



Integrated Smart driver
(Autostrobe & Dimming control)



Very intense and uniform illuminated area
Full range of colors: from blue to IR, white
Long lifetime and minimal maintenances

Electronics	Power supply	24V DC
	Illumination mode	Continuous or strobe mode
	Power consumption	6 LED: 15W / 12 LED: 30W
	Cable	Bare cable (5 or 10 meters) - 5 contacts
Optics	Wavelength	Single (from Blue to IR), White
Mechanics	Weight	6 LED: 180g / 12 LED: 300g
	Dimensions (width x height x length)	32mm x 87mm x (6 LED: 66mm / 12 LED: 116mm)
	Fastener	2 M4 holes
	Material	Device body: 316L Stainless Steel; Window: PMMA
Environment	Working temperature	0°C to 40°C
	IP code	IP68 & IP69K

Part Number



Reference:

EFFI-SMART-IP69K-**WW**-**XXX**-**YY**-**ZZ**-V-**AA**

WW: Number of LED

6: 2 x 3 LED

12: 2 x 6 LED

XXX: Wavelength (nm) / Color (other wavelengths available upon request)

● Blue **465**

● Green **525**

● Red **625**

● IR **850**

○ White **000**
(T°= 5500K ± 500K)

YY: Type of window (If not specified, semi-diffuse window by default)

TR: Transparent

SD: Semi-Diffuse

OP: Opaline

ZZ: Lens Position (If not specified, position P2 by default) Emission angle varies according to the lens position

P0: 75° (without lens)

P1: 45°

P2: 25°

P3: 10°

V: Vent

The vent on our IP69K products equalizes pressures, minimize the condensation while blocking water.

AA: Cable length (If not specified, 10 meters length by default) (other lengths available upon request)

-L5: 5 meters

-L10: 10 meters

Option: Food processing

For food processing environment, the nickel-plated brass gland can be replaced with stainless steel type and the cable with a certified food & beverage convenient one. For this option, please add **-FOOD** in the part number.

Part number: EFFI-SMART-IP69K-FOOD-**XXX**-**YYY**-**ZZZ**

Electronical considerations



The EFFI-Smart-IP69K is supplied with a 24V constant voltage. Please make sure that the flying leads output of the cable is in a sealed area. The AIC contact needs to be connected. Power consumption is 15W for the 6 LED version and 30W for the 12 LED version.

ÖLFLEX® ROBUST 210 (Cable 5X1: ref LAPP 0021919) - Weather, bio oil, detergent and hot water resistant for use in food & beverage industry and composting plants
Core insulation made of modified PP / Outer sheath made of special TPE / Sheath colour: black

Conductor N°	EFFI-SMART-IP69K
1	+24V
2	NPN TRIGGER (trigger on falling edge) for Auto-strobe Light ON if $V_{NPN} < 1.5$ DC Max consumption = 0.1mA – max 24V – Analog Voltage
3	GND
4	PNP TRIGGER (trigger for rising edge) for Auto-strobe Light ON if $V_{PNP} > 3V$ DC Max consumption = 2mA – max 24V – Analog Voltage
5	AIC : Analog Intensity Control for Dimming Control Consumption = 1mA @10V & 2mA @24V – max 24V – Analog Voltage

AUTOSTROBE PNP	Contact N°	Contact arrangement
	1	+24V
	2	Not connected ($\neq 0V$)
	3	GND
	4	$V_{PNP} > 3V$ DC max 24V – Analog Voltage
	5	Not connected ($\neq 0V$)

AUTOSTROBE NPN	Contact N°	Contact arrangement
	1	+24V
	2	$V_{NPN} < 1.5V$ DC max 24V – Analog Voltage
	3	GND
	4	Not connected ($\neq 0V$)
	5	Not connected ($\neq 0V$)

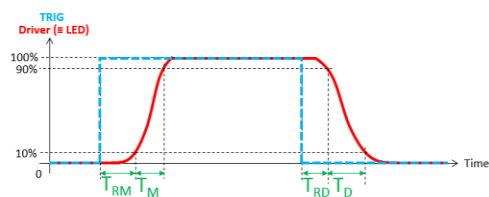
DIMMING CONTROL	Contact N°	Contact arrangement
	1	+24V
	2	Not connected ($\neq 0V$)
	3	GND
	4	Not connected ($\neq 0V$)
	5	AIC: 0-24V max 24V – Analog Voltage

TEST MODE	Contact N°	Contact arrangement
	1	+24V
	2	$V_{NPN} > 3V$ DC (or not connected) max 24V – Analog Voltage
	3	GND
	4	$V_{PNP} > 3V$ DC max 24V – Analog Voltage
	5	$V_{AIC} > 3V$ DC max 24V – Analog Voltage

