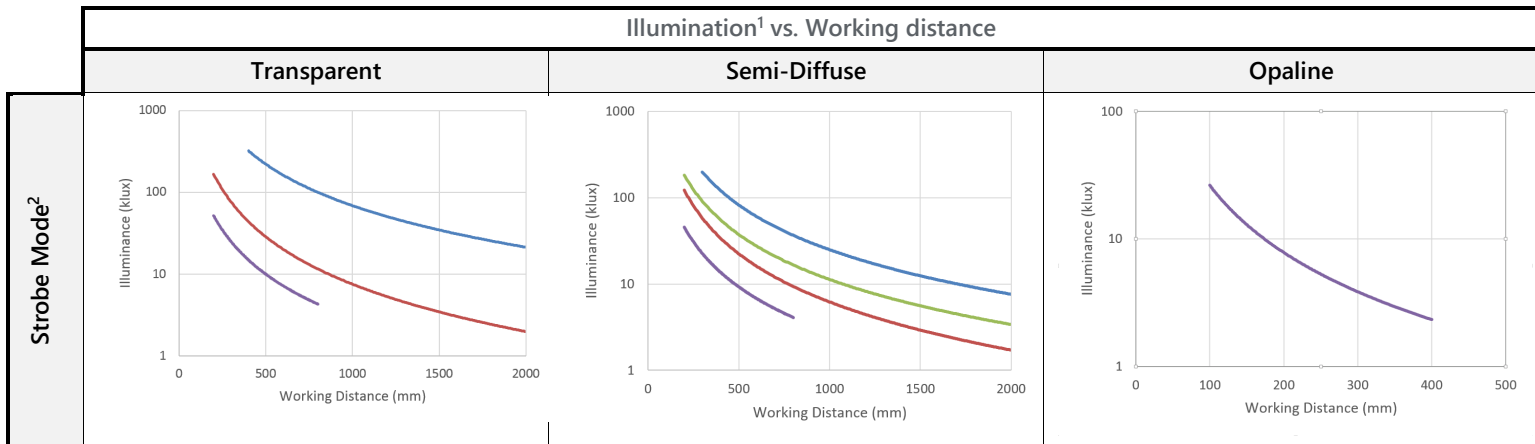
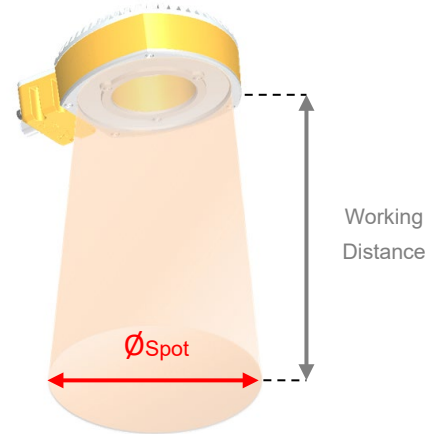
To clean the optical components:

- > Use compressed air duster if there is dust.
- > To remove marks on the lens or the window, just a drop or two wiped of free-alcohol 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

