LGHT-R

High-power adjustable LED ring light

IP65

KIT Version: Delivered with three diffusers included as a package
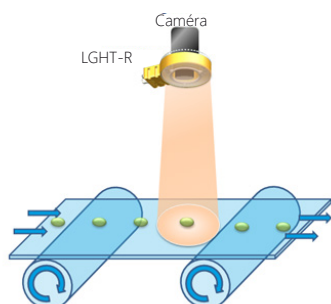**Very intense** and **uniform** illuminated area
Full range of colors
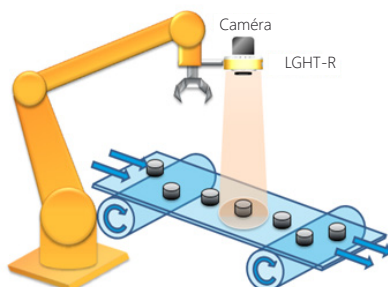**Long lifetime** and minimal maintenance
Compatible with most **lenses**
Flexibility: 4 adjustable illumination angles & 3 different window options

TYPICAL APPLICATION

QUALITY CONTROL

Caméra
LGHT-R

PICK AND PLACE

Caméra
LGHT-R

TECHNICAL SPECIFICATIONS

Illumination Mode	High-power Strobe or Continuous mode	
Wavelengths	465nm, 625nm, 850nm (+/- 5%) White (5500K ±500K)	
	CLASSIC MODE	**EXPERT MODE**
Power Supply	24V DC +/- 10%	Direct Current
Max Power Consumption	70W	Depends on the current
Connector	M12 - 5pins	M8 - 4pins
Driver version	Autostrobe (not dimmable)	No driver (no protection)
Response Time	Rising: 30µs / Falling: 15µs	x
Duty cycle	Max. 15% in strobe mode No restriction in continuous mode (Duty cycle = 100%)	Cf. page 4
Input signal	PNP trigger input: Light ON: from 5 to 24V Max. signal consumption: 0.8mA @24V	Cf. page 4
Weight	400g	
Dimensions	119mmx 151mmx 41mm	
Material	Device body: Aluminium allow & ABS / Window: PMMA	
Fastener	4x threaded holes for M4 screws; 4x through-holes (ø 3.5mm) on the outgrowth	
IP rating	IP65	
Working temperature	-10°C to 50°C	
Storage temperature	-20°C to 60°C	
Regulations	CE - RoHS - REACH - WEEE - IEC 62471	
Country of Origin	France	

PART NUMBER KEY

LGHT-R	100	CC		-XX	YY	ZZ
Type	**Size**	**Color**		**Detail**	**Rev**	**Custom**
R = Ring light	100 = 100mm	🔴 RD (Red 625nm)		00 = NA	0	0
		🔵 BL (Blue 465nm)				
		⚪ WH (White 5500K)				
		🔴 IR (Infrared 850nm)				

Example: LGHT-R100RD-0000 = Red Ring light

Note: The product is delivered **as a package** including: **Transparent**, **Semi-diffusive** and **Opaline windows**, **lens plate**, and the light. The light is delivered assembled in the default configuration with the lens plate positioned in Position 2 (45°) and the Semi-diffusive window.

Accessories

OPTICAL ACCESSORIES	
Polarizer	LGHT-A100RP-0000

CABLES (Replace XX by the cable length in meter: 05 / 10)	
M12 Female to Flying leads	LGHT-A000CB-**XX**00

CAMERA MOUNTING SOLUTIONS	
	LGHT-A000BR-0000

OPTICAL FLEXIBILITY

MANY POSSIBLE CONFIGURATIONS IN JUST ONE LIGHT

Window

The LGHT-R KIT Series is shipped with three different diffusers. Depending on the uniformity necessary for the application, the user can easily change the diffuser to one that fulfills the application requirements.
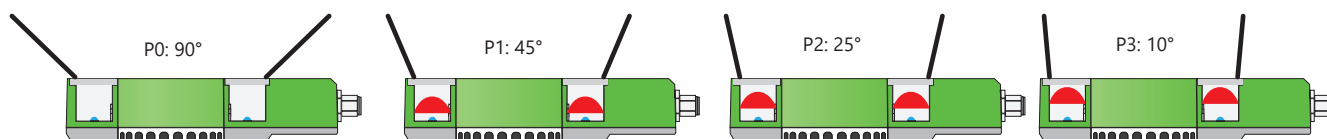
TR : Transparent   SD : Semi-diffusive   OP : Opaline

Lens position

The LGHT-R offers flexible lens positioning to control the beam angle. The user can adjust it by himself: the angle can be widened by moving the lens closer to the LEDs or narrowed by moving the lens further away from the LEDs.

