

LED STATUS

| Led Status | Internal controller with 4 driving modes |
|------------|------------------------------------------|
| 1          | 100% Continuous use                      |
| 2          | 200% Semi-continuous use                 |
| 3          | 400% Strobe use                          |
| 4          | 10-100% Analog Reg                       |

Internal Controller with 4 driving modes

Stainless steel IP69K Version (page 5)

5

4

3

2

1

M12 5P Male Connector

|       |                      |
|-------|----------------------|
| Pin 1 | +24V                 |
| Pin 2 | Start NPN < 1 to 0V  |
| Pin 3 | GND                  |
| Pin 4 | Start PNP > 3 to 24V |
| Pin 5 | 1-10V Analog Reg.    |

develop your custom solution

18 Standard Colours

Base

IP65

Protection Degree

Stainless Steel

IP69K

Protection Degree

24 Vdc

Optional Polarizing Filter

Optional Collimating Filter

CE

RoHS

UK

CA

FC

Illuminator Features :

- Project achieved by internal resources and Genesi skills;
- Fast controller which allows to have the following modes: continuous use,semi-continuous use,strobe (PNP, NPN), analog regulation.
- Microcontroller to monitor the pulse duration and the maximum temperature;
- Model with opaline or transparent covers;
- Powerful and Fast strobe mode with energy buffering and strobe duration control, min. pulse from 3 µs;

| COLOUR                    | WHITE           |                 | UV-A          | VISIBLE         |                  |                |                     |               | NIR           |               | SWIR              |                   |                   |                   |                   |
|---------------------------|-----------------|-----------------|---------------|-----------------|------------------|----------------|---------------------|---------------|---------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Led Colour                | White 6000K -6K | White 4000K -4K | UV 405nm -405 | Blue 450nm -450 | Green 524nm -524 | Red 625nm -625 | Deep Red 660nm -660 | IR 730nm -730 | IR 850nm -850 | IR 950nm -950 | SWIR 1050nm -1050 | SWIR 1200nm -1200 | SWIR 1300nm -1300 | SWIR 1450nm -1450 | SWIR 1550nm -1550 |
| Continuous use power      | 100 %           | 100 %           | 100 %         | 100 %           |                  |                |                     |               | 100 %         |               | 100 %             |                   |                   |                   |                   |
| Semi-continuous use power | 200 %           | 175 %           | 175 %         | 200 %           |                  |                |                     |               | 200 %         |               | 200 %             |                   |                   |                   |                   |
| Strobe use power          | 500 %           | 330 %           | 330 %         | 500 %           |                  |                |                     |               | 320 %         |               | 320 %             |                   |                   |                   |                   |

Design & Production  
Made in Italy

GENESI

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TUV SUD  
Organization with a  
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Quality Management System

Rev. 01/25

1

# GB Part Number

Ex. Code : **GBAAABBB** **-YYY** **-WW1** **-WW2**

| AAABBB          | Lengths                       | Heights |
|-----------------|-------------------------------|---------|
| Thickness 26 mm |                               |         |
| GB060060        | 6 cm                          | 6 cm    |
| GB060120        | 6 cm                          | 12 cm   |
| GB060180        | 6 cm                          | 18 cm   |
| GB120120        | 12 cm                         | 12 cm   |
| GB120180        | 12 cm                         | 18 cm   |
| GB180180        | 18 cm                         | 18 cm   |
| GB180300        | 18 cm                         | 30 cm   |
| GB300300        | 30 cm                         | 30 cm   |
| GB300420        | 30 cm                         | 42 cm   |
| GB420420        | 42 cm                         | 42 cm   |
| GBAAABBB        | From 6 cm to 100 cm on demand |         |

