

# OPTIMOM

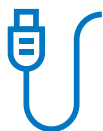
## TURNKEY OPTICAL MODULES FOR INSTANT INTEGRATION



Accelerate your development and focus on your true added value with Optimom™, a new range of turnkey optical modules that can be instantly integrated into embedded vision systems.

Optimom is a complete vision extension which comprises of a proprietary image sensor in either 1.5 or 2 Megapixels, a compact board, a standard FPC connector and full complementary lens in various options.

Comprehensive evaluation and development kits are available which enable straightforward and effortless validation and prototype design.



### MIPI CSI-2 Interface

#### Ideal for embedded processing boards

Standard FFC/FPC connector for plug-and-play connection



### Compact & Lightweight

#### All Optimom versions share the same design

25mm square footprint



### Included with or without a Lens

#### Three different M12 lens options

Multi Focus, Fix Focus, No lens



### Immediate Integration

#### Using the Development Kit

Including all the necessary hardware and Linux drivers



### 1.5 or 2 Megapixel Global Shutter

#### Proprietary CMOS image sensor

Low noise. High frame rate.  
On-the-fly configuration updates



### Multi Focus Option

#### For sharp images over wide distances

Wide aperture. Response time < 1ms.  
Easy control through I<sup>2</sup>C



## Easy to Integrate



### 2 lanes MIPI CSI-2 interface

- Matching embedded processing boards (e.g. NVIDIA, NXP)

### Standard FPC connector

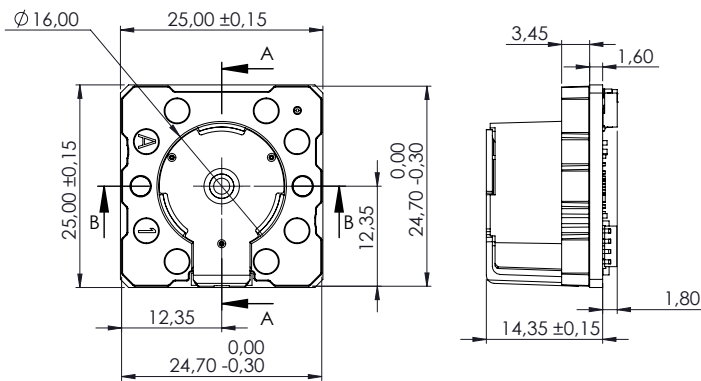
- 34-pin connector matching off-the-shelf cables of various lengths

### I<sup>2</sup>C protocol

- To control the image sensor and the optional Multi Focus lens

### Multiple triggers included

- For exposure control, ROI switch and flash output



### A single mechanical outline and connector

- Enabling a unique design to cover all Optimom versions

### Compact & lightweight design

- 25 mm square footprint. <14.4 mm height. < 8 g weight.

### M12 compatible

- To fit with various affordable lenses

### Wide operating temperature

- Up to 85°C to resist even in harsh conditions

## Created by Image Sensor Experts

As an image sensor manufacturer, Teledyne e2v relies on its long-term expertise to provide solutions that leverage image sensor features, while ensuring an optimum combination with optics.

### Proprietary 1.5 or 2 Megapixel image sensor

- Featuring our latest Topaz 1.5M or 2M CMOS sensor

### Eliminate motion blur

- State-of-the-art global shutter technology

### Excellent low-light SNR performance

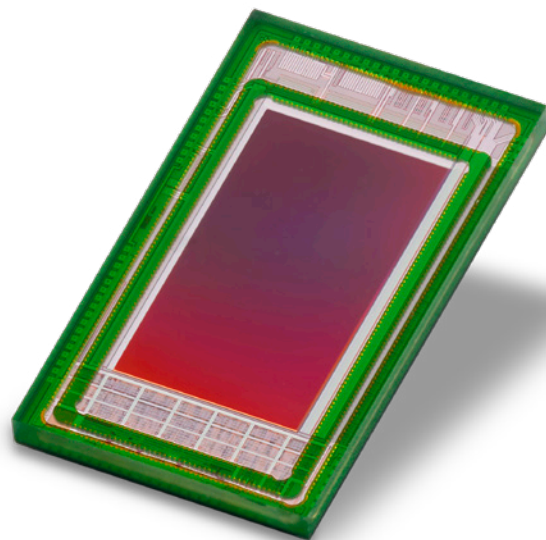
- Low noise image sensor design

### High frame rate for increased throughput

- 1920 x 800 resolution at up to 130 fps (1.5M version)
- 1920 x 1080 resolution at up to 100 fps (2M version)

