



MR - DOME

A MODULAR RINGLIGHT ILLUMINATION

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

INNOVATIVE LED ILLUMINATION WITH DOME EFFECTS

2 SIZES

80 mm

OR

130 mm

2X2 COLOURS



OR



CONTROL

manual

OR

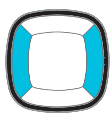
remote



IP65



OVERDRIVE



4 QUADRANTS

The MR-DOME is compound of a bi-colour LED lighting ring (2 sets of colours and 2 dimensions) and a dome reflector.

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

The MR-DOME provides a highly-diffused light source which has no component of direct lighting. The light intensity is lower than with other illumination techniques but will have a high degree of homogeneity.

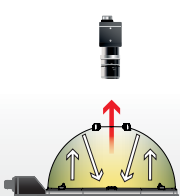
DOMES REFLECTED LIGHT CAN BE USED WHEN:

- objects are highly reflective (shiny),
- the target area is subject to shadowing with other light sources,
- the target area has some very un-even surfaces.

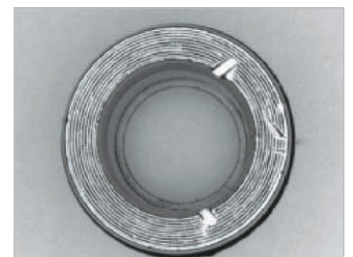
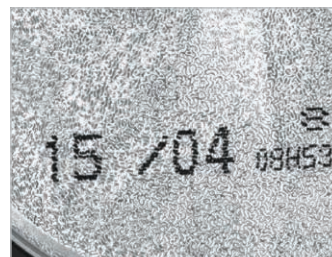
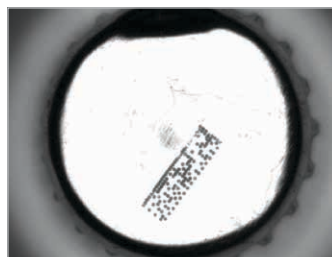
The MR-DOME should be mounted close to the object of interest to maximise the effect of the illumination style.

To minimise the «black dot» visible within the image, the diameter of the hole at the top of the dome should also be minimised. This can be done using the supplied plastic caps.

LIGHTING METHOD



DOMES



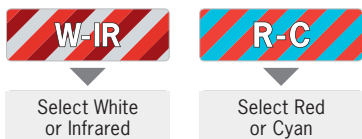
MANUAL SETTINGS



SECTORS: 3 configurations



COLOURS: 2 sets



Select White or Infrared

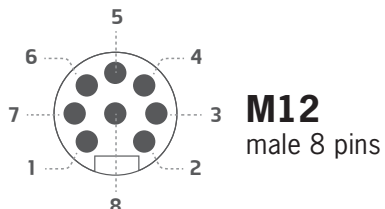
Select Red or Cyan



REMOTE control

MANUAL control

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)
Standard (distance: 0 cm)	43	55	315	150	65	82	465	220
Overdrive (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 WHHR	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	75 mm	106.75 mm
Weight	423 g	673 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	D DOME

EXAMPLES :

MR - DOME 80mm white-IR LEDs → **MR-80-WIR-D**
MR - DOME 130mm red-cyan LEDs → **MR-130-RC-D**

BINNING INFORMATION

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

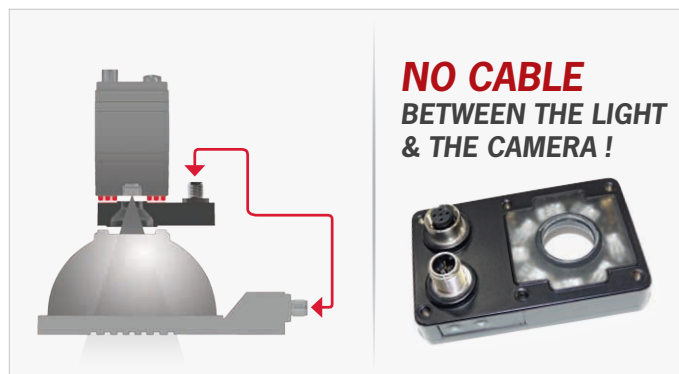
Specifically for the Cyan series on this product, the human eye is very sensitive to colour variations. It may appear to the customer that they do not appear the same between two cyan LED products. Despite any noticeable differences, **the peak wavelength variation DOES NOT EXCEED 10NM.**

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

- 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



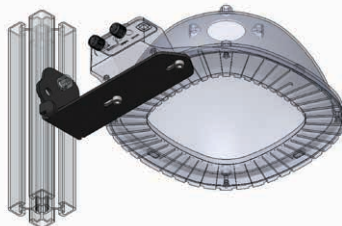
The **Optical Trigger** is an easy solution to connect the MR-DOME to your smart camera, **without a wired connection**. Whenever the camera's **embedded light** is on, the Optical Trigger automatically sends a signal to the external light. Using the Optical Trigger, you can get a perfect **synchronization**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



Features and presentations liable to modifications without prior notice. Ref.TS-050401-E1, 2022/03 Edition.

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Other available documents :

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

MR - DOME

