



# Imaging Modules

Plug & Play imaging and micro-vision devices  
for system integrators and machine manufacturers

Designed, manufactured and tested in Germany to the highest optical standards.



## Imaging Modules

Opto Imaging Modules are compact 'plug and play' imaging devices that feature an optimized combination of onboard camera, optics, illumination and integrated electronics that together deliver high quality repeatable images, first time, every time.

With onboard optics, high end imaging sensor and embedded electronics, the Opto IM series provides machine builders and system integrators with a perfectly designed 'all in one' vision module configured precisely to even the most demanding imaging application.

The Opto IM Series is designed for high reliability, consistent imaging performance, making it the ideal choice for Industry 4.0 and deep learning applications within instrumentation and systems manufacture.

Delivered with its own viewing software, SDK package, and with all factory calibration data securely embedded onboard each module, integration and setup is simple.

- Perfect combination of integrated optics, sensors and lighting - tested and optimally calibrated by specialists
- Significant shortening of system development times for machine builders and integrators
- Camera architecture provides easy, seamless connectivity to virtually any image processing package
- One image module for one image task. Thus continuously repeatable imaging performance and guaranteed reproducibility in the application



One Unit  
One Wire  
Plug and Play

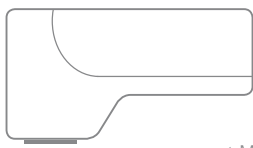
Seamlessly integrated,  
perfectly optimised optic  
to sensor interface



4 form factors, countless variations



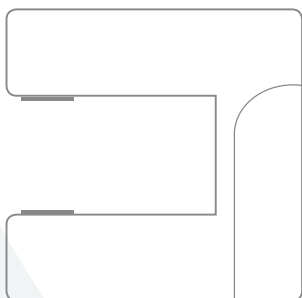
linea S



compact M



linea M



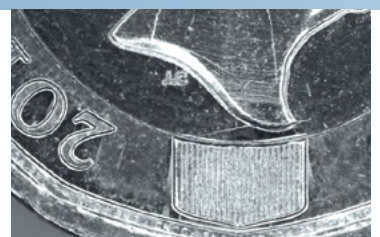
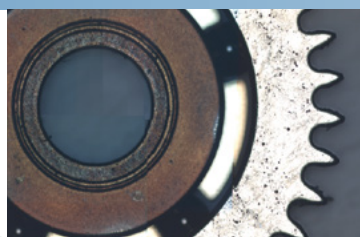
profile M

- Ultra-compact form factors for easy integration, robust and clear aluminum design
- Lenses and sensor integrated, no additional objectives necessary
- optimized, fixed magnification factors
- Sony Pregius 3 MP and 5 MP sensor, monochrome and color
- Only one cable from the module (USB 3.1w / USB-C)
- Innumerable variants and lighting versions

IM linea S:	WD 3000 - 1000 mm	FoV 55 x 40 - 307 x 230 mm
IM linea M:	WD 87 - 202 mm	FoV 7 x 5 - 28 x 23 mm
IM compact M:	WD 87 - 202 mm	FoV 7 x 5 - 28 x 23 mm

WD = Working Distance FoV = Field of View

To identify the right imaging module for your application, we have provided an easy-to-use online configurator.



Digital microscope with integrated illumination and profile projector



## Machine Vision Microscope

This ultra-compact USB 3.1 digital microscope with integrated multi mode LED illumination delivers high magnification, high resolution images for many high magnification imaging applications – from system embedded metallography to stand alone compact inspection.

With its very compact form factor, and a perfectly optimized embedded optical, illumination and imaging system, this module is ideal for machine and system integration,

The integrated dual mode illumination system consists of independently controllable LED ringlight and coaxial LED, making it extremely effective in resolving surface structures and features of objects in both industrial and biomed applications.

The ideal module for microscopic image analysis

## Profile Projector

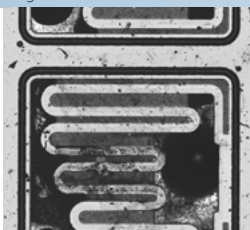
The Profile Projector IM is a compact all in one telecentric imaging & projection module that delivers a distortion free, perfectly telecentric profile image of a component.

With its high magnification, the Profile Projector module is especially suited to performing profile measurement of needles, implants, special micro screws or micro tools.

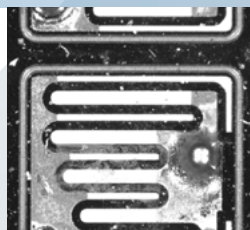
Its highly compact design makes it suited to a variety of integration possibilities, including inline integration, robot arm integration or deep machine integration.

Ultra compact telecentric module for online measurement.

