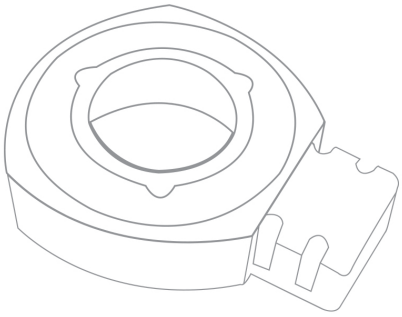
ADJUSTABLE BEAM ANGLE RING LIGHT

ELRC SERIES



The ELRC Series is a **high-power** ring light with innovative design features to answer the needs of many machine vision applications.

Built with **flexibility** in mind, the ELRC Series makes it possible to adapt the product to any application requirement. By changing the **lens position**, the angle of emission can easily be adjusted to change the illuminated area from a **very bright spot** to a **large area**. The ELRC Series is also shipped with **three diffuser plates** so the uniformity can be adjusted to the needs of the user.

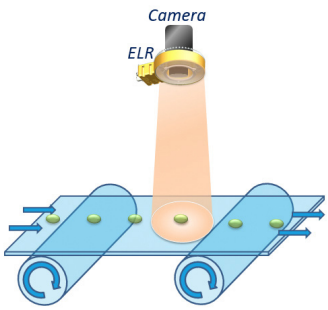
Furthermore, the **built-in driver** with the **Auto-strobe** feature allows for 700% increased intensity while being strobed when compared to continuous mode.

DESCRIPTION

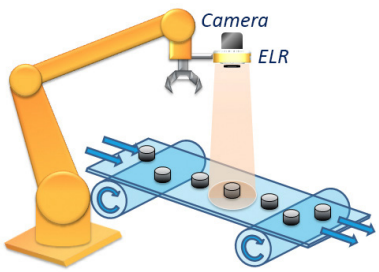
Standard product delivered as a **package** with all diffusers
Very **intense** and **uniform** illuminated area
Direct connection for strobe use with *COGNEX In-Sight 7000 Series*
Long lifetime and minimal maintenance
Compatible with most camera lenses
Flexibility: 4 adjustable illumination angles & 3 different window options

Electronics	Connector	M12 - 5 contacts	M8 - 4 contacts
	Power supply	24V DC	Direct current (No driver = No protection)
	Illumination mode	Continuous or Overdrive strobe mode	
	Electronical mode	AutoStrobe	Direct current (No driver = No protection)
Optics	Wavelength	White, Blue, Red, IR, UV	
Mechanics	Weight	400g	
	Witdh x height	117 mm x 151 mm x 40 mm	
	Fastener	4x threaded holes for M4 screws; 4x through-holes (ø 3.5mm) on the outgrowth	
	Material	Device body: Aluminum alloy & ABS; Window: PMMA	
Environment	Working temperature	0° to 40° C	
	IP code	IP65 *For extended use with water please ensure to use a plastic cap on the unused connector (M8 or M12)*	

APPLICATIONS



Quality control



Pick & place

DIRECT ILLUMINATION

OPTICAL FLEXIBILITY

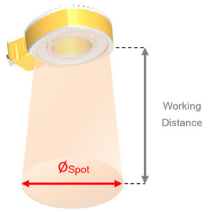
Window

The ELRC 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.

Clear window (CW) *Semi-diffuse window (SD)* *Diffuse window (DF)*

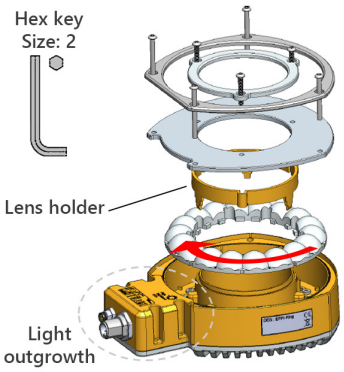
Lens position

The ELRC series offers 4 lens configurations, manually adjustable to control the beam angle



Position	P0*	P1	P2	P3
Angle	90° * without lens	45°	25°	10°

How to change the configuration of the ELRC



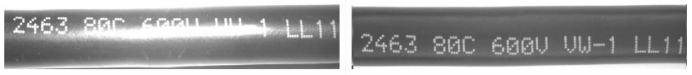
Numbers 1, 2 and 3 are inscribed **on the edge of the lens plate** and correspond to the lens position. **Rotate** the lens to align the number of the desired position with the outgrowth of the light.

