

micro vision systems by optikron



Optikron's micro cameras and vision systems are optimized for applications in which it is important to have imaging systems with the smallest sizes in combination with the highest image quality. In these miniaturized modules, the smallest sensors are used together with special optics which are designed for getting the best view of your objects. The cameras are very light-sensitive and have an outstanding performance by the optimal combination of electronics, optics and mechanical parts. All micro cameras can be integrated into complex systems or can be used as stand-alone devices. Additionally to our standard cameras, customized modules and the development and manufacturing of individual vision systems are available as well. Key applications for these solutions are endoscopy, microscopy, machine vision, automation, metrology and inspection, bioscience and analytics and many more.

optikron

micro-cams

Optikron Vision GmbH
Jena, Germany
www.optikron.de

micro vision systems

by optikron



Ø2.75x24 mm (stainless steel tube) or
Ø3.2x22 mm (aluminum tube)

1/10" CMOS sensor 400x400 px.

USB (UVC) or CVBS

multi-element lenses for optimized
image quality and highest DOF

standard and customized modules

key application:

endoscopy, life science, automation,
machine vision, technical inspection



Optikron's s-series camera modules have very small dimensions for a high miniaturization. With their optimally designed and matched optics and electronics for these small sensors have these modules an impressive image quality. The available standard optics are generating an outstanding high depth of field and because of the high light-sensitivity of the sensor these cameras can be also used in surroundings with lower light conditions. There is additionally a NIR version available. The camera will switch automatically to b/w mode, if illumination changes to an NIR light sources.

optikron s-series

OPTIKRON Vision GmbH
Jena, Germany
www.optikron.de

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M-Series VGA USB (1/9") Ø5.95x8 mm
M-series 720p USB (1/9") Ø4.2 mm
M-series 720p USB (1/11") Ø3.3 mm
M-series 1080p USB (1/6") 6.5 mm
M-series 1080p 60 fps USB (1/6")
M-series 5MP USB (1/5") 6.5 mm
M-series CVBS (1/4") Ø16 or 10x10 mm
M-Series GS b/w USB
M-Series GS 720p 60fps USB
modules with 0° and 90° view

key application:

automation, metrology, inspection,
bioscience, microscopy



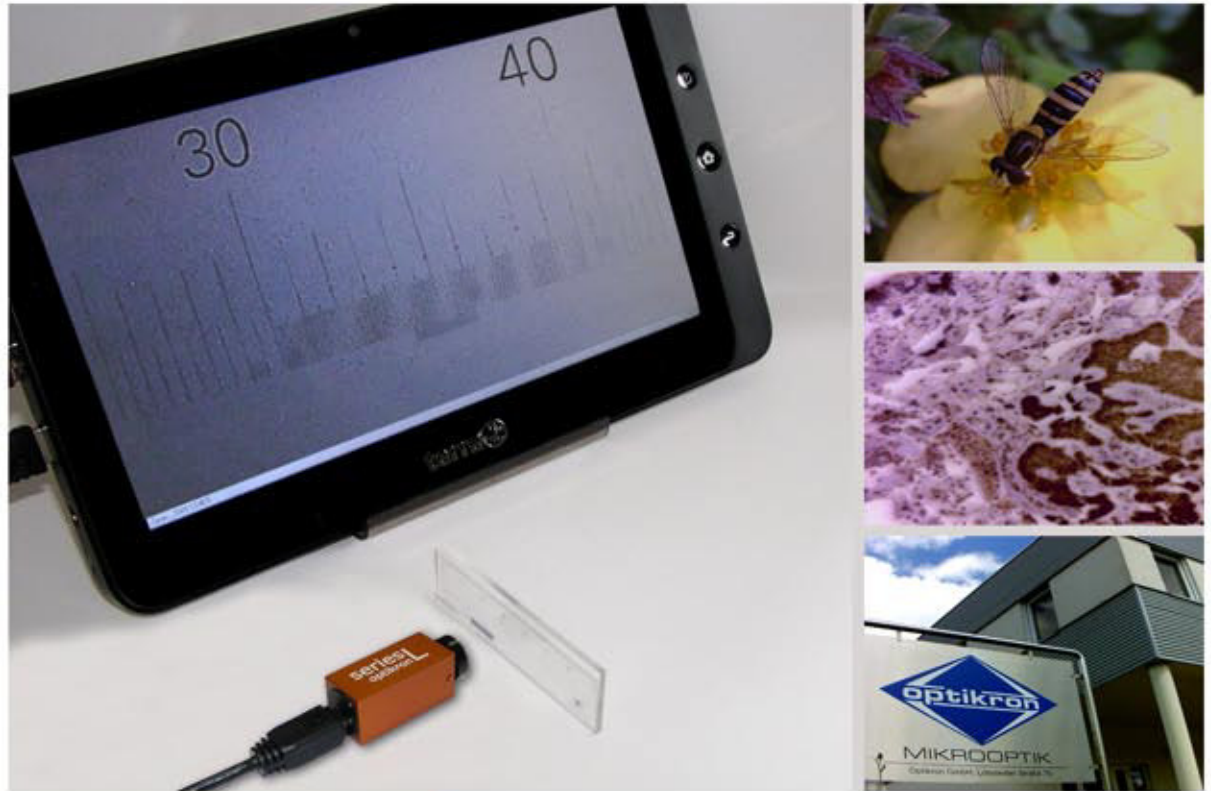
Optikron's m-series camera modules are versatile, small and available with a wide variety of optics and housings for an easy integration.

