TPL VISION
Active LED solutions

MR - RING
A MODULAR RINGLIGHT ILLUMINATION

▷ MACHINE VISION ▷ HIGH POWER LED ▷ DIRECT ILLUMINATION ▷ BI-COLOR RING ▷ 4 INDEPENDENT QUADRANTS ▷ OVERDRIVE ▷ REMOTE CONTROL

INNOVATIVE LED ILLUMINATION
FOR MACHINE VISION

2 SIZES
80 mm OR **130** mm

2x2 COLOURS
W-IR
WHITE - INFRARED
(WHI - 860nm)

OR

R-C
RED - CYAN
(625nm - 505nm)

CONTROL
manual OR **remote**

IP65 **OVERDRIVE** **4 QUADRANTS**

The MR - RING is a bi-colour LED illumination, available in 2 sets of colours and 2 dimensions. It has been designed with tough production environments in mind: IP65 as standard, overdrive embedded, simple remote control capability (selection of colours and quadrants).
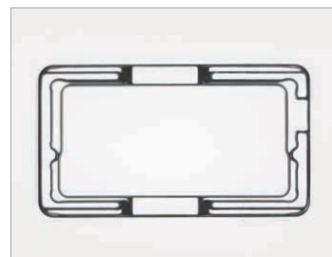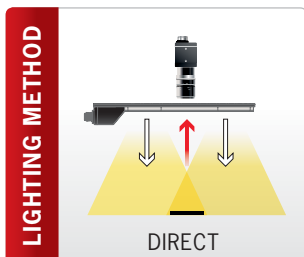
DIRECT LIGHT CAN BE USED WHEN:

- objects do not reflect light (matt surface),
- objects require maximum illumination brightness (e.g. fast moving items),
- objects where shadows are not going to be present or cause problems.

The MR - RING should be mounted so that the light shines directly onto the object of interest. Maximum illumination intensity will be achieved when the item is closest to the light.

The camera can be mounted looking through the ring or to the side dependent on desired effect.

The MR - RING can also be used for applications where a machine enclosure is being used to provide reflected diffused light. The MR - DOME version may also be appropriate.
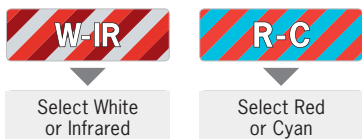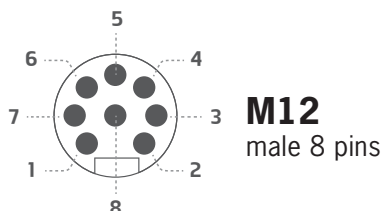
LIGHTING METHOD

DIRECT

MANUAL SETTINGS

ON
Str
Colour Sector

SECTORS: 3 configurations

COLOURS: 2 sets

W-IR → Select White or Infrared

R-C → Select Red or Cyan

MANUAL control

REMOTE control

REMOTE SETTINGS

5
6   4
7   3
1   2
8

M12 male 8 pins

❶ **Activate** overdrive
❷ Change **colours**
❸ GND
❹ Sector **1**

❺ Sector **2**
❻ Sector **3**
❼ Sector **4**
❽ **Deactivate** manual sector drive

LIGHTING POWER

	RING 80				RING 130			
	RED (cd)	CYAN (cd)	WHITE (cd)	IR (mW/Sr)	RED (cd)	CYAN (cd)	WHITE (cd)	IR (mW/Sr)
Standard (distance: 0 cm)	43	55	300	150	65	82	445	220
Overdrive (distance: 0 cm)	172	195	1 200	600	260	286	1 830	900

TECHNICAL SPECIFICATIONS

Dimensions	80mm	130mm
Electronics		
Power Supply	24 VD/C ±10%	
Functioning Mode	Continuous, Strobe, Overdrive, Dimming, Manual Control	
Rising Time	10 µs	
Falling Time	10 µs	
Wiring	5 Pin M12 male connector for manual, 8 Pin M12 male connector for remote control	
Max. consumption Red-Cyan	9W average / 51W peak	11W average / 82W peak
Max. consumtion WHI-IR	10W average / 42W peak	13W average / 62W peak
Optics		
Colour	Red (625nm) - Cyan (505nm) and White (WHI) - Infrared (860nm)	
Number of LEDs	96	144
Mechanical		
Dimensions (external)	136 x 193 mm	197 x 257 mm
Height	Lighting part: 11 mm – Wiring part (with connectors): 31 mm	
Weight	360 g	550 g
Material	Aluminum & ABS	
Mounting/Fixing	2x M5 Screws	
Environment		
Operating Temperature	-10° to +40°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)	
Storage Temperature	-20° to +60°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)	
IP Protection	IP 65	
Labels	RoHS-CE-WEEE	

HOW TO BUILD YOUR PRODUCT REFERENCE

REQUIRED SETTINGS

MR	-	USEFUL DIMENSION	-	COLOUR	-	VERSION
		80		WIR		R RING
		130		RC		

EXAMPLES :

MR - RING 80mm white-IR LEDs ➡ **MR-80-WIR-R**
MR - RING 130mm red-cyan LEDs ➡ **MR-130-RC-R**

BINNING INFORMATION

TPL VISION IS EXTREMELY CAREFUL ABOUT BIN SORTING IN THE SELECTION OF LEDS FOR THEIR PRODUCTS.

Specifically for the Cyan series on this product, the human eye is very sensitive to colour variations. It may appear to the customer that they do not appear the same between two cyan LED products. Despite any noticeable differences, **the peak wavelength variation DOES NOT EXCEED 10NM**.

Here are the following bandpass camera filters we recommend to fit with the MR-RING:

- White LEDs: no filter required
- Infrared LEDs: LP 830 (http://midopt.com/filters/lp830/)
- Red LEDs: BP 635 (http://midopt.com/filters/bp635/)
- Cyan LEDs: BP 505 (http://midopt.com/filters/bp505/)

We advise using bandpass filters from MidOpt: **www.midopt.com**

OPTICAL TRIGGER

NO CABLE
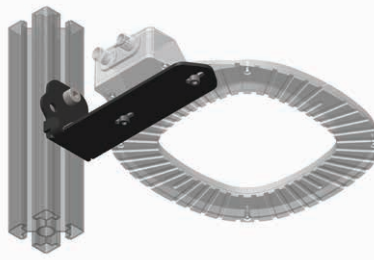**BETWEEN THE LIGHT & THE CAMERA !**

The **Optical Trigger** is an easy solution to connect the MR-RING to your smart camera, **without a wired connection**. Whenever the camera's **embedded light** is on, the Optical Trigger automatically sends a signal to the external light. Using the Optical Trigger, you can get a perfect **synchronization** of the MR-RING with the camera software very easily.

RELATED PRODUCTS

M12 female 8 pins cable
REMOTE CONTROL

3 meters	Ref: C-M12-8P-3M
5 meters	Ref: C-M12-8P-5M
10 meters	Ref: C-M12-8P-10M

M12 female 5 pins cable
POWER SUPPLY

2 meters	Ref: C-M12-5P-2M
5 meters	Ref: C-M12-5P-5M
10 meters	Ref: C-M12-5P-10M

M12 female / male 5 pins cable
MR-RING / OPTICAL TRIGGER

0.3 meters	Ref: RA-M12-FM-5P-0.3M

Mounting device

Ref: TPL-MOUNT-MR

OTHER VERSIONS

MR - LOW ANGLE

MR - DOME

Other available documents :
- PDF, DXF, STEP DRAWINGS (on demand)
- USER GUIDE

MR - RING

RoHS COMPLIANT CE