P0: 90°   P1: 45°   P2: 25°   P3: 10°

HOW TO CHANGE THE CONFIGURATION OF THE LGHT-R

Hex key
Size: 2

Lens holder
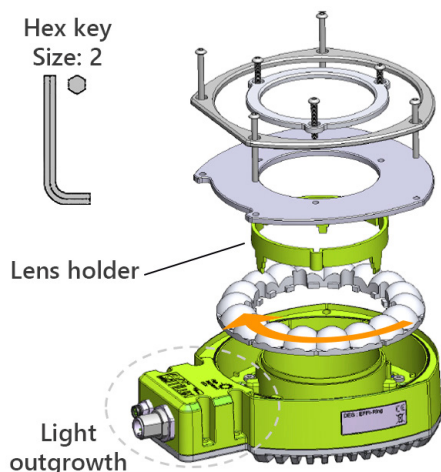
Light outgrowth

Numbers 1, 2 and 3 are inscribed on the edge of the lens plate and correspond to the lens position. Rotate the lens to align the number of the desired position with the outgrowth of the light.

1) Unscrew the M2 screws and separate all parts.
2) Align the lens plate to the desired position and place into the light.
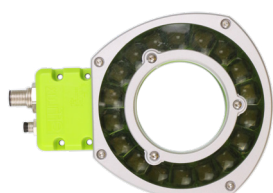3) Place the lens holder, then the desired diffuser.
4) Close the product.

Example: Lens position P3

WAVELENGTH COMPARISON

Wavelength Impact					
Wavelength	⚪ White (000)	🟢 Green (525nm)	🔴 Red (625nm)	🔴 Infrared (850nm)	🔵 Blue (465nm)
Optical power ratio Working distance = 100mm	1	0.15	1.3	1.6	2.8

OPTION: POLARIZER ACCESSORY

Using polarizers on the Effilux light and the camera, it is possible to eliminate glare from your workpiece making it easier to acquire a suitable image for the application.

The user can insert direclty the polarizer plate inside the Ring, on top of the window.

Without polarizer   **With polarizer**

Note: Please note that with the polarizer accessory, the Ring is IP50. For IP65 polarized version, a specific polarizer IP accessory is available (polarizer directly glued on a transparent window).

www.effilux.com

ELECTRONICAL SPECIFICATIONS

There are two ways to control the LGHT-R:

• **Standard mode - M12 connector:** With the built-in Autostrobe driver (Recommended)

• **Expert mode - M8 connector:** Without driver. Current is supplied directly to the LEDs via an external pulse controller. Caution: No driver means no protection, please follow current requirements.
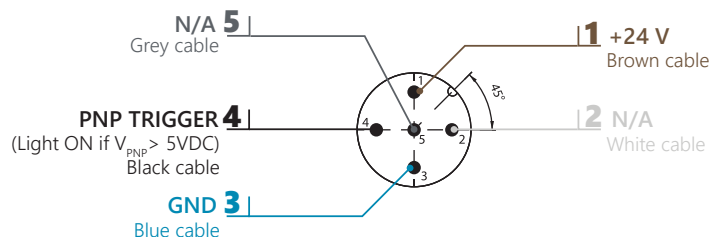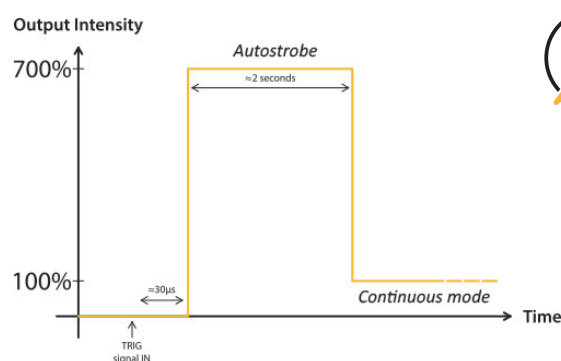
Wiring layout - Standard Mode

The LGHT-R requires 24V DC input power. Note the **trigger pin needs to be connected** either to the 24V DC signal for Continuous mode or to a PNP Trigger signal for Autostrobe mode. In the tricolor version, the 3 channels are independant.