| -YYY  | Led Colours           |         | EN 62471 |
|-------|-----------------------|---------|----------|
| -6K   | Base 6000K Cold White | White   | RISK1    |
| -4K   | 4000K Natural White   |         |          |
| -405  | UV 405 nm             | UV - A  | RISK2    |
| -450  | 450 nm Royal Blue     | Visible | RISK2    |
| -524  | 524 nm Green          |         | RISK1    |
| -625  | 625 nm Red            |         |          |
| -660  | 660 nm Deep Red       |         |          |
| -730  | 730 nm IR             | Nir     | RISK2    |
| -850  | 850 nm IR             |         |          |
| -950  | 950 nm IR             |         |          |
| -1050 | 1050 nm SWIR          | Swir    | RISK2    |
| -1200 | 1200 nm SWIR          |         |          |
| -1300 | 1300 nm SWIR          |         |          |
| -1450 | 1450 nm SWIR          |         |          |
| -1550 | 1550 nm SWIR          |         |          |
| -YYY  | Colour on demand      |         |          |

| -WW1  | Cover variants        |
|-------|-----------------------|
|       | Base Opaline cover    |
| -X69K | Stainless Steel IP69K |
| -WW1  | Cover on demand       |

| -WW2 | Cables                      |
|------|-----------------------------|
|      | 20 cm cable + M12 5P M      |
| -WW2 | Supply connection on demand |

| Cover Accessory |  |
|-----------------|--|
| GBAAABBB-PX2-AP |  |
| GBAAABBB-P-AP   |  |
| GBAAABBB-C-AP   |  |

Not all combinations are available

## Part Number Examples:

### GB180180-6K

Backlight 4 Driving Modes 180x180mm White 6000K Opaline cover  
3900/26000Lm 1,08/7,2A 26/173W 20cm cable M12 M 5P

### GB120120-524

Backlight 4 Driving Modes 120x120mm GREEN 624nm Opaline cover  
0,64/3,2A 15/77W 20cm cable M12 M 5P

### GB180240-1550

Backlight 4 Driving Modes 180x240mm SWIR 1550nm Opaline cover  
1,2/3,84A 29/92W 20cm cable M12 M 5P

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# OPERATING MODE

## 100% CONTINUOUS USE

| Connector | PINS | Function             | Description                                                                                                                                                         |
|-----------|------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M12 Male  | 1    | +24 V                | A) START NPN → PIN2: 0 to 1 V;<br>B) START PNP → PIN4: 3 to 24 V;<br><br>For the continuous use:<br>it is possible to connect PIN4 directly to +24 V or PIN2 to GND |
|           | 2    | A) Start NPN: 0-1 V  |                                                                                                                                                                     |
|           | 3    | GND                  |                                                                                                                                                                     |
|           | 4    | B) Start PNP: 3-24 V |                                                                                                                                                                     |
|           | 5    | -                    |                                                                                                                                                                     |

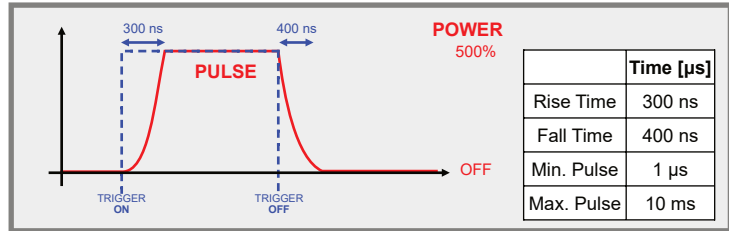
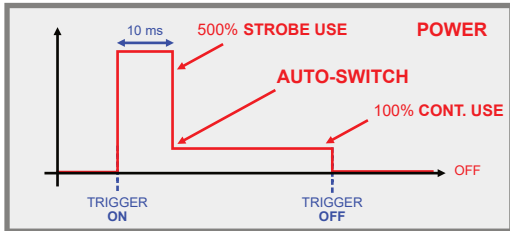
## 200% SEMI-CONTINUOUS USE

| Connector | PINS | Function             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M12 Male  | 1    | +24 V                | <b>Precondition:</b> PIN5: 24 V<br><br>A) START NPN → PIN2: 0 to 1 V;<br>B) START PNP → PIN4: 3 to 24 V;<br><br><b>In this mode → Ton<sub>max</sub> = 60 s - Dt<sub>max</sub> = 50%</b><br><br>For the semi-continuous use:<br>it is possible to connect PIN4 directly to +24 V or PIN2 to GND.<br><br>To use it in continuous mode with DT <sub>max</sub> from 51% to 100%:<br>it is necessary to use the heat sink or forced ventilation. |
|           | 2    | A) Start NPN: 0-1 V  |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|           | 3    | GND                  |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|           | 4    | B) Start PNP: 3-24 V |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|           | 5    | +24 V                |                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 400% STROBE USE