The M-series modules are the smallest cameras with VGA, HD, FHD and 5MP resolution. They are often the basis for customized vision systems of a higher complexity. Additionally are with our M-Series GS and M-Series 720p GS small global shutter cameras available. The M-Series 1080p modules with 60 fps are cameras with higher speed but having the flexibility of USB UVC cameras. Optionally we offer modules with integrated LEDs or add-on illumination units. Highlights are the HQ lenses for high DOFs. M-Series cameras are also available for a use as smallest video microscopes.

optikron m-series

OPTIKRON Vision GmbH
Jena, Germany
www.optikron.de

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L-series 5MP USB (1/4")
16x16x35 mm

L-series 5MP Pro USB (1/4")
with snapshot-switch and trigger input

L-series 8MP USB (1/3,2")
20x20x40 mm

L-series 1080p HDMI (1/2,9")
20x20x60 mm

key application:

machine vision, metrology, inspection,
bioscience, analytics, microscopy



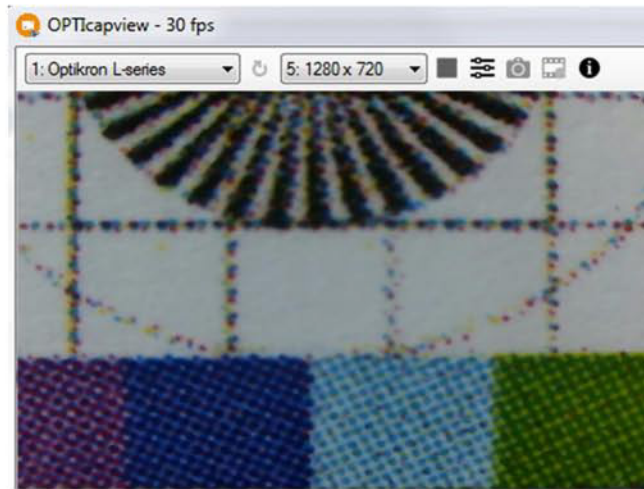
Because of their high resolution, high light-sensitivity and fast auto adjustments are these small cameras very versatile regarding their applications. They show a very high performance in different working surroundings. The L-series cameras can be simply integrated into complex systems, like machines, robots, automation systems. Also they can be used as stand-alone device like a digital microscope or for process control or for assembling and inspection.

...available as standard modules or as
customized solution

optikron l-series

Optikron Vision GmbH
Jena, Germany
www.optikron.de

micro vision systems by optikron

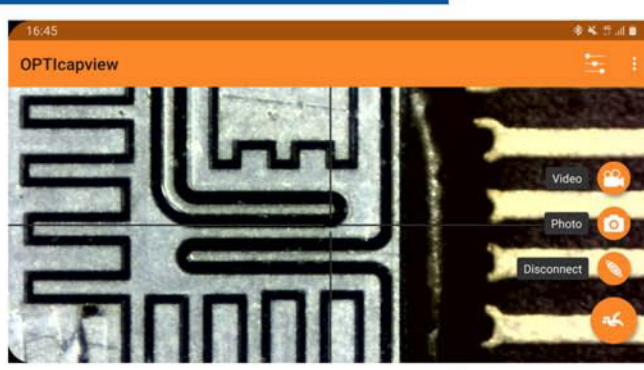


OPTIcapview for Windows

All Optikron micro-cameras with USB interface are UVC devices. There are no special drivers required. The cameras can be easily connected to Windows or Linux PC's and tablets and can be also used on RaspberryPi. By this standard it is easy to integrate the cam's into allready existing software solutions or use them with our viewer software.

OPTIcapview is our freeware viewer software optimized for a simple use of Optikron's micro-cameras.

Functions:
live video view, image settings, resolution setting, crosshair and customized overlays, screen mirroring, switching between different cameras, frame rate information, snapshot, video recording



OPTIcapview App for Android

With this Android App can be used our micro-cameras also with mobile devices. With tablets or smartphones can be generated compact systems for mobile use and applications like on-site inspection or for a simple integration into machines. All our USB cameras can be connected via an OTG adaptor to such Android devices. Some of our camera modules are additionally available as OTG version for a direct use at mobile devices. So our cameras can be also used in a flexible way at several places as high efficient tool in quality inspection, production, process control, assembling, analytics, microscopy and documentation.

