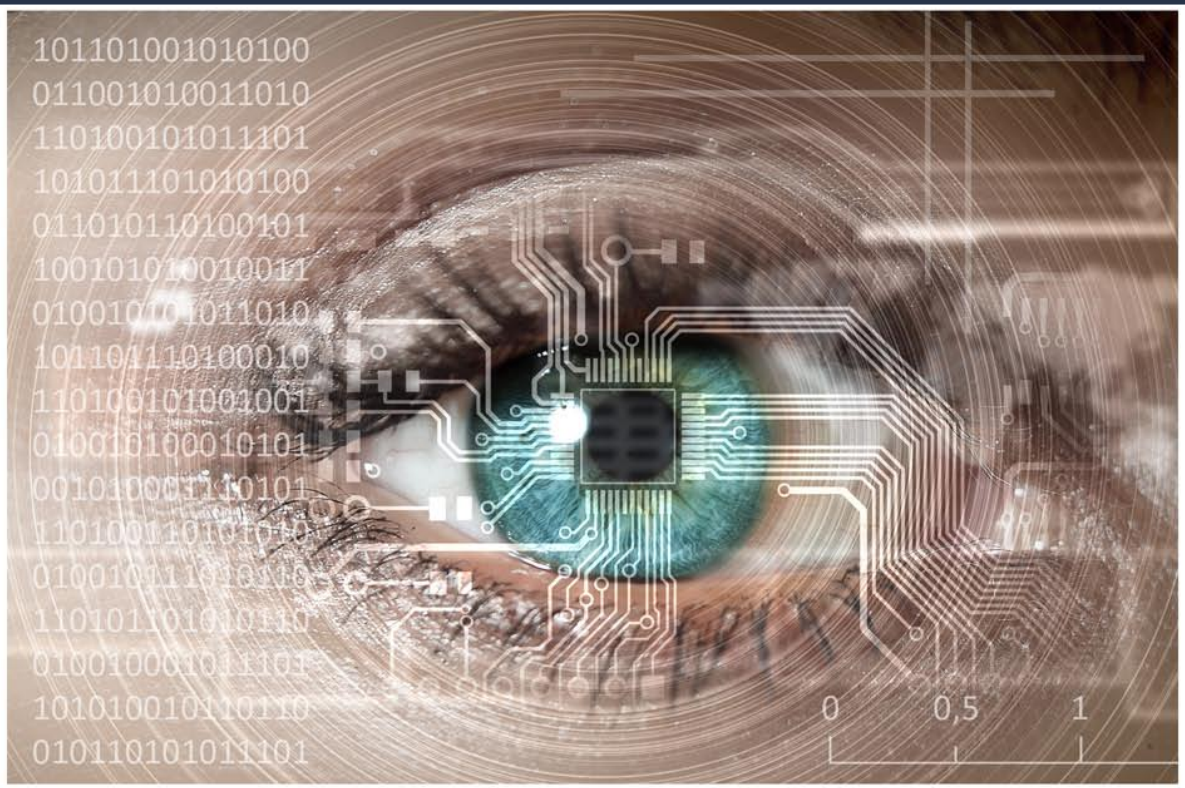
PRODUCT INFORMATION

# MICRO CAMERAS and vision systems

MICRO CAMERAS / 2027






Optikron's micro cameras and vision systems are optimized for applications in which is important to have imaging systems with smallest sizes in combination with highest image quality. In these miniaturized modules are used smallest sensors 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 are customized modules and the development and manufacturing of individual vision systems available as well.
Key applications for these solutions are endoscopy, microscopy, machine vision, automation, metrology and inspection, bioscience and analytics and many more.

