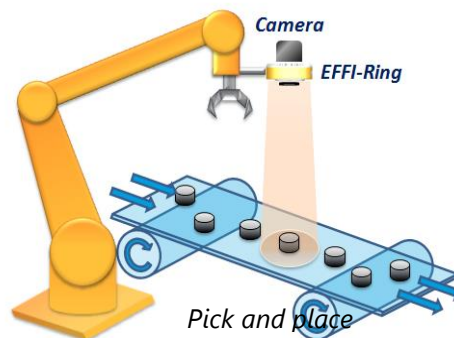
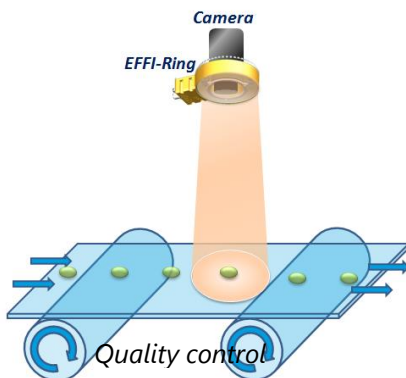


Strobe version available

- 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	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 screw (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 polarier accessory : IP50) <i>For extended use with water please ensure to use a plastic cap on the unused connector (M8 or M12)</i>	

Applications



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)	<p>Tricolor versions</p> <p>If RGB : -RGB If WUI (White-UV-IR) : -WUI</p>
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WW: Windows

TR : Transparent

SD : Semi-Diffuse

OP : Opaline



If not specified, default semi-diffuse window

PP: Position / Emission angle according to the lens position

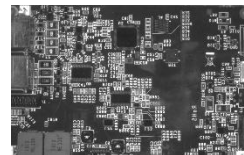
<p>P0 *</p> <p>90° * without lens</p>	<p>P1</p> <p>45°</p>	<p>P2</p> <p>25°</p>	<p>P3</p> <p>10°</p>
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If not specified, default position P2

Option Polarizer



Without polarizer



With polarizer

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

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

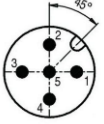
Please note that with the polarizer accessory, the EFFI-Ring is IP50. For IP65 polarized version, choose -POL-IP option (polarizer directly glued on a transparent window).

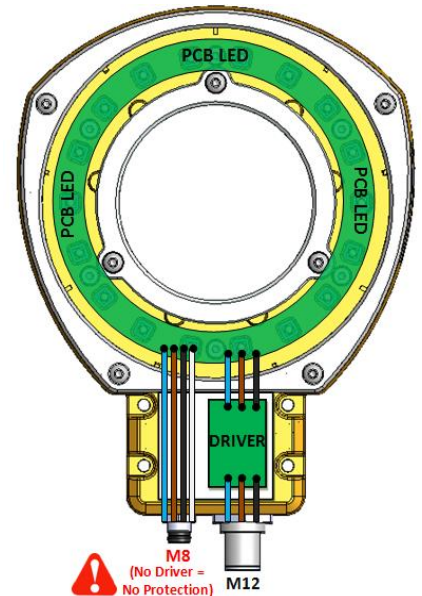
Electronical considerations



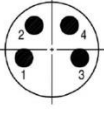
Contact arrangement

M12 connector – Smart control (Strobe)

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



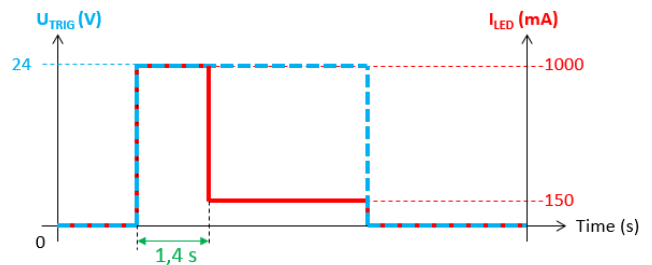
⚠ M8 connector – direct control (expert mode) ⚠

Contact arrangement	Number	Color Contact	Designation Monochrome version	Designation RGB/WUI versions
 M8 Male connector	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

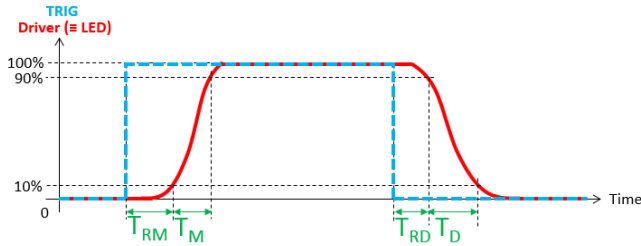


Strobe mode : Respect a duty cycle lower than 0.15

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.

