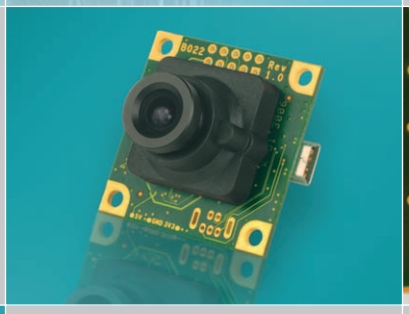
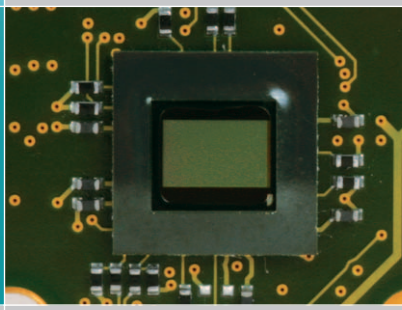
ENGLISH VERSION

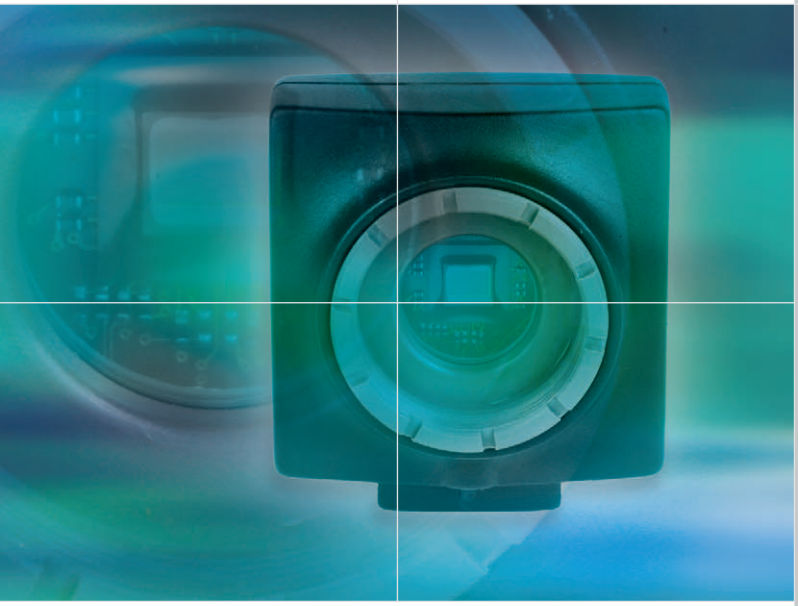




uEye®LE

Your imagination is our challenge

As Little as Possible,
as Much as Necessary



The uEye®LE series

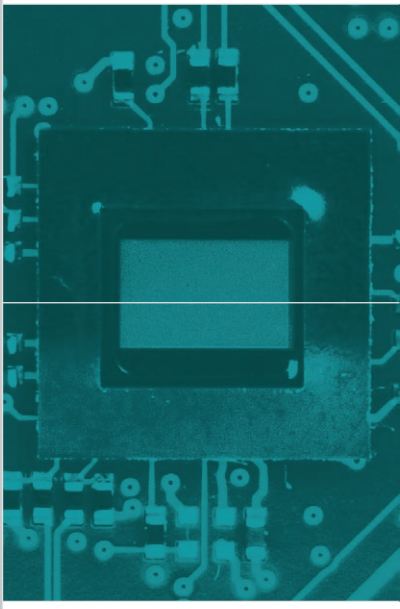
The uEye®LE stands for a family of extremely compact, cost efficient cameras for professional use. The LE models are designed for a wide range of applications.
Through the use of the widespread USB technology the cameras can be interfaced with a vast variety of systems without problems.

Modern sensorics

uEye®LE cameras feature a range of high-performance CMOS sensors. The product range includes several models with Wide VGA resolution and a maximum of 87 full frames per second, as well as a high-resolution 5-megapixel camera.