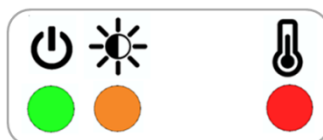
Electronical characteristics

Designation	Time (driver on the cable)
Rise time (T_M) ¹	10 μ s
Response rise time (T_{RM}) ²	30 μ s
Fall time (T_D) ³	10 μ s
Response fall time (T_{RD}) ⁴	30 μ s (PNP) / 20 μ s (NPN)

- (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



LED indicator



Green LED ON: Power Supply Connected

Orange LED ON: Mode

Mode	Frequency
AUTOSTROBE	Flash at the light frequency
AIC	Flash at 1 Hz
TEST	Flash at 6 Hz

Red LED ON: Default Temperature at 65°C.

! Do not touch the product! Please wait 5min before handling the product again.

Optical considerations

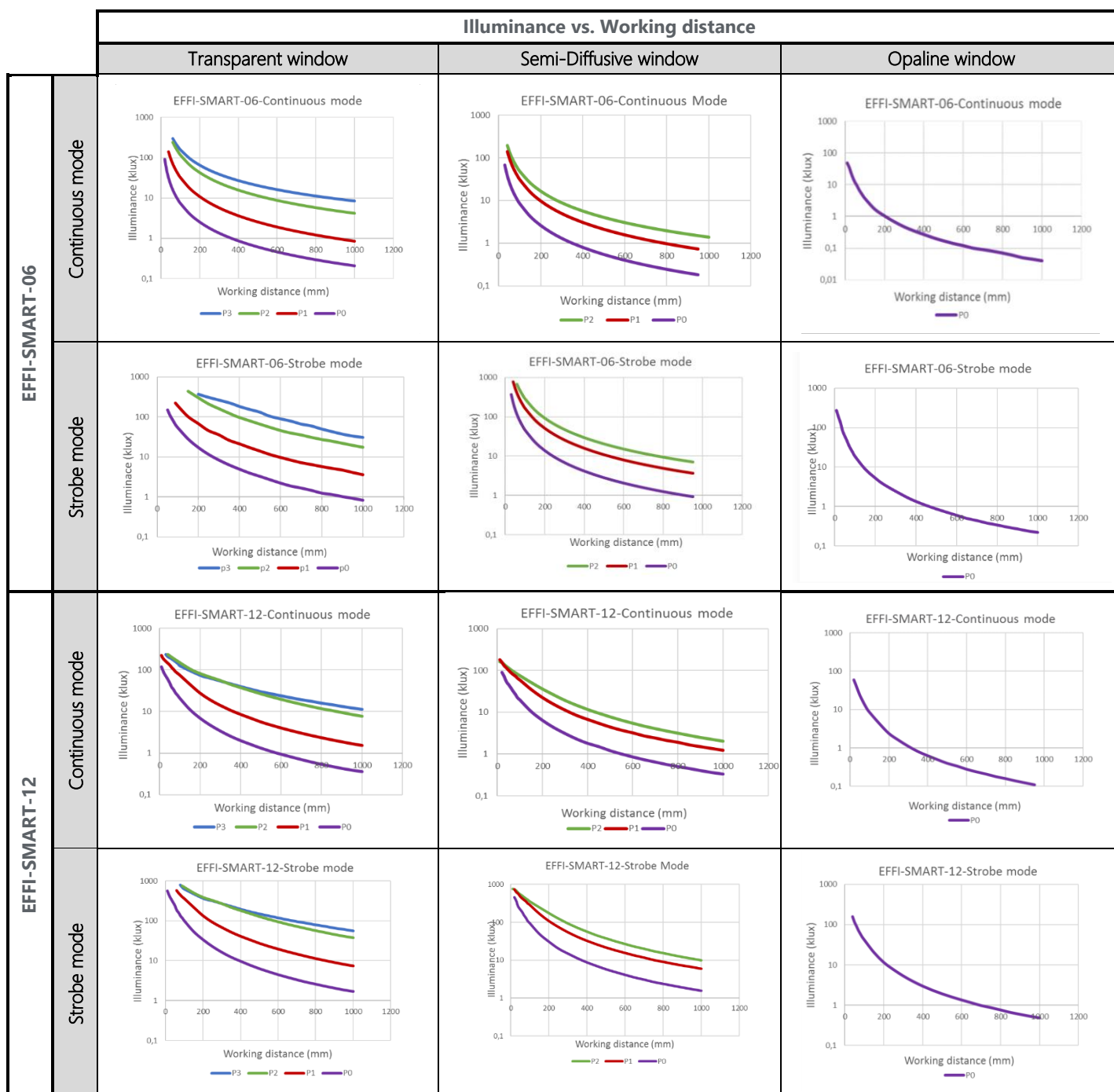


Handle & clean optical components

To remove marks on the window, apply just one or two drops of **alcohol-free** lens cleaning fluid to a cleaning tissue and clean in a gentle circular motion. Always apply the fluid to a tissue rather than on the window itself.

