

OPTIMOM FAMILY

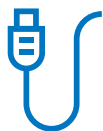
Turnkey Imaging Modules for Instant Integration



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

Optimom modules directly interface with your vision platform using a MIPI CSI-2 interface. This flexible solution offers various key features: multi focus or 5D vision (2D image + 3D depth data). A lens customization service is also available.

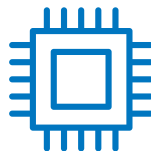
To enable straightforward validation and prototyping, evaluation and development kits combined with specific drivers are available, as well as 3D vision SDK's.



MIPI CSI-2 Interface

Ideal for embedded processing boards

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



1.5M, 2M, 5D Global Shutter

Proprietary CMOS image sensor

Low noise. Low power.
On-the-fly configuration updates



2D + 3D Capability

**For 3D vision at short distances
without occlusion**

Factory calibrated. 5D SDK for
Qualcomm or Nvidia platforms



Immediate Integration

Using the Development Kit

Including connectivity boards
and Linux drivers



A Single R&D Effort

**All Optimom versions share the
same footprint**

Full software compatibility



Multi Focus

For sharp images at any distance

Response time < 1ms.
Easy control through I²C



OPTIMOM 5D



CUSTOMER CHALLENGES

3D vision system simplification at lower cost

3D vision at short distance

Easy interface with embedded vision platforms

BENEFITS OF THE OPTIMOM 5D

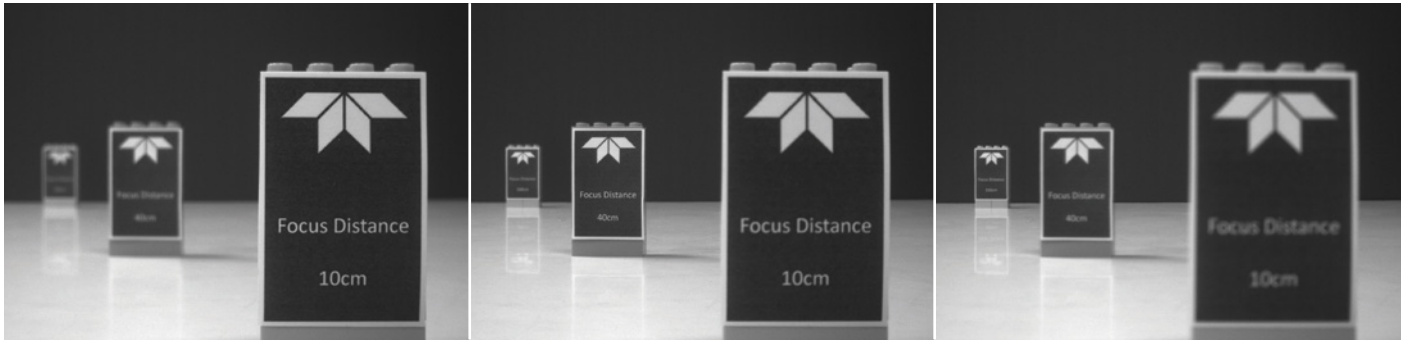
No additional lighting needed
 Ready to integrate; already focused & calibrated

No occlusion limitations

MIPI connector interface
 Drivers and processing SDK available for
 selected platforms

PARAMETERS	OPTIMOM 5D MONO (Topaz5D Sensor Inside)
Resolution (pixels)	2D image: 1920 (H) x 1080 (V) 3D depth map processing: 480 x 270
Working distance range (cm)	30 to 130
Focus point (cm)	50 cm; fixed focus
FoV (°)	48° Diagonal
3D Calibration	Provided by Teledyne e2v
Readout noise (Topaz5D sensor) (e- @ 25°C, 10 bits)	3.5
Max frame rate (fps)	2D image: 65 fps (10 bits) 3D depth map: depends on processing platform
Operating temperature (°C)	-40°C / +85°C (at sensor level)
Power consumption (max frame rate) (mW)	< 220 mW; depending on fps
Mipi connector	34-pins; 0.5 mm pitch
Dimension (mm)	25 (L) x 25 (l) x 25 (H)
Options	Color; lens customization (M12 mount)