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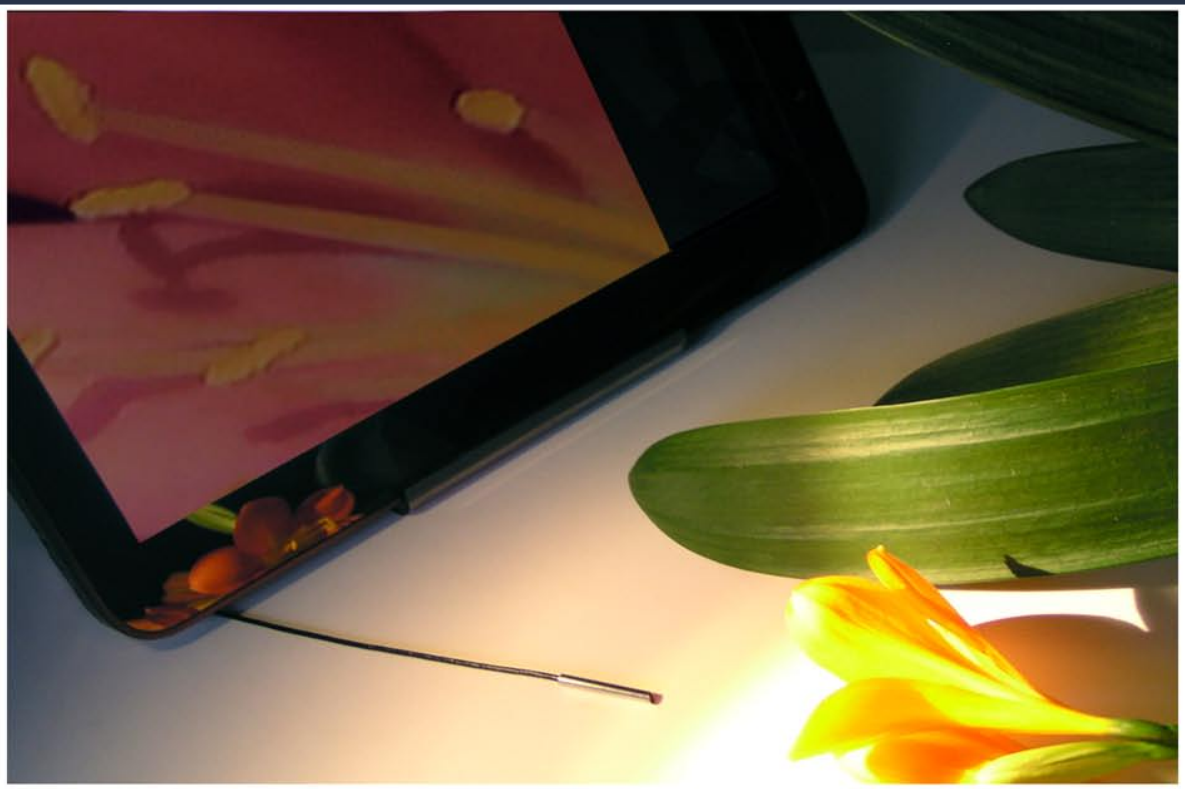
PRODUCT INFORMATION

# S-SERIES

MICRO CAMERAS / 2027



Ø2.75x24 mm (stainless steel 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.

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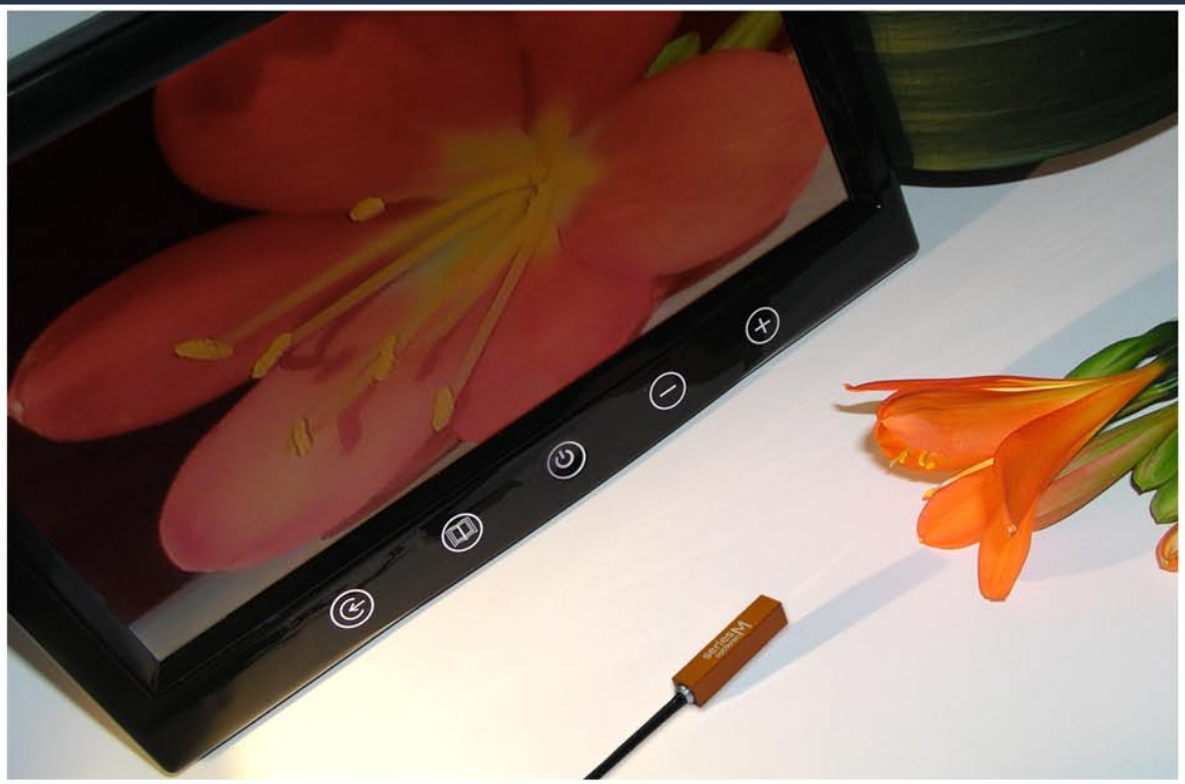
PRODUCT INFORMATION