Functions:
live video view, image settings, resolution setting, adjustable crosshair as overlay, screen mirroring, magnification, snapshot, video recording

software

micro vision systems

by optikron



overview
standard cameras

Micro Cameras 2023

01-2023

Performance Cams

| Item | Item No. |
|--|------------|
| XS-series | |
| XS-series USB Dia 1.8 stainless steel, 0° view, HQ lens large FOV ~ 120° | 82-0001-01 |
| S-series | |
| S-series CVBS Dia 2.75 stainless steel, 0° view, HQ lens large FOV ~ 120° | 83-0101-01 |
| S-series CVBS Dia 3.2 AL orange, 0° view, HQ lens large FOV ~ 120° | 83-0102-01 |
| S-series USB Dia 2.75 stainless steel, 0° view, HQ lens large FOV ~ 120° | 83-0001-01 |
| S-series USB Dia 3.2 AL orange, 0° view, HQ lens large FOV ~ 120° | 83-0002-01 |
| S-series -customized- | 00-0000-00 |
| M-series | |
| M-series CVBS, 0° view, HQ lens 10x10x14 | 84-0001-02 |
| M-series CVBS, 0° view, S-Mount, Dia. 16 | 84-0001-03 |
| M-series VGA, USB, 0° view | 84-0006-01 |
| M-series VGA MIC, USB, 0° view (FOV ~22°) | 84-0006-02 |
| M-series VGA MIC, USB, 0° view (FOV ~22°), LEDs | 84-0006-03 |
| M-series VGA, USB, 0° view, LED | 84-0007-01 |
| M-series HD 720p 60 USB (USB 3.0), 0° view, fixed lens, Dia 3.3 | 84-0013-03 |
| M-series HD 720p USB (USB2.0), 0° view, adjustable lens, Dia. 4.2 | 84-0013-04 |
| M-series HD 720p USB (USB 2.0), round, 0° view, fixed lens, LEDs, Dia. 4.2 | 84-0013-05 |
| M-series HD 720p OTG (micro USB), round, 0° view, fixed lens, LEDs, Dia. 4.2 | 84-0013-06 |
| M-series HD 1080p compact USB (USB 2.0), 0° view, fixed lens (30 fps version) | 84-0020-01 |
| M-series HD 1080p USB (USB 2.0), 0° view, HQ lens (30 fps version) | 84-0021-01 |
| M-series HD 1080p OTG (micro USB), 0° view, HQ lens (30 fps version) | 84-0022-01 |
| M-series HD 1080p USB (USB 2.0), round, 0° view, HQ lens (30 fps version) | 84-0023-01 |
| M-series HD 1080p OTG (micro USB), round, 0° view, HQ lens (30 fps version) | 84-0024-01 |
| M-series HD 1080p USB (USB 2.0), round, 0° view, HQ lens, LED (30 fps version) | 84-0025-01 |
| M-series HD 1080p 60 USB (USB 3.0), round, 0° view, HQ lens | 84-0026-01 |
| M-series HD 1080p 60 USB (USB 3.0), 0° view, HQ lens | 84-0027-01 |
| M-series HD 1080p 60 USB (USB 3.0), round, 0° view, HQ lens, LED | 84-0028-01 |
| M-series HD 1080p USB (USB 2.0), 90° view, HQ lens | 84-9021-01 |
| M-series HD 1080p 60 USB (USB 3.0), 90° view, HQ lens | 84-9022-01 |
| M-series GS b/w VGA USB (USB2.0), 90° view, HQ lens | 84-9031-01 |
| M-series HD 720p GS 60, USB (USB3.0), 0° view, HQ lens, 10x10x14 | 84-0032-01 |
| M-series HD 720p GS 60, USB (USB3.0), 0° view, S-Mount, Dia. 16 | 84-0032-02 |
| M-series 5MP USB (USB 2.0), round Dia 6.5, 0° view, HQ lens | 84-0041-01 |
| M-series 5MP USB (USB 2.0), 0° view, HQ lens | 84-0042-01 |
| M-series 5MP USB (USB 2.0), 90° view, HQ lens | 84-9041-01 |
| M-series -customized- | 00-0000-00 |
| L-series | |
| L-series 5MP USB with basic s-mount lens | 85-0001-01 |
| L-series 5MP Pro USB with snapshot + trigger function with basic s-mount lens | 85-0001-02 |
| L-series 5MP Cube USB with basic s-mount lens, cable fixed, 16x16x16 | 85-0002-01 |
| L-series 8MP USB pro with basic s-mount lens, 20x20x40 | 85-0011-01 |
| L-series 8MP USB with basic s-mount lens, cable fixed, 22x22x40 | 85-0011-02 |
| L-series HDMI with one basic s-mount lens | 85-0901-01 |
| L-series customized | 00-0000-00 |
| Accessories for L-series cameras | |
| Lenses for L-series cameras | |
| Smart Cams | |
| Item | item no. |
| Smart S CVBS, 90° view, basic lens not adjustable, LEDs | 83-0000-01 |
| Smart M HD 720p USB (USB 2.0 or OTG), 0° view, basic lens not adjustable, LEDs | 84-0000-01 |
| Smart L 5MP USB, 0° view, S-mount, with one basic lens | 85-0000-01 |

