

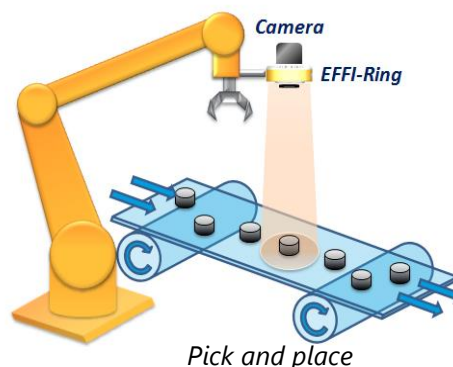
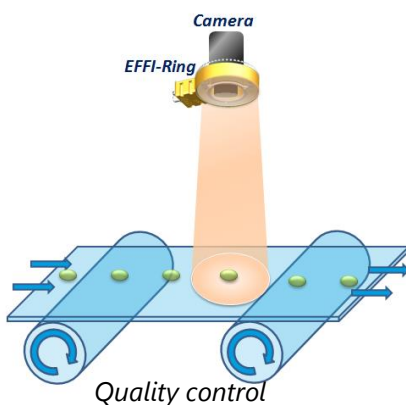


Strobe version  
available

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

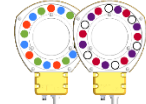
• Green 525

• Red 625

• IR 850

○ White 000  
(T° = 5500 K ± 500 K)

Tricolor versions


If RGB : -RGB  
If WUI (White-UV-IR) : -WUI

YY: Windows

TR : Transparent

SD : Semi-Diffuse

OP : Opaline



+ 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


45°



25°



10°

If not specified, default position P2

Option Polarizer

2463 80C 6000V UW-1 LL11

Without polarizer

2463 80C 6000V UW-1 LL11

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

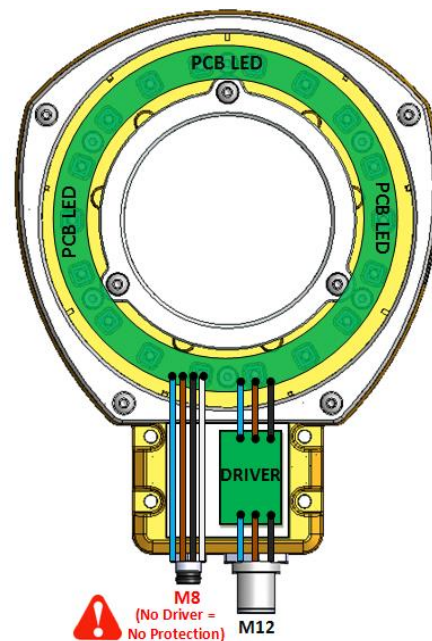
# Electronical considerations



## Contact arrangement

### M12 connector – Smart control (Strobe)

Contact arrangement	Number	Color Contact	Designation <b>Monochrome</b> version	Designation <b>RGB/WUI</b> versions
 M12 Male connector	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



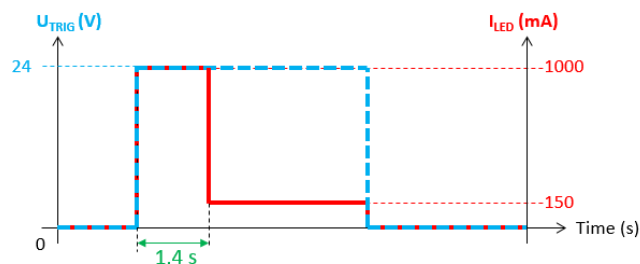
### ⚠ M8 connector – direct control (expert mode) ⚠

Contact arrangement	Number	Color Contact	Designation <b>Monochrome</b> version	Designation <b>RGB/WUI</b> versions
 M8 Male connector	1	Brown	+V <sub>common</sub> *	+V <sub>common</sub> *
	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 <sub>DIM</sub> (V)	Light intensity	TRIG consumption
0-3	OFF	0,1 mA@3V
3-5	INSTABLE ⚠	/
10-24	ON	0,8 mA@24V

