

# Basler Portfolio

## PRODUCT OVERVIEW



**USB** VISION **BCON** for LVDS **BCON** for MIPI **GIGE** VISION

**CoaXPress** **CAMERA LINK**

**BASLER**  
the power of sight

# TECHNICAL DETAILS

## How to Read Our Camera Model Names

ac	A	2040	180	k	m	NIR
<b>Model</b> a2 = ace 2 ac = ace be = Basler beat bo = boost da = dart pu = pulse ra = racer sc = scout	<b>Type</b> A = Area scan L = Line scan	<b>Resolution</b> Horizontal pixels	<b>Frame Rate</b> Number of frames per second (fps) at full AOI	<b>Interface</b> k = CL c = CoaXPress g = GigE u = USB 3.0 m = BCON for MIPI l = BCON for LVDS	<b>Color</b> m = mono c = color	<b>Spectrum</b> NIR = Near Infrared  <b>Product Line</b> BAS = Basic PRO = Pro  <b>ISP</b> I = internal ISP for MIPI Cameras

# TECHNICAL DETAILS

Specifications are subject to change without notice.

Latest specifications and availability can be found on our website [baslerweb.com/products](http://baslerweb.com/products). Please visit [baslerweb.com/manuals](http://baslerweb.com/manuals) for the detailed camera User's Manual and [baslerweb.com/thirdparty](http://baslerweb.com/thirdparty) for information on third party software.



## Area Scan Cameras

Basler ace 2 Basic	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
a2A2590-60um/ucBAS	IMX334 ROI	2592×1944	60	m/c	8/10/12	USB 3.0	2.0×2.0	5.18×3.89	1/2.8"
a2A3840-45um/ucBAS	IMX334	3840×2160	45	m/c	8/10/12	USB 3.0	2.0×2.0	7.68×4.32	1/1.8"
a2A1920-160um/ucBAS	IMX392	1920×1200	160	m/c	8/10/12	USB 3.0	3.45×3.45	6.62×4.14	1/2.3"

ace 2 Basic USB 3.0 cameras are available with C-mount.



## Area Scan Cameras

Basler ace 2 Pro	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
a2A2590-60um/ucPRO	IMX334 ROI	2592×1944	60	m/c	8/10/12	USB 3.0	2.0×2.0	5.18×3.89	1/2.8"
a2A3840-45um/ucPRO	IMX334	3840×2160	45	m/c	8/10/12	USB 3.0	2.0×2.0	7.68×4.32	1/1.8"
a2A1920-160um/ucPRO	IMX392	1920×1200	160/170*	m/c	8/10/12	USB 3.0	3.45×3.45	6.62×4.14	1/2.3"

ace 2 Pro USB 3.0 cameras are available with C-mount.

\*up to 170 fps with Compression Beyond



## Area Scan Cameras

Basler ace Classic	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA640-90um/uc	ICX424	659×494	90	m/c	8/12	USB 3.0	7.4×7.4	4.88×3.66	1/3"
acA640-120um/uc	ICX618	659×494	120	m/c	8/12	USB 3.0	5.6×5.6	3.69×2.77	1/4"
acA1300-30um/uc	ICX445	1296×966	30	m/c	8/12	USB 3.0	3.75×3.75	4.86×3.62	1/3"
acA1600-20um/uc	ICX274	1626×1236	20	m/c	8/12	USB 3.0	4.4×4.4	7.16×5.44	1/1.8"
acA1920-25um/uc	MT9P031	1920×1080	26	m/c	8/12	USB 3.0	2.2×2.2	4.22×2.38	1/3.7"
acA2000-165um/uc	CMV2000	2048×1088	165	m/c	8/12	USB 3.0	5.5×5.5	11.26×5.98	2/3"
acA2000-165umNIR	CMV2000	2048×1088	165	m	8/12	USB 3.0	5.5×5.5	11.26×5.98	2/3"
acA2040-90um/uc	CMV4000	2048×2048	90	m/c	8/12	USB 3.0	5.5×5.5	11.26×11.26	1"
acA2040-90umNIR	CMV4000	2048×2048	90	m	8/12	USB 3.0	5.5×5.5	11.26×11.26	1"
acA2500-14um/uc	MT9P031	2592×1944	14	m/c	8/12	USB 3.0	2.2×2.2	5.70×4.28	1/2.5"
acA3800-14um/uc	MT9J003	3840×2748	14	m/c	8/12	USB 3.0	1.67×1.67	6.44×4.62	1/2.3"
acA4600-10uc	MT9F002	4608×3288	10	c	8/12	USB 3.0	1.4×1.4	6.45×4.63	1/2.3"

ace Classic USB 3.0 cameras are available with C- or CS-mount (depending on model).