micro vision systems

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technical data

| camera type | item no. |
|---------------------------------|---|
| XS-series USB Ø 1.8, FOV ~ 120° | 82-0001-01 |
| Specification | |
| Size of standard housing | Ø1.8x12 mm, stainless steel |
| Standard cable | approx. 50 cm cable from camera to controller-board, then approx. 1 m USB-cable (can be extended) |
| Resolution and max. frame rate | 400 x 380 / 30fps. |
| Image sensor | 1/18" CMOS Color |
| Image area | 0.741x0.707 mm |
| Pixel size | 1.75x1.75 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 67.1 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V via USB |
| Power current | 120 mA-max. (DC 5 V) |
| LED Illumination | no |
| Miscellaneous | |
| Lens | FOV ~120° |



micro vision systems by optikron



technical data

| camera type | item no. |
|---------------------------------------|------------|
| S-series CVBS Ø 2.75 inox, FOV ~ 120° | 83-0101-01 |
| S-series CVBS Ø 3.2 Alu, FOV ~ 120° | 83-0102-01 |

| Specification | |
|--------------------------------|---|
| Size of standard housing | Ø2.75x22 mm or Ø3.2x22 mm |
| Standard cable | approx. 80 cm cable (up to 200 cm upon request) from camera to controller-board, then approx. 100 cm cable with RCA female for video out and DC plug female for power input |
| Resolution and max. frame rate | 400 x 400 |
| Image sensor | 1/10" CMOS Color |
| Image area | 1.224x1.212 mm |
| Pixel size | 3.0x3.0 µm |
| Shutter type | Rolling Shutter |
| S/N Ratio | > 50 dB |
| UVC format | - |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | CVBS |
| Power source | DC 5 ~ 12 V (ext.) |
| Power current | 200 mA max. |
| LED Illumination | no |
| Miscellaneous | customized housings available |
| Lens | FOV ~120° or customized lens upon request IR-cut filter (optional without IR-cut) |

micro vision systems by optikron



technical data

| camera type | item no. |
|--------------------------------------|------------|
| S-series USB Ø 2.75 inox, FOV ~ 120° | 83-0001-01 |
| S-series USB Ø 3.2 Alu, FOV ~ 120° | 83-0002-01 |

| Specification | |
|--------------------------------|---|
| Size of standard housing | Ø2.75x22 mm or Ø3.2x22 mm |
| Standard cable | approx. 80 cm cable (up to 200 cm upon request) from camera to controller-board, then approx. 1 m USB-cable |
| Resolution and max. frame rate | 400 x 400 |
| Image sensor | 1/10" CMOS Color |
| Image area | 1.224x1.212 mm |
| Pixel size | 3.0x3.0 µm |
| Shutter type | Rolling Shutter |
| S/N Ratio | > 50 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V via USB |
| Power current | 200 mA-max. (DC 5 V) |
| LED Illumination | no |
| Miscellaneous | customized housings available |
| Lens | FOV ~120° or customized lens upon request IR-cut filter (optional without IR-cut) |

micro vision systems by optikron



technical data

| camera type | item no. |
|---------------------------------|------------|
| M-series CVBS, 0°, HQ lens | 84-0001-02 |
| M-series CVBS, 0°, S-Mount lens | 84-0001-03 |

| Specification | |
|--------------------------------|--|
| Size of standard housing | 10x10x14 mm with HQ lens M5.5 Ø16x20 mm with S-Mount |
| Standard cable | after approx. 50 cm splitting into video out RCA (chinch) & power input DC Plug female (DC 5~ 12 V) |
| Resolution and max. frame rate | 648 x 488 (NTSC or PAL) 60 (NTSC) / 50 (PAL) fields/sec. |
| Image sensor | 1/4" CMOS Color |
| Image area | 3.63 x 2.73 mm |
| Pixel size | 5.6 x 5.6 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 62 dB |
| UVC format | - |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | CVBS |
| Power source | DC 5 ~ 12 V (DC plug 2.1/5.5) |
| Power current | 90 mA-max |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | 84-0001-02 with HQ lens HFOV ~40° or ~60°, various lenses availbale 84-0001-03 various S-Mount - lenses available |

micro vision systems

by optikron



technical data

| camera type | item no. |
|--------------------------------|--|
| M-series VGA, USB, 0° view | 84-0006-01 |
| Specification | |
| Size of standard housing | Ø5.95x8 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 640 x 480 /30 fps 352 x 288 /30 fps 320 x 240 /30 fps 160 x 120 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.6 x 1.2 mm |
| Pixel size | 2.5 x 2.5 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73 dB |
| UVC format | MJPEG |
| Storage temperature | - 25 to 60 Degree C |
| Working temperatur | 0 to 50 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 60 mA-max |
| LED Illumination | no |
| Miscellaneous | customized housings available |
| Lens | lens adjustable (HFOV ~60° in standard), customized lenses upon request |



micro vision systems

by optikron



technical data

| camera type | item no. |
|--------------------------------|------------|
| M-series VGA MIC, USB, 0° view | 84-0006-02 |