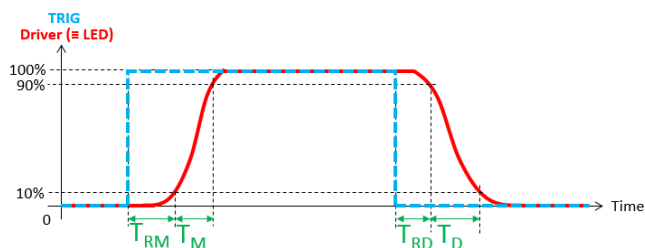


Strobe mode : Respect a duty cycle lower than 0.15

### Characteristics of the pulse (M12 connector)

Designation	Time ( $\mu$ s)
Rise time ( $T_M$ ) <sup>1,5</sup>	4-15
Response rise time ( $T_{RM}$ ) <sup>2</sup>	25
Fall time ( $T_D$ ) <sup>3</sup>	10
Response fall time ( $T_{RD}$ ) <sup>4</sup>	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.

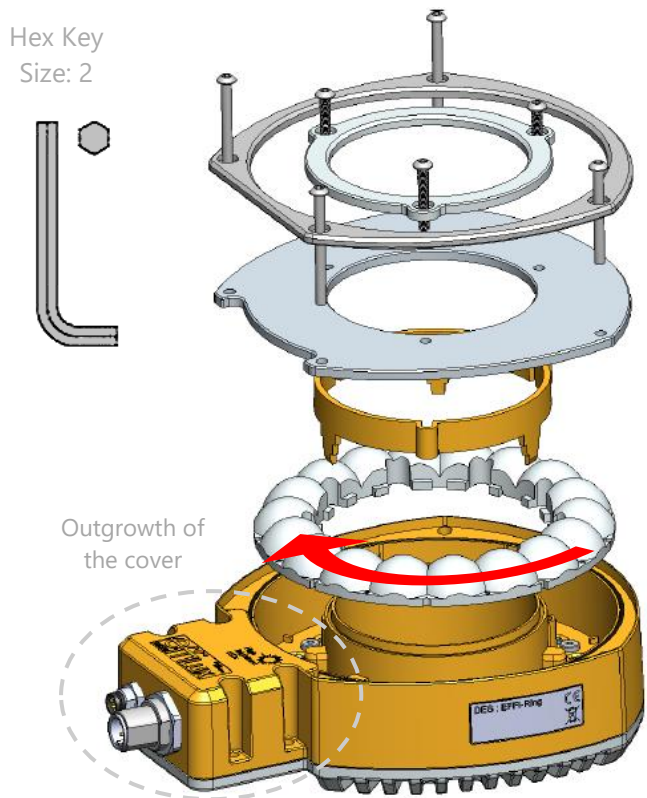
	F (Hz)				
T pulse (μs)	1	5	10	15	20
100 000	1.0 A				
50 000	1.2A				
10 000	1.5 A		1.0 A		
1000	2.0 A				
100	2.5 A				

## 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

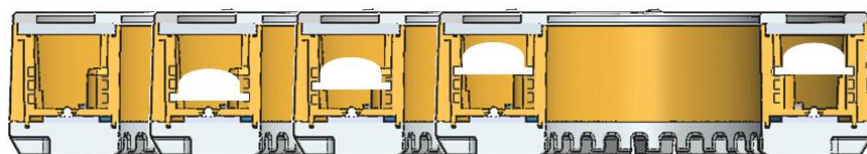
### Handle & clean optical components

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

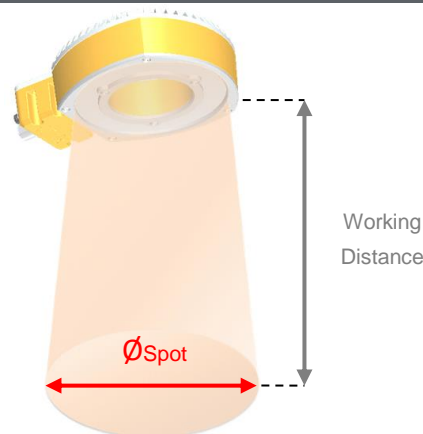
To clean the optical components:

