

MEDIUM FLAT MFDOME+ OVERDRIVE

FLAT DOME, POWERFUL LIGHT

▷ MACHINE VISION APPLICATIONS

▷ LED LIGHTING SYSTEM

▷ VERY DIFFUSE LIGHTING

▷ ULTRA-THIN BORDERS

▷ FIT CAMERA'S OBJECTIVES

POWERFUL FLAT DOME HOMOGENEOUS & EASY TO INCORPORATE



- ✓ powerful flat dome,
- ✓ ultra-thin borders,
- ✓ rising time: 25 μ s

Both powerful and very diffuse, the **Medium Flat MFDOME+ Overdrive** can deal with many machine vision applications. The Medium Flat MFDOME+ has been designed to detect small pieces in a container, to highlight thermoformed products or also to improve contrasts on workpieces made of several materials. It works in continuous and strobe mode, with very short rising and falling times: 25 μ s and 15 μ s.

Equipped with very thin borders, the new Medium Flat MFDOME+ uniformly illuminates from the whole useful surface, included from the edges. No hot spot

to notice ! Very thin, the Medium Flat MFDOME+ gets a hole in the middle to insert the camera's lens. The connector can be placed on any side of the Medium Flat MFDOME+, which can then be set up on any kind of conveyor belts. At the basis of the connector, 2 LED show if the product is powered and if the strobe mode is on.

The Medium Flat MFDOME+ is available in various wavelengths, and also in various dimensions. For specific sizes, that don't belong to the standard range, you can call TPL Vision for customized products.

OVERDRIVE VERSION

Equipped with specific electronics, it gives the opportunity for users to overdrive on their own the lighting power. The OVERDRIVE version is dedicated to specialists who want to customize the luminous flux very precisely, so as to get the most reliable results.

AVAILABLE COLOURS:



AVAILABLE DIMENSIONS

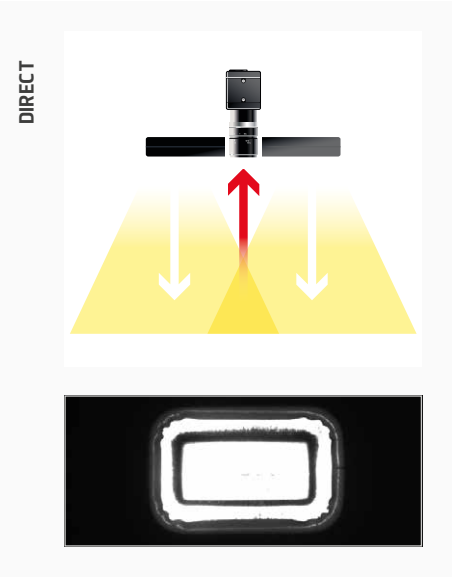
| MFDOME+ OVERDRIVE | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| LENGTH \ WIDTH | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 |
| 200 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 300 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 400 | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 500 | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| 600 | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| 700 | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 800 | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| 900 | | | | | | | | ✓ | | | | | | | | | | |

LIGHTING POWER

MFDOME+ OVERDRIVE

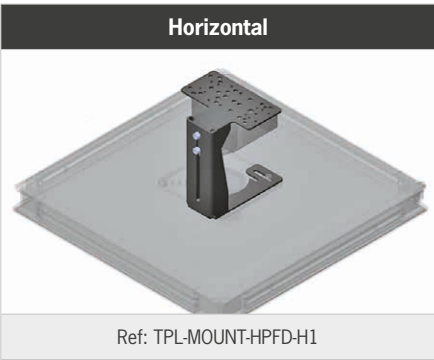
61 KLux

Lighting power measured on the diffusing plate – White LED colour.



