



## MR - LOW ANGLE

## A MODULAR RINGLIGHT ILLUMINATION

# INNOVATIVE LED ILLUMINATION WITH LOW ANGLE EFFECTS

## 2 SIZES

80<sub>mm</sub>

OR

**130<sub>mm</sub>**

## 2x2 COLOURS



WHITE - INFRARED  
(WHI - 860nm)

OR

R-C

RED - CYAN  
(625nm - 505nm)

## CONTROL

# manual

OR

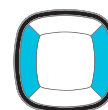
## remote



**IP65**



OVERDRIVE



## 4 QUADRANTS

The MR-LOW ANGLE is compound of a bi-colour LED lighting ring (2 sets of colours and 2 dimensions) and a low angle reflector, with an angle of incidence of 45°.

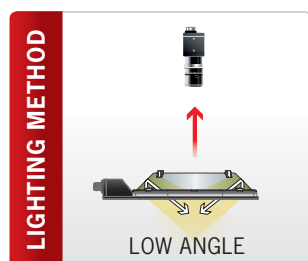
It has been designed with tough production environments in mind: IP65 as standard, overdrive embedded, simple remote control capability (selection of colours and quadrants).

It is used for applications where a direct light source is considered too harsh or bright but the diffused light provided by the Dome version is not enough intensity. The light source will provide some degree of homogeneity.

**LOW ANGLE REFLECTED LIGHT CAN BE USED WHEN:**

- the objects reflect some light but are not considered shiny,
- the target area of the objects is partially obstructed,
- the target area has some high-speed pattern matching requirements.

The MR-LOW ANGLE should be mounted close to the object of interest to maximise the effect of the illumination style. Moving it further away from the object will lower the light intensity recorded by the camera and weaken the effect of the coloured light and illumination style.



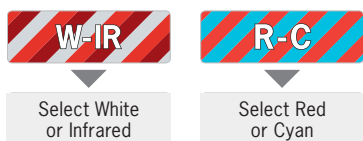
## MANUAL SETTINGS



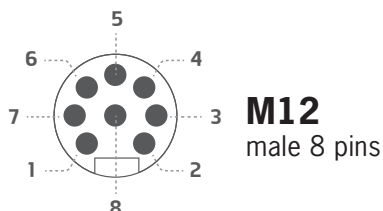
**SECTORS:** 3 configurations



**COLOURS:** 2 sets



## REMOTE SETTINGS



**M12**  
male 8 pins

- 1 Activate overdrive
- 2 Change colours
- 3 GND
- 4 Sector 1
- 5 Sector 2
- 6 Sector 3
- 7 Sector 4
- 8 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)
<b>Standard</b> (distance: 0 cm)	43	55	315	150	65	82	465	220
<b>Overdrive</b> (distance: 0 cm)	172	195	1 260	600	260	286	1 920	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. consumption WH-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	34.75 mm	45.25 mm
Weight	410 g	635 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
	80 130	WIR RC	LA LOW ANGLE

### EXAMPLES :

MR - LOW ANGLE 80mm white-IR LEDs → **MR-80-WIR-LA**  
MR - LOW ANGLE 130mm red-cyan LEDs → **MR-130-RC-LA**

## BINNING INFORMATION

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

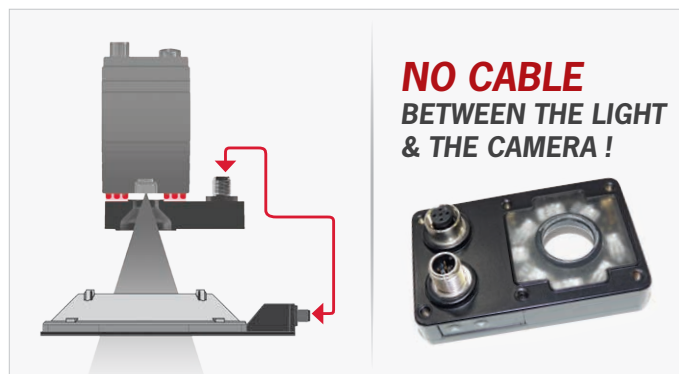
Specifically for the Cyan series on this product, the human eye is very sensitive to colour variations. It may appear to the customer that they do not appear the same between two cyan LED products. Despite any noticeable differences, **the peak wavelength variation DOES NOT EXCEED 10NM.**

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

- 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](http://www.midopt.com)


## OPTICAL TRIGGER



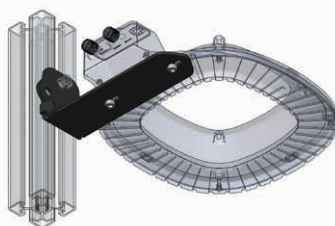
The **Optical Trigger** is an easy solution to connect the MR-LOW ANGLE to your smart camera, **without a wired connection**. Whenever the camera's **embedded light** is on, the Optical Trigger automatically sends a signal to the external light. Using the Optical Trigger, you can get a perfect **synchronization**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

MR - DOME

Features and presentations liable to modifications without prior notice. Ref.TS-060301-E1, 2022/03 Edition.

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### Other available documents :

- PDF, DXF, STEP DRAWINGS (on demand)
- USER GUIDE

MR - LOW ANGLE