Specification

| | |
|--------------------------------|--|
| Size of standard housing | Ø6.5x12 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 640 x 480 /30 fps 352 x 288 /30 fps 320 x 240 /30 fps 160 x 120 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.6 x 1.2 mm |
| Pixel size | 2.5 x 2.5 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73 dB |
| UVC format | MJPEG |
| Storage temperature | - 25 to 60 Degree C |
| Working temperatur | 0 to 50 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA-max |
| LED Illumination | no |
| Miscellaneous | customized housings available |
| Lens | adjustable lens FOV ~22° (f5.0), customized lenses upon request |

micro vision systems by optikron



technical data

| camera type | item no. |
|-------------------------------------|--|
| M-series VGA MIC, USB, 0° view, LED | 84-0006-03 |
| Specification | |
| Size of standard housing | Ø10x15 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 640 x 480 /30 fps 352 x 288 /30 fps 320 x 240 /30 fps 160 x 120 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.6 x 1.2 mm |
| Pixel size | 2.5 x 2.5 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73 dB |
| UVC format | MJPEG |
| Storage temperature | - 25 to 60 Degree C |
| Working temperatur | 0 to 50 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 190 mA-max |
| LED Illumination | White LED x 6, dimmable |
| Miscellaneous | customized housings available |
| Lens | adjustable lens FOV ~22° (f5.0), customized lenses upon request |



micro vision systems by optikron



technical data

| camera type | item no. |
|---------------------------------|--|
| M-series VGA, USB, 0° view, LED | 84-0007-01 |
| Specification | |
| Size of standard housing | Ø5.95x8 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 640 x 480 /30 fps 352 x 288 /30 fps 320 x 240 /30 fps 160 x 120 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.6 x 1.2 mm |
| Pixel size | 2.5 x 2.5 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73 dB |
| UVC format | MJPEG |
| Storage temperature | - 25 to 60 Degree C |
| Working temperatur | 0 to 50 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA-max |
| LED Illumination | White LED x 6, dimmable |
| Miscellaneous | customized housings available |
| Lens | lens fixed (HFOV ~60°), customized lenses upon request |



micro vision systems by optikron



technical data

| camera type | item no. |
|---|---|
| M-series HD 720p 60 fps compact USB, 0° | 84-0013-03 |
| Specification | |
| Size of standard housing | Ø3.3x14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1280 x 720 /60 fps 640 x 480 /60 fps 320 x 240 /60 fps |
| Image sensor | 1/11" CMOS Color |
| Image area | 1.446 x 0.910 mm |
| Pixel size | 1.16 x 1.16 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 72.2 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 3.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA |
| LED Illumination | no |
| Miscellaneous | customized housings available upon request |
| Lens | lens HFOV ~58°, HFOV~76°, other lenses upon request |



micro vision systems by optikron



technical data

| camera type | item no. |
|--|------------|
| M-Series 720p USB, adjustable lens, 0° | 84-0013-04 |
| M-Series 720p USB, fixed lens, 0°, LED | 84-0013-05 |
| M-Series 720p OTG, fixed lens, 0°, LED | 84-0013-06 |



Specification

| | |
|--------------------------------|---|
| Size of standard housing | Ø 4.2 x 14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC => LED dimmer switch at the cable |
| Resolution and max. frame rate | 1280 x 720 /30 fps 640 x 480 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.819 x 1.033 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 68.4dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | White LED x 6, dimmable at 84-0013-05 and 84-0013-06 |
| Miscellaneous | |
| Lens | HFOV ~65° |

micro vision systems by optikron



technical data

| camera type | item no. |
|---------------------------------|---|
| M-series HD 720p USB, round, 0° | 84-0013-02 |
| Specification | |
| Size of standard housing | Ø4.2x14 mm (Ø3.8 as option) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1280 x 720 /30 fps 960 x 540 /30 fps 848x480 /30 fps 640 x x480 /30 fps 320 x 240 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.819 x 1.033 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 68.4dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 or OTG (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | lens HFOV ~68°, other lenses upon request |



micro vision systems by optikron



technical data

| camera type | item no. |
|-----------------------------------|------------|
| M-series HD 1080p compact USB, 0° | 84-0020-01 |
| M-series HD 1080p USB, 0° | 84-0021-01 |
| M-series HD 1080p OTG, 0° | 84-0022-01 |
| M-series HD 1080p USB, round, 0° | 84-0023-01 |
| M-series HD 1080p OTG, round, 0° | 84-0024-01 |
| M-series HD 1080p USB, 90° | 84-9021-01 |