OPTIMOM MULTI FOCUS


Optimom M-F focus at 10 cm
Optimom M-F focus at 40 cm
Optimom M-F focus at 100 cm

CUSTOMER CHALLENGES

- Addressing opto-mechanical factors, including the lens' focal point and depth of field
- Seamless interfacing with embedded vision platforms
- Accelerating time-to-market
Offering a flexible solution with standardized hardware

BENEFITS OF THE OPTIMOM MULTI FOCUS

- Multi focus/auto focus capability due to the MEMS integration which provides an enlarged depth of field
- MIPI connector interface
Drivers available for selected SoC processors
- Easy integration of hardware
Full access to sensor settings; the same design for all versions of the Optimom module

PARAMETERS	OPTIMOM 2D MULTI FOCUS (Topaz Sensor Inside)
Resolution (pixels)	2M: 1920 (H) x 1080 (V) 1.5M: 1920 (H) x 800 (V)
Working distance range (cm)	10 cm to infinity
FoV (°)	2M: 45° (H) x 26° (V) 1.5M: 45° (H) x 20° (V)
Distortion (%)	<3.6
Focus response time (ms)	<1; with possibility of focus adjustment frame by frame
Readout noise (Topaz sensor) (e- @ 25°C, 10 bits)	3.5
Max frame rate (fps)	2M: 65 fps (10 bits) to 100 fps (8 bits) 1.5M: 85 fps (10 bits) to 130 fps (8 bits)
Operating temperature (°C)	[-20 ; +85]
Power consumption (max frame rate) (mW)	< 220 mW
Mipi connector	34-pins; 0.5 mm pitch
Dimension (mm)	25 (L) x 25 (l) x 14,4 (H)
Options	No lens; fixed focus lens (5.9 mm; F/4.0); Color lens customization (M12 mount)

Evaluation Kit



THE PERFECT SOLUTION FOR COMPLETE EVALUATION

The Evaluation Kit enables you to easily assess the electro-optical or 3D vision performance of any Optimom module using a laptop with a USB 3 interface. Its camera-like form factor is suitable 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

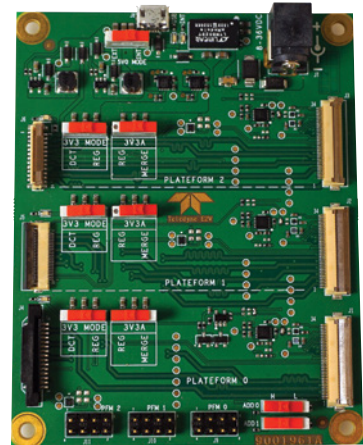
FOR FASTER DEVELOPMENT OF SYSTEM SOFTWARE

The Development Kit contains connectivity boards and drivers to enable any Optimom 1.5M or 2M module to be directly interfaced into your software environment.

COMPREHENSIVE KIT INCLUDING:

- Adapter board to various vision platforms (NVIDIA, NXP, QUALCOMM)
- All necessary FPC cables
- Module holder
- Power supply
- Video4Linux drivers
- 5D SDK for 3D vision support available on selected SoC platforms and Windows computers

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



ORDER CODES – OPTIMOM 5D

MONO 5D	COLOR 5D
EV5M02MB-PM2F202-B	EV5M02MC-PM2F201-B

ORDER CODES – KITS (Suitable for all Optimom products)

Evaluation Kit	EV2EOMG01-U3000-U
Development Kit NVIDIA, NXP	EV2DOMG01-FJAT11-U

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
Fixed Focus lens	EV2M1M5B-PM2F000-B	EV2M1M5C-PM2F000-B	EV2M02MB-PM2F000-B	EV2M02MC-PM2F000-B
Multi-focus/Auto-focus lens	EV2M1M5B-PM2M000-B	EV2M1M5C-PM2M000-B	EV2M02MB-PM2M000-B	EV2M02MC-PM2M000-B