Features at a glance

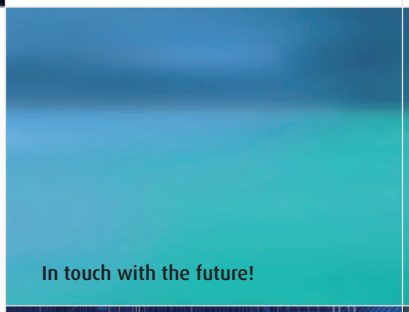
- Universal use with PC, notebook, IPC and embedded systems with USB 2.0
- Monochrome and color models
- Resolutions from WVGA (752 x 480) to 5 megapixels (2560 x 1920)
- High-quality CMOS sensors
- Up to 87 full frames/sec., over 1000 frames/sec. with AOI
- One universal driver and one SDK for the entire camera family
- Camera control and power supply via the USB bus
- Back focus adjustment
- Models with CS-mount and S-mount lens connection, C-mount via adapter
- Powerful SDK for Windows 2000/XP/Vista and Linux
- DirectDraw support, ActiveX, TWAIN and Direct Show (WDM) drivers
- Interfaces for popular image processing software available: e.g. ActivVisionTools, Common Vision Blox, HALCON, LabView, Neurocheck, etc.
- Boardlevel models with digital in and outs (TTL compatible)



uEye® Solutions for...

Microscopy

The complex area of microscopy places special requirements on the cameras used. The LE models are optimally customized for these application conditions – in both efficiency and functionality.



In touch with the future!

In the service of security

Security technology

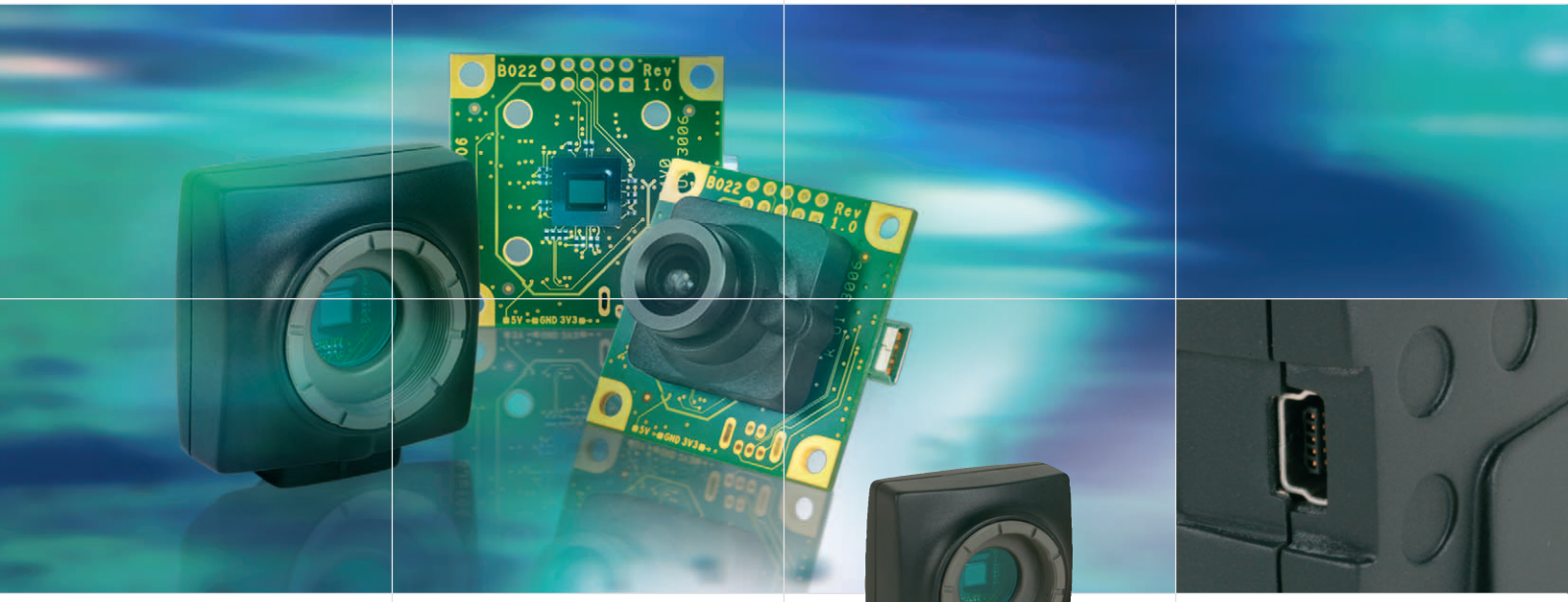
The universal USB interface, the high resolutions and the individual project-related customization possibilities make the uEye®LE interesting also for security-relevant areas. Models with microlens technology allow integration in minimum space.