# M-SERIES

MICRO CAMERAS / 2027



M-Series cameras have resolutions of 480p,720p,1080p and 5MP

Rolling Shutter and
Global Shutter versions
color and black/white sensors

modules with USB a and USB C
and with 0° and 90° view

key application:

automation, metrology, inspection, bioscience, microscopy, medical




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 or Full HD or 5MP resolution. They are often the basis for customized vision systems of a higher complexity. Additionally with our M-Series GS cameras are small global shutter cameras available. Optionally we provide modules with integrated LEDs or add-on illumination units. Highlights are the optimized lenses for various applications. M-Series cameras are also available for a use as smallest video microscopes.

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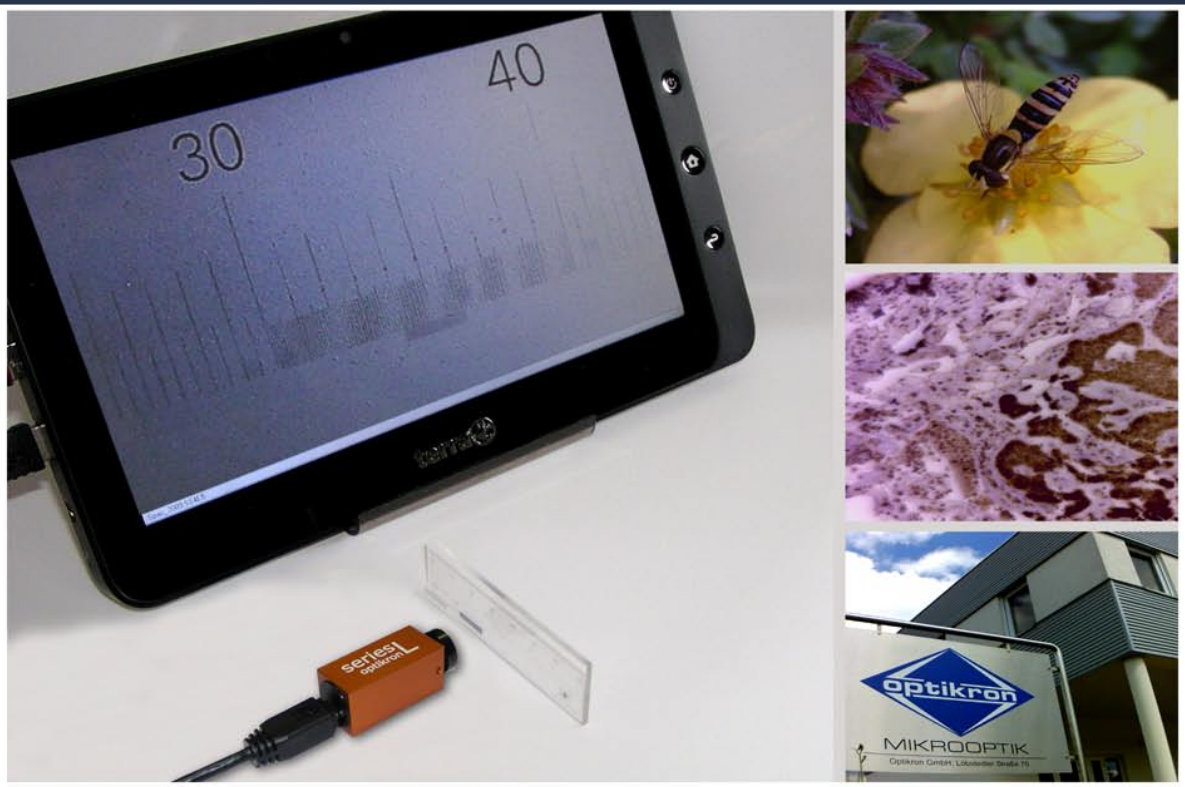
PRODUCT INFORMATION