Specification

| | |
|--------------------------------|--|
| Size of standard housing | compact version with $\varnothing 6.5 \times 14$ mm; 0° type => $\varnothing 6.5 \times 30$ or $6.5 \times 6.5 \times 30$ mm; 90° type => $10 \times 6 \times 30$ mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A (type B for OTG) |
| Resolution and max. frame rate | 1920 x 1080 /30 fps 1280 x 720 /30 fps 640 x 480 /30 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.7288 x 1.5498 |
| Pixel size | 1.4 x 1.4 μm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73.3 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 or OTG (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LEDs available upon request |
| Lens | lens adjustable HFOV $\sim 68^\circ$ or 80° (fixed lens at compact version); other lenses available upon request |

micro vision systems by optikron



technical data

| camera type | item no. |
|--------------------------------|---|
| M-series HD 1080p USB, 0°, LED | 84-0025-01 |
| Specification | |
| Size of standard housing | Ø10x30 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1920 x 1080 /30 fps 1280 x 720 /30 fps 640 x 480 /30 fps 320 x 240 /30 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.7288 x 1.5498 |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73.3 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 or OTG (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 190 mA |
| LED Illumination | White LED x 6, dimmable |
| Miscellaneous | customized housings upon request |
| Lens | lens adjustable HFOV ~68°, other lenses upon request |



micro vision systems by optikron



technical data

| camera type | item no. |
|---|------------|
| M-series HD 1080p 60 fps USB, round, 0° | 84-0026-01 |
| M-series HD 1080p 60 fps USB, 0° | 84-0027-01 |
| M-series HD 1080p 60 fps USB, 90° | 84-9022-01 |

| Specification | |
|--------------------------------|--|
| Size of standard housing | 0° view modules => Ø6.5x14 mm or 6.5x6.5x14 mm with adjustable lenses / Ø 5,95 x 12 mm with fixed lens 90° view module => 10x6x30 mm (18 mm length as option) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1920 x 1080 /60 fps 1280 x 720 /60 fps 640 x 480 /60 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.7288 x 1.5498 |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73.3 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 3.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | lens adjustable HFOV ~68° or 80°, other lenses upon request |



60 fps

m-series

micro vision systems by optikron



technical data

| camera type | item no. |
|-----------------------------------|---|
| M-series HD 1080p 60 USB, 0°, LED | 84-0028-01 |
| Specification | |
| Size of standard housing | Ø10x22 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1920 x 1080 /60 fps 1280 x 720 /60 fps 640 x 480 /60 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.7288 x 1.5498 |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 73.3 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 3.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 190 mA |
| LED Illumination | White LED x 6, dimmable |
| Miscellaneous | customized housings upon request |
| Lens | lens adjustable HFOV ~68°, other lenses upon request |



60 fps

m-series

micro vision systems by optikron



technical data

| camera type | item no. |
|--------------------------------|---|
| M-series GS b/w USB, 90° | 84-9031-01 |
| Specification | |
| Size of standard housing | 90° view module => 10x6x30 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 640 x 480 /30 fps |
| Image sensor | 1/7.5" CMOS Color (black/white) |
| Image area | 1.968 x 1.488 |
| Pixel size | 3 x 3 µm |
| Shutter type | Global Shutter |
| Dynamic range | 73.3 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | lens adjustable, standard HFOV ~55° various other lenses availbale (for example HFOV ~30°, ~45° or ~65°) |




micro vision systems by optikron



technical data

| camera type | item no. |
|--------------------------------------|------------|
| M-series 720p GS 60 fps, 0°, HQ lens | 84-0032-01 |
| M-series 720p GS 60 fps, 0°, S-Mount | 84-0032-02 |



Specification

| | |
|--------------------------------|--|
| Size of standard housing | 10x10x14 mm with HQ lens M5.5 Ø16x20 mm with S-Mount lens |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 1280 x 720 /60 fps 640 x 480 /60 fps 320 x 240 /60 fps |
| Image sensor | 1/4.1" CMOS Color |
| Image area | 3.84 x 2.16 mm |
| Pixel size | 3.0 x 3.0 µm |
| Shutter type | Global Shutter |
| Dynamic range | 63.9 dB |
| UVC format | - |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 3.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 210 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | 84-0032-01 with various HQ lenses (HFOV ~40°, ~58° or ~80°) 84-0032-02 various S-Mount - lenses available |

micro vision systems by optikron



technical data

| camera type | item no. |
|-----------------------------|------------|
| M-series 5MP USB, round, 0° | 84-0041-01 |
| M-series 5MP USB, 0° | 84-0042-01 |
| M-series 5MP USB, 90° | 84-9041-01 |



Specification

| | |
|-----------------------------------|--|
| Size of standard housing | 0° type => Ø6.5x30 or 6.5x6.5x30 mm; 90° type => 10x6x30 mm compact version for 0° type with Ø6.5x14 mm as option |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A (type B for OTG) |
| Resolution and max. frame rate | 2592 x 1944 /24 fps 1920 x 1080 /24 fps 1600 x 1200 /24 fps 1280 x 720 /24 fps 640 x 480 /24 fps |
| Image sensor | 1/5" CMOS Color |
| Image area | 2.90 x 2.18 mm |
| Pixel size | 1.12 x 1.12 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 64.7 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 or OTG (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 120 mA |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LEDs available upon request |
| Lens | with various HQ lenses (HFOV ~32°, ~45° or ~70°); other lenses available upon request |

micro vision systems by optikron



technical data

| camera type | item no. |
|-----------------------|------------|
| L-series 5 MP USB | 85-0001-01 |
| L-series 5 MP Pro USB | 85-0001-02 |



