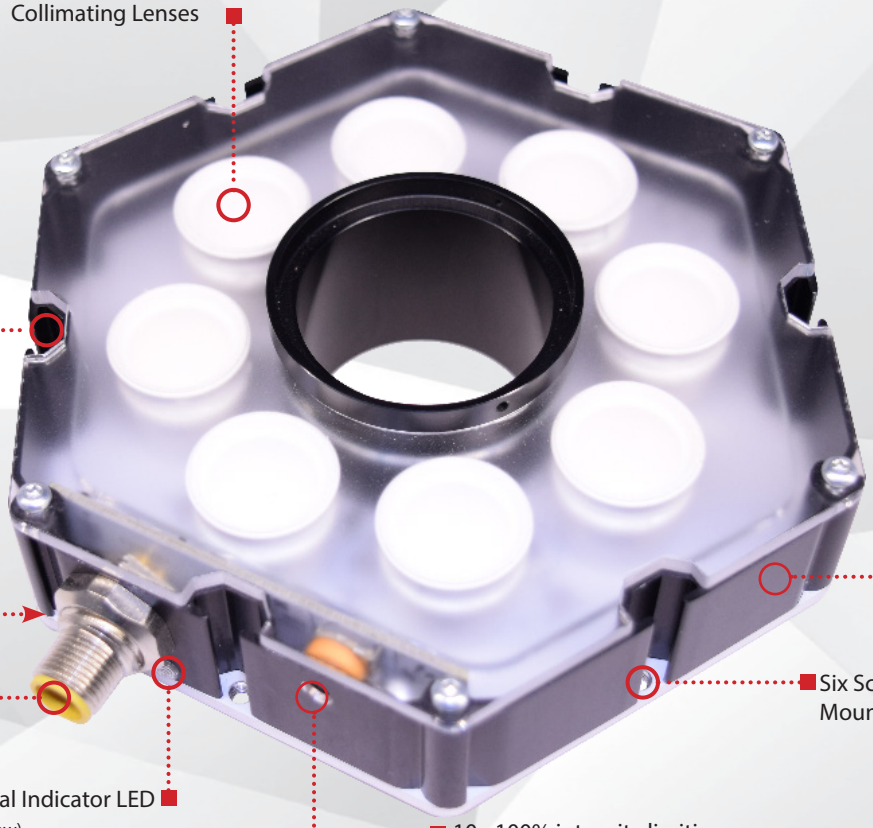
smart vision lights

RCC130 *EZ Mount*
RING LIGHT
NARROW UNIFORM PATTERN

PRODUCT DATA SHEET



Warranty	Tested	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ Special lenses project a narrow uniform/homogeneous light pattern
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring needed
- ✓ PNP and NPN strobe input
- ✓ Conversion adapters for different cameras available

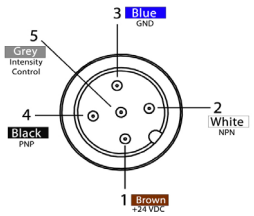
PRODUCT INTRODUCTION

The RCC130 contains special lenses to produce a narrow uniform/homogeneous light pattern. Its simple plug-and-play 5-pin M12 connector is easy to use. The RCC130 operates with either an NPN or a PNP signal and runs on an industry-standard 24VDC. The 10%–100% intensity control gives users full control over light output. A standard 42 mm inner hole diameter allows for use with nearly all camera systems with available step-up and step-down conversion kit adapters.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 430 mA
Input Power	Max. 11 W
PNP Trigger	2.8 mA @ 4VDC | 8.8 mA @ 12VDC | 17.6 mA @ 24VDC
NPN Trigger	14.4 mA @ ground (0VDC)
Trigger Input	PNP > +4 VDC (24 VDC max.) to activate **or** NPN ≥ GND <1VDC to activate **(not both)**
Power Indicator	Turns green when powered up
Status Indicator	Strobe indicator will turn red while resting and turn off when ready
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Intensity Limit	270º turn pot – intensity control of 10%–100%. Turn clockwise to increases intensity limit.
Analog Intensity	The output is adjustable from 10%–100% of intensity limit by a 1 – 10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity.)
Connection	5-pin M12 connector
Operating Temperature	-10° to 40° C (14° to 104° F) | RH max 80% non-condensing humidity
Storage Temperature	-20° to 70° C (-4° to 158° F) | RH max 80% non-condensing humidity
IP Rating	IP50
Weight	~325g
Compliances	CE, RoHS, IEC-62471
Warranty	UV LEDs have a 2 year warranty, all other LEDs have a 10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