# L-SERIES

MICRO CAMERAS / 2027











L-series 5MP USB (1/4“)
16x16x35 mm

with snapshot-switch
and trigger input available

L-series 8MP USB (1/3,2“)
20x20x40 mm / 22x22x40

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 application. 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.
For the L-series cameras are several accessories available, such as illumination units, mounts, adapters for different standard lenses and lens-tube extensions.

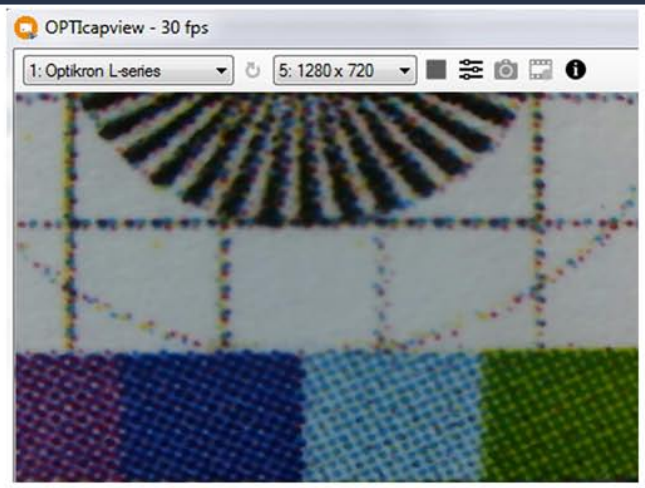
optikron

PRODUCT INFORMATION

# OPTICAPVIEW

MICRO CAMERAS / 2027

software




## 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*

optikron

STANDARD CAMERAS

# CAMERA OVERVIEW

MICRO CAMERAS / 2027

## Micro Cameras 2027

| Item | Item No. |
|---|---|
| **XS-series** | |
| XS-series USB A, Ø 1.8 | 82-0001-01 |
| **S-series** | |
| S-series USB A, Ø 2.75 inox | 83-0001-01 |
| S-series CVBS Ø 2.75 inox | 83-0101-01 |
| **M-series** | |
| M-series CVBS, 0°, 10x10x14, compact HQ lens | 84-0001-02 |
| M-series CVBS, 0°, Ø16, S-Mount lens | 84-0001-03 |
| M-series VGA, USB A, 0°, Ø5.95 | 84-0006-01 |
| M-series VGA, USB A, 0°, LED, Ø5.95 | 84-0007-01 |
| M-series VGA MIC, USB A, 0°, Ø6.5 | 84-0006-02 |
| M-series VGA MIC, USB A, 0°,LED, Ø10 | 84-0006-03 |
| M-series HD 720p comp.USB C, 0°, Ø3.6 | 84-0013-03 |
| M-Series 720p bw USB A, adj. lens, 0°, Ø4.2 | 84-0013-13 |
| M-Series 720p USB A, 0°, LED, Ø4.2 | 84-0013-05 |
| M-Series 720p USB C , 0°, LED, Ø4.2 | 84-0013-07 |
| M-series HD 720p USB C, 90°, 5x5x16 | 84-9013-01 |
| M-series 1080p compact USB C, 0°, Ø4.8 | 84-0020-02 |
| M-series 1080p USB A, 0°, 6.5x6.5x30 | 84-0021-01 |
| M-series 1080p USB A, round, 0°, Ø6.5x30 | 84-0023-01 |
| M-series 1080p USB C, round, 0°, Ø6.5x30 | 84-0023-02 |
| M-series 1080p MIC USB A, round, 0°, Ø6.5x30 | 84-0023-11 |
| M-series 1080p USB A, 90°, 10x6x30 | 84-9021-01 |
| M-series 1080p USB C, 90°, 10x6x30 | 84-9021-02 |
| M-series 1080p 60 fps USB A, round, 0°, Ø6.5x14 | 84-0026-01 |
| M-series 1080p 60 fps USB A, 0°, 6.5x6.5x14 | 84-0027-01 |
| M-series 1080p 60 fps USB A, 90°, 10x6x30 | 84-9022-01 |
| M-series 1080p 60 fps USB A, 0°, LED, Ø10x14 | 84-0028-01 |
| M-series VGA Global Shutter (GS) b/w USB A, 90°, 10x6x30 | 84-9031-01 |
| M-series 720p Global Shutter (GS) 60 fps, USB A, 0°, 10x10x14 | 84-0032-01 |
| M-series 720p Global Shutter (GS) 60 fps, USB A, 0°, Ø16, S-Mount | 84-0032-02 |
| M-series HD b/w 720p Global Shutter (GS) 120 fps, USB A, 0°, Ø10 | 84-0033-01 |