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

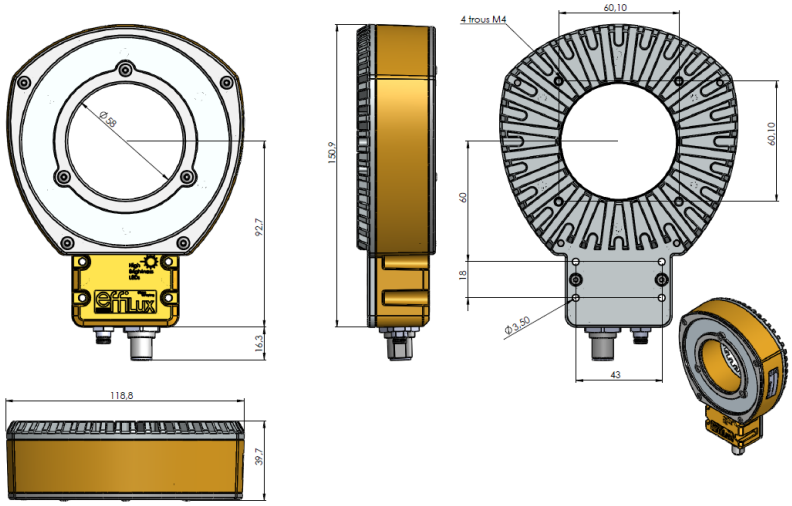
Optical accessory

Using the **polarizer accessory**, it is possible to eliminate glare from your workpiece making it easier to acquire a suitable image for the application. Polarizer not included in the package.



Without polarizer | With polarizer

DIMENSIONS (MM)



The ELRC series is a waterproof product, rated **IP65**. To keep the product watertight after dismantling, replace the gaskets as they were originally when reassembling them.

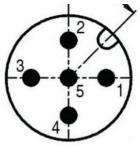
ELECTRONICAL CONSIDERATION

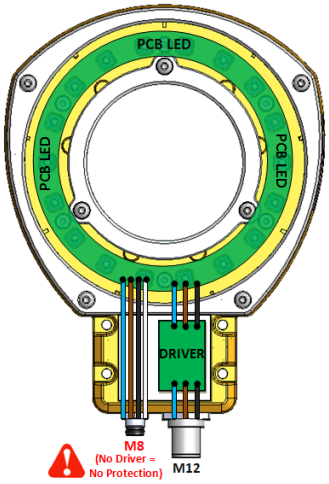
There are two ways to control the ELRC light:

- **SMART MODE - M12 CONNECTOR:** With the built-in driver (Recommended)
- **EXPERT MODE - M8 CONNECTOR:** Without driver. Current is supplied directly to the LEDs via an external controller - like a pulse controller. **CAUTION:** No driver means **no protection**, please follow current requirements.

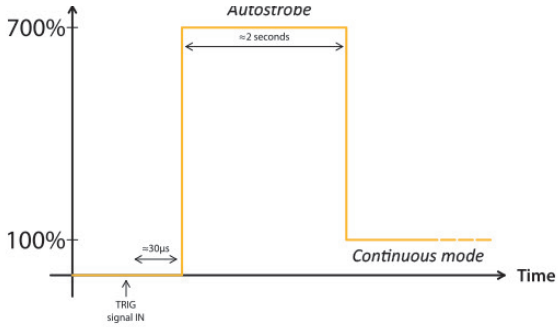
M12 Connector pinout

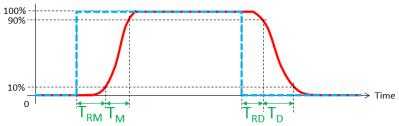
The ELRC Series requires 24V DC input power. Note the trigger pin **needs to be connected** either to the 24V DC signal for Continuous mode or to a PNP Trigger signal for Overdrive strobe mode.