| Connector | PINS | Function             | Description                                                                                                                                                                             |
|-----------|------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M12 Male  | 1    | +24 V                | A) START NPN → PIN2: 0 to 1 V;<br>B) START PNP → PIN4: 3 to 24 V;<br><br><b>In this mode → Ton<sub>max</sub> = 10 ms - Dt<sub>max</sub> = 10%</b><br><br>AUTO-SWITCH in continuous use. |
|           | 2    | A) Start NPN: 0-1 V  |                                                                                                                                                                                         |
|           | 3    | GND                  |                                                                                                                                                                                         |
|           | 4    | B) Start PNP: 3-24 V |                                                                                                                                                                                         |
|           | 5    | -                    |                                                                                                                                                                                         |



## ANALOG REGULATION USE 100%

| Connector | PINS | Function   | Description                                                        |
|-----------|------|------------|--------------------------------------------------------------------|
| M12 Male  | 1    | +24 V      | PIN5 from 1 to 10 V can adjust the power from 10% to 100%.<br><br> |
|           | 2    | -          |                                                                    |
|           | 3    | GND        |                                                                    |
|           | 4    | -          |                                                                    |
|           | 5    | 1 V - 10 V |                                                                    |



400% STROBE USE POWER can be reached only from WHITE / VISIBLE / NIR LEDS, for other wavelengths check the power table at page 1.



MicroController temperature protection → at 80° the PCB enables the protection and restores the functioning at T < 60°.

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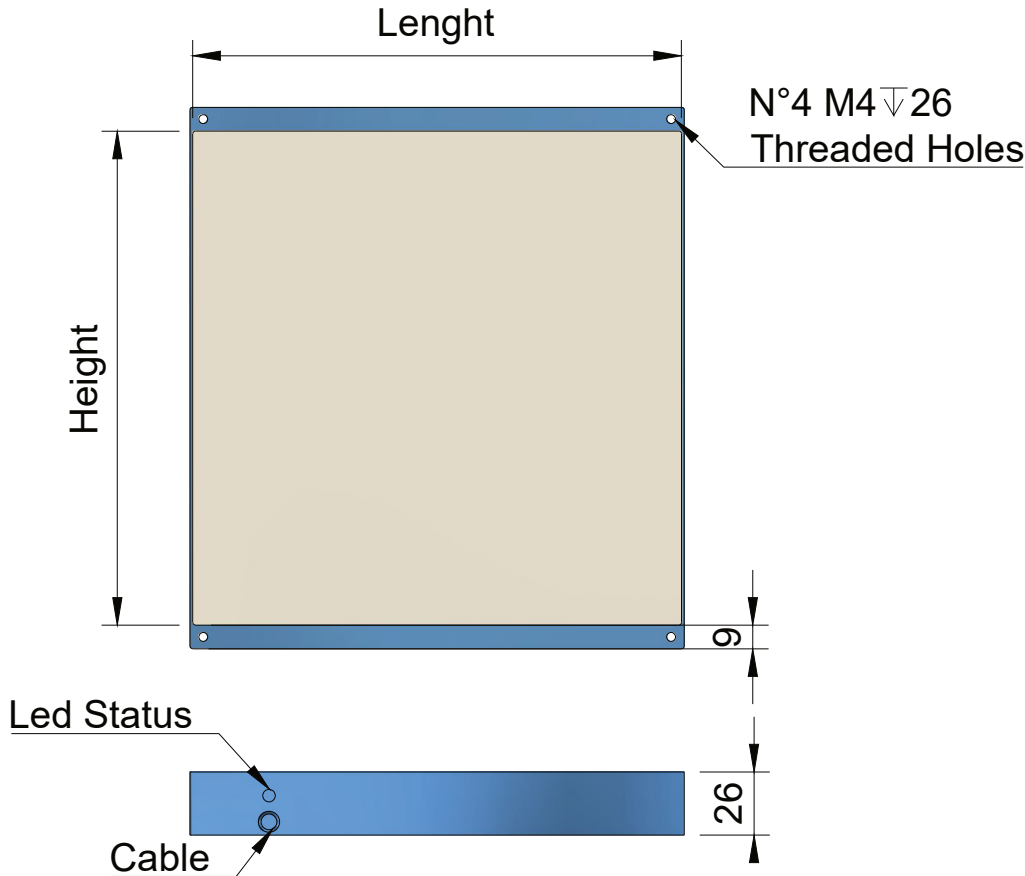
Rev. 01/25