| M-series 5MP USB A, round, 0°, Ø6.5x30 | 84-0041-01 |
| M-series 5MP USB A, 0°, 6.5x6.5x30 | 84-0042-01 |
| M-series 5MP USB A, 90°, 10x6x30 | 84-9041-01 |
| M-series 5 MP Cube USB C, 10x10x10 | 84-0051-01 |
| M-series 5MP MIC, USB A, 0°, Ø10 | 84-0042-31 |
| **L-series** | |
| L-series 5 MP USB, 16x16x35 | 85-0001-01 |
| L-series 5 MP Cube USB, 16x16x16, S-Mount | 85-0002-01 |
| L-series 8 MP USB PRO, 20x20x40 | 85-0011-01 |
| L-series 8 MP USB, standard with fixed cable, 22x22x40 | 85-0011-02 |
| L-series 1080p Global Shutter (GS) 60 fps, 0°, Ø17, S-Mount | 85-0021-01 |
| L-series HDMI, 20x20x60 | 85-0901-01 |
| **Smart Cams** | |
| Smart S CVBS, 90° view, LED, 6x6x16 | 83-0000-01 |
| Smart M HD 720p USB A, 0°, LED, Ø4.8 | 84-0000-01 |
| Smart M HD 720p USB C, 0°, LED, Ø4.8 | 84-0000-02 |
| Smart M HD 1080p USB C, 0°, Ø6.5 | 84-0000-11 |
| Smart L 5 MP USB A, 0°, Ø17, S-mount | 85-0000-01 |
| **accessories for cameras with S-Mount** | |
| **lenses for M-Series and L-Series cameras** | |

TECHNICAL DATA

# XS-SERIES

MICRO CAMERAS / 2027

| 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 | 0.741 x 0.707 mm |
| Pixel size | 1.75 x 1.75 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° |

TECHNICAL DATA

# S-SERIES

MICRO CAMERAS / 2027

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



Specification

| | |
|---|---|
| Size of standard housing | Ø2.75 x 22 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 | 1.224 x 1.212 mm |
| Pixel size | 3.0 x 3.0 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<br>IR-cut filter (optional without IR-cut) |

TECHNICAL DATA

# S-SERIES

MICRO CAMERAS / 2027

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



Specification

| | |
|---|---|
| Size of standard housing | Ø2.75 x 22 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 | 1.224 x 1.212 mm |
| Pixel size | 3.0 x 3.0 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<br>IR-cut filter (optional without IR-cut) |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| 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 | 10 x 10 x 14 mm with HQ lens M5.5<br>Ø16 x 20 mm with S-Mount |
| Standard cable | after approx. 50 cm splitting into viedo out RCA (chinch) & power input DC Plug female (DC 5~ 12 V) |
| Resolution and max. frame rate | 648 x 488 (NTSC or PAL)<br>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<br>84-0001-03 various S-Mount - lenses available |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series VGA, USB, 0° view | 84-0006-01 |