NIR = Near Infrared Enhanced

# TECHNICAL DETAILS

## Area Scan Cameras



Basler ace U	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA640-750um/uc	PYTHON 300	640×480	751	m/c	8/10	USB 3.0	4.8×4.8	3.07×2.30	1/4"
acA720-520um/uc	IMX287	720×540	525	m/c	8/12	USB 3.0	6.9×6.9	4.97×3.73	1/2.9"
acA800-510um/uc	PYTHON 500	800×600	511	m/c	8/10	USB 3.0	4.8×4.8	3.84×2.88	1/3.6"
acA1300-200um/uc	PYTHON 1300	1280×1024	203	m/c	8/10	USB 3.0	4.8×4.8	6.14×4.92	1/2"
acA1440-220um/uc	IMX273	1440×1080	227	m/c	8/12	USB 3.0	3.45×3.45	4.97×3.73	1/2.9"
acA1920-40um/uc	IMX249	1920×1200	41	m/c	8/12	USB 3.0	5.86×5.86	11.25×7.03	1/1.2"
acA1920-150um/uc	PYTHON 2000	1920×1200	150	m/c	8/10	USB 3.0	4.8×4.8	9.50×6.08	2/3"
acA1920-155um/uc	IMX174	1920×1200	164	m/c	8/12	USB 3.0	5.86×5.86	11.25×7.03	1/1.2"
acA2040-55um/uc	IMX265	2048×1536	55	m/c	8/12	USB 3.0	3.45×3.45	7.07×5.30	1/1.8"
acA2040-120um/uc	IMX252	2048×1536	120	m/c	8/12	USB 3.0	3.45×3.45	7.07×5.30	1/1.8"
acA2440-35um/uc	IMX264	2448×2048	35	m/c	8/12	USB 3.0	3.45×3.45	8.45×7.07	2/3"
acA2440-75um/uc	IMX250	2448×2048	75	m/c	8/12	USB 3.0	3.45×3.45	8.45×7.07	2/3"
acA2500-60um/uc	PYTHON 5000	2592×2048	60	m/c	8/10	USB 3.0	4.8×4.8	12.44×9.83	1"
acA3088-57um/uc	IMX178	3088×2064	59	m/c	8/12	USB 3.0	2.4×2.4	7.41×4.95	1/1.8"
acA4024-29um/uc	IMX226	4024×3036	31	m/c	8/12	USB 3.0	1.85×1.85	7.44×5.62	1/1.7"
acA5472-17um/uc	IMX183	5472×3648	17	m/c	10/12	USB 3.0	2.4×2.4	13.13×8.76	1"

ace U USB 3.0 cameras are available with C-mount.

## Area Scan Cameras



Basler ace L	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA4096-30um/uc	IMX267	4096×2168	32	m/c	8/12	USB 3.0	3.45×3.45	14.13×7.45	1"
acA4096-40um/uc	IMX255	4096×2168	42	m/c	8/12	USB 3.0	3.45×3.45	14.13×7.45	1"
acA4112-20um/uc	IMX304	4096×3000	23	m/c	8/12	USB 3.0	3.45×3.45	14.13×10.35	1.1"
acA4112-30um/uc	IMX253	4096×3000	30	m/c	8/12	USB 3.0	3.45×3.45	14.13×10.35	1.1"

ace L USB 3.0 cameras are available with C-mount.