Extended applications

The uEye®LE models offer the platform for new application areas beyond classical industrial image processing. Just take the contactless human-machine interface, for example.
Contact us to discuss your specific requirements.

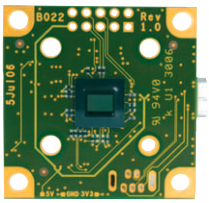
For possible applications of our products please visit:
www.ids-imaging.com/casestudies

uEye®LE Housing Variants



uEye®LE camera with
CS-mount lens adapter
44 x 44 x 25.4 mm (W x H x D)
Weight: 32 g

uEye®LE OEM 1 camera with
S-mount lens adapter
36 x 36 x 20 mm (W x H x D)
Weight: 12 g



uEye®LE OEM 2 camera
without lens adapter
36 x 36 x 8 mm (W x H x D)
Weight: 8 g

The right outfit for any occasion

The uEye®LE series comes in different variants with or without housing. The CS-mount lens adapter of the housing model allows the use of compact, low-cost lenses. With the optional distance adapter you can also use C-mount lenses. The board-level variants of the cameras provide S-mount lens adapters for M12/ M14 screw-mounted lenses, which achieve a slimmer profile.
Consequently the USB connector has been moved to the camera side.

The LE models can also be used as the basis for special project-related designs. Contact us!

Easy Integration
Thanks to Comprehensive Software

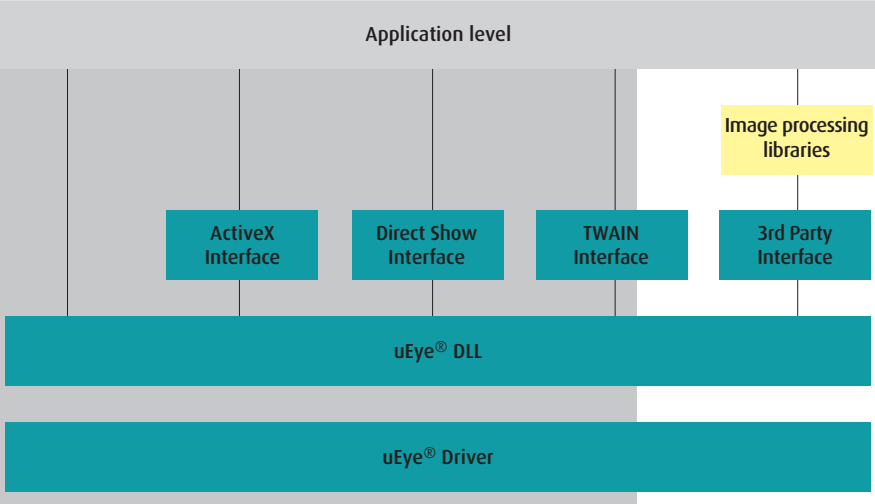
Individual integration

How your uEye® camera is to be integrated into your system is up to you alone. Our cameras ship with a free comprehensive software package, including drivers for Windows and Linux. Interfaces for various image processing packages, standard drivers such as Direct Show (WDM) as well as our Software Development Kit (SDK) allow individual integration in minimum time.

