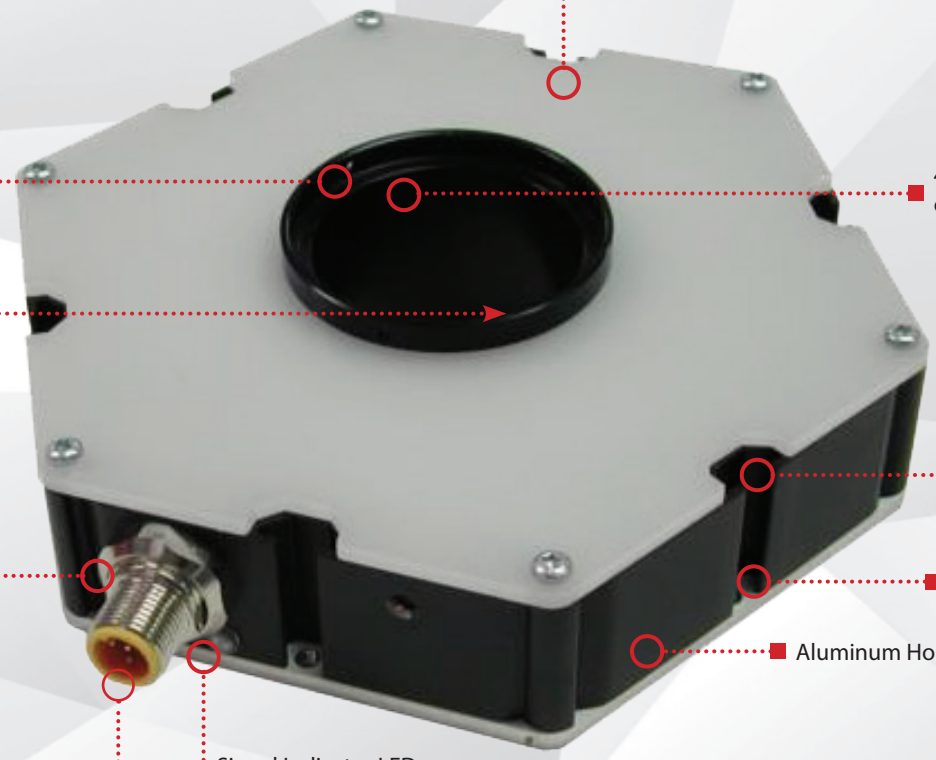
smart vision lights

RD130 EZ MOUNT RING LIGHT
DIFFUSE

PRODUCT DATA SHEET



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

PRODUCT HIGHLIGHTS

- ✓ T-slot for mounting
- ✓ Conversion adapters for different cameras available
- ✓ PNP and NPN trigger input signal
- ✓ Diffuser cover is factory installed

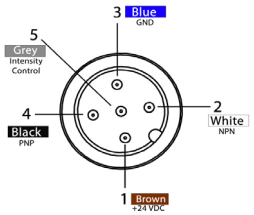
PRODUCT INTRODUCTION

The RD130 is an all-around durable difused ring light. Its simple plug-and-play 5-pin M12 connector is easy to use. The RD130 has an optimal working distance between 100 mm and 400 mm and will operate 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 46 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. 500 mA
Input Power	Max. 12 W
Strobe Input	PNP > +4VDC or greater to activate | NPN > GND (<1VDC) to activate
PNP Line	2.2 mA @ 4VDC | 8.8 mA @ 12VDC | 17.6 mA @ 24VDC
NPN Line	14.4 mA @ Ground (0VDC)
Yellow Indicator LED	LED strobe indicator ON = Light Active
Green Indicator LED	ON = Power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
Analog Intensity	The output is adjustable from 10%–100% by a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity.)
Connection	5-pin M12 connector
Ambient Temperature	-18º–40ºC (0º–104ºF)
IP Rating	IP50
Weight	~183 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. 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)