# TECHNICAL DETAILS

## Area Scan Cameras



Basler dart	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
daA1280-54um/uc	AR0134	1280 × 960	54	m/c	8/12	USB 3.0	3.75 × 3.75	4.80 × 3.60	1/3"
daA1600-60um/uc	EV76C570	1600 × 1200	60	m/c	8/12	USB 3.0	4.5 × 4.5	7.20 × 5.40	1/1.8"
daA1920-15um*	MT9P031	1920 × 1080	15	m	8/12	USB 3.0	2.2 × 2.2	4.22 × 2.38	1/3.7"
daA1920-30um/uc	MT9P031	1920 × 1080	30	m/c	8/12	USB 3.0	2.2 × 2.2	4.22 × 2.38	1/3.7"
<b>NEW</b> daA1920-160um/uc	IMX392	1920 × 1200	160	m/c	8/12	USB 3.0	3.45 × 3.45	6.62 × 4.14	1/2.3"
daA2500-14um/uc	MT9P031	2592 × 1944	14	m/c	8/12	USB 3.0	2.2 × 2.2	5.70 × 4.28	1/2.5"
<b>NEW</b> daA3840-45um/uc	IMX334	3840 × 2160	45	m/c	8/12	USB 3.0	2.00 × 2.00	7.68 × 4.32	1/1.8"

dart USB 3.0 cameras are available with S- or CS-mount or as a bare board variant without a lens mount.

\* Bare board only

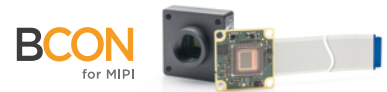
## Area Scan Cameras



Basler dart	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
daA1280-54lm/lc	AR0134	1280 × 960	54	m/c	8/12	BCON for LVDS	3.75 × 3.75	4.80 × 3.60	1/3"
daA1600-60lm/lc	EV76C570	1600 × 1200	60	m/c	8/12	BCON for LVDS	4.5 × 4.5	7.20 × 5.40	1/1.8"
daA2500-14lm/lc	MT9P031	2592 × 1944	14	m/c	8/12	BCON for LVDS	2.2 × 2.2	5.70 × 4.28	1/2.5"

dart BCON for LVDS cameras are available with S- or CS-mount or as a bare board variant without a lens mount.

## Area Scan Cameras



Basler dart	Sensor	Resolution (MP, H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
<b>NEW</b> daA2500-60mci*	AR0521	5 MP, 2560 × 1920	60	c	8	BCON for MIPI	2.2 × 2.2	5.70 × 4.30	1/2.5"
<b>NEW</b> daA4200-30mci*	AR1335	13 MP, 4208 × 3120	30	c	10	BCON for MIPI	1.1 × 1.1	4.63 × 3.43	1/3"
daA2500-60mc	AR0521	5 MP, 2560 × 1920	60	c	8	BCON for MIPI	2.2 × 2.2	5.70 × 4.30	1/2.5"
<b>NEW</b> daA3840-30mc	AE0821	8 MP, 3840 × 2160	30	c	14	BCON for MIPI	2.1 × 2.1	8.06 × 4.54	1/1.8"

dart BCON for MIPI cameras are available with S-mount or as a bare board variant without a lens mount.

\* On-camera ISP

# TECHNICAL DETAILS

## Embedded Vision Kits



Embedded Vision Kits	Interface	Sensor	Resolution (HxV pixels)	Frame Rate [fps]	Mono/Color	Lens	Processing Board
daA2500-14uc-EVA	USB 3.0	MT9P031	2592×1944	14	c	Evetar F1.8 f5.5mm 1/1.8"	-
daA2500-14lc-MZ7010	BCON for LVDS	MT9P031	2592×1944	14	c	Evetar F1.8 f5.5mm 1/1.8"	MicroZed
daA2500-60mc-SD820-DB8	BCON for MIPI	AR0521	2560×1920	60	c	Evetar F1.8 f5.5mm 1/1.8"	DB8
<b>NEW</b> daA4200-30mci-IMX8-EVK*	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	-
<b>NEW</b> daA2500-60mci-IMX8-EVK*	BCON for MIPI	AR0521	2560×1920	60	c	Evetar F1.8 f5.5mm 1/1.8"	-
<b>NEW</b> daA3840-30mc-IMX8MP	BCON for MIPI	coming soon	3840×2160	30	c	Evetar F2.0 f4.0mm 1/1.7"	-
<b>NEW</b> daA2500-60mc-IMX8MP	BCON for MIPI	AR0521	2560×1920	60	c	Evetar F1.8 f5.5mm 1/1.8"	-
<b>NEW</b> daA4200-30mci-MX8MM-VAR*	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	Variscite DART-MX8M-MINI
<b>NEW</b> daA2500-60mci-JNANO-NVDK-AddOn	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	-
<b>NEW</b> daA4200-30mci-JNANO-NVDK-AddOn	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	-
<b>NEW</b> daA4200-30mci-JNANO-NVDK	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	NVIDIA® Jetson™ Nano
<b>NEW</b> daA4200-30mci-JNANO-NVDK-AIA*	BCON for MIPI	AR1335	4208×3120	30	c	Evetar F1.8 f6mm 1/3"	NVIDIA® Jetson™ Nano