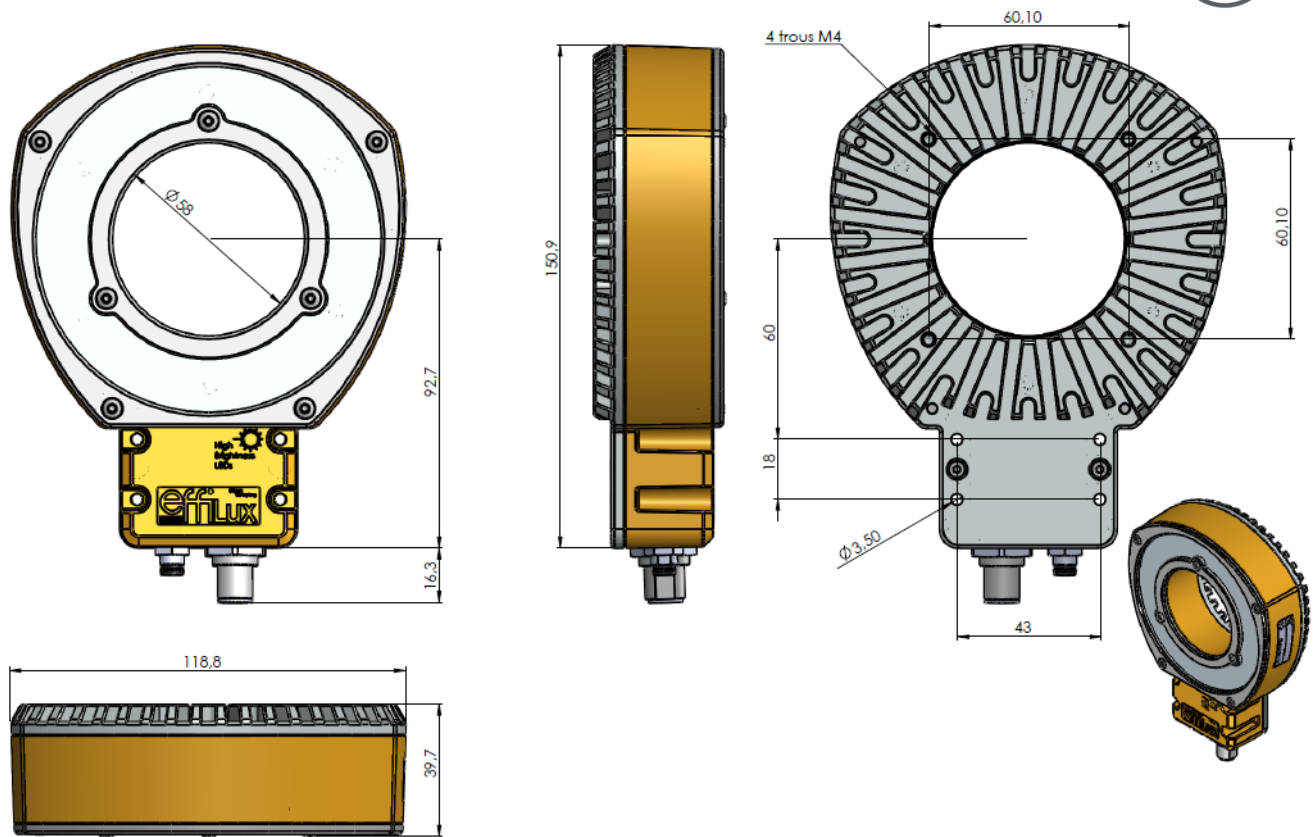


— P0 — P1 — P2 — P3



- (1) Maximum illumination at the center of the spot
- (2) Continuous Mode : Illuminance divided by 4
- (3) From 50% to 100% of the peak value of illumination

Mechanical considerations (Dimensions in mm)

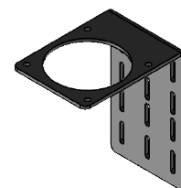
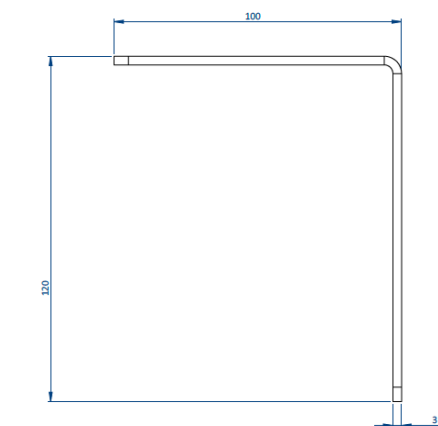
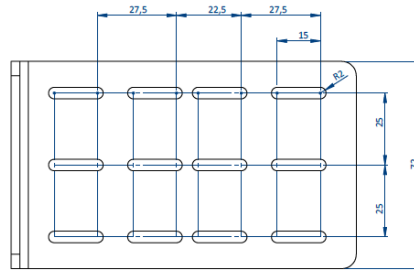
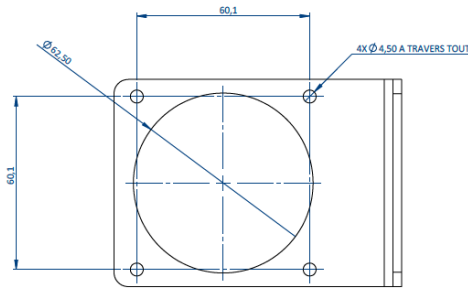


