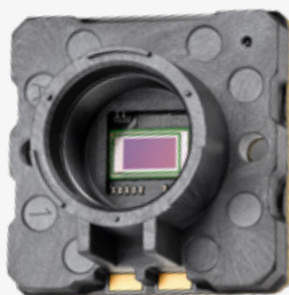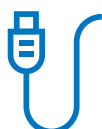# OPTIMOM
TURNKEY OPTICAL MODULES FOR INSTANT INTEGRATION

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 I²C

Easy to Integrate

2 lanes MIPI CSI-2 interface
• Matching embedded processing boards (e.g. NVIDIA, NXP)

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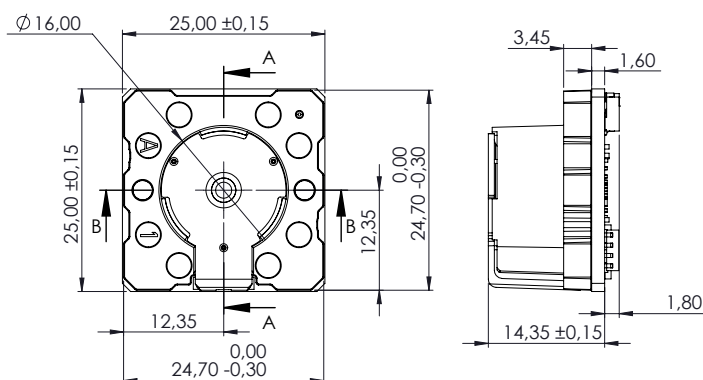• 34-pin connector matching off-the-shelf cables of various lengths

I²C protocol
• To control the image sensor and the optional Multi Focus lens

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
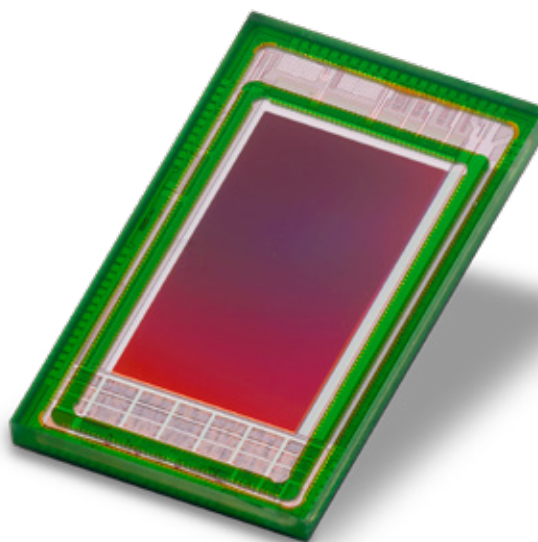
Excellent low-light SNR performance
• Low noise image sensor design

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
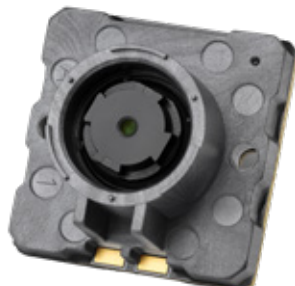
Optics Tailored to Your Needs

Option 1: Multi Focus Lens

Capture sharp images over wide distances without compromising on sensitivity

PARAMETERS	
F# (aperture)	F/4.0
Working distance	10 cm to infinity (1.5M) 20 cm to infinity (2M)
Pixel pitch	2.5 µm
Field Of View	45° (H)	20° (1.5M) 45° (H)	26° (V) (2M)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

Option 2: Fix Focus Lens

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

PARAMETERS	
F# (aperture)	F/4.0
Focal length	5.4 mm (1.5M) 5.9 mm (2M)
Pixel pitch	2.5 µm
Field Of View	45° (H)	20° (1.5M) 45° (H)	26° (V) (2M)
Distortion	< 3.6%
IR cut-off (650 nm)	Yes

Option 3: No Lens

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

PARAMETERS	
Lens mount	M12 P 0.5
Image size	1/3.2" (5.20 mm)
Pixel pitch	2.5 µm
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

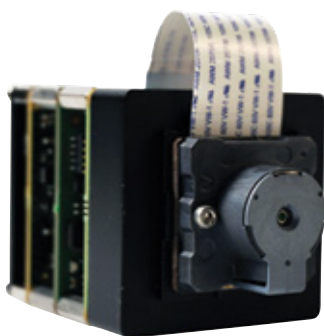**Fast focus adjustment**
- Response time < 1ms

Easy control
- Through FFC/FPC connector and 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 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.
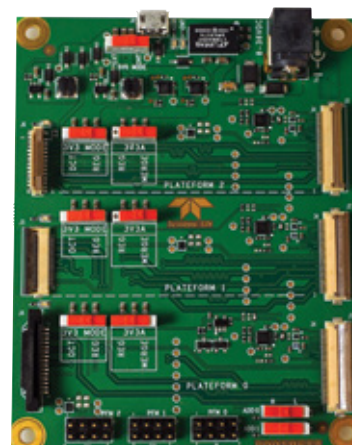
ORDER CODES	OPTIMOM 1.5M		OPTIMOM 2M	
	B&W 1.5M	**COLOR 1.5M**	**B&W 2M**	**COLOR 2M**
No lens	EV2M1M5B-PM2N000-B	EV2M1M5C-PM2N000-B	EV2M02MB-PM2N000-B	EV2M02MC-PM2N000-B
No lens with IR-cut filter	EV2M1M5B-PM2I000-B	EV2M1M5C-PM2I000-B	EV2M02MB-PM2I000-B	EV2M02MC-PM2I000-B
Fix Focus lens	EV2M1M5B-PM2F000-B	EV2M1M5C-PM2F000-B	EV2M02MB-PM2F000-B	EV2M02MC-PM2F000-B
Auto Focus lens	EV2M1M5B-PM2M000-B	EV2M1M5C-PM2M000-B	EV2M02MB-PM2M000-B	EV2M02MC-PM2M000-B

ORDER CODES - KITS (Suitable for all Optimom products)	
Evaluation Kit	EV2EOMG01-U3000-U
Development Kit	EV2DOMG01-FJAT11-U