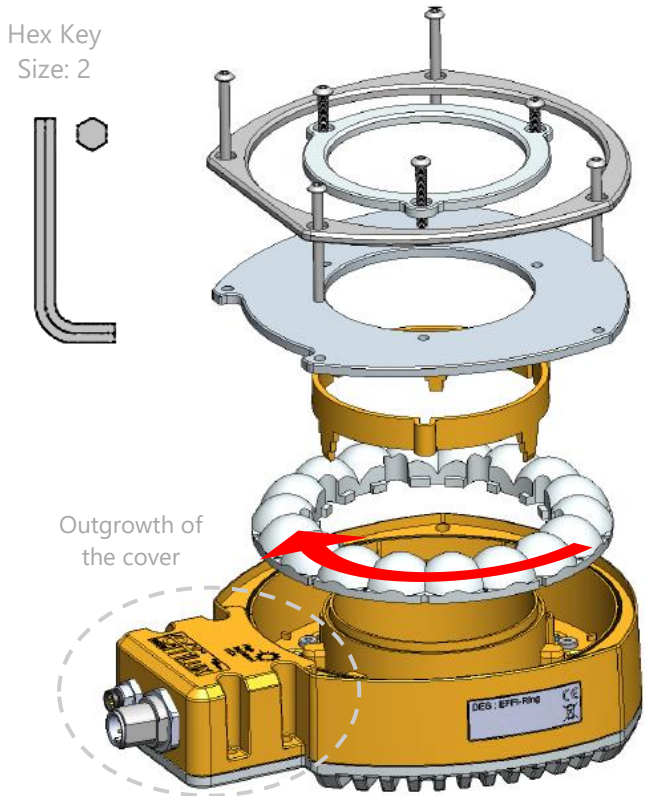
T pulse (μs)	F (Hz)				
	1	5	10	15	20
100 000	1.0 A				
50 000	1.2 A				
10 000	1.5 A	1.0 A			
1000	2.0 A				
100	2.5 A				