Accessories (to purchase separately)

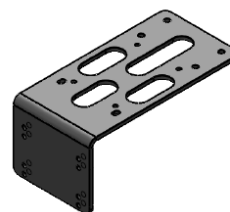
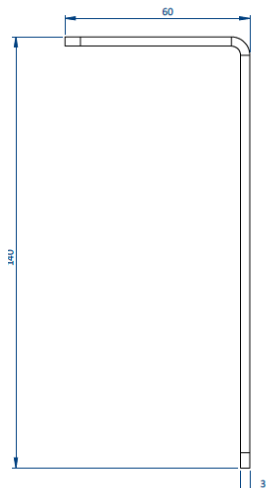
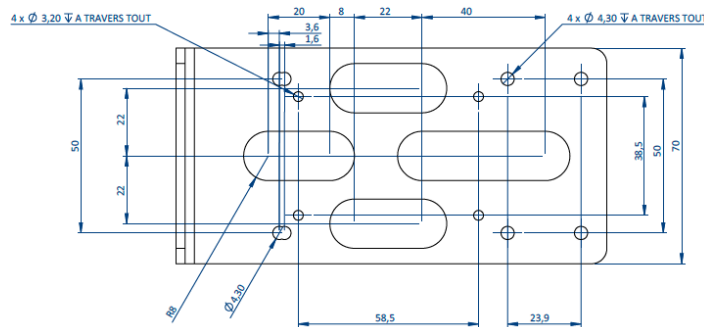
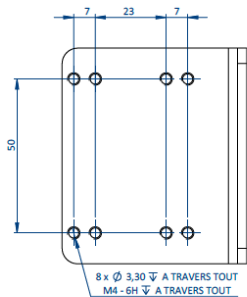