Future proof

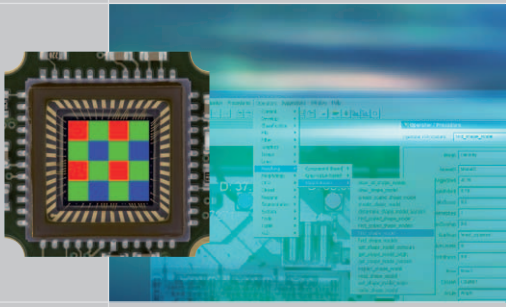
The modular uEye® concept is also reflected in our software: The camera loads all the necessary drivers only after it has been connected. This allows enhancing the functionality also for already installed cameras through regular updates.

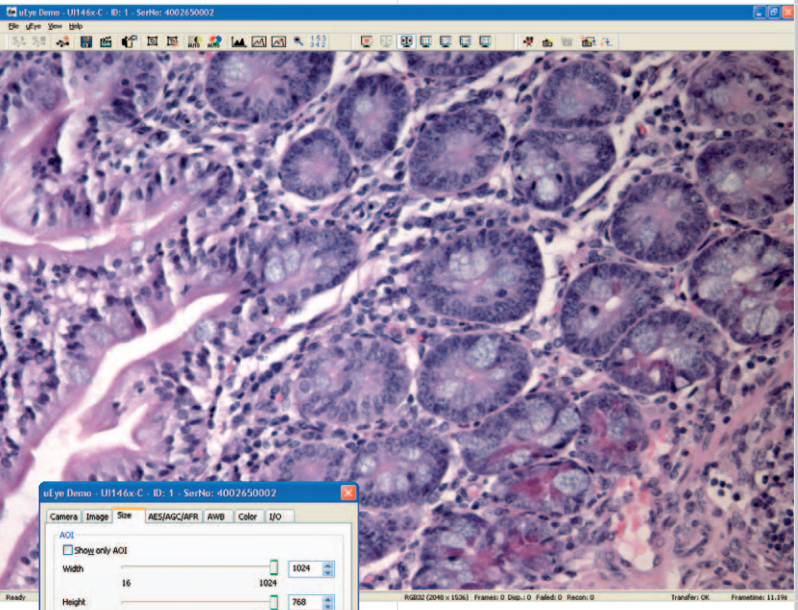
To ensure that our cameras are not larger than necessary, the data are further processed, or post-processed, in the PC.

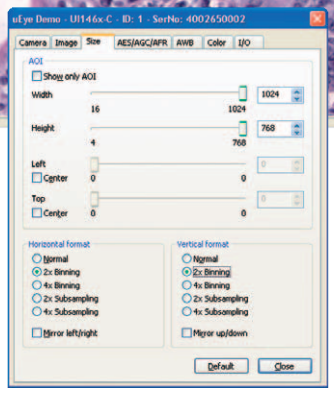


■ Component of the uEye® software package

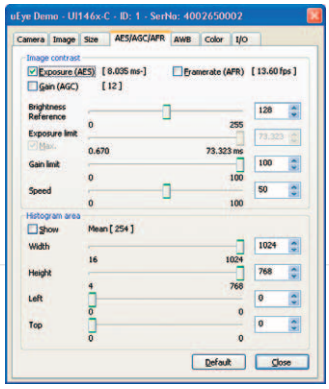
The Second Half of the Camera



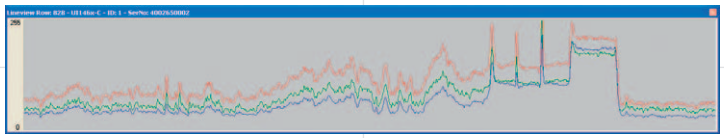




Sample programs and the uEye® demo program in source code serve as a programming model and allow quick integration



Finding the right settings and acquiring the first image without a line of code – with the help of the uEye® demo program



Bandwidth Management

The USB bus allows dynamic bandwidth assignment to each connected device. This means that one camera alone can use the entire bus. With additional cameras connected, the bandwidth can be divided up as required. For this purpose the uEye® USB cameras offer a freely selectable pixel clock. Long-term exposure as well as the acquisition of up to 1,000 frames per second are also possible.