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

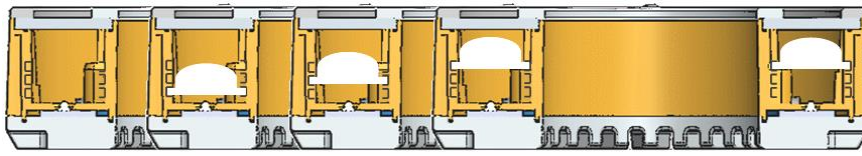
Handle & clean optical components

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

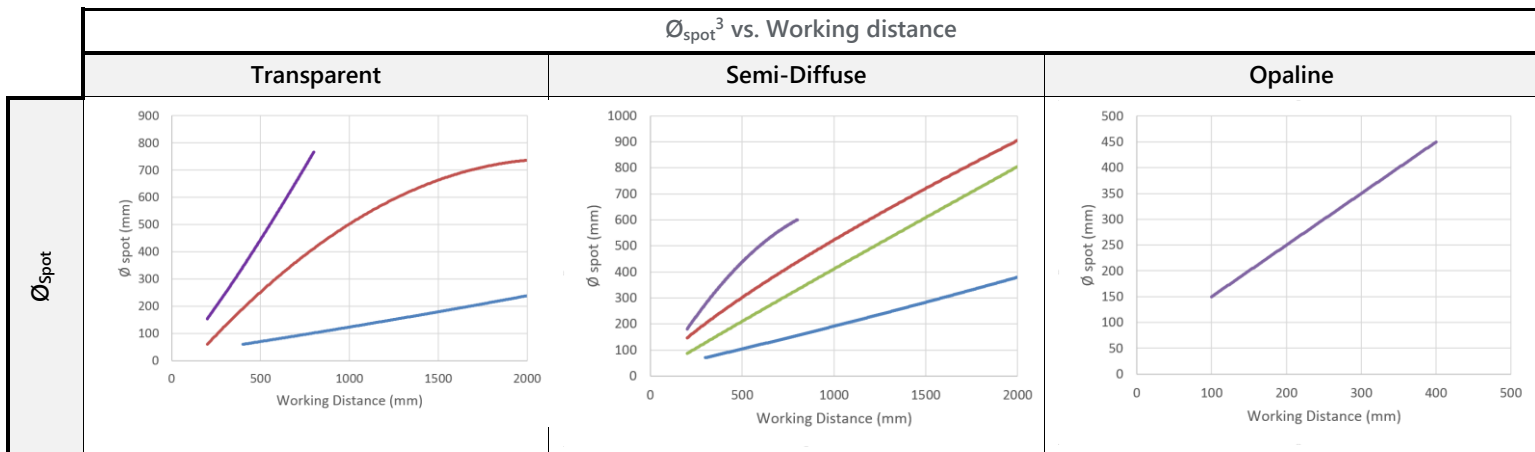
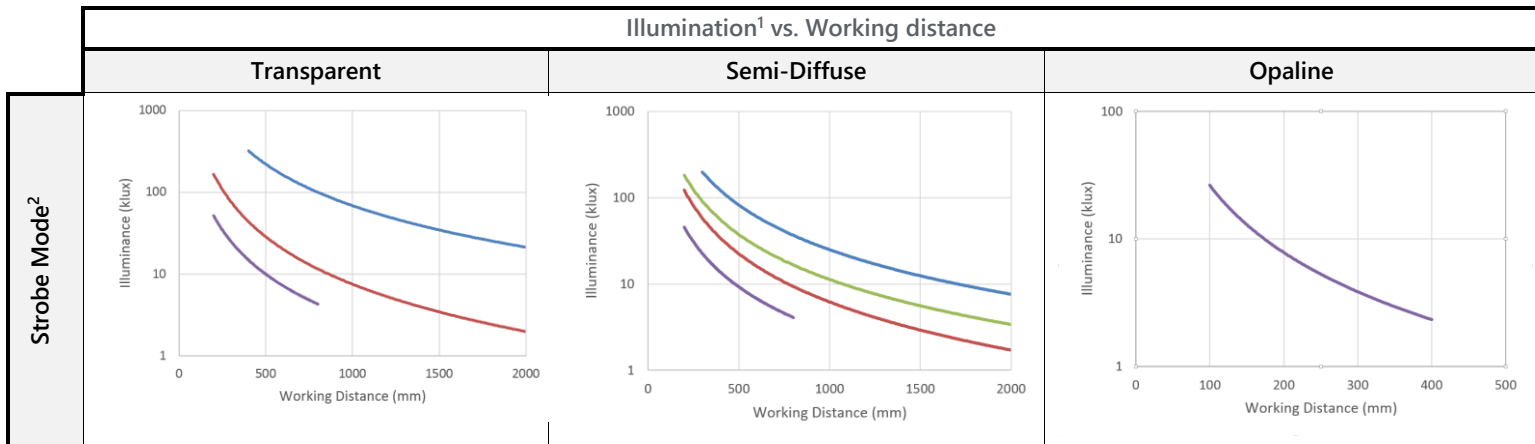
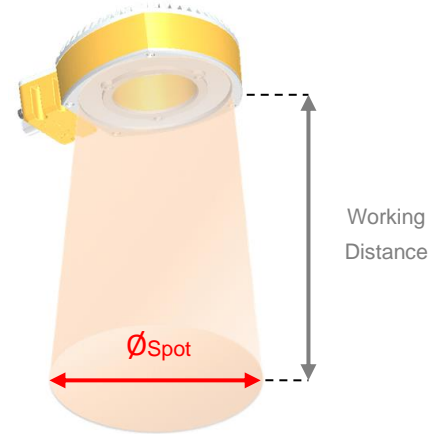
To clean the optical components:

- > 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

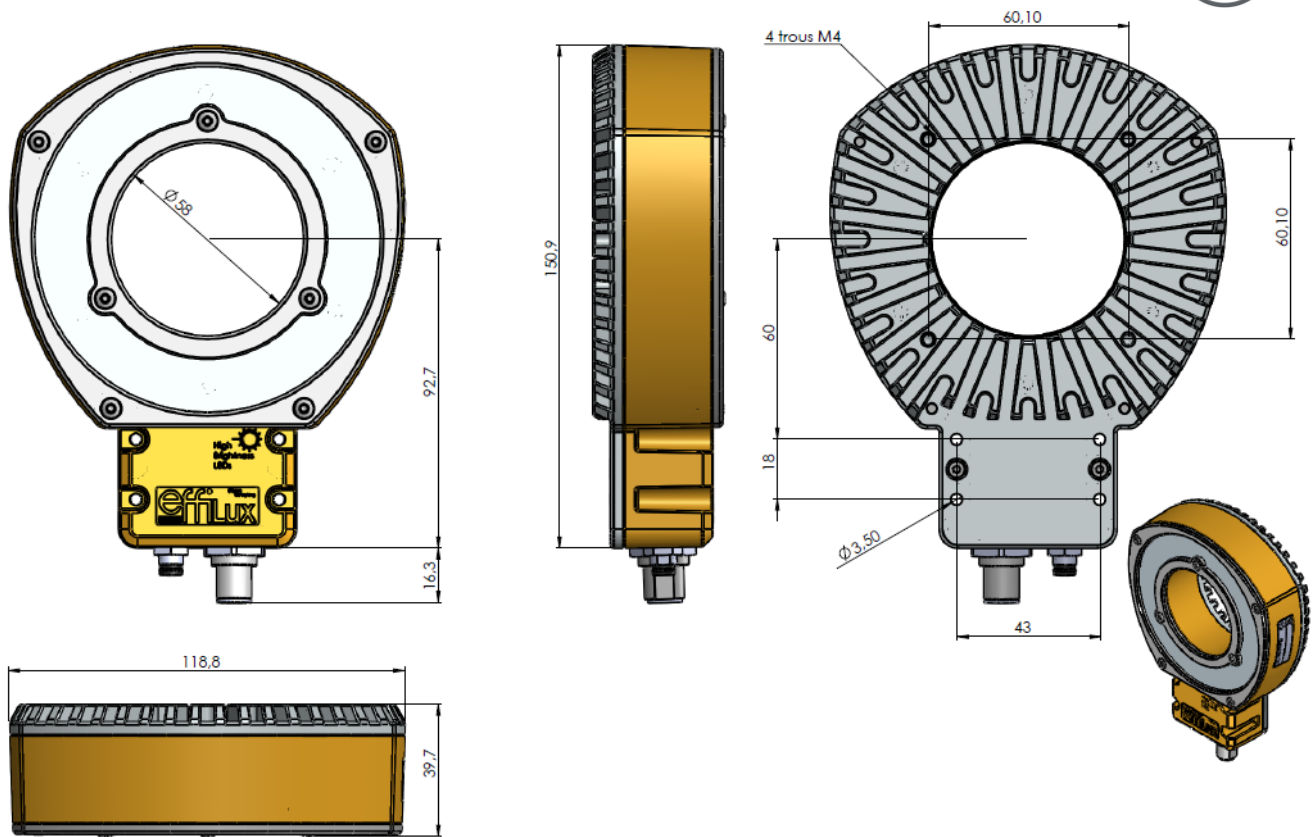


— P0 — P1 — P2 — P3



- (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)