All Embedded Vision Kits come with a suitable cable and our free pylon Camera Software Suite. The dart BCON for LVDS Development Kits and the dart BCON for MIPI Development Kit include an additional processing board. For more information please visit [baslerweb.com/evkits](http://baslerweb.com/evkits)

\*On-camera ISP

# TECHNICAL DETAILS

## Area Scan Cameras



Basler pulse	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
puA1280-54um/uc	AR0134	1280 × 960	54	m/c	8/12	USB 3.0	3.75 × 3.75	4.80 × 3.60	1/3"
puA1600-60um/uc	EV76C570	1600 × 1200	60	m/c	8/12	USB 3.0	4.5 × 4.5	7.20 × 5.40	1/1.8"
puA1920-30um/uc	MT9P031	1920 × 1080	30	m/c	8/12	USB 3.0	2.2 × 2.2	4.22 × 2.38	1/3.7"
puA2500-14um/uc	MT9P031	2592 × 1944	14	m/c	8/12	USB 3.0	2.2 × 2.2	5.70 × 4.28	1/2.5"

pulse cameras are available with CS-mount.

## Area Scan Cameras



Basler ace 2 Basic	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
a2A1920-51gm/gcBAS	IMX392	1920 × 1200	51	m/c	8/10/12	GigE, PoE	3.45 × 3.45	6.62 × 4.14	1/2.3"
a2A2590-22gm/gcBAS	IMX334 ROI	2592 × 1944	22	m/c	8/10/12	GigE, PoE	2.0 × 2.0	5.18 × 3.89	1/2.8"
a2A3840-13gm/gcBAS	IMX334	3840 × 2160	13	m/c	8/10/12	GigE, PoE	2.0 × 2.0	7.68 × 4.32	1/1.8"

ace 2 Basic GigE cameras are available with C-mount.

## Area Scan Cameras



Basler ace 2 Pro	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
a2A1920-51gm/gcPRO	IMX392	1920 × 1200	51/100 <sup>1</sup>	m/c	8/10/12	GigE, PoE	3.45 × 3.45	6.62 × 4.14	1/2.3"
a2A2590-22gm/gcPRO	IMX334 ROI	2592 × 1944	22/44 <sup>2</sup>	m/c	8/10/12	GigE, PoE	2.0 × 2.0	5.18 × 3.89	1/2.8"
a2A3840-13gm/gcPRO	IMX334	3840 × 2160	13/26 <sup>3</sup>	m/c	8/10/12	GigE, PoE	2.0 × 2.0	7.68 × 4.32	1/1.8"

ace 2 Pro GigE cameras are available with C-mount.