- > 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



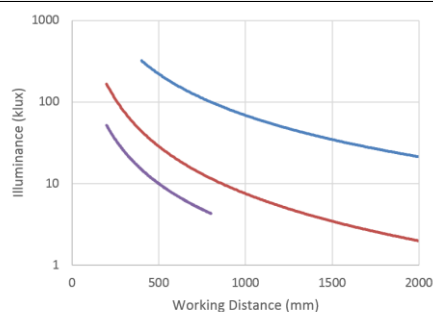
— P0 — P1 — P2 — P3



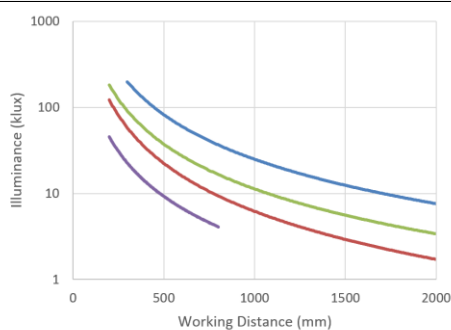
### Illumination<sup>1</sup> vs. Working distance

Strobe Mode<sup>2</sup>

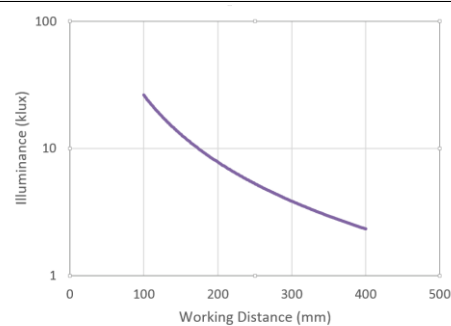
#### Transparent



#### Semi-Diffuse



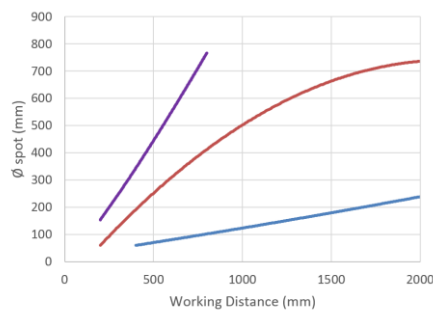
#### Opaline



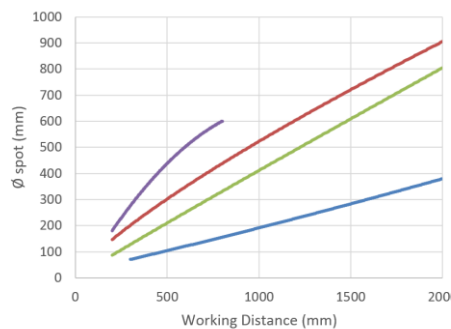
### Ø<sub>spot</sub><sup>3</sup> vs. Working distance