Camera supports

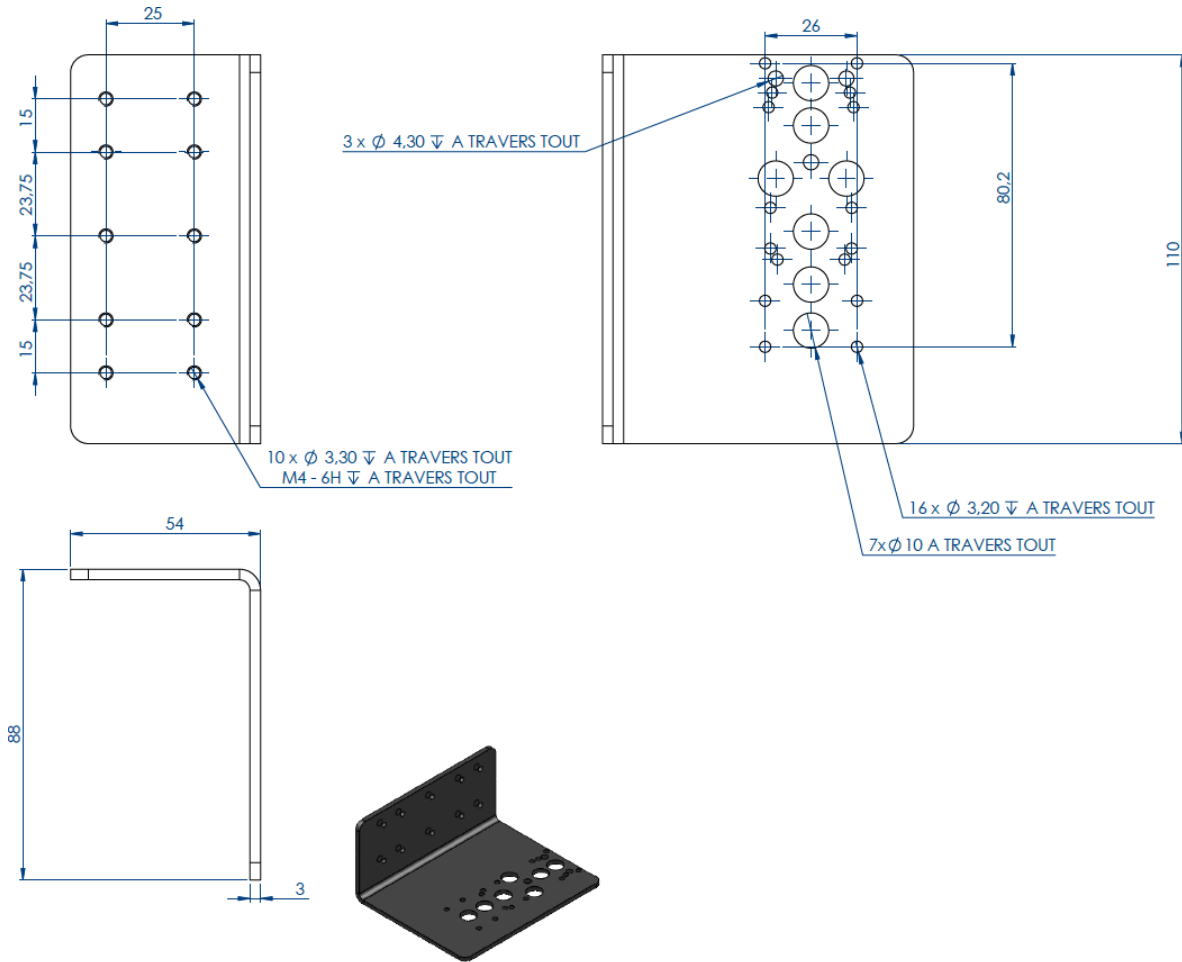
EFFM-1-0024



EFFM-1-0025

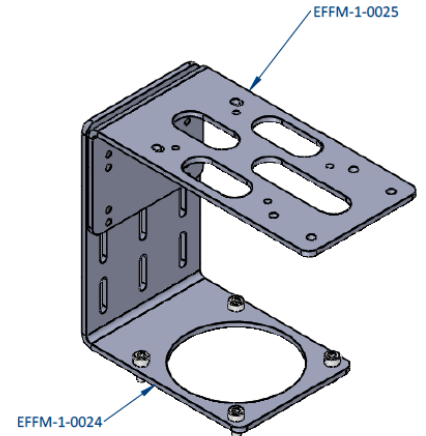
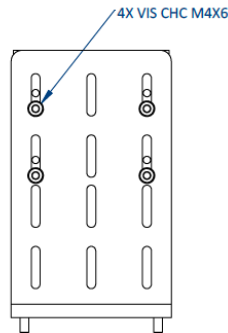
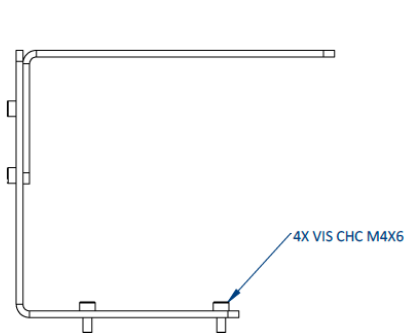
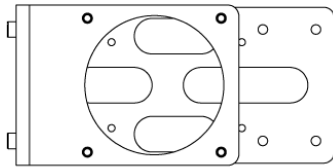