|                 |
|-----------------|
| Weight GB060060 |
| 230g            |

|                 |
|-----------------|
| Weight GB120120 |
| 450g            |

|                     |
|---------------------|
| Unit of measurement |
| mm                  |

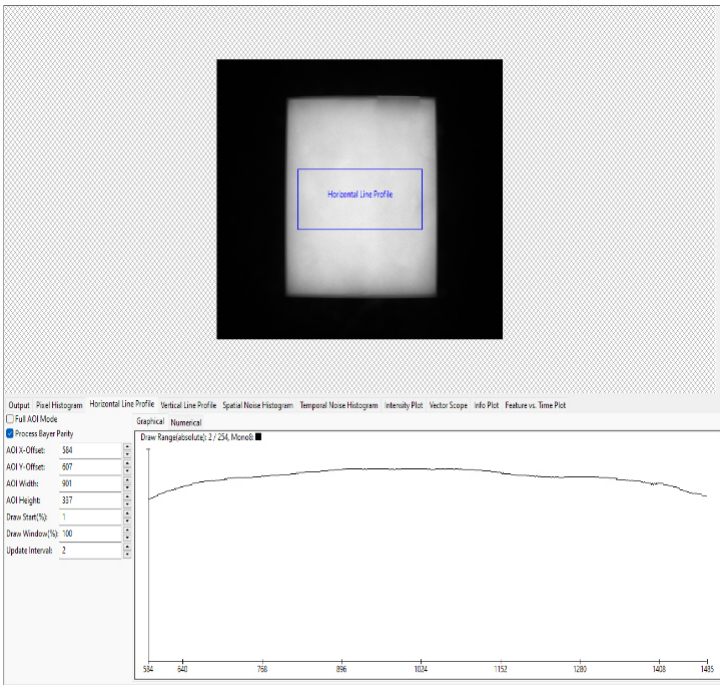
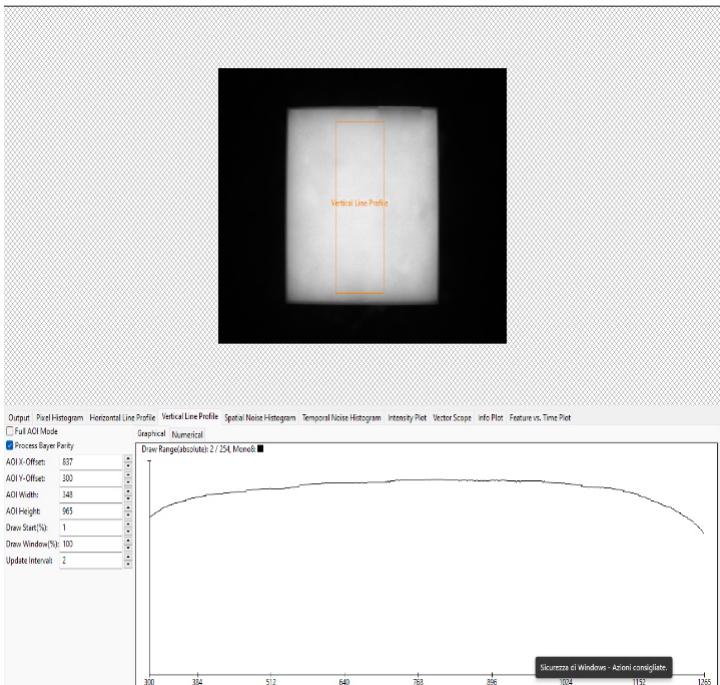
|                 |
|-----------------|
| Weight GB180180 |
| 750 g           |