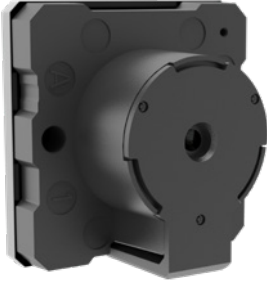
### On-the-fly configuration updates

- Using dedicated on-chip features



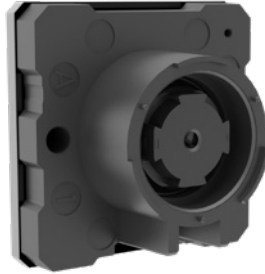
## Optics Tailored to Your Needs

### Option 1: Multi Focus Lens



Capture sharp images over wide distances without compromising on sensitivity

### Option 2: Fix Focus Lens



Save the time and effort of selecting, assembling & focusing a lens

### Option 3: No Lens



The flexibility to tailor the lens to your needs at any time

PARAMETERS	
F# (aperture)	F/4.0
Working distance	20 cm to infinity
Pixel pitch	2.5 $\mu$ m
Field Of View	45° (H)   20° (1.5M) 45° (H)   26° (V) (2M)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

PARAMETERS	
F# (aperture)	F/4.0
Focal length	5.4 mm
Pixel pitch	2.5 $\mu$ m
Field Of View	45° (H)   20° (1.5M) 45° (H)   26° (V) (2M)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

PARAMETERS	
Lens mount	M12 P 0.5
Image size	1/3.2" (5.20 mm)
Pixel pitch	2.5 $\mu$ m
Image sensor CRA	13° (1.5M) 14° (2M)

## Innovative Multi Focus



### Unique technology

- Teledyne e2v's proprietary solution

### High sensitivity

- Wide F/4.0 aperture to maximize light capture

### Low power

- < 200 mW for all Optimom modules

### Fast focus adjustment

- Response time < 1ms

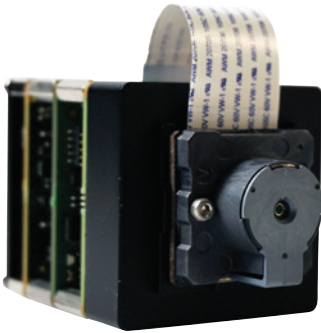
### Easy control

- Through FFC/FPC connector and I<sup>2</sup>C lane

### Reliable solution

- Resistant to temperature and electromagnetic effect

## Evaluation Kit



### THE PERFECT SOLUTION FOR INDEPTH EVALUATION

The Evaluation Kit enables you to easily assess the electro-optical performances of any Optimom 1.5M or 2M module using any laptop with a USB 3 interface. Its camera-like architecture makes it perfect for end-user demos and proof of concepts.

### COMPREHENSIVE KIT INCLUDING:

- Evaluation camera kit
- Power supply
- Cabling (FFC, USB C, Hirose)
- Evaluation software

**Order the module of your choice (separately), plug the FFC cable, and start evaluation immediately!**

## Development Kit

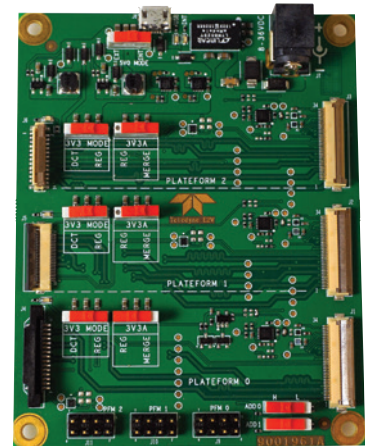
### FOR IMMEDIATE INTEGRATION INTO YOUR SYSTEM

The Development Kit contains all the necessary hardware and drivers to enable any Optimom 1.5M or 2M module to be directly integrated into the rest of your system. Only a few clicks and hookups are needed to get the first images!

### COMPREHENSIVE KIT INCLUDING:

- Adapter board to processing boards
- All necessary FPC cables
- Tripod
- Power supply
- Video4Linux drivers (e.g. NVIDIA Jetson, NXP i.MX)

Contact us for more details on the supported hardware & software platforms.



ORDER CODES	OPTIMOM 1.5M		OPTIMOM 2M	
	B&W 1.5M	COLOR 1.5M	B&W 2M	COLOR 2M
<b>No lens</b>	EV2M1M5B-PM2N000-B	EV2M1M5C-PM2N000-B	EV2M02MB-PM2N000-B	EV2M02MC-PM2N000-B
<b>No lens with IR-cut filter</b>	EV2M1M5B-PM2I000-B	EV2M1M5C-PM2I000-B	EV2M02MB-PM2I000-B	EV2M02MC-PM2I000-B
<b>Fix Focus lens</b>	EV2M1M5B-PM2F000-B	EV2M1M5C-PM2F000-B	EV2M02MB-PM2F000-B	EV2M02MC-PM2F000-B
<b>Auto Focus lens</b>	EV2M1M5B-PM2M000-B	EV2M1M5C-PM2M000-B	EV2M02MB-PM2M000-B	EV2M02MC-PM2M000-B

### ORDER CODES - KITS (Suitable for all Optimom products)

<b>Evaluation Kit</b>	EV2E0MG01-U3000-U
<b>Development Kit</b>	EV2D0MG01-FJAT11-U