<sup>1</sup> up to 100 fps with Compression Beyond

<sup>2</sup> up to 44 fps with Compression Beyond

<sup>3</sup> up to 26 fps with Compression Beyond

# TECHNICAL DETAILS

## Area Scan Cameras



Basler ace Classic	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA640-90gm/gc	ICX424	659 × 494	90	m/c	8/12	GigE, PoE	7.4 × 7.4	4.88 × 3.66	1/3"
acA640-120gm/gc	ICX618	659 × 494	120	m/c	8/12	GigE, PoE	5.6 × 5.6	3.69 × 2.77	1/4"
acA780-75gm/gc	ICX415	782 × 582	75	m/c	8/12	GigE, PoE	8.3 × 8.3	6.49 × 4.83	1/2"
acA1300-22gm/gc	ICX445	1296 × 966	22	m/c	8/12	GigE, PoE	3.75 × 3.75	4.86 × 3.62	1/3"
acA1300-30gm/gc	ICX445	1296 × 966	30	m/c	8/12	GigE, PoE	3.75 × 3.75	4.86 × 3.62	1/3"
acA1280-60gm/gc <sup>1</sup>	EV76C560	1282 × 1026	60	m/c	8/12	GigE, PoE	5.3 × 5.3	6.80 × 5.40	1/1.8"
acA1300-60gm/gc <sup>2</sup>	EV76C560	1282 × 1026	60	m/c	8/12	GigE, PoE	5.3 × 5.3	6.80 × 5.40	1/1.8"
acA1300-60gmNIR <sup>2</sup>	EV76C661	1282 × 1026	60	m	8/12	GigE, PoE	5.3 × 5.3	6.80 × 5.40	1/1.8"
acA1600-20gm/gc	ICX274	1626 × 1236	20	m/c	8/12	GigE, PoE	4.4 × 4.4	7.16 × 5.44	1/1.8"
acA1600-60gm/gc	EV76C570	1602 × 1202	60	m/c	8/12	GigE, PoE	4.5 × 4.5	7.20 × 5.40	1/1.8"
acA1920-25gm/gc	MT9P031	1920 × 1080	25	m/c	8/12	GigE, PoE	2.2 × 2.2	4.22 × 2.38	1/3.7"
acA2000-50gm/gc	CMV2000	2048 × 1088	50	m/c	8/12	GigE, PoE	5.5 × 5.5	11.26 × 5.98	2/3"
acA2000-50gmNIR	CMV2000	2048 × 1088	50	m	8/12	GigE, PoE	5.5 × 5.5	11.26 × 5.98	2/3"
acA2040-25gm/gc	CMV4000	2048 × 2048	25	m/c	8/12	GigE, PoE	5.5 × 5.5	11.26 × 11.26	1"
acA2040-25gmNIR	CMV4000	2048 × 2048	25	m	8/12	GigE, PoE	5.5 × 5.5	11.26 × 11.26	1"
acA2500-14gm/gc	MT9P031	2592 × 1944	14	m/c	8/12	GigE, PoE	2.2 × 2.2	5.70 × 4.28	1/2.5"
acA3800-10gm/gc	MT9J003	3840 × 2748	10	m/c	8/12	GigE, PoE	1.67 × 1.67	6.44 × 4.62	1/2.3"
acA4600-7gc	MT9F002	4608 × 3288	7	c	8/12	GigE, PoE	1.4 × 1.4	6.45 × 4.63	1/2.3"

ace Classic GigE cameras are available with C- or CS-mount (depending on model).

NIR = Near Infrared Enhanced

<sup>1</sup>rolling shutter <sup>2</sup>global shutter (switchable)



Basler ace U	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA640-121gm	ICX618 Replacement	659 × 494	134	m	8/12	GigE, PoE	5.6 × 5.6	3.69 × 2.77	1/4"
acA640-300gm/gc	PYTHON 300	640 × 480	376	m/c	8/10	GigE, PoE	4.8 × 4.8	3.07 × 2.30	1/4"
acA720-290gm/gc	IMX287	720 × 540	291	m/c	8/12	GigE, PoE	6.9 × 6.9	4.97 × 3.73	1/2.9"
acA800-200gm/gc	PYTHON 500	800 × 600	240	m/c	8/10	GigE, PoE	4.8 × 4.8	3.84 × 2.88	1/3.6"
acA1300-75gm/gc	PYTHON 1300	1280 × 1024	88	m/c	8/10	GigE, PoE	4.8 × 4.8	6.14 × 4.92	1/2"
acA1440-73gm/gc	IMX273	1440 × 1080	73	m/c	8/12	GigE, PoE	3.45 × 3.45	4.97 × 3.73	1/2.9"
acA1920-40gm/gc	IMX249	1920 × 1200	42	m/c	8/12	GigE, PoE	5.86 × 5.86	11.25 × 7.03	1/1.2"
acA1920-48gm/gc	PYTHON 2000	1920 × 1200	50	m/c	8/10	GigE, PoE	4.8 × 4.8	9.50 × 6.08	2/3"
acA1920-50gm/gc	IMX174	1920 × 1200	50	m/c	8/12	GigE, PoE	5.86 × 5.86	11.25 × 7.03	1/1.2"
acA2040-35gm/gc	IMX265	2048 × 1536	36	m/c	8/12	GigE, PoE	3.45 × 3.45	7.07 × 5.30	1/1.8"
acA2440-20gm/gc	IMX264	2448 × 2048	23	m/c	8/12	GigE, PoE	3.45 × 3.45	8.45 × 7.07	2/3"
acA2500-20gm/gc	PYTHON 5000	2592 × 2048	21	m/c	8/10	GigE, PoE	4.8 × 4.8	12.44 × 9.83	1"
acA3088-16gm/gc	IMX178	3088 × 2064	16	m/c	8/12	GigE, PoE	2.4 × 2.4	7.41 × 4.95	1/1.8"
acA4024-8gm/gc	IMX226	4024 × 3036	8	m/c	8/12	GigE, PoE	1.85 × 1.85	7.44 × 5.62	1/1.7"
acA5472-5gm/gc	IMX183	5472 × 3648	5	m/c	10/12	GigE, PoE	2.4 × 2.4	13.13 × 8.76	1"