Brightfield



Darkfield



Color sensor

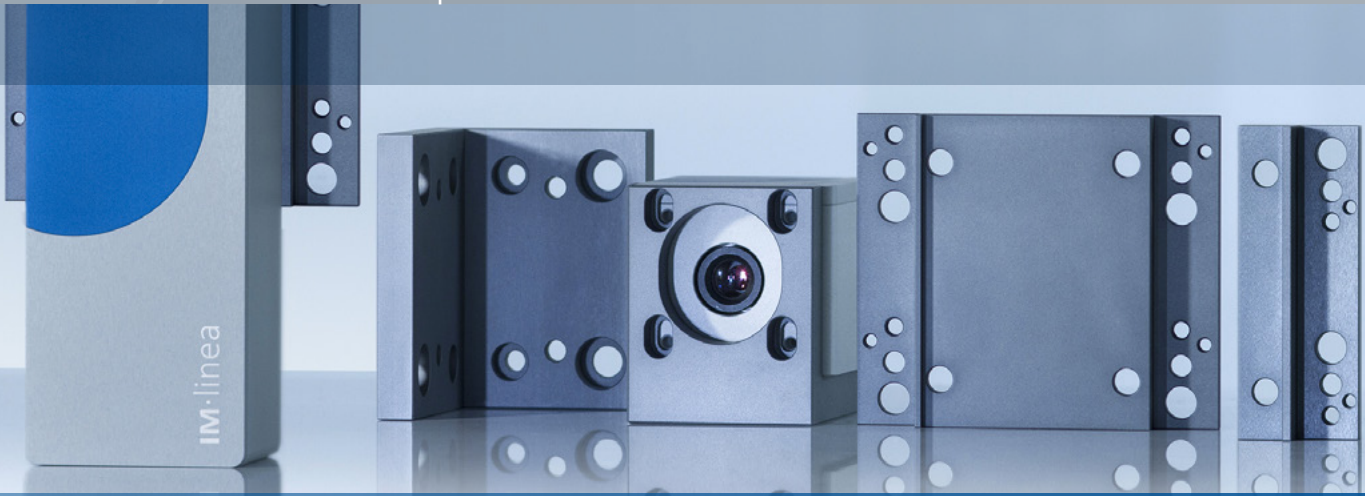


Profile image





Simple form factors, thousands of variants,  
simple integration.



## Lighting

The Opto Imaging Modules of the 'IM-linea M' and IM-compact M series' are optionally available with an integrated, diffuse LED ring light illumination or a coaxial incident light illumination. This results in innumerable other combinations and for the customer pre-configured and optimized application solutions. Control and power supply can also be guaranteed here using the module-typical 'one wire' principle. This eliminates the need for a complex combination of different individual components when interacting with the respective machine environment. Of course, all modules are compatible with external ring light elements.

Both illumination variants (dark field and bright field) are integrated and separately controllable in our machine vision microscope.

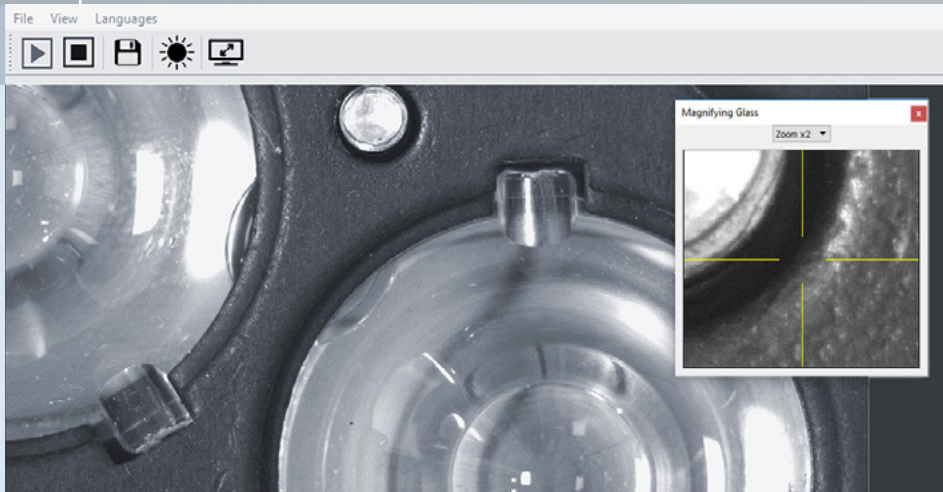
## Mounting

In addition to the integrated mounting threads, different static or adjustable adapters, mounting plates and mounting brackets are available for each housing shape. This enables easy adaptation according to your mounting preference.

We can offer you a selection of tripods for individual applications. You can find them in our 'Microscope Accessories' catalogue.



Image Capture with an Imaging Module reduced Simplicity  
Start | Stop | Save | Brightness



## Software-Integration

Each imaging module is delivered with the "Opto Viewer" software package, providing easy illumination adjustment and one-click image storage.

For power users and system integrators, an advanced camera mode can be activated, enabling professional level configuration.

A compact measurement and labeling tool is also included for stand-alone, end user applications.

The imaging modules are designed with vision software developers in mind, with broad optimization to leading vision libraries including Halcon, Vision Builder NI and Open CV.

For every application you will find a module that can be controlled with the same software interface, that delivers the same perfect image quality for the respective application.

**Perfect hardware for software developers.  
One module for one application**

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