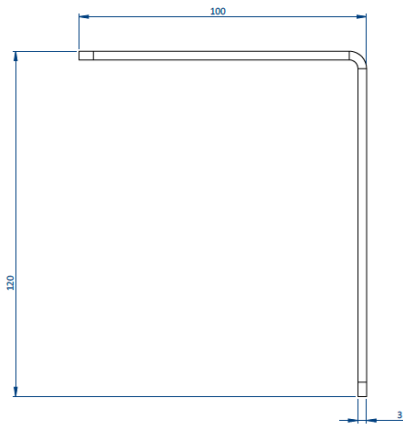
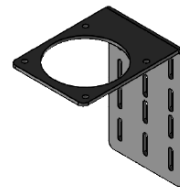
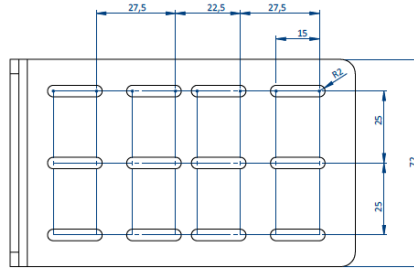
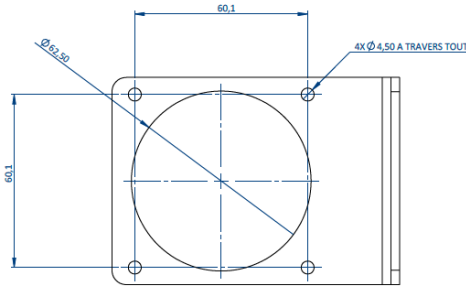


Accessories (to purchase separately)

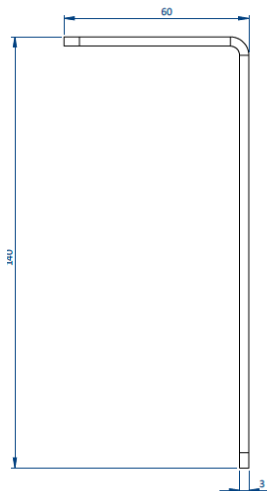
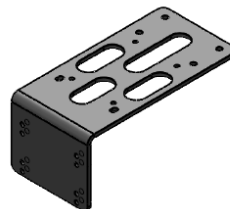
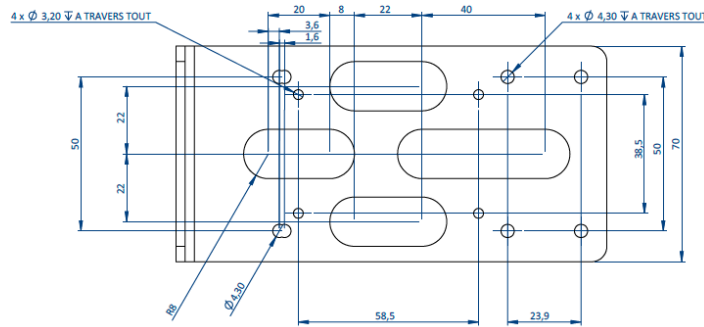
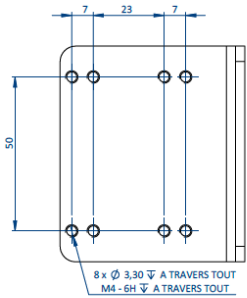