Ø<sub>Spot</sub>

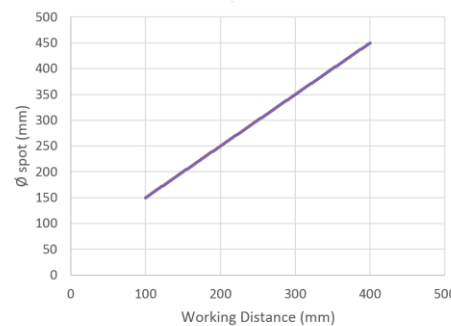
#### Transparent



#### Semi-Diffuse

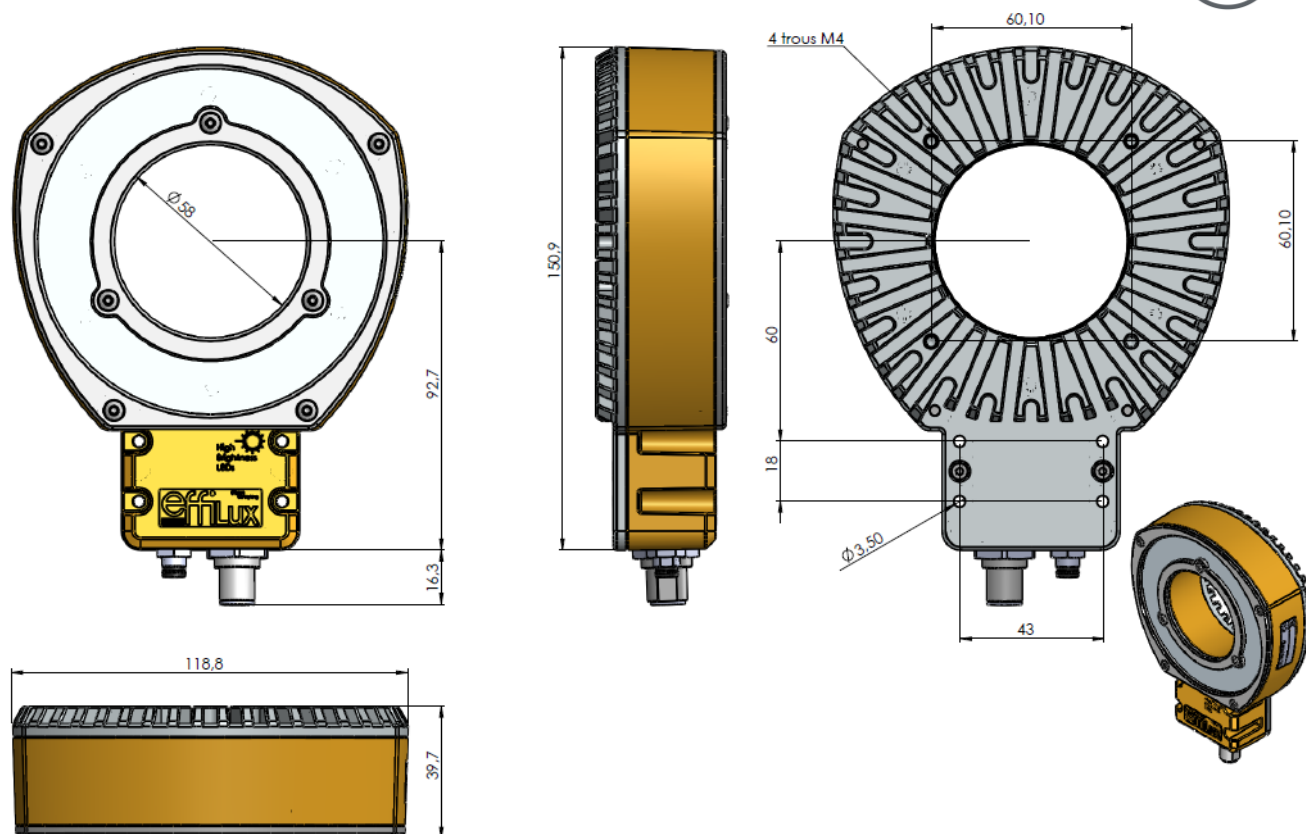


#### Opaline



- (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)



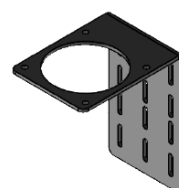
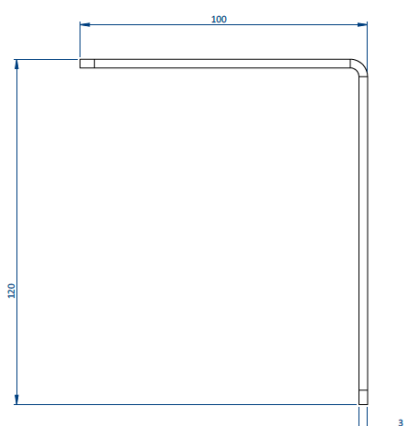
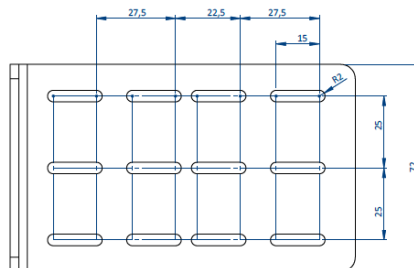
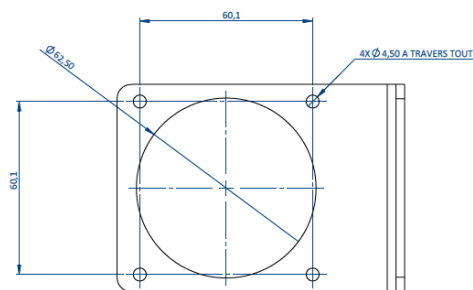