Specification

| | |
|-----------------------------------|---|
| Size of standard housing | 16x16x35 mm (without lens) |
| Standard cable | USB cable ~ 1.8 m (or ~ 5 m as option) Micro USB (type B) connector to camera with 3.8V DC out/ USB (type A) to PC with 5V DC in => special cable for DC out of only 3.8V |
| Resolution and max. frame rate | 2592 x 1944 /10 fps 1920 x 1080 /30 fps 1280 x 720 /30 fps 640 x 480 /30 fps |
| Image sensor | 1/4" CMOS Color |
| Image area | 3.651 x 2.744 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 63 dB |
| UVC format | MJPEG |
| Storage temperature | - 40 to 85 Degree C |
| Working temperatur | 0 to 70 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | no |
| Miscellaneous | <i>L-series 5 MP Pro</i> has additionally 1x input for snapshot switch + 1x trigger input (camera stop/run) |
| Lens | various S-Mount - lenses availbale |

micro vision systems by optikron



technical data

| camera type | item no. |
|--------------------------------|---|
| L-series 8 MP USB | 85-0011-01 |
| Specification | |
| Size of standard housing | 20x20x40 mm (without lens) |
| Standard cable | USB cable ~ 1.8 m (or ~ 5 m as option) Micro USB (type B) connector to camera / USB (type A) to PC |
| Resolution and max. frame rate | 3264 x 2448 /20 fps 2592 x 1944 /20fps 2048 x 1536 /20 fps 1920 x 1080 /25 fps 1280 x 720 /30 fps 1024 x 768 /30 fps |
| Image sensor | 1/3.2" CMOS Color |
| Image area | 4.59x3.45 |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 72.5 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | 0 to 60 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | no |
| Miscellaneous | optionally available with 1x input for snapshot switch + 1x trigger input (camera stop/run) |
| Lens | various S-Mount - lenses available |



micro vision systems by optikron



technical data

| camera type | item no. |
|---------------|------------|
| L-series HDMI | 85-0901-01 |



Specification

| | |
|--------------------------------|------------------------------------|
| Size of standard housing | 20x20x60 mm (without lens) |
| Standard cable | HDMI type D + power cable (~80 cm) |
| Resolution and max. frame rate | 1920 x 1080 /30 fps |
| Image sensor | 1/2.9" CMOS Color |
| Image area | 5.51 x 3.1 mm |
| Pixel size | 4.2 x 4.2 μ m |
| Shutter type | Rolling Shutter |
| Dynamic range | 55.1 dB |
| UVC format | - |
| Storage temperature | - 40 to 120 Degree C |
| Working temperatur | - 10 to 80 (105) Degree C |
| Interface | HDMI D type |
| Power source | DC 5 ~ 12 V (ext.) |
| Power current | 5V/ 430 mA-max, 12V/180mA-max |
| LED Illumination | no |
| Miscellaneous | |
| Lens | various S-Mount - lenses available |

micro vision systems by optikron



technical data

| accessories for L-Series cameras | usable with |
|----------------------------------|--------------|
| L-series 5 MP USB | 85-0001-01 |
| L-series 5 MP Pro USB | 85-0001-02 |
| L-series 8 MP USB | 85-0011-01 |
| L-series HDMI | 85-0901-01 |
| Smart L 5 MP * | * 85-0000-01 |

| Item | Description | Item no. |
|---|---|------------|
| S-mount extension tube 11 mm | Extension tubes for lenses with longer focal lengths (>16 mm). They also allow you to turn standard fixed focal length lenses into macro lenses. By placing distance between the camera body and lens, the focusing distance is shortened and magnification is increased. | 85-1102-01 |
| S-mount extension tube 21 mm | | 85-1103-01 |
| S-mount to C-mount adaptor | For using standard C-mount lenses with L-Series cameras | 85-1104-01 |
| RMS adaptor | For using microscope lenses with RMS thread with L-Series cameras. | 85-1105-01 |
| S-mount to M9x0.5 adaptor | For using our HQ lenses and other lenses with M9x0.5 in the standard housing of L-Series cameras. | 85-1106-01 |
| Mount for L-Series 4xM4 * not for Smart L camera | This mount can be fixed at L-Series cameras (Pro Cams). Then the mount can be fixed by several threaded holes with M4. Additionally can be added a strain-relief for the cable. | 85-1101-01 |
| LED-Ring Light; OD 24, S-Mount | homogenized LED illumination; ring light module with tube extension of 14 mm (not usable for lenses with shorter focal lengths <f16 mm) | 85-2001-01 |
| USB cable 5 m | longer USB cable with 3.8V out | 85-1002-01 |



accessories for L-series

micro vision systems by optikron



technical data

| lenses for L-Series cameras | usable with |
|-----------------------------|--------------|
| L-series 5 MP USB | 85-0001-01 |
| L-series 5 MP Pro USB | 85-0001-02 |
| L-series 8 MP USB | 85-0011-01 |
| L-series HDMI | 85-0901-01 |
| Smart L 5 MP * | * 85-0000-01 |