Camera supports

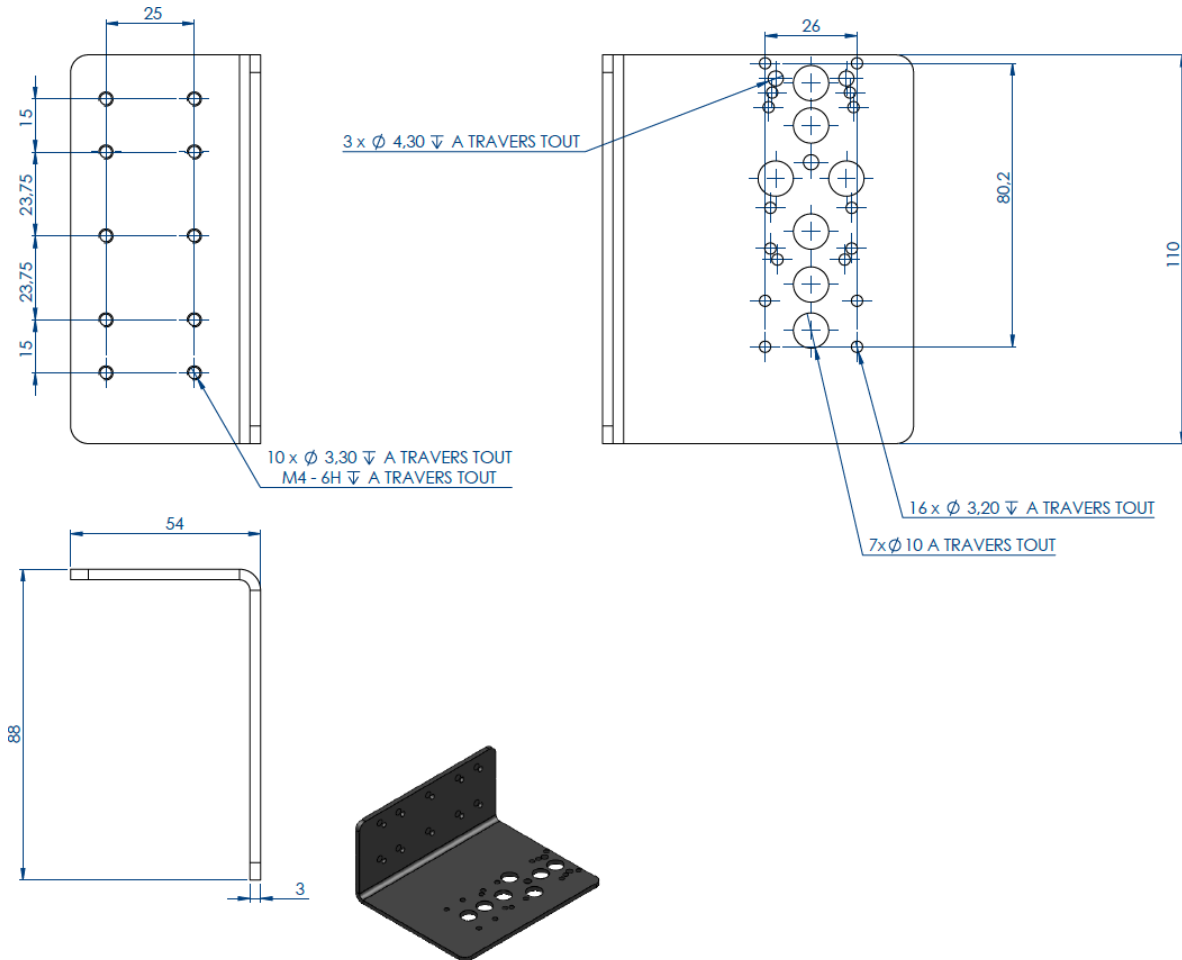
EFFM-1-0024



EFFM-1-0025

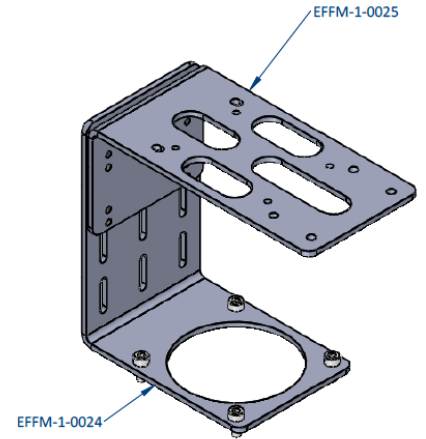
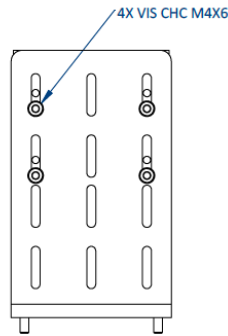
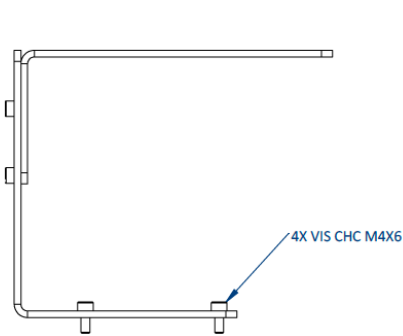
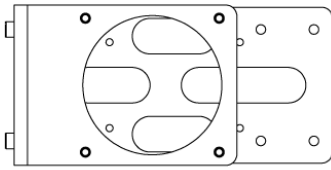