Specification

| | |
|---|---|
| Size of standard housing | Ø5.95 x 8 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 640 x 480 /30 fps<br>352 x 288 /30 fps<br>320 x 240 /30 fps<br>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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series VGA, USB, 0° view, LED | 84-0007-01 |



Specification

| | |
|---|---|
| Size of standard housing | Ø5.95 x 8 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 640 x 480 /30 fps<br>352 x 288 /30 fps<br>320 x 240 /30 fps<br>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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

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



Specification

| | |
|---|---|
| Size of standard housing | Ø6.5 x 12 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 640 x 480 /30 fps<br>352 x 288 /30 fps<br>320 x 240 /30 fps<br>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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series VGA MIC, USB, 0° view, LED | 84-0006-03 |



Specification

| | |
|---|---|
| Size of standard housing | Ø10 x 14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 640 x 480 /30 fps<br>352 x 288 /30 fps<br>320 x 240 /30 fps<br>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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series HD 720p comp.USB C, 0° | 84-0013-03 |



Specification

| | |
|---|---|
| Size of standard housing | Ø3.6 x 14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type C |
| Resolution and max. frame rate | 1280 x 720 /30 fps<br>640 x 480 /30 fps<br>320 x 240 /30 fps |
| Image sensor | 1/11" CMOS Color / bw |
| Image area | 1.43 x 0.810 mm |
| Pixel size | 1.12 x 1.12 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 64.6 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA max. |
| LED Illumination | no |
| Miscellaneous | customized housings available upon request |
| Lens | HFOV ~70°, fixed lens |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-Series 720p bw USB A, adj. lens, 0° | 84-0013-13 |
| M-Series 720p USB A, 0°, LED | 84-0013-05 |
| M-Series 720p USB-C , 0°, LED | 84-0013-07 |



| Specification | |
|---|---|
| Size of standard housing | Ø 4.2 x 17 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A => LED dimmer switch at the cable |
| Resolution and max. frame rate | 1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/9" CMOS Color / bw |
| 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)<br>USB C -> 84-0013-07 |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA max. |
| LED Illumination | White LED (dimmable) at 84-0013-05 and 84-0013-07 |
| Miscellaneous | |
| Lens | HFOV ~65° |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series HD 720p USB C, 90° | 84-9013-01 |



| Specification | |
|---|---|
| Size of standard housing | 5 x 5 x 16 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type C |
| Resolution and max. frame rate | 1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/9" CMOS Color |
| Image area | 1.82 x 1.03 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 C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 120 mA max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | HFOV ~65°, fixed lens |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 1080p compact USB C, 0° | 84-0020-02 |



| Specification | |
|---|---|
| Size of standard housing | Ø 4.8 x 14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type C |
| Resolution and max. frame rate | 1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/7.25" CMOS Color |
| Image area | 2.160 x 1.220 mm |
| Pixel size | 1.116 x 1.116 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 C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | HFOV ~45°, lens adjustable, other lenses upon request |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 1080p USB A, 0° | 84-0021-01 |
| M-series 1080p USB A, round, 0° | 84-0023-01 |
| M-series 1080p USB C, round, 0° | 84-0023-02 |
| M-series 1080p MIC USB A, round, 0° | 84-0023-11 |
| M-series 1080p USB A, 90° | 84-9021-01 |
| M-series 1080p USB C, 90° | 84-9021-02 |



Specification

| | |
|---|---|
| Size of standard housing | 0° type => Ø6.5x30 or 6.5x6.5x30 mm;<br>90° type => 10x6x30 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A or C |
| Resolution and max. frame rate | 1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.728 x 1.549 mm |
| 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 USB C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA max. |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LEDs available upon request |
| Lens | lens adjustable HFOV ~68° as standard; version "MIC" for higher magnification with FOV ~30°; other lenses available |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 1080p 60 fps USB, round, 0° | 84-0026-01 |
| M-series 1080p 60 fps USB, 0° | 84-0027-01 |
| M-series 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, 90° view module => 10x6x30 mm (18 mm length as option) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 1920 x 1080 /60 fps<br>1280 x 720 /60 fps<br>640 x 480 /60 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.728 x 1.549 mm |
| 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 max. |
| LED Illumination | no |
| Miscellaneous | customized housings and integrated LED illumination available upon request |
| Lens | lens adjustable HFOV ~68°, other lenses upon request |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 1080p 60 USB, 0°, LED | 84-0028-01 |