ace U GigE cameras are available with C-mount.



# TECHNICAL DETAILS

## Area Scan Cameras



Basler ace L	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA4096-11gm/gc	IMX267	4096 × 2160	12	m/c	8/12	GigE, PoE	3.45 × 3.45	14.13 × 7.45	1"
acA4112-8gm/gc	IMX304	4096 × 3000	8	m/c	8/12	GigE, PoE	3.45 × 3.45	14.13 × 10.35	1.1"

ace L GigE cameras are available with C-mount.

## Area Scan Cameras



Basler scout	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
scA640-70gm/gc	ICX424	659 × 494	70	m/c	8/12	GigE	7.4 × 7.4	4.88 × 3.66	1/3"
scA750-60gm/gc	MT9V022	752 × 480	64	m/c	8	GigE	6.0 × 6.0	4.51 × 2.88	1/3"
scA1300-32gm/gc	ICX445	1296 × 966	32	m/c	8/12	GigE	3.75 × 3.75	4.86 × 3.62	1/3"
scA1400-17gm	ICX285	1392 × 1040	17	m	8/12	GigE	6.45 × 6.45	8.98 × 6.71	2/3"
scA1400-30gm	ICX285	1392 × 1040	30	m	8/12	GigE	6.45 × 6.45	8.98 × 6.71	2/3"
scA1600-14gm/gc	ICX274	1628 × 1236	14	m/c	8/12	GigE	4.4 × 4.4	7.16 × 5.44	1/1.8"
scA1600-28gm/gc	ICX274	1628 × 1236	28	m/c	8/12	GigE	4.4 × 4.4	7.16 × 5.44	1/1.8"

scout cameras are available with C-mount.

## Area Scan Cameras



<b>NEW</b> Basler boost	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
boA4112-68cm/cc	IMX253	4096 × 3000	68	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 10.3	1.1"
boA4096-93cm/cc	IMX255	4096 × 2168	93	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 7.5	1"
CXP-12 Bundle boA4112-68cm/cc 1C	IMX253	4096 × 3000	68	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 10.3	1.1"
CXP-12 Bundle boA4096-93 cm/cc 1C	IMX255	4096 × 2168	93	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 7.5	1"
CXP-12 Evaluation Kit boA4112-68cm/cc 1C	IMX253	4096 × 3000	68	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 10.3	1.1"
CXP-12 Evaluation Kit boA4096-93cm/cc 1C	IMX255	4096 × 2168	93	m/c	8/10/12	CXP-12	3.45 × 3.45	14.1 × 7.5	1"

boost cameras are available with C-, F-, M42 × 1-, M42 × 0.75-mount.