Flexible Camera Integration

With over 100 functions the uEye® Software Development Kit (SDK) gives you all the possibilities to integrate the camera under C++, C# and VB. Basic camera functions enable you to control camera timing, frame size and image representation. More than 20 demo programs, provided in source code, facilitate your first steps in programming.

uEye® Demo

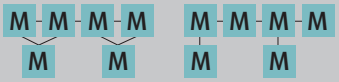
With the uEye® demo material supplied, you will have your first pictures on your uEye® camera in no time at all. The program enables you to perform comprehensive measurements even before you start your own programming, and it makes it easy for you to compare different cameras and settings. Results can be stored as individual images or as an AVI sequence.

The CPU has time for more important things

Thanks to the efficient programming of the drivers, the uEye® cameras run at a very low processor load. With high-performance PC hardware, the CPU load during image acquisition by the uEye® (monochrome) will generally remain below 10%; even color conversion through the software (RGB) will hardly ever cause loads above 20%.

Binning/Subsampling

These two processes are used for reducing the resolution and increasing the frame rate. In the case of binning, several pixels are combined and transmitted to the PC; in subsampling, individual pixels are skipped during readout. With both methods, the field of view remains identical.



Binning Subsampling

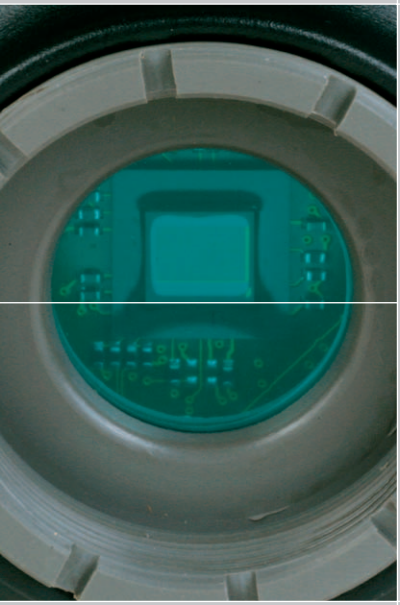
Area of Interest (AOI)

With this function, the uEye® reads out only a selected part of the sensor area. This increases the possible frame rate of the camera: At half the frame height, e.g., the uEye®LE CMOS cameras are almost 100% faster!