Specification

| | |
|---|---|
| Size of standard housing | Ø10 x 14 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 1920 x 1080 /60 fps<br>1280 x 720 /60 fps<br>640 x 480 /60 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.728 x 1.549 mm |
| 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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series VGA GS b/w USB, 90° | 84-9031-01 |



Specification

| | |
|---|---|
| Size of standard housing | 90° view module => 10 x 6 x 30 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| 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 mm |
| 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°) |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| 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 | 10 x 10 x 14 mm with HQ lens M5.5<br>Ø16 x 20 mm with S-Mount lens |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 1280 x 720 /60 fps<br>640 x 480 /60 fps<br>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 | 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 | 210 mA max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | 84-0032-01 with various compact HQ lenses (HFOV ~40°, ~58° or ~80°)<br>84-0032-02 various S-Mount - lenses available |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series HD b/w 720p GS 120, USB, 0° | 84-0033-01 |



| Specification | |
|---|---|
| Size of standard housing | Ø10 x 20 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 1280 x 720 /120 fps<br>640 x 480 /120 fps<br>640 x 400 /240 fps |
| Image sensor | 1/4" CMOS b/w |
| Image area | 3.89 x 2.45 mm |
| Pixel size | 3.0 x 3.0 µm |
| Shutter type | Global Shutter |
| Dynamic range | 68 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 | 270 mA max. |
| LED Illumination | no |
| Miscellaneous | customized housings available |
| Lens | various lenses available, adjustable in M9x0.5 lens tube |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| 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 |

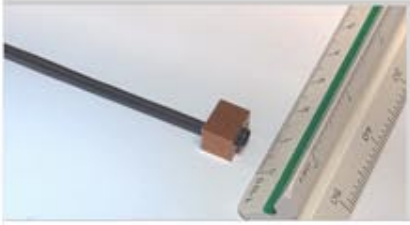


| Specification | |
|---|---|
| Size of standard housing | 0° type => Ø6.5x30 or 6.5x6.5x30 mm;<br>90° type => 10x6x30 mm<br>compact version for 0° type<br>with Ø6.5x14 mm as option |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 2592 x 1944 /24 fps<br>1920 x 1080 /24 fps<br>1600 x 1200 /24 fps<br>1280 x 720 /24 fps<br>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 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 120 mA max. |
| 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 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 5 MP Cube USB C | 84-0051-01 |
|  | Specification |
| Size of standard housing | 10 x 10 x 10 mm<br>(without lens) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB C |
| Resolution and<br>max. frame rate | 2592 x 1944 /30 fps<br>1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/4" CMOS Color |
| Image area | 3.674 x 2.738 mm |
| Pixel size | 1.4 x 1.4 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 68 dB |
| UVC format | MJPEG |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 Degree C |
| Interface | USB C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 200 mA max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | compact lenses; optional M9 lens tube as add on for HQ lenses M9 |

TECHNICAL DATA

# M-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| M-series 5MP MIC, USB, 0° | 84-0042-31 |
|  | Specification |
| Size of standard housing | Ø10 x 42 mm (without lens) for M9x0.5 mm lenses, 6.5x6.5 rear housing part; housing made of stainless steel |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 2592 x 1944 /24 fps<br>1920 x 1080 /24 fps<br>1600 x 1200 /24 fps<br>1280 x 720 /24 fps<br>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 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 120 mA max. |
| LED Illumination | no |
| Miscellaneous | Ø10 x 42 mm complete cylindrical housing as option;<br>customized housings available |
| Lens | various lenses available, adjustable in M9x0.5 lens tube (e.g. f3.6, f6.6, f10, f15.1) |

TECHNICAL DATA

# L-SERIES

MICRO CAMERAS / 2027

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




Specification

| | |
|---|---|
| Size of standard housing | 16x16x35 mm (without lens) |
| Standard cable | USB cable ~ 1.8 m (or ~ 5 m as option)<br>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 3.8V |
| Resolution and max. frame rate | 2592 x 1944 /10 fps<br>1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>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 availbale |

TECHNICAL DATA

# L-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| L-series 5 MP Cube USB, S-Mount | 85-0002-01 |



Specification

| | |
|---|---|
| Size of standard housing | 16 x 16 x 16 mm (without lens) |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type A |
| Resolution and max. frame rate | 2592 x 1944 /24 fps<br>1920 x 1080 /24 fps<br>1600 x 1200 /24 fps<br>1280 x 720 /24 fps<br>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 (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 120 mA max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | various S-Mount - lenses availbale |