For 3D mechanical drawing requests - [info@genesi-lux.it](mailto:info@genesi-lux.it)

| - OP BACKLIGHT FUNCTION |                                                     |
|-------------------------|-----------------------------------------------------|
| Working Distance        | Luminance cd/m²<br>Continuous - Semi Cont. - Strobe |
| On Surface              | 32.000-64.000-128.00                                |

LIGHT UNIFORMITY TEST

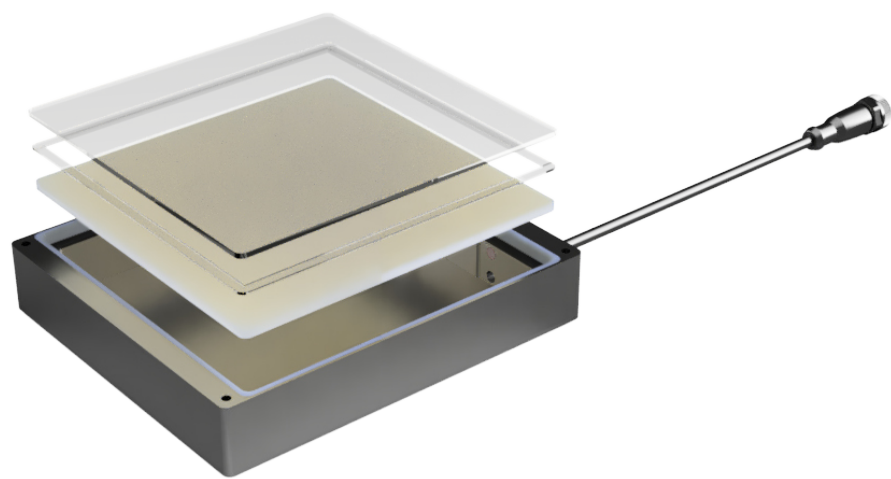
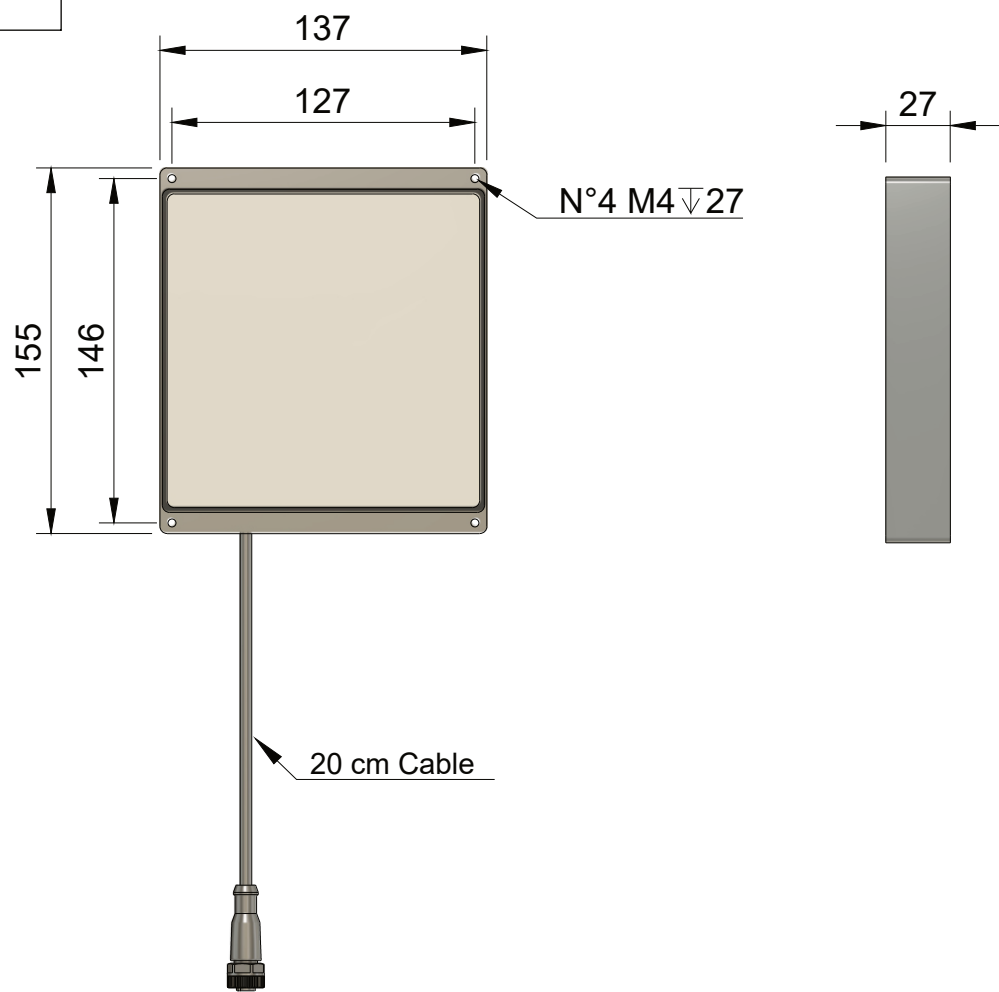