Pin	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	Intensity Control	1 – 10VDC	GREY*

For proper light function, apply either a PNP or NPN signal, not both.

Failure to supply light with correct input current will result in inconsistent lighting behavior.
(see Product Specifications for requirements)

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

RESOURCE CORNER

Additional resources, including CAD files, videos, and application examples, are available on our website.

PART NUMBER

RCC130 – □□□

COLOR:

WHI | 365 395 | 470 | 505 | 530 | 625 | 850 940

Part Number Example:

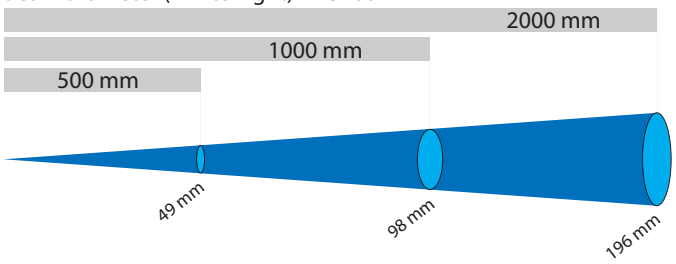
RCC130-625 RCC130, 625 Red Wavelength, Standard (Narrow) Lens

Additional wavelengths options available upon request.

LIGHT PATTERNS

Smart Vision Lights recommends the RCC130 be used at a working distance between 500 mm and 5000 mm.

Beam Diameter (White Light) — 5700K

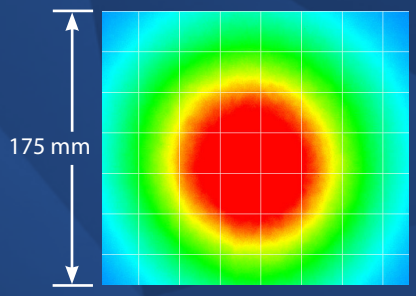


Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	49 mm (~1.93")
1000 mm (39.4")	98 mm (~3.86")
2000 mm (78.8")	196 mm (~7.72")

Typical Output Performance	Illuminance (Lux)
Distance = 1000 mm	13,000
Illuminance measurement taken on White Lights — 5700K	

The RCC130 Ring Light produces a uniform light pattern.

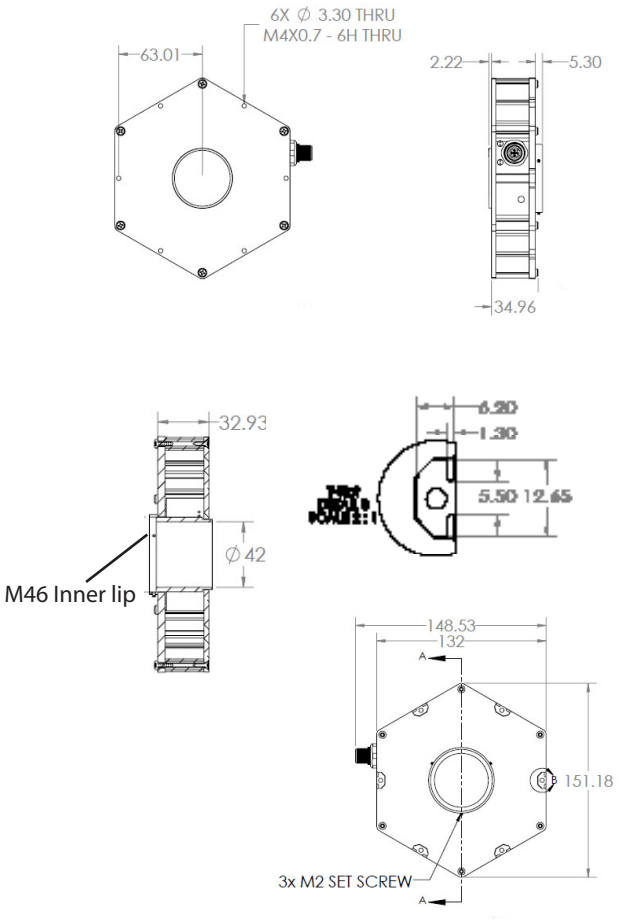
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow

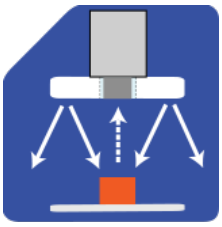
PRODUCT DRAWING

CAD files available on our website.
Dimensions are in mm.



ILLUMINATION

RCC130 Series of Ring Lights works best for:



Radial

EYE SAFETY

According to IEC 62471: 2006. Full documentation available upon request with purchase of product.

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, and 940.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

Caution

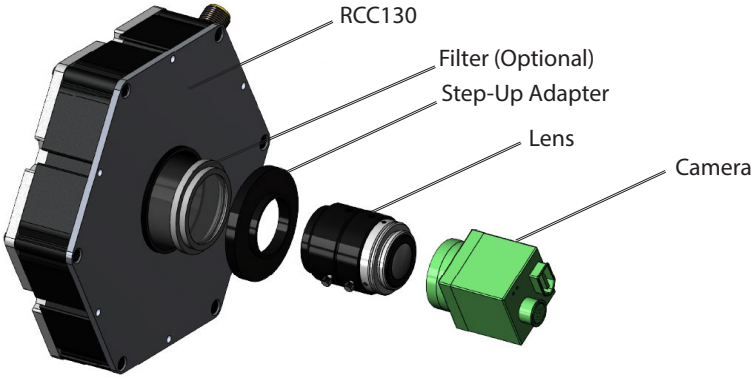
Risk Group 2: UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding. Does not pose optical hazard if aversion responses limit exposure. Applicable for wavelength 365 and 395.

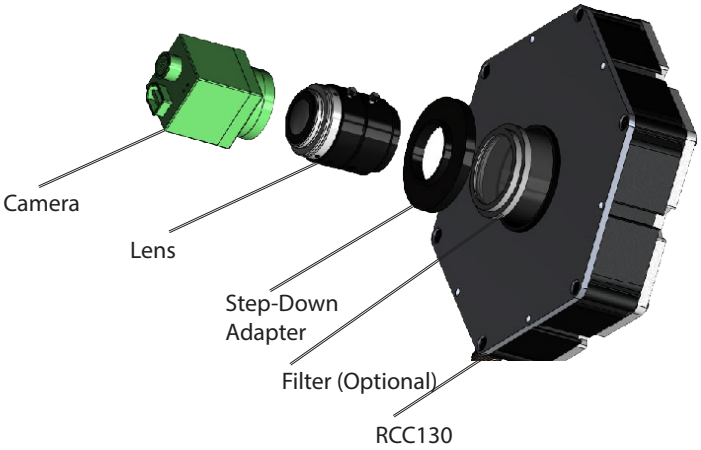
STEP-UP/STEP-DOWN ADAPTER KITS

Step-Up/Step-Down Adapter Kits allow the M46 thread on ring lights to be mounted directly to the threads found on the front-end of most popular lenses.