All uEye®LE Features at a Glance

CS-Mount Housing Model	UI-1225LE-C/M	UI-1545LE-M	UI-1645LE-C	UI-1555LE-C	UI-1465LE-C	UI-1485LE-C/M
S-Mount, M12 Model	UI-1226LE-C/M	UI-1546LE-M	UI-1646LE-C	UI-1556LE-C	UI-1466LE-C	UI-1486LE-C/M
S-Mount, M14 Model	-	UI-1547LE-M	-	-	UI-1467LE-C	UI-1487LE-C/M
Boardlevel Model	UI-1228LE-C/M	UI-1548LE-M	UI-1648LE-C	UI-1558LE-C	UI-1468LE-C	UI-1488LE-C/M
CMOS Sensor	Monochrome/RGB Color	Monochrome	RGB Color	RGB Color	RGB Color	Monochrome/RGB Color
Resolution	752 x 480	1280 x 1024	1280 x 1024	1600 x 1200	2048 x 1536	2560 x 1920
Resolution Category / Pixel Class	WVGA	SXGA/1.3 MP	SXGA/1.3 MP	UXGA/2 MP	SUXGA/3,3 MP	QSXGA/5 MP
Sensor Class	1/3"	1/2"	1/3"	1/3"	1/2"	1/2"
Shutter	Global	Rolling	Rolling	Rolling	Rolling	Rolling/Global Start
max. fps in Freerun Mode at full resolution	87 fps	25 fps	25 fps	18 fps	11 fps	6 fps
Exposure Time in Freerun Mode	80 µs - 5,5 s	35 µs - 980 ms	37 µs - 10 s	39 µs - 13,4 s	57 µs - 1,75 s	71 µs- 2,74 s
AOI Modes	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$
AOI with 320 x 240 Pixels (CIF)	215 fps	232 fps	270 fps	240 fps	220 fps	126 fps
Subsampling Modes	-	$H^2 + V^2$ (pairing)	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$
Subsampling Factores	-	x2, x4	x2, x4	x2, x4	x2, x4	x2, x4
Resolution, fps	-	640 x 512, 79 fps	640 x 512, 83 fps	800 x 600, 59 fps	1024 x 768, 37 fps	1280 x 960, 19 fps
	-	320 x 256, 219 fps	320 x 256, 248 fps	400 x 300, 172 fps	512 x 384, 113 fps	640 x 480, 53 fps
Binning Modes	$H + V^2$ (Mono)	-	-	$H^2 + V^2$	$H^2 + V^2$	$H^2 + V^2$
Binning Method	H + V: Average	-	-	H + V: Average	H: Sum V: Average	H: Sum V: Average
Binning Factors	x2, x4	-	-	x2	x2, x4	x2, Color: x4
Resolution, fps	368 x 240, 162 fps	-	-	800 x 600, 52 fps	1024 x 768, 30 fps	1280 x 960, 15 fps
	176 x 120, 286 fps				512 x 384, 52 fps	640 x 480, 23 fps
I/Os	LE models xxx6, xxx7, xxx8: trigger in, flash out, 2 digital outs (TTL compatible)					
Sensor Model	MT9V032	MT9M001	MT9M131	MT9D131	MT9T001	MT9P031
Pixel Clock	5 - 40 MHz	5 - 43 MHz	5 - 40 MHz	5 - 40 MHz	5 - 43 MHz	5 - 43 MHz
Pixelpitch in µm	6,0	5,2	3,6	2,8	3,2	2,2
Optical Size	4,51 x 2,88 mm	6,66 x 5,32 mm	4,61 x 3,69 mm	4,48 x 3,36 mm	6,55 x 4,92 mm	5,63 x 4,22 mm
Aspect Ratio	14:9	5:4	5:4	4:3	4:3	4:3
Exact Real Diagonal	5,4 mm	8,5 mm	5,9 mm	5,6 mm	8,2 mm	7,0 mm
Exact Real Diagonal	1/3,0"	1/1,9"	1/2,7"	1/2,9"	1/2,0"	1/2,3"
Regulations	CE class A, CE class B, FCC (depending on model)					

[2] Function increases frame rate
Performance data is based on driver 3.22

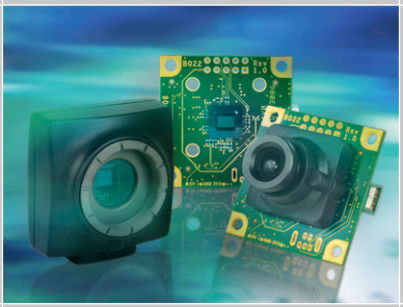


uEye®LE
Cost effective cameras with USB connection for a wide range of applications

- Universal use with PC, notebook, IPC and embedded systems with USB 2.0
- Resolutions from WVGA (752 x 480) to 5 megapixels (2560 x 1920)
- High-quality CMOS sensors
- CS-mount with back focus adjustment

Other IDS products

- Camera accessories
- Lenses
- Frame grabbers
- Software



Your imagination is our challenge

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