M12 - 5 pins
male connector

N/A **5** — Grey cable
1 +24 V — Brown cable

PNP TRIGGER **4** (Light ON if $V_{PNP} >$ 5VDC) Black cable
2 N/A — White cable

GND **3** — Blue cable

Autostrobe feature

Output Intensity

700% — Autostrobe ≈2 seconds

100% — ≈30µs — Continuous mode

TRIG signal IN

Time

The integrated driver with Autostrobe feature allows for 700% increased intensity while being strobed when compared to continuous mode.
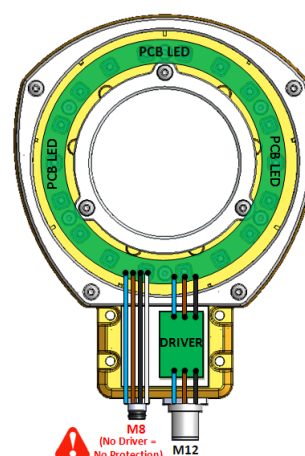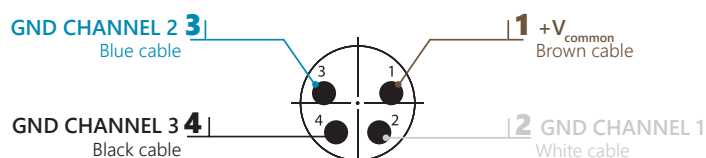
Respect a duty cycle lower than 15% in strobe mode.

Response time	
Rising time	30µs
Falling time	15µs

M8 connector - Direct control (Expert mode)

Wiring layout

M8 - 4 pins
male connector

GND CHANNEL 2 **3** — Blue cable
1 +V_{common} — Brown cable

GND CHANNEL 3 **4** — Black cable
2 GND CHANNEL 1 — White cable

PCB LED
PCB LED
PCB LED
DRIVER

⚠ M8 (No Driver = No Protection)
M12

Maximum current

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

Be aware that the maximum current for a given frequency and a given pulse width cannot be exceeded.

MECHANICAL SPECIFICATIONS

IP65

M8 - 4 PINS CONNECTOR
(EXPERT MODE)

M12 - 5 PINS CONNECTOR
(CLASSIC MODE)
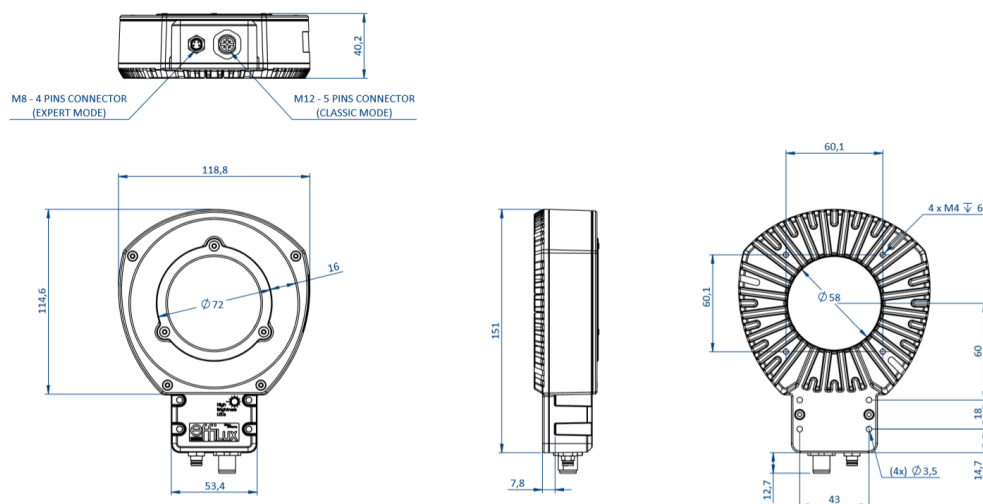
ACCESSORIES

Please refer to the specific documentations for additional information on the accessories of the Ring.

Polarizer

Diffusers

Camera filters

Mounting solutions

Power supplies

Cables

CUSTOM

RGB Version

SWIR Version

CONTACT INFORMATION

Please refer to the specific documentation (datasheet, user guide, drawing, handling precautions) for complementary information.
Contents of this document are base on information available as of May-2020 and may be changed without prior notice.

effiLux Efficient Led Lighting

www.effilux.com