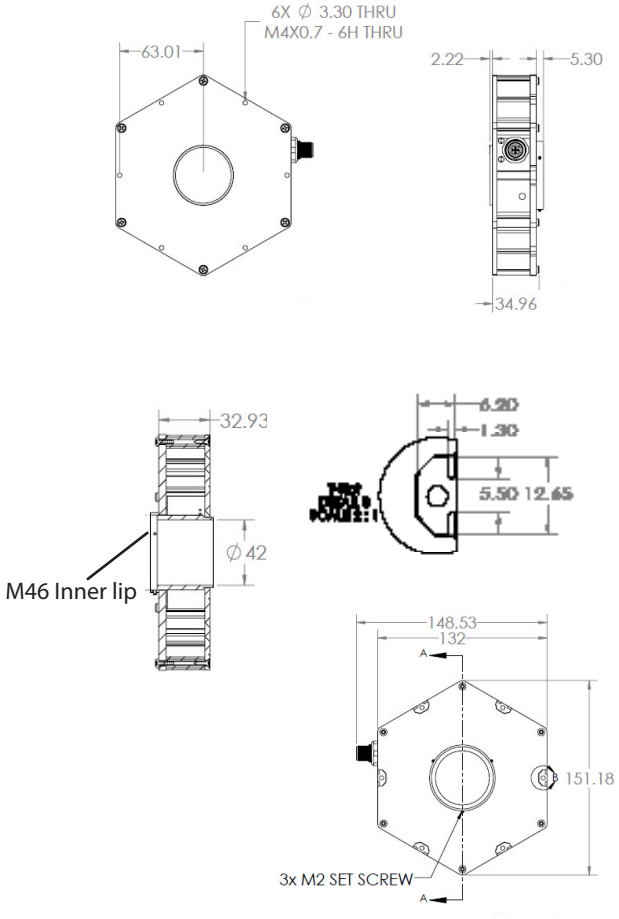
** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

RESOURCE CORNER

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

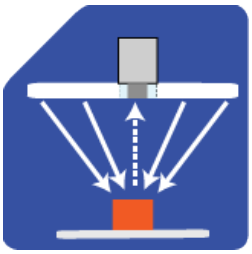
PRODUCT DRAWING

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



ILLUMINATION

RD130 Series of Ring Lights works best for:



Diffuse

EYE SAFETY

According to IEC 62471: 2006. Full documentation available upon request.

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.

PART NUMBER

RD130– □□□

COLOR:

WHI 470 505 530 625 850 940

Part Number Examples:

RD130-625RD130, 625 Red Wavelength
RD130-WHI RD130, White

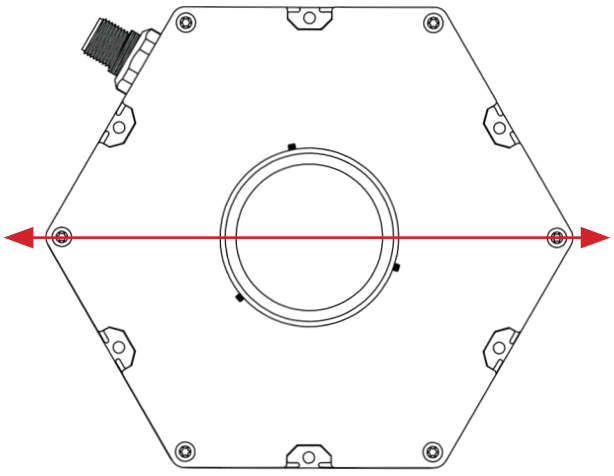
Additional wavelengths options available upon request.

OPTICAL PERFORMANCE

The RD130 offers a very diffuse light pattern. Smart Vision Lights recommends using the RD130 at a working distance between 100 mm and 400 mm.