### Accessories (to purchase separately)

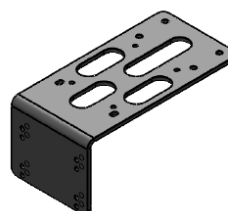
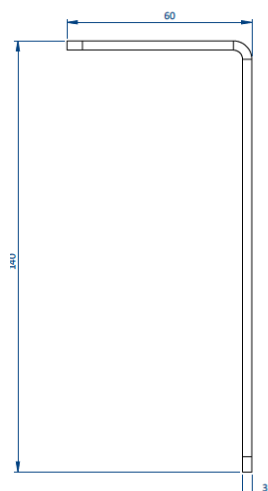
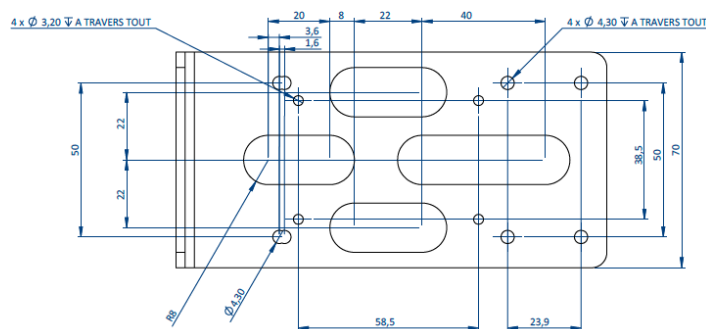
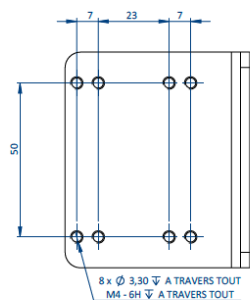