TECHNICAL DATA

# L-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| L-series 8 MP USB PRO | 85-0011-01 |
| L-series 8 MP USB, stnd. fixed cable | 85-0011-02 |




| Specification | |
|---|---|
| Size of standard housing | PRO version 20x20x40 mm,<br>stnd. with fixed cable 22x22x40 mm,<br>(without lens) |
| Standard cable | USB cable ~ 1.8 m (or ~ 5 m as option),<br>PRO with removeable cable, Micro USB (type B) connector to camera / USB (type A) to PC |
| Resolution and max. frame rate | 3264 x 2448 /20 fps<br>2592 x 1944 /20fps<br>2048 x 1536 /20 fps<br>1920 x 1080 /25 fps<br>1280 x 720 /30 fps<br>1024 x 768 /30 fps |
| Image sensor | 1/3.2" CMOS Color |
| Image area | 4.59 x 3.45 mm |
| 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 | - 10 to 45 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 | |
| Lens | various S-Mount - lenses available |

TECHNICAL DATA

# L-SERIES

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| L-series 1080p GS 60 fps, 0°, S-Mount | 85-0021-01 |



| 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 |
| Resolution and max. frame rate | 1920 x 1080 /60 fps<br>1280 x 720 /60 fps<br>640 x 480 /60 fps |
| Image sensor | 1/2.7" CMOS color |
| Image area | 5.76 x 3.24 mm |
| Pixel size | 3.0 x 3.0 µm |
| Shutter type | Global Shutter |
| Dynamic range | 71.4 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 | tbd |
| LED Illumination | no |
| Miscellaneous | |
| Lens | various S-Mount - lenses available |

TECHNICAL DATA

# L-SERIES

MICRO CAMERAS / 2027

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




Specification

| | |
|---|---|
| Size of standard housing | 20 x 20 x 60 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 µm |
| Shutter type | Rolling Shutter |
| Dynamic range | 55.1 dB |
| UVC format | - |
| Storage temperature | - 30 to 60 Degree C |
| Working temperatur | - 10 to 45 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 |

TECHNICAL DATA

# SMART CAMERAS

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| Smart S CVBS, 90° view, LEDs | 83-0000-01 |
|  | Specification |
| Size of standard housing | 6 x 6 x 16 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 | 1.224 x 1.212 mm |
| Pixel size | 3.0 x 3.0 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, dimmable |
| Miscellaneous | |
| Lens | FOV ~120°, lens fixed |

TECHNICAL DATA

# SMART CAMERAS

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| Smart M HD 720p USB A, 0°, LEDs | 84-0000-01 |
| Smart M HD 720p USB C, 0°, LEDs | 84-0000-02 |



| 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 or C => LED dimmer switch at the cable |
| Resolution and max. frame rate | 1280 x 720 /30 fps<br>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 or USB C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 170 mA |
| LED Illumination | White LED, dimmable |
| Miscellaneous | |
| Lens | HFOV ~65°, lens fixed |

TECHNICAL DATA

# SMART CAMERAS

MICRO CAMERAS / 2027

| camera type | item no. |
|---|---|
| Smart M HD 1080p USB C, 0° | 84-0000-11 |



| | Specification |
|---|---|
| Size of standard housing | Ø 6.5 x 30 mm |
| Standard cable | approx. 200 cm USB-cable fixed at the camera / USB type C |
| Resolution and max. frame rate | 1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>640 x 480 /30 fps |
| Image sensor | 1/6" CMOS Color |
| Image area | 2.728 x 1.549 mm |
| 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 C (UVC => driver free) |
| Power source | DC 5 V (via USB) |
| Power current | 160 mA |
| LED Illumination | no |
| Miscellaneous | |
| Lens | FOV ~90°, lens adjustable |

TECHNICAL DATA

# SMART CAMERAS

MICRO CAMERAS / 2027

| 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 |
| Resolution and max. frame rate | 2592 x 1944 /10 fps<br>1920 x 1080 /30 fps<br>1280 x 720 /30 fps<br>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 max. |
| LED Illumination | no |
| Miscellaneous | |
| Lens | various S-Mount - lenses available |