Step-Up Adapters allow for mounting a lens that is smaller in diameter to an EZ Mount Ring Light, while Step-Down Adapters allow for mounting a larger lens to an EZ Mount Ring Light.

These kits include: a set of screws and a hex wrench.





STEP-UP/STEP-DOWN ADAPTER KITS PART NUMBERS

STEP-DOWN ADAPTER

SD– □□ – 46

LENS THREAD SIZE	RING LIGHT THREAD SIZE
49	
52	
55	
58	
62	
67	
72	

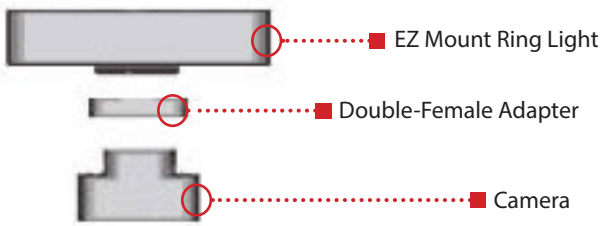
STEP-UP ADAPTER

SU– □□□□ – 46

LENS THREAD SIZE	RING LIGHT THREAD SIZE
25.5	
27	
30.5	
34	
35.5	
37	
39	
40.5	
43	

CAMERA MOUNTING ADAPTERS

When mounting a camera directly on to an EZ Mount Ring Light, a Double-Female (DF) threaded camera adapter is used.



DOUBLE-FEMALE ADAPTER

DF–□□□□–46

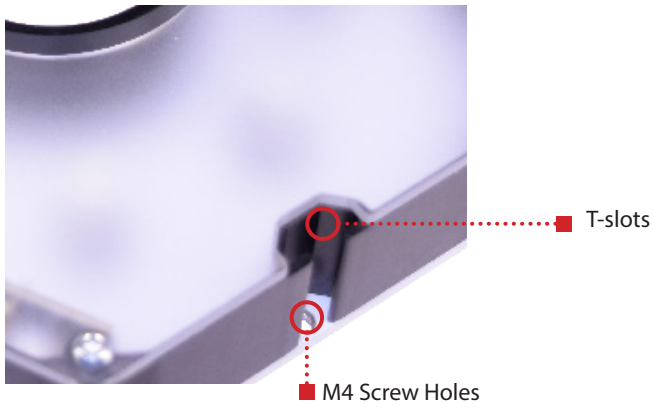
CAMERA THREAD SIZE	RING LIGHT THREAD SIZE
34.5	
55	
60	

*When mounting an EZ Mount Ring Light, a double-female adapter is used.