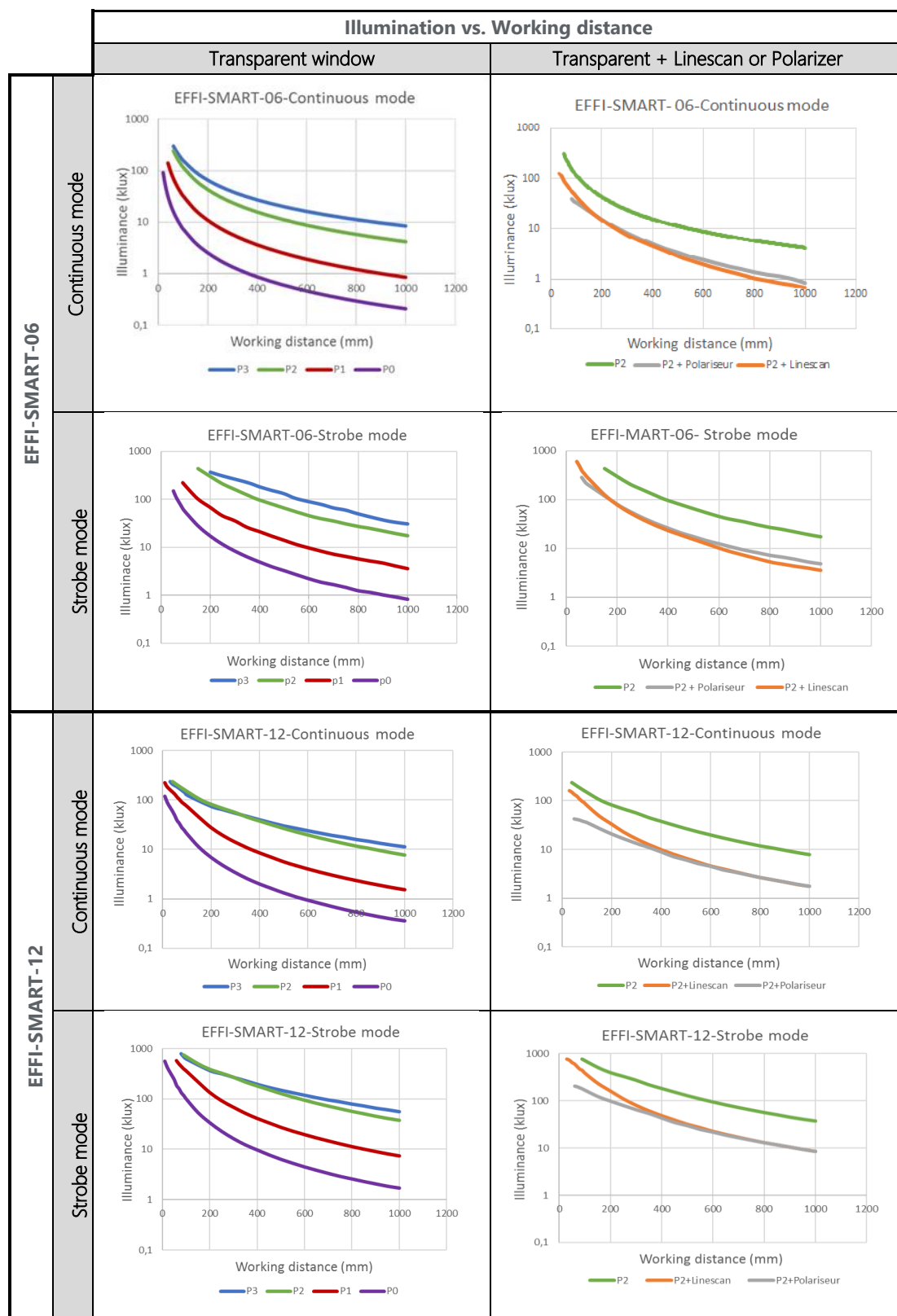
Evolution of illuminance with different optical configurations

Measurements of white LED. With Semi- Diffuse glass, there is no differences between P2 and P3. With Opaline glass, there is no differences between P0, P1, P2 and P3. There is a ratio of 5 between illuminance of the strobe mode and the continuous mode.