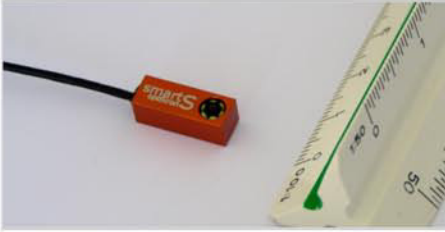
| Item | Interface | Item no. |
|--------------------------------|------------------------------------|------------|
| Basic Lens f4.0 mm | S-mount | 85-1201-01 |
| Basic Lens f8.0 mm | S-mount | 85-1201-02 |
| Basic Lens f16.0 mm | S-mount | 85-1201-03 |
| Basic Lens f25.0 mm | S-mount | 85-1201-04 |
| Standard Lens f1.68 mm / F2.5 | S-mount | 85-1211-01 |
| Standard Lens f2.1 mm / F2.2 | S-mount | 85-1212-01 |
| Standard Lens f3.94 mm / F2.0 | S-mount | 85-1213-01 |
| Standard Lens f6.05 mm / F1.8 | S-mount | 85-1214-01 |
| Standard Lens f8.0 mm / F2.5 | S-mount | 85-1215-01 |
| Standard Lens f10.6 mm / F2.8 | S-mount | 85-1216-01 |
| Standard Lens f12.0 mm / F2.0 | S-mount | 85-1217-01 |
| Standard Lens f16.0 mm / F2.0 | S-mount | 85-1218-01 |
| Standard Lens f25.0 mm / F2.5 | S-mount | 85-1219-01 |
| Standard Lens f35.0 mm / F2.0 | S-mount | 85-1220-01 |
| HQ Lens f6.6 mm / F6.7 | M9 x 0.5 (with adaptor to S-mount) | 85-1301-01 |
| HQ Lens f10.0 mm / F5.9 | M9 x 0.5 (with adaptor to S-mount) | 85-1302-01 |
| HQ Lens f12.0 mm / F5 | S-mount | 85-1303-01 |
| HQ Lens f15.1 mm / F4.7 | M9 x 0.5 (with adaptor to S-mount) | 85-1304-01 |
| HQ Lens OD 17 f18.0 mm / F2.0 | S-mount | 85-1401-01 |
| HQ Lens OD 17 f25.0 mm / F3.5 | S-mount | 85-1402-01 |
| HQ Lens OD 17 f30.0 mm / F3.5 | S-mount | 85-1403-01 |
| HQ Lens OD 17 f50.0 mm / F4 | S-mount | 85-1404-01 |
| HQ Lens OD 20 f75.0 mm / F6.25 | S-mount | 85-1405-01 |

lenses for L-series

micro vision systems by optikron



technical data

| camera type | item no. |
|--|---|
| Smart S CVBS, 90° view, LEDs | 83-0000-01 |
| Specification | |
|  | |
| Size of standard housing | 5x5x16 mm |
| Standard cable | approx. 80 cm cable (up to 200 cm upon request) from camera to controller-board, then approx. 100 cm cable with RCA female for video out and DC plug female for power input => LED dimmer switch at the cable |
| Resolution and max. frame rate | 400 x 400 |
| Image sensor | 1/10" CMOS Color |
| Image area | 1.224x1.212 mm |
| Pixel size | 3.0x3.0 µm |
| Shutter type | Rolling Shutter |
| S/N Ratio | > 50 dB |
| UVC format | - |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | CVBS |
| Power source | DC 5 ~ 12 V |
| Power current | 200 mA-max. |
| LED Illumination | White LED x 4, dimmable |
| Miscellaneous | |
| Lens | FOV ~120° |

micro vision systems by optikron



technical data

| camera type | item no. |
|------------------------------------|---|
| Smart M HD 720p USB, 0° view, LEDs | 84-0000-01 |
| Specification | |
| Size of standard housing | Ø 4.8 x 25 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC => LED dimmer switch at the cable |
| Resolution and max. frame rate | 1280 x 720 /30 fps 640 x 480 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.819 x 1.033 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 68.4dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | White LED x 6, dimmable |
| Miscellaneous | |
| Lens | HFOV ~65° |



micro vision systems by optikron



technical data

| camera type | item no. |
|------------------------------------|---|
| Smart L 5 MP USB, 0° view, S-mount | 85-0000-01 |
| Specification | |
| Size of standard housing | Ø 17 x 42 mm (without lens) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A to PC |
| Resolution and max. frame rate | 2592 x 1944 /10 fps 1920 x 1080 /30 fps 1280 x 720 /30 fps 640 x 480 /30 fps |
| Image sensor | 1/4" CMOS Color |
| Image area | 3.651 x 2.744 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 63 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB 2.0 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | no |
| Miscellaneous | |
| Lens | various S-Mount - lenses available |

