

OPTIMOM 2M

TURNKEY OPTICAL MODULES FOR INSTANT INTEGRATION



Accelerate your development and focus on your true added value with Optimom™ 2M, a new range of turnkey optical modules that can be instantly integrated into embedded vision systems.

Optimom 2M is a complete vision extension which comprises of a proprietary image sensor, a compact board, a standard FFC/FPC connector and full complementary lens, available 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



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 I²C



Easy to Integrate



2 lanes MIPI CSI-2 interface

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

Standard FPC connector

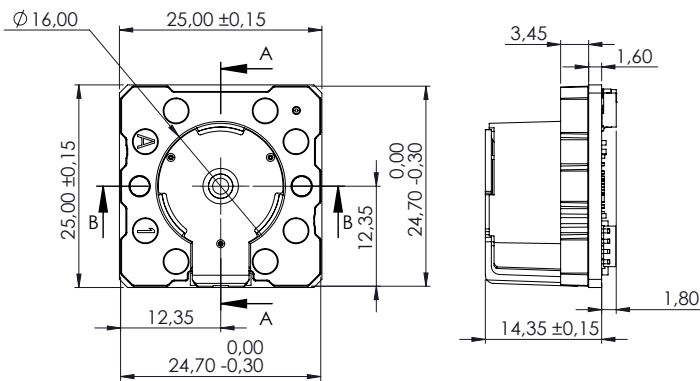
- 34-pin connector matching off-the-shelf cables of various lengths

I²C protocol

- To control the image sensor and the optional Multi Focus lens and access the modules temperature sensor and EEPROM memory

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. 7.9 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 optimum combination with optics.

Proprietary 2 Megapixel image sensor

- Featuring our latest Topaz 2M CMOS sensor

Eliminate motion blur

- State-of-the-art global shutter technology

Excellent low-light SNR performance

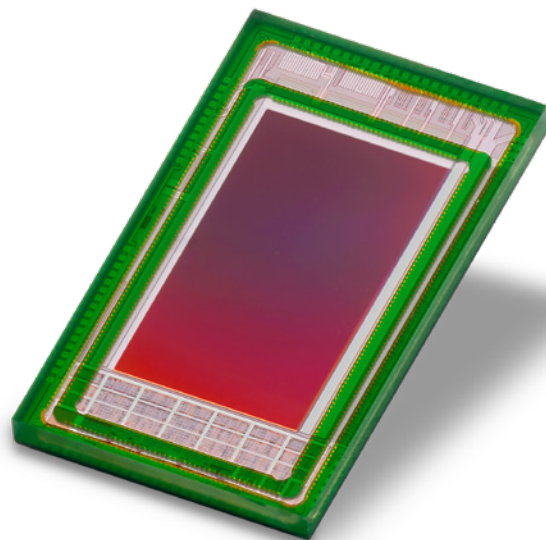
- Low noise image sensor design

High frame rate for increased throughput

- Up to 100 fps at full 1920 x 1080 resolution

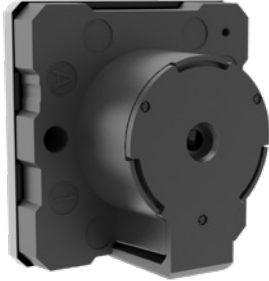
On-the-fly configuration updates

- 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	10 cm to infinity
Pixel pitch	2.5 μm
Field Of View	45° (H) 26° (V)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

PARAMETERS	
F# (aperture)	F/4.0
Focal length	5.9 mm
Pixel pitch	2.5 μm
Field Of View	45° (H) 26° (V)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

PARAMETERS	
Lens mount	M12 P 0.5
Image size	1/3.2" (5.51 mm)
Pixel pitch	2.5 μm
Image sensor CRA	14° (diagonal)
IR cut-off (650 nm)	Optional

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 Optimom 2M Multi Focus

Fast focus adjustment

- Response time < 1ms

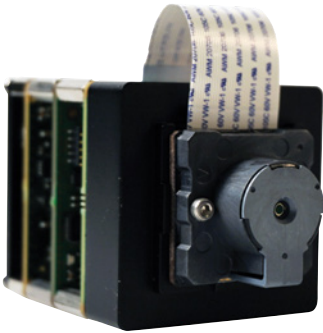
Easy control

- Through FFC/FPC connector and I²C 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 Optimom 2M modules 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 GUI software and SDK

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

Development Kit

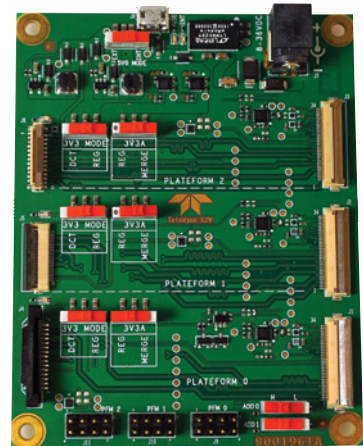
FOR IMMEDIATE INTEGRATION INTO YOUR SYSTEM

The Development Kit contains all the necessary hardware and drivers to enable the Optimom 2M optical modules 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 FFC cables
- Tripod
- Power supply
- V4L2 compliant camera drivers (e.g. NVIDIA Jetson, NXP i.MX)

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



ORDER CODES – OPTIMOM 2M

	B&W	COLOR
No lens	EV2M02MB-PM2N000-B	EV2M02MC-PM2N000-B
No lens with IR-cut filter	EV2M02MB-PM2I000-B	EV2M02MC-PM2I000-B
Fix Focus lens	EV2M02MB-PM2F000-B	EV2M02MC-PM2F000-B
Auto Focus lens	EV2M02MB-PM2M000-B	EV2M02MC-PM2M000-B

ORDER CODES – KITS

Evaluation Kit	EV2E0MG01-U3000-U
Development Kit	EV2D0MG01-FJAT11-U