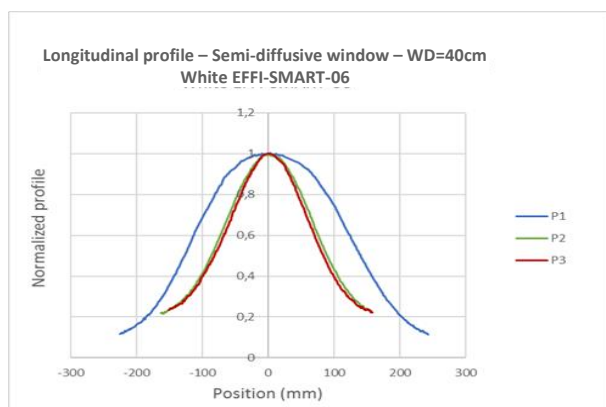


Evolution of illuminance with different options

Measurements of white LED

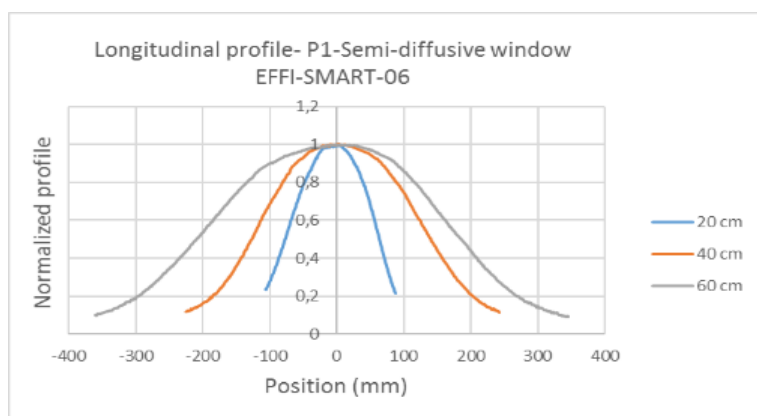


Evolution of the illuminance with different options



Longitudinal and transverse profiles are similar for the EFFI-SMART-12.

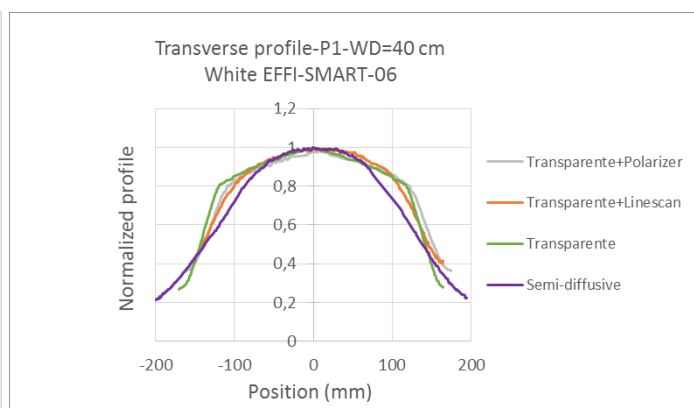
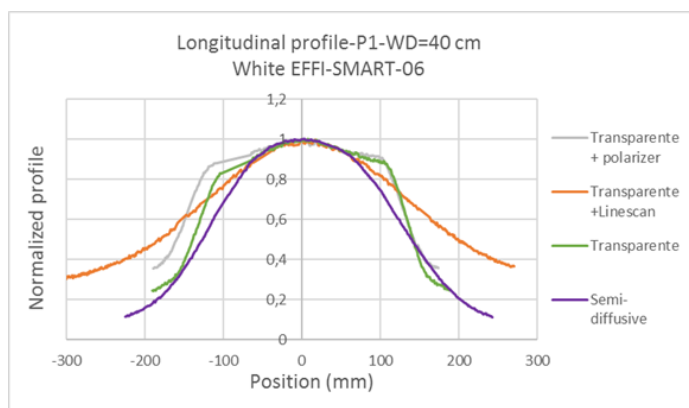
Evolution of the illuminated surface



Longitudinal and transverse profile are similar for the EFFI-SMART-06.

For EFFI-SMART-12, the transverse profile remains almost the same. And the longitudinal profile will be proportional to the length of the product.