OPICTAL PERFORMANCE FOR THE RD130

Rating	Illumination (Lux)
Average Intensity Rating	35,000
Illuminance measurement taken at surface of RD130	

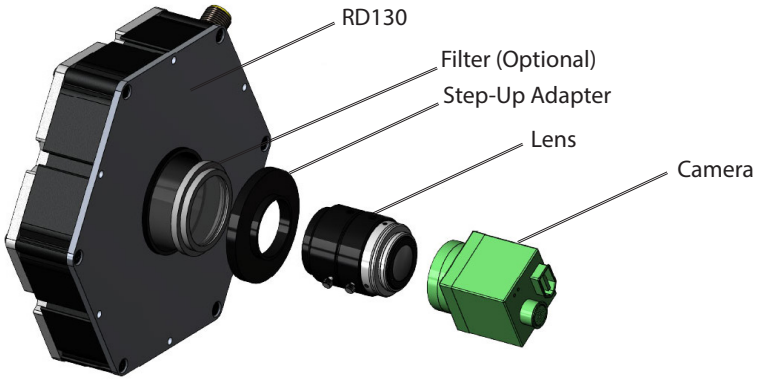


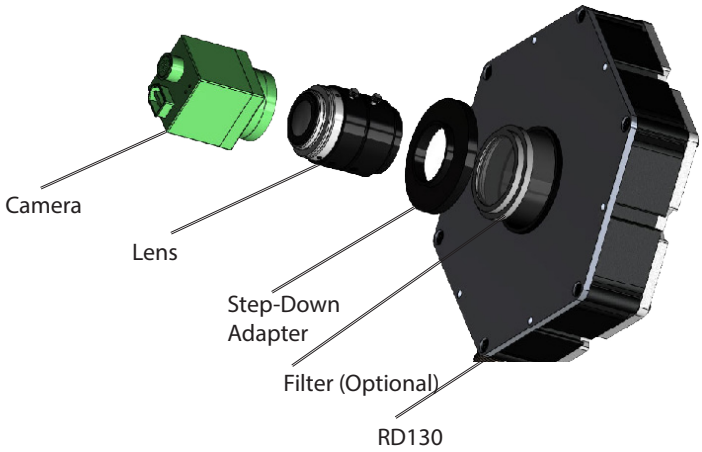
STEP-UP/STEP-DOWN ADAPTER KITS

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	

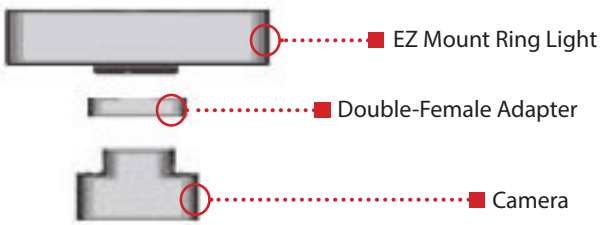
STEP-UP ADAPTER

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 can be used.



DOUBLE-FEMALE ADAPTER

DF – □□□□ – 46

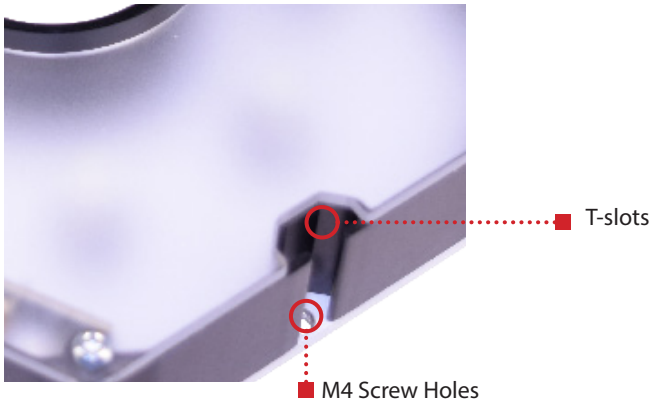
CAMERA THREAD SIZE	RING LIGHT THREAD SIZE
34.5	
55	
60	