Powers related to the white colour with homogeneity: ± 5%

|                 |
|-----------------|
| -X69K Version   |
| Weight : 1,5 kg |

-X69K Version

(IP69K ,INOX)



GB has a stainless steel 316 case with an IP69K cable. A polyurethane resin and an adhesive gasket are used for the fastening of the 5 mm polycarbonate cover.

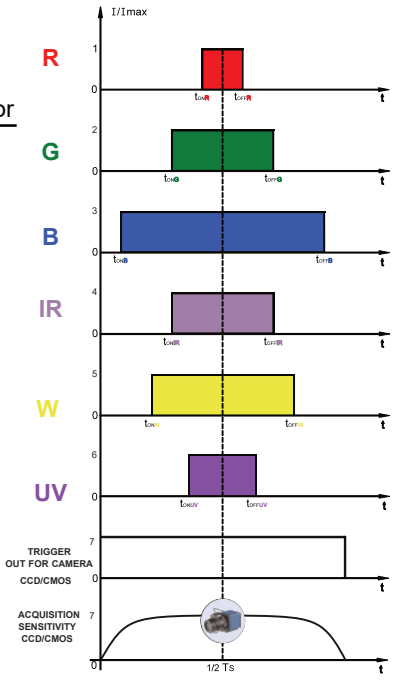
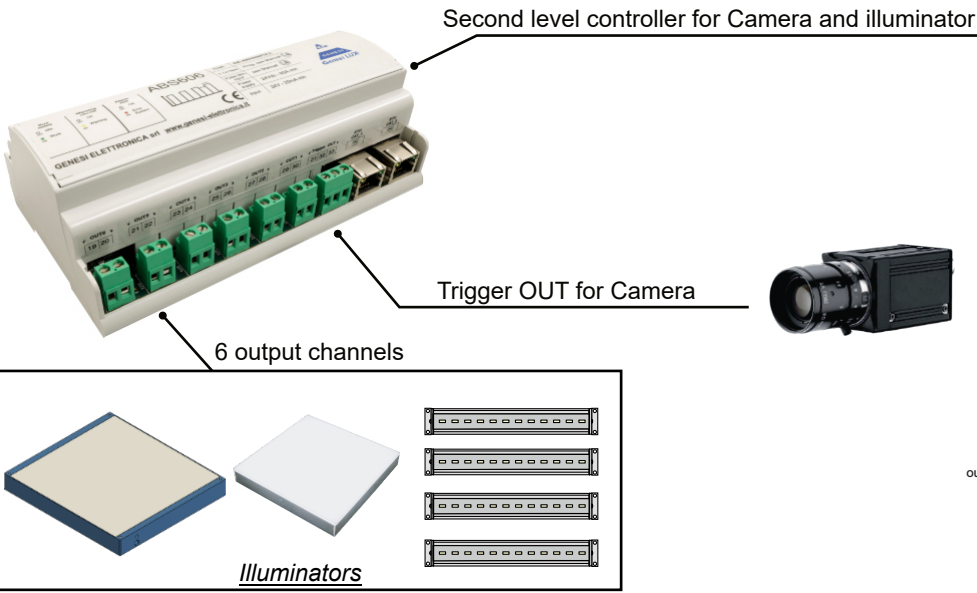
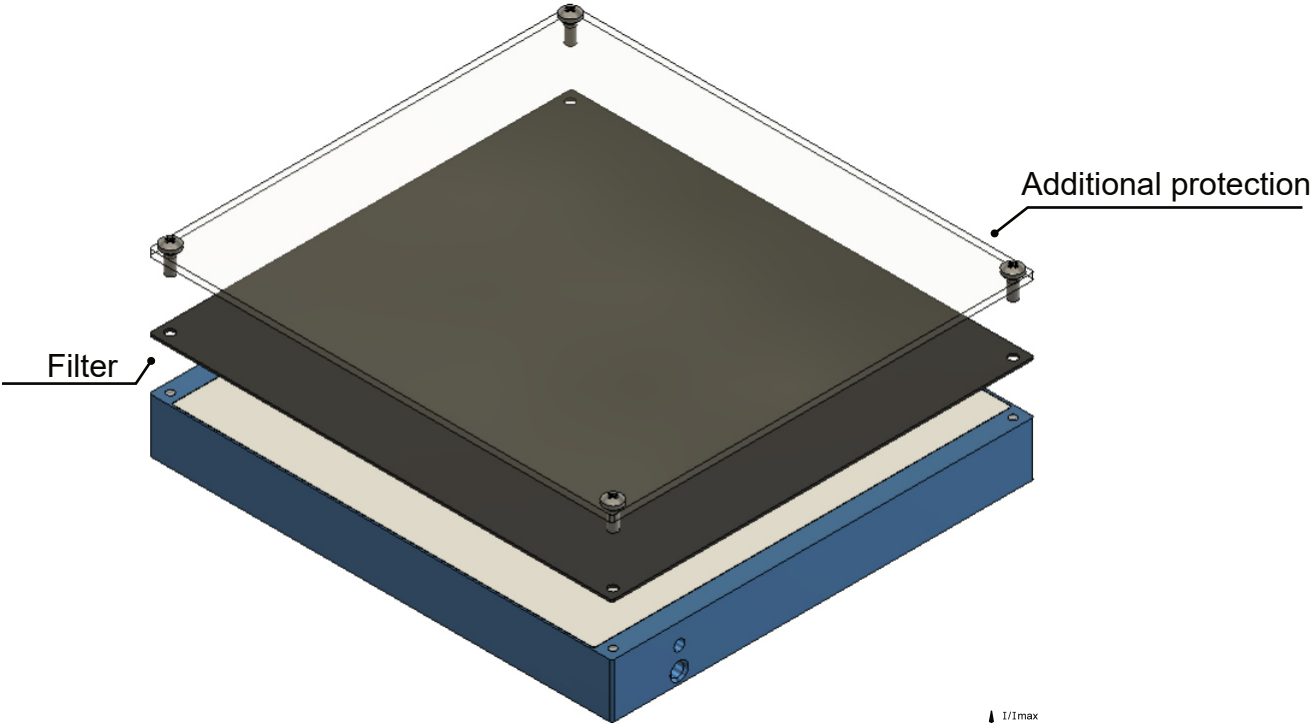
IP69K allows the maximum protection against dust (**IP6\_**), and water (**IP\_9K**), also in installations with high pressure or steam cleaning systems.

The stainless steel case together with the polycarbonate cover guarantee high resistance to physical and chemical agents in order to ensure working in all conditions while thanks to the integrated electronics all the driving modes of the Blue Line and the temperature and overtime controls.