EFFM-1-0026

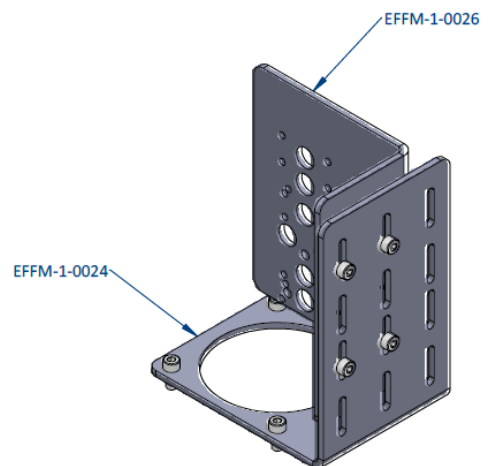
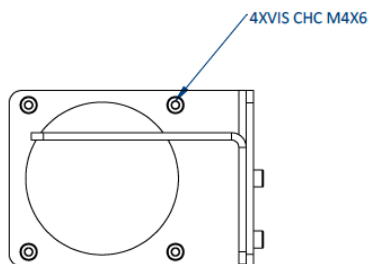
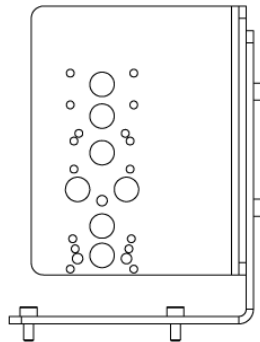
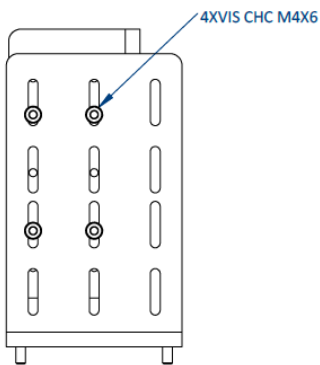


Combinations between camera supports

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



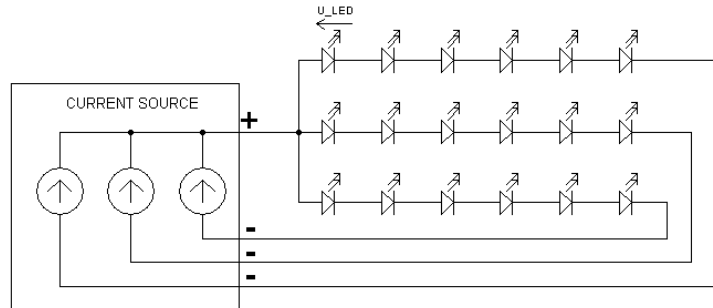
EFFM-1-VERT : EFFM-1-0024 + EFFM-1-0026



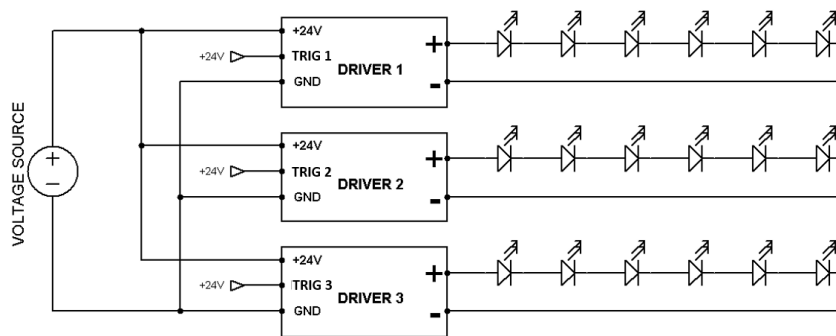
Annex

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