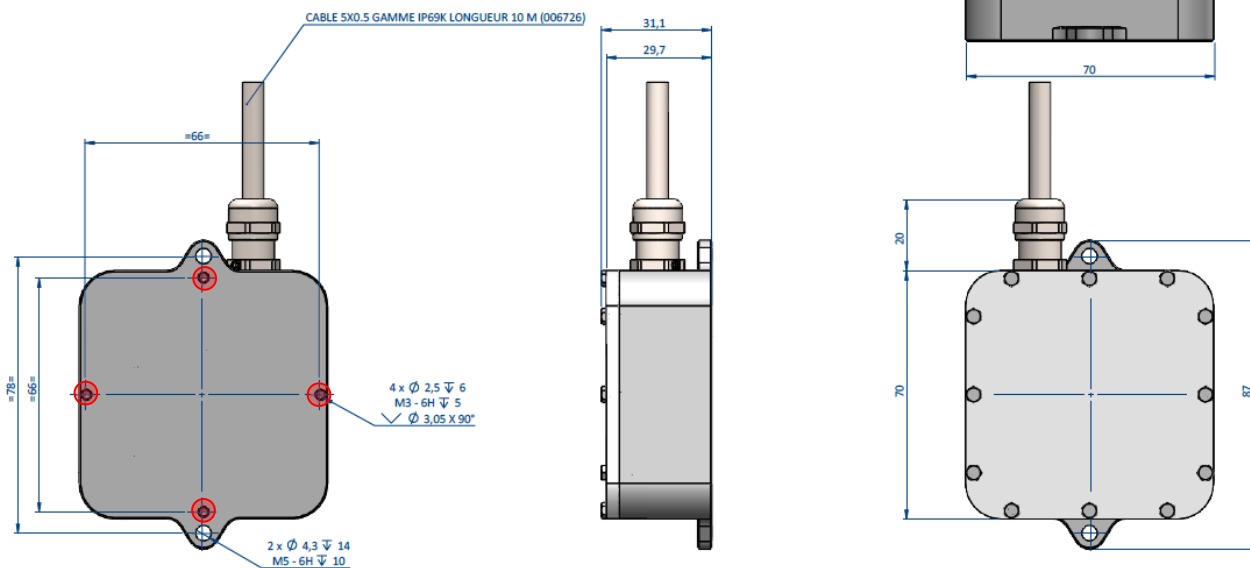
Evolution of the illuminated surface with different options



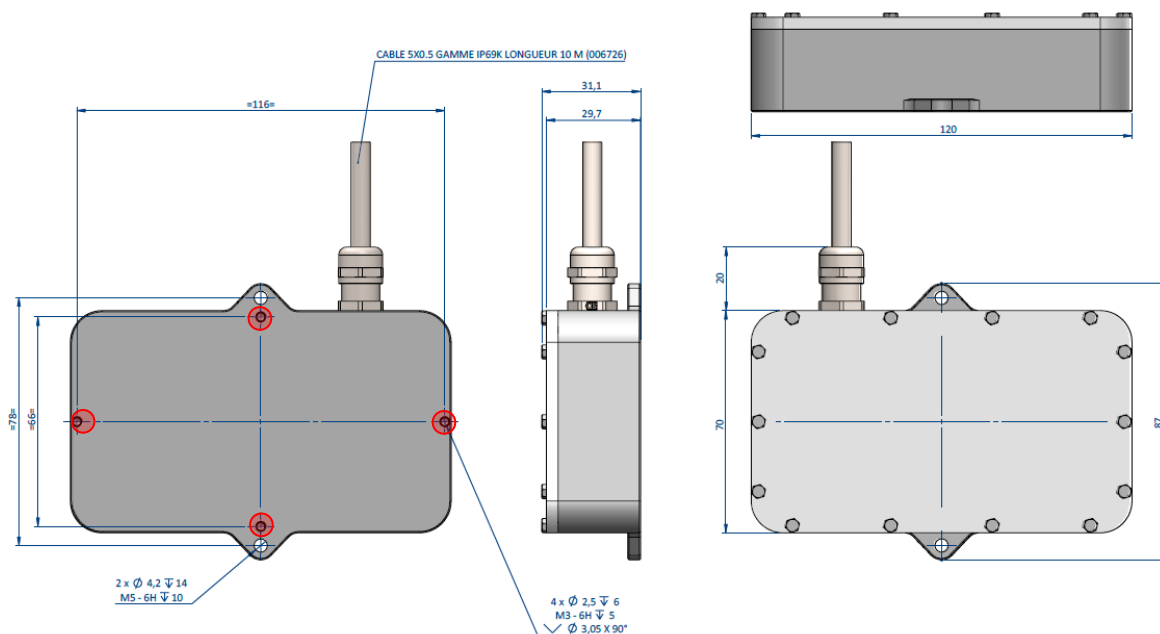
Mechanical considerations



EFFI-SMART-IP69K-06



EFFI-SMART-IP69K-12



❗ To avoid water retention, the gaps of stainless-steel screws must be filled in (x4)