M12 connector - Smart control (Auto-strobe)			
Contact pinout	Number	Color Contact	Designation
 M12 male connector	1	Brown	+24V DC
	2	White	N/A
	3	Blue	GND
	4	Black	**PNP TRIGGER [trigger for rising edge] for Auto-strobe** Light ON if V_{PNP} > 3V DC (max 24V DC)
	5	Grey	N/A



Autostrobe feature (M12 connector)



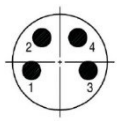


Designation	Time (µs)
Rise time (T_M)[1,5]	4-15
Response rise time (T_{RM})[2]	25
Fall time (T_D)[3]	10
Response fall time (T_{RD})[4]	5

(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

Use a duty cycle lower than 15% in strobe mode.

M8 Connector pinout

M8 connector - Direct control			
Contact pinout	Number	Color Contact	Designation
 M8 male connector	1	Brown	$+V_{common}$
	2	White	GND1
	3	Blue	GND2
	4	Black	GND3

Direct current (M8 connector)

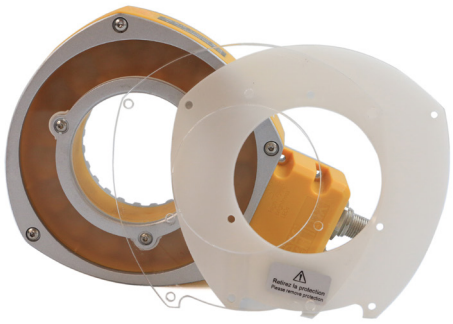
	F (Hz)				
T pulse (µs)	1	5	10	15	20
100 000	1.0 A				
50 000	1.2A				
10 000	1.5 A		1.0 A		
1000	2.0 A				
100	2.5 A				

Be aware that the maximum current for a given frequency and a given T_{pulse} **cannot be exceeded**.

DIRECT ILLUMINATION

PRODUCT LINE UP - PACKAGES

The standard ELRC Series is delivered as a **package** including: Clear (CW), Semi-Diffuse (SD) and Opaline (DF) diffusers, lens plate, and light. The light is delivered assembled in the default configuration with the lens plate positioned at P2 and the SD diffuser.



ELRC Series

Series	Part Number	Color	Wavelength / Color temperature	Power Consumption (with M12 connector)		Connectors	Weight
				Strobe	Continuous		
ELRC	ELRC-100SW	White	5500 K ± 500 K	60	10	M12 & M8	400g
ELRC	ELRC-100UV	Ultraviolet	405nm	68	15	M12 & M8	400g
ELRC	ELRC-100BL	Blue	465nm	60	10	M12 & M8	400g
ELRC	ELRC-100RD	Red	625nm	50	8	M12 & M8	400g
ELRC	ELRC-100IR	Infrared	850nm	60	10	M12 & M8	400g

ACCESSORIES

OPTICAL ACCESSORIES - Polarizer

Part Number	Description
PL-ELR-100	Polarizer plate

MECHANICAL ACCESSORIES - Camera mounting solutions

Part Number	Description	Camera compatibility
BK-EL-CM-HO	Horizontal camera bracket	COGNEX In-Sight 7000 Series
		COGNEX In-Sight 5000 Series

Note that with the polarizer accessory, the ELRC Series is IP50.

For cables refer to the ECB cables datasheet.
For fasteners refer to the BK-EL fasteners datasheet.

EU DIRECTIVE

CE

In accordance with EU machinery directive, EMC directive, and low voltage directive, machines and electronic devices not marked with the CE logo are subject to distribution restrictions within the EU. All EL Series products will maintain the EU mandate compatibility of our customers' machinery and electronic devices.

RoHS DIRECTIVE

All products from the EL Series comply with the RoHS Directive.

CONTACT INFORMATION

MANUFACTURER

EFFILUX
1 Rue de terre Neuve
Mini Parc du Verger - Bâtiment E
91940, Les Ulis, FRANCE

WEBSITE

www.el-series.com

SALES & TECHNICAL SUPPORT

CCS AMERICA, Inc.
10 State Street, Suite 103
Woburn, MA 01801, USA

TEL: +1-781-272-6900
E-MAIL: sales@ccsamerica.com
SITE: www.ccsamerica.com

CCS EUROPE N.V.
Bergensesteenweg 421B 1600
Sint-Pieters-Leeuw, BELGIUM

TEL: +32-2-333-0080
E-MAIL: sales@ccseu.com
SITE: www.ccs-grp.com