EFFM-1-0026

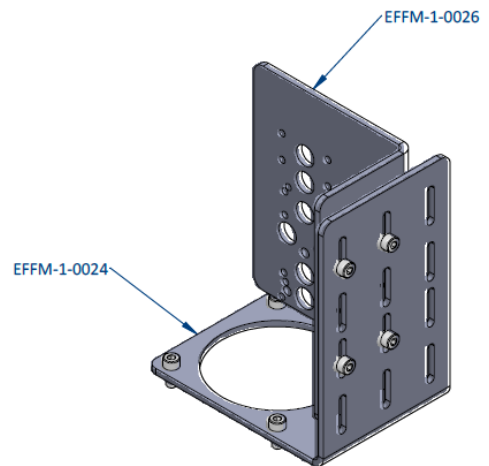
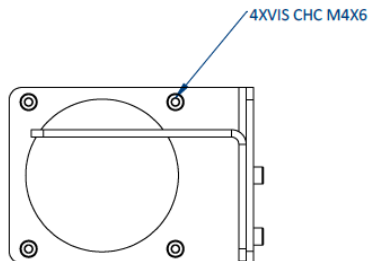
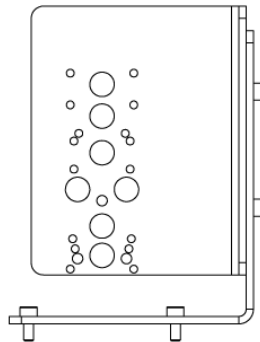
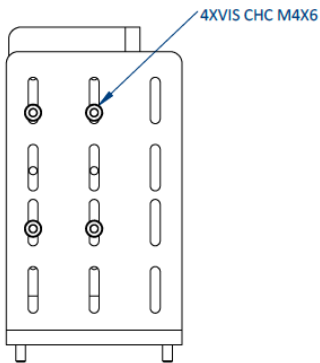


Combinations between camera supports

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



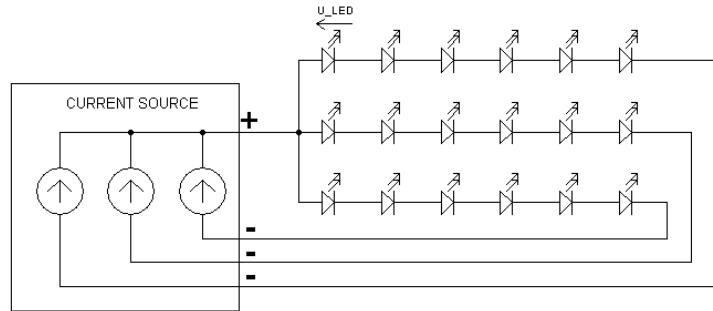
EFFM-1-VERT : EFFM-1-0024 + EFFM-1-0026



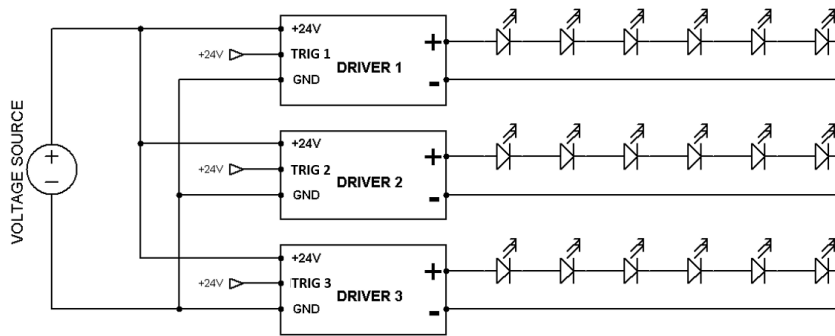
Annex

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