# ACCESSORIES

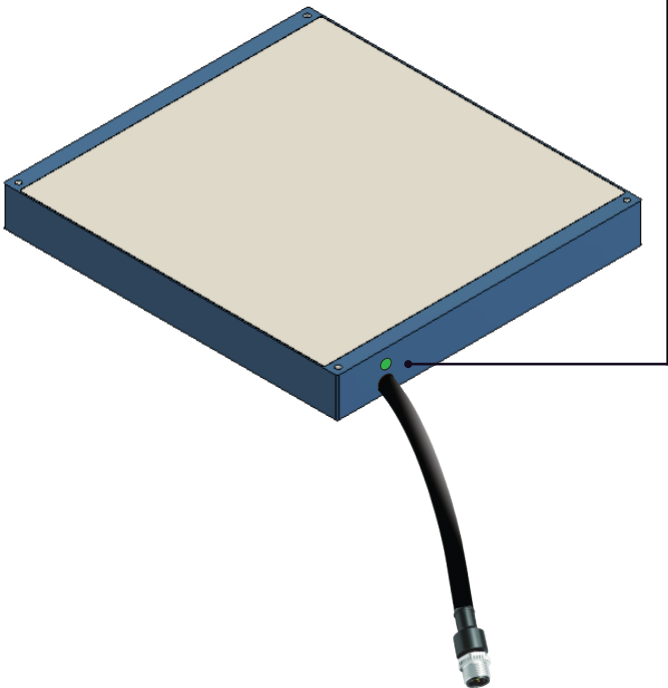
| CODE              | DESCRIPTION                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------|
| GBAAABBB-PX2-AP   | Additional protection 2 mm transparent plexiglass + screws                                                                      |
| GBAAABBB-P-AP     | Additional protection 2 mm Transparent plexiglass + Polarizing Filter horizontal + screws                                       |
| GBAAABBB-C-AP     | Additional protection 2 mm Transparent plexiglass + Collimating Filter + screws                                                 |
| GE-M12F-5X050-2M  | M12 connector 2 meter long female PVC cable                                                                                     |
| GE-M12F-5X050-5M  | M12 connector 5 meter long female PVC cable                                                                                     |
| GE-M12F-5X050-10M | M12 connector 10 meter long female PVC cable                                                                                    |
| GE-ABS606E        | LED Voltage Controller with 6 programmable channels and 10/100 Ethernet.<br>Second level controller for Camera and illuminator. |



Tailor-Made

| Connector | PINS | Function | Description |
|-----------|------|----------|-------------|
| M12 Male  | 1    |          |             |
|           | 2    |          |             |
|           | 3    |          |             |
|           | 4    |          |             |
|           | 5    |          |             |

DEVELOP YOUR CUSTOM PRODUCT WITH OUR R&D TEAM



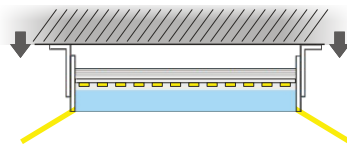
LED STATUS

| Mode                                   | Led colour signal              | Function/note                                |
|----------------------------------------|--------------------------------|----------------------------------------------|
| Powered                                | Blue                           | -                                            |
| 100% Continuous use                    | Green                          | -                                            |
| 0-100% Analog Reg                      | Yellow                         | -                                            |
| 400% Strobe Use                        | Fast blinking green            | -                                            |
| 200% Semi-continuous use standby       | Purple                         | Without PNP or NPN input only +24V analog IN |
| 200% Semi-continuous use               | Slow blinking purple           | With PNP o NPN input +24V analog IN          |
| Over 10% ton error                     | Fast blinking red              | 10 sec stop                                  |
| Over 80° temperature in pcb controller | Slow blinking green-yellow-red | Up to < 60° stop                             |

The indicated IP protection degree is guaranteed only if the product is positioned downward

Base  
IP65  
Protection Degree

Stainless Steel  
IP69K  
Protection Degree



STANDARDS

|                                                                                      |                    |  |
|--------------------------------------------------------------------------------------|--------------------|--|
| EMC immunity :                                                                       | EN 61547:2009      |  |
| EMC emission :                                                                       | EN 55015:2013 + A1 |  |
| Photobiologic risk :                                                                 | EN 62471:2008 GLS: |  |
| Assessment of lighting equipment related to human exposure to electromagnetic fields | EN 62493:2015      |  |

WARNING

-Electrical device exclusively for professional use. Installation can be done by qualified personnel only.  
-In case of power supply wire damage, its replacement has to be done at the head office exclusively.

Warranty loss in case of inappropriate use and tampering.



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