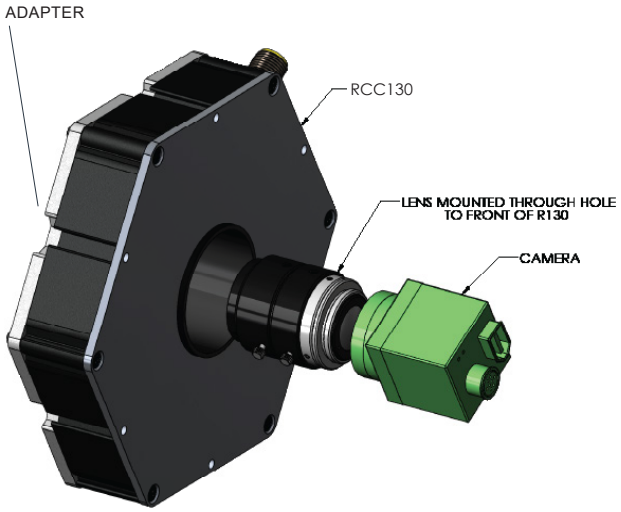
MOUNTING

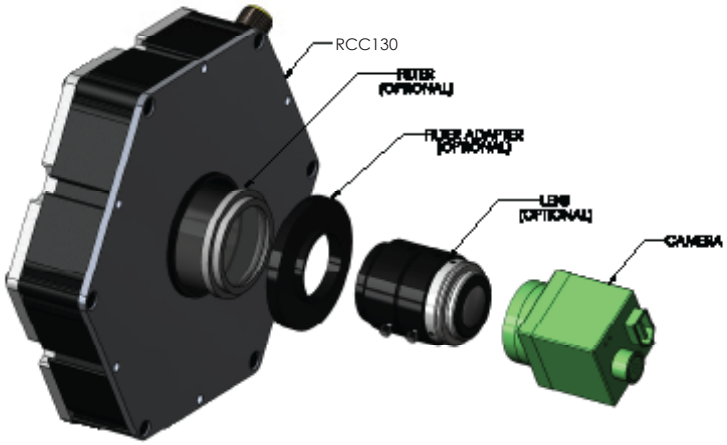
Mounting options on the RCC130 EZ Mount ring light include six T-slots and six M4 threaded holes.

Optional Mounting Hardware:
T-slots = M5 x 0.8 mm T-nut
Threaded screw holes = M4 screws



CAMERA MOUNTING EXAMPLES





ACCESSORIES

Step-Up Kits

Lens Thread Size	Part Number
25.5 mm	SU25.5-46
27 mm	SU27-46
30.5 mm	SU30.5-46
34 mm	SU34-46
35.5 mm	SU35.5-46
37 mm	SU37-46
39 mm	SU39-46
40.5 mm	SU40.5-46
43 mm	SU46-46

Step-Down Kits

Lens Thread Size	Part Number
49 mm	SD49-46
52 mm	SD52-46
55 mm	SD55-46
58 mm	SD58-46
62 mm	SD62-46
67 mm	SD67-46
72 mm	SD72-46

Camera Adapters

Camera Thread Size	Part Number
55 mm	DF55-46
60 mm	DF60-46
34.5 mm	DF34.5-46

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Camera Mounting Adapter

Description	Part Number
Adapter	BKT0030-KIT

Variable Control Pot

Description	Part Number
Controls the intensity of the light	IVP-C1

GLOSSARY

This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

TERMINOLOGY

OverDrive™ Light includes an integrated high-pulse driver for complete LED light control.

Continuous Operation Light stays on continuously.

Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.

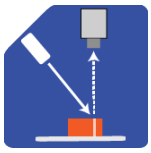
Built-In Driver The built-in driver allows full function without the need for an external controller.

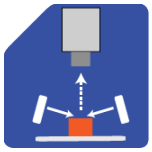
Camera to Light Connect the light directly to the camera, without the need for additional controllers or equipment.

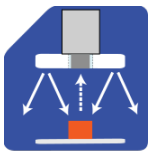
Polarizers Filters that reduce reflections on specular surfaces.

Diffusers Used to widen the angle of light emission, reduce reflections, and increase uniformity.

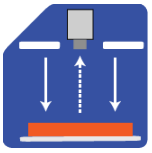
TYPES OF ILLUMINATION

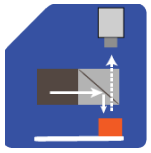

Projector

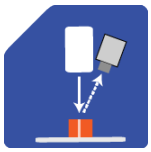

Dark Field

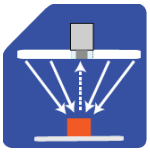

Radial

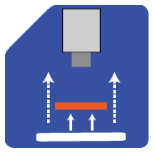
Bright Field


Direct


Axial

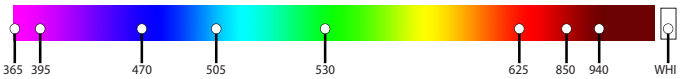

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength options range from 365 nm to 1550 nm.*
Additional wavelengths available for many light families.



See Part Number section for **this light available standard wavelengths.*

SWIR SHORT WAVE INFRARED

Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.*

Check Part Number section to see if **this light is available in SWIR wavelengths.*