#### Camera supports

EFFM-1-0024

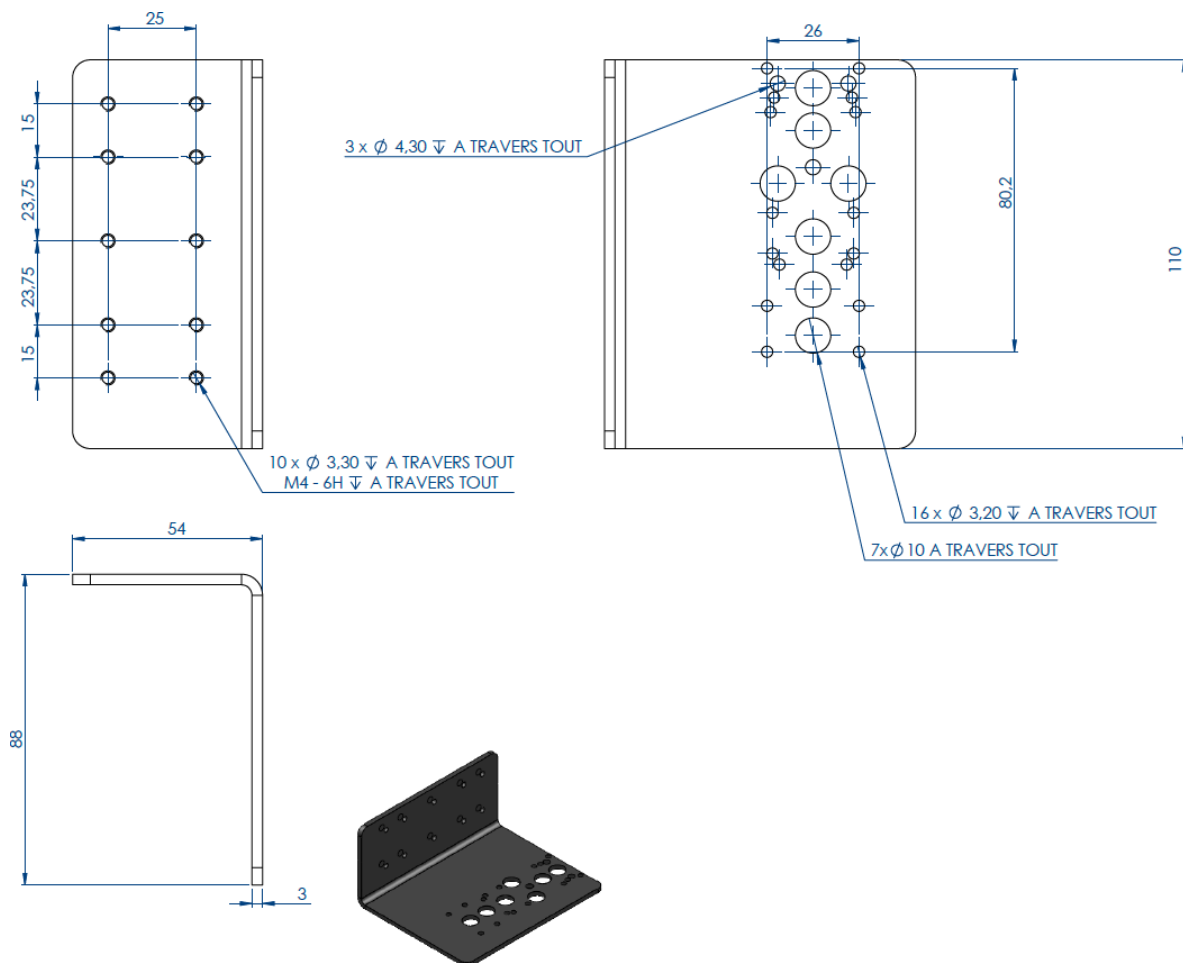


EFFM-1-0025



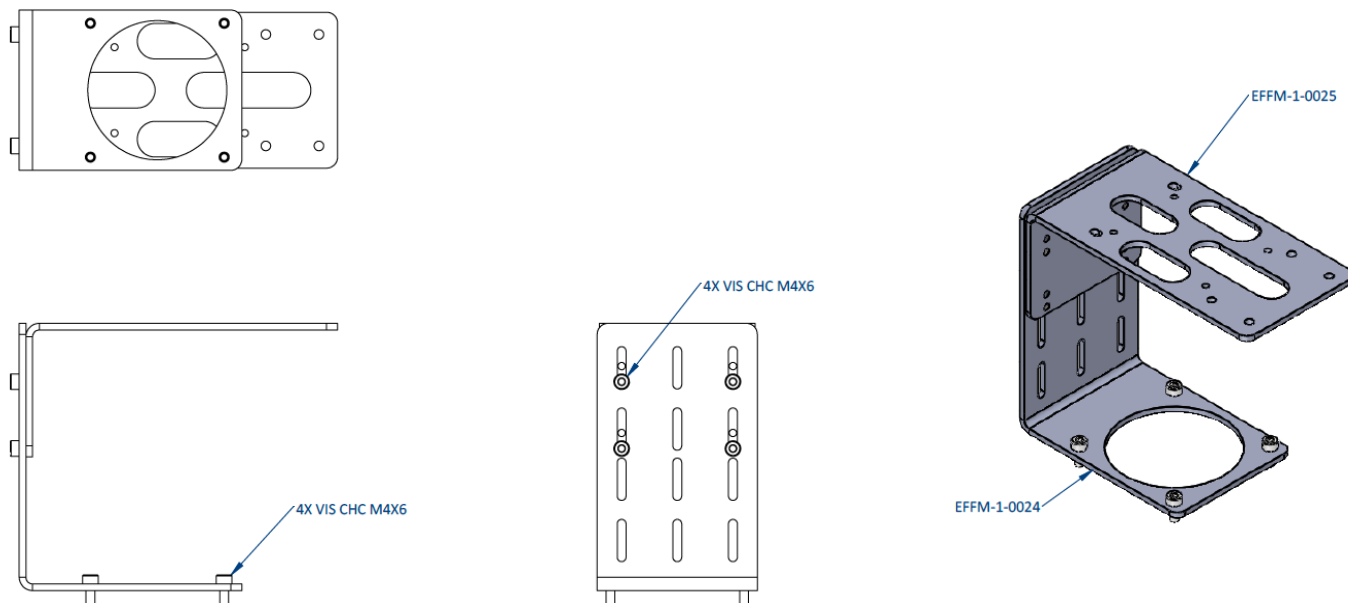


EFFM-1-0026

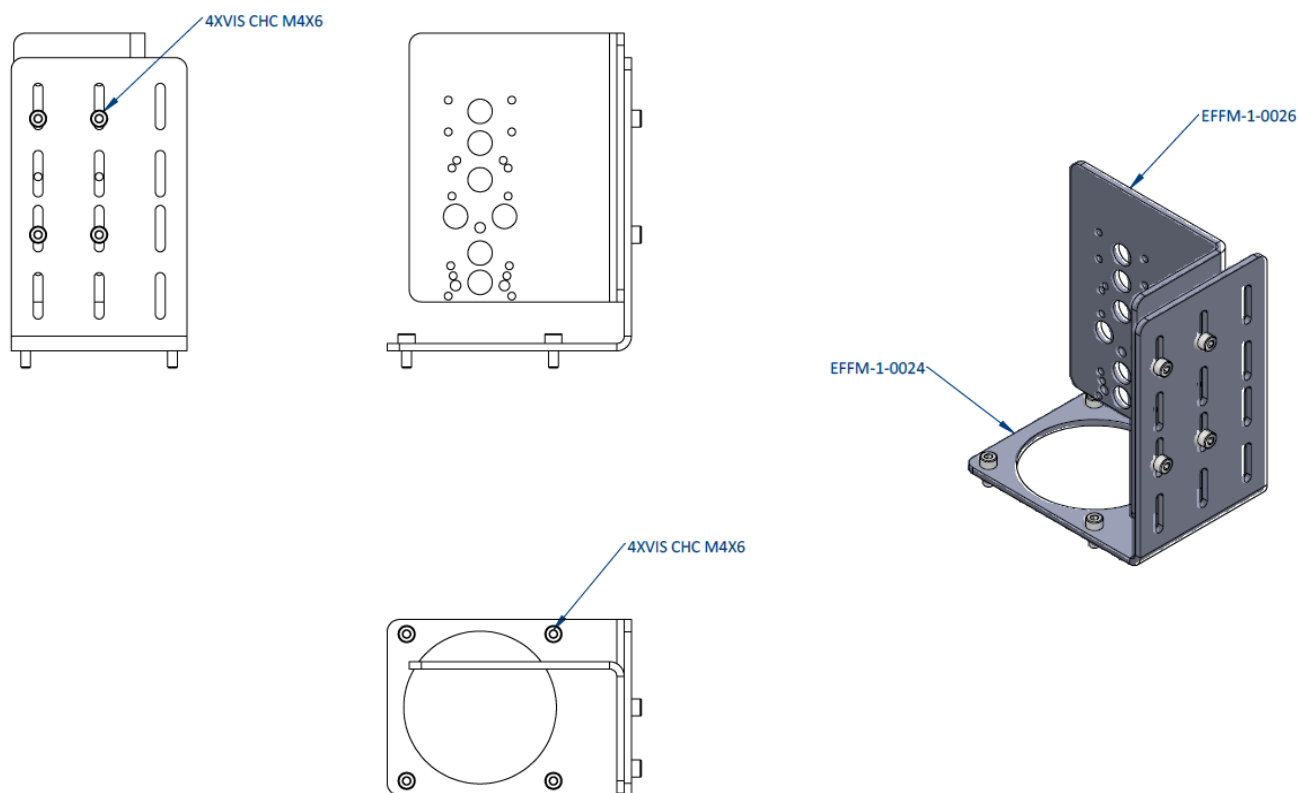


### Combinations between camera supports