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

MOUNTING

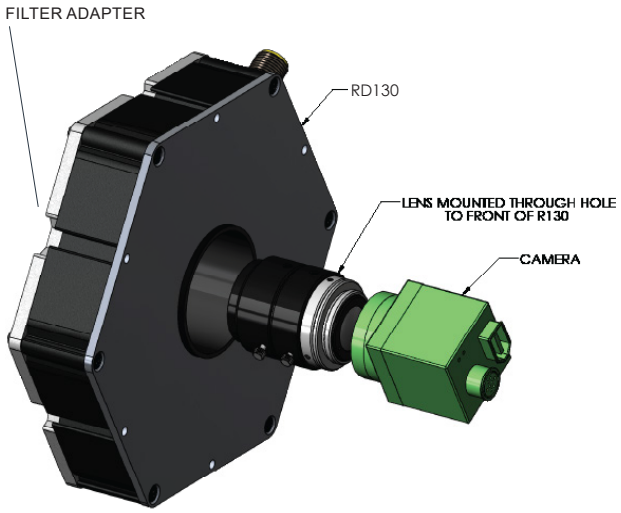
Mounting options on the R130 EZ Mount Ring Light include six T-slots and six M4 threaded holes.

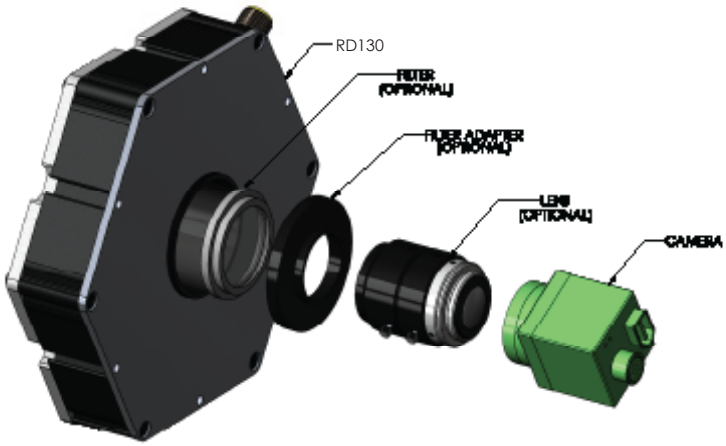
Optional Mounting Hardware:
T-slots = M5 x 0.8 mm T-nut(80/20 #14122)
Threaded screw holes = M4 screws



CAMERA MOUNTING EXAMPLES

The 42 mm threaded opening on the back of the RD130 allows for easy mounting of a camera, filter, or step-up/step-down kit.





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

Power Cables

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

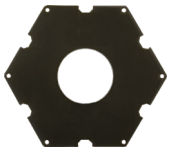
Variable Control Pot

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

Camera Adapters

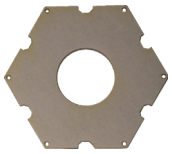
Camera Thread Size	Part Number
55 mm	DF55-46
60 mm	DF60-46
34.9 mm	DF34.9-46

Linear Polarizer



Description	Part Number
Linear Polarizer Kit	R130-LP

Diffuser



Description	Part Number
Diffuser Kit	R130-DKIT

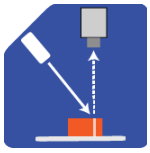
GLOSSARY

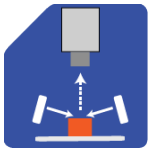
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

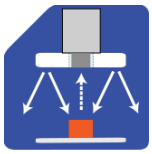
TERMINOLOGY

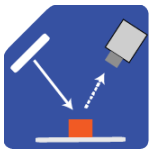
OverDrive™ Light includes an integrated high-pulse driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-In Driver The built-in driver allows 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.

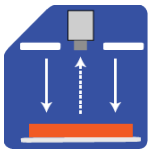
TYPES OF ILLUMINATION

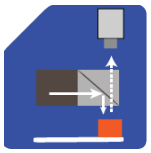

Projector

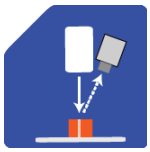

Dark Field

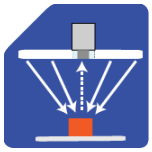

Radial

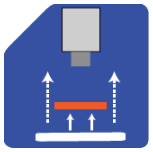

Bright Field


Direct


Axial

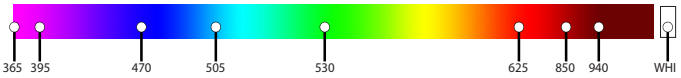

Line


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's 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.*