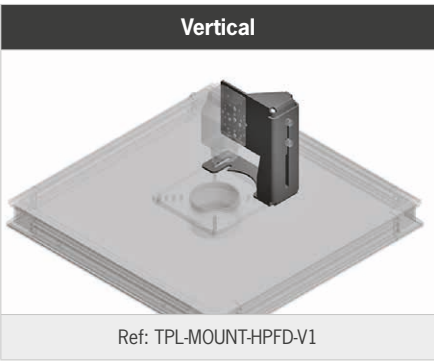
CAMERA MOUNTING BRACKET

Horizontal



Ref: TPL-MOUNT-HPFD-H1

Vertical



Ref: TPL-MOUNT-HPFD-V1



MOUNTING PLATE

TECHNICAL SPECIFICATIONS

| MFDOME+ OVERDRIVE | |
|--|---|
| Electronics | |
| Power supply | 24 VDC $\pm 10\%$ |
| Functioning mode | Continuous or strobe |
| Strobe input | PNP : From 5 to 24V for 100% ON. From 0 to 1V for 100% OFF. NPN : less than 1V for 100% ON. Above 2V for 100% OFF. Max 20V. |
| Overdrive | 61 KLux (Standard :32 Klux) |
| Strobe Conditions (On time, duty cycle) | 3ms @ 10% at max power |
| Dimming | Potentiometer 30-100% |
| Maximum rising time | 25 μ s |
| Maximum falling time | 15 μ s |
| Wiring | <div>Surface $\leq 0,25\text{m}^2$:</div> <div>1 connector M12 T-Power 12A 4 poles or 1 cable 4x1,5²</div> <div>0,25m² < Surface < 0,88m² :</div> <div>1 connector M12 T-Power 12A 4 poles and 1 cable 4x1,5²</div> |
| Power supply cable(s) max length | Wire M12 : 10m (not supplied) ; Cable : 10m |
| Max consumption | 3W/25cm ² in peak max 0,43W/25cm ² max on average (3ms@10%) |
| Optics | |
| Colour | White, Red, Green, Blue, Infrared |
| Mechanics | |
| Thickness | 45mm |
| Surface | Mini 200x200mm – Max surface 0,88m ² Max length 1,9m - Max perimeter 4,5m |
| Internal diameter | 65mm |
| Weight | 23.8 Kg/m ² $\pm 15\%$ |
| Body materials | Aluminum and loaded ABS |
| Diffuser | White PMMA |
| Fixing | 4 M4 nuts (supplied) to insert in the groove or 4 M4x20 screws (not supplied) |
| 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 50 |
| Information | |
| Labels | RoHS / CE / UKCA / WEEE |
| Country of Origin | Made in France |
| Tariff Number | 94054990 |

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

The human eye is particularly sensitive to color variations. Two products of the same color may appear different in the eyes of the user. However, **the maximum variation of the wavelength DOES NOT EXCEED 10 NM.**

Here are the following bandpass camera filters we recommend:

- 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

HOW TO BUILD YOUR REFERENCE

MFDOME

VERSION

O OVERDRIVE

L

LENGTH (CM)

20

30

40

50

60

70

80

90

100

110

120

130

140

150

160

170

180

190

W

WIDTH (CM)

20

30

40

50

60

70

80

90

COLOUR

WHI

630

525

470

850

WIRING 1

TYPE 1

M CONNECTOR M12

A CABLE 2.5 m

B CABLE 5 m

C CABLE 10 m

POSITION

1

2

3

4

WIRING 2

TYPE 2

A CABLE 2.5 m

B CABLE 5 m

C CABLE 10 m

POSITION

1

2

3

4

5

6

7

8

The first figure shall always be the biggest one.

The position of wiring 2 must be different from the position of wiring 1. It must be on a different corner and cannot be diagonally across the product, it must be on the same side profile.

WIRING

SURFACE ≤ 0.25M²

1 wiring

Connector M12 T-Power

OR

Cable 2.50m 5m 10m

0.25M² < SURFACE < 0.88M²

2 wirings

Connector M12 T-Power

+

Cable 2.50m 5m 10m

POSITION CHOICE

1 WIRING

Length L

Width W

1

2

3

4

Diffuser side overview

2 WIRINGS

Length L

Width W

1

2

3

4

5

6

7


8

Diffuser side overview

REFERENCE EXAMPLES:
MFDOME+ OVERDRIVE 80x50 cm Red LED Connector M12 T-Power position n°1 Cable 2.50 meters position n°3 ➔ **MFDOME-O-8050-630-M1A3**

RELATED PRODUCTS

M12 female T-POWER 4 pins cable



2 meters

Ref: C-M12-4P-T-2M

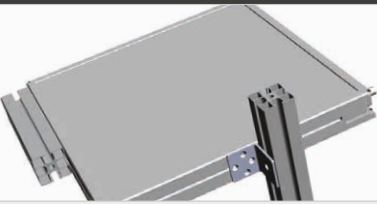
5 meters

Ref: C-M12-4P-T-5M

10 meters


Ref: C-M12-4P-T-10M

Light mounting bracket



Ref: TPL-MOUNT-HPB-SQUARE1

Safety glasses



Ref: EYE-PROTECT

Features and presentations liable to modifications without prior notice. Ref.TS-050302-A7, 2025/02 Edition.

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Other available documents :

- PDF, DWG, DXF, IGS, STEP & X_Y DRAWINGS
- USER'S GUIDE