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



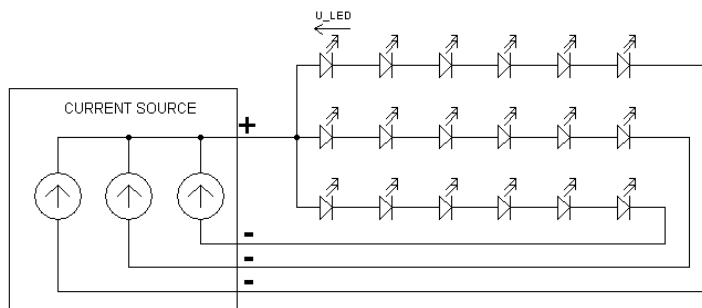
EFFM-1-VERT : EFFM-1-0024 + EFFM-1-0026



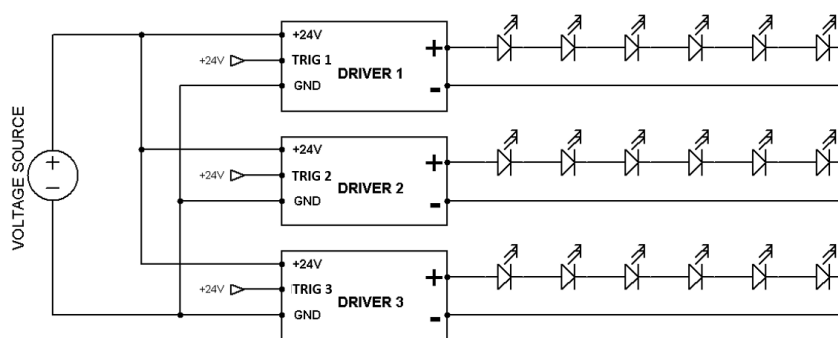
## Annex

### 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