# TECHNICAL DETAILS

## Area Scan Cameras



Basler ace Classic	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
acA2000-340km/kc	CMV2000	2048 × 1088	340	m/c	8/10/12	CL (full), PoCL	5.5 × 5.5	11.26 × 5.98	2/3"
acA2000-340kmNIR	CMV2000	2048 × 1088	340	m	8/10/12	CL (full), PoCL	5.5 × 5.5	11.26 × 5.98	2/3"
acA2040-180km/kc	CMV4000	2048 × 2048	180	m/c	8/10/12	CL (full), PoCL	5.5 × 5.5	11.26 × 11.26	1"
acA2040-180kmNIR	CMV4000	2048 × 2048	180	m	8/10/12	CL (full), PoCL	5.5 × 5.5	11.26 × 11.26	1"

ace Classic Camera Link cameras are available with C-mount.

NIR = Near Infrared Enhanced

## Area Scan Cameras



Basler beat	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
beA4000-62km	CMV12000	4096 × 3072	62	m	8/10/12	CL (full)	5.5 × 5.5	22.53 × 16.90	1.75"
beA4000-62kc	CMV12000	4088 × 3070	62	c	8/10/12	CL (full)	5.5 × 5.5	22.53 × 16.90	1.75"

Basler beat cameras are available with F-, M42 × 1-, M58 × 0.75-, M42 × 0.75-mount.

## Line Scan Cameras



Basler racer	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Length [mm]
raL2048-48gm	DR-2k-7	2048	51	m	8/12	GigE	7.0 × 7.0	14.3
raL4096-24gm	DR-4k-7	4096	26	m	8/12	GigE	7.0 × 7.0	28.7
raL6144-16gm	DR-6k-7	6144	17	m	8/12	GigE	7.0 × 7.0	43.0
raL8192-12gm	DR-8k-3.5	8192	12	m	8/12	GigE	3.5 × 3.5	28.7
raL12288-8gm	DR-12k-3.5	12288	8	m	8/12	GigE	3.5 × 3.5	43.0

racer cameras are available with C-, F-, M42 × 1-, M42 × 0.75-mount.

## Line Scan Cameras



Basler racer	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Length [mm]
raL2048-80km	DR-2k-7	2048	80	m	8/10/12	CL <sup>1</sup>	7.0 × 7.0	14.3
raL4096-80km	DR-4k-7	4096	80	m	8/10/12	CL <sup>2</sup>	7.0 × 7.0	28.7
raL6144-80km	DR-6k-7	6144	80	m	8/10/12	CL (full)	7.0 × 7.0	43.0
raL8192-80km	DR-8k-3.5	8192	80	m	8/10/12	CL (full)	3.5 × 3.5	28.7
raL12288-66km	DR-12k-3.5	12288	66	m	8/10/12	CL (full)	3.5 × 3.5	43.0

racer cameras are available with C-, F-, M42 × 1-, M42 × 0.75-mount.

<sup>1</sup> CL (base), PoCL, <sup>2</sup> CL (medium), PoCL

# TECHNICAL DETAILS

## 3D Cameras



Basler ToF Cameras	Resolution (H × V pixels)	Frame Rate [fps]	Interface	Field of View	Working Range	Accuracy	Protection Class	Sunlight robust	Illumination Type
blaze-101	640 × 480	30	GigE	60° × 45°	0–10 m	< 5 mm @ 0.3–6 m; typical	IP67	yes	940 nm VCSEL
tof640-20gm_850nm	640 × 480	20	GigE	57° × 43°	0–13 m	< 10 mm @ 5 m, typical	IP30	no	850 nm LED

## IP Cameras



IP Fixed Box	Sensor	Resolution	Max. Frame Rate [fps]	Interface	Pixel Size [μm <sup>2</sup> ]	Optical Size	Video Compression	Lens Mount	Day/Night
BIP2-1300c	CCD	1280 × 960	30	Fast Ethernet	3.75 × 3.75	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1300c-dn	CCD	1280 × 960	30	Fast Ethernet	3.75 × 3.75	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1600c	CCD	1600 × 1200	12.5	Fast Ethernet	4.40 × 4.40	1/1.8"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1600c-dn	CCD	1600 × 1200	12.5	Fast Ethernet	4.40 × 4.40	1/1.8"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1600-25c	CCD	1600 × 1200	25	Fast Ethernet	4.40 × 4.40	1/1.8"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1600-25c-dn	CCD	1600 × 1200	25	Fast Ethernet	4.40 × 4.40	1/1.8"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1280c	CMOS	1280 × 720	30	Fast Ethernet	3.30 × 3.30	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1280c-dn	CMOS	1280 × 720	30	Fast Ethernet	3.30 × 3.30	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1920c	CMOS	1920 × 1080	30	Fast Ethernet	2.20 × 2.20	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1920c-dn	CMOS	1920 × 1080	30	Fast Ethernet	2.20 × 2.20	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1920-30c	CMOS	1920 × 1080	30	Fast Ethernet	5.86 × 5.86	1/1.3"	MJPEG, MPEG-4, H.264	C-mount, DC iris	---
BIP2-2500c	CMOS	2560 × 1920	15 (3 MP)	Fast Ethernet	2.20 × 2.20	1/2.5"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-2500c-dn	CMOS	2560 × 1920	15 (3 MP)	Fast Ethernet	2.20 × 2.20	1/2.5"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter

# TECHNICAL DETAILS



## Basler Cameras for Medical & Life Sciences



Basler MED ace	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Interface	Pixel Size [μm <sup>2</sup> ]	Sensor Size [mm <sup>2</sup> ]	Optical Size
Basler MED ace 2.3 MP 41 color/mono	IMX249	1920×1200	41	m/c	USB 3.0	5.86×5.86	11.25×7.03	1/1.2"
Basler MED ace 2.3 MP 164 color/mono	IMX174	1920×1200	164	m/c	USB 3.0	5.86×5.86	11.25×7.03	1/1.2"
Basler MED ace 5.1 MP 35 color/mono	IMX264	2448×2048	35	m/c	USB 3.0	3.45×3.45	8.45×7.07	2/3"
Basler MED ace 5.1 MP 75 color/mono	IMX250	2448×2048	75	m/c	USB 3.0	3.45×3.45	8.45×7.07	2/3"
Basler MED ace 5.3 MP 20 color/mono	PYTHON 5000	2590×2048	21	m/c	GigE	4.80×4.80	12.44×9.83	1"
Basler MED ace 8.9 MP 32 color/mono	IMX267	4096×2160	32	m/c	USB 3.0	3.45×3.45	14.13×7.45	1"
Basler MED ace 8.9 MP 42 color/mono	IMX255	4096×2160	42	m/c	USB 3.0	3.45×3.45	14.13×7.45	1"
Basler MED ace 12.3 MP 23 color/mono	IMX304	4096×3000	23	m/c	USB 3.0	3.45×3.45	14.13×10.35	1.1"
Basler MED ace 12.3 MP 30 color/mono	IMX253	4096×3000	30	m/c	USB 3.0	3.45×3.45	14.13×10.35	1.1"
<b>PLANNED</b> Basler MED ace 20.0 MP 17 color/mono	IMX183	5472×3648*	17*	m/c	USB 3.0	2.40×2.40 <sup>†</sup>	13.10×8.80 <sup>†</sup>	1"

The Basler MED ace cameras are available with C-mount.

With the certification according to ISO 13485:2016, Basler has proven its quality standards for the production, distribution and service of digital cameras as well as for placing them on the market.



The Basler MED ace cameras incorporate unique Basler MED Feature Sets: Easy Compliance, Brilliant Image, Perfect Color, Dust Protection, Low Light Imaging, High Speed and Industrial Excellence. They combine market-leading hardware, firmware and software features. For more information please visit [baslerweb.com/BaslerMEDace](http://baslerweb.com/BaslerMEDace)

\*preliminary

# TECHNICAL DETAILS



## Basler Cameras for Medical & Life Sciences



PowerPack for Microscopy	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Dynamic Range [dB]	Interface	Pixel Size [μm <sup>2</sup> ]	Active Area [mm]	Optical Size
Microscopy pulse 1.2MP	ON Semiconductor	1280×960	54	c	64	USB 3.0	3.75×3.75	6.00	1/3"
Microscopy pulse 2.0MP	ON Semiconductor	1920×1080	30	c	70.1	USB 3.0	2.20×2.20	4.85	1/3.7"
Microscopy pulse 3.3MP	ON Semiconductor	2048×1584	20	c	70.1	USB 3.0	2.20×2.20	5.7	1/3"
Microscopy pulse 5.0MP	ON Semiconductor	2592×1944	14	c	70.1	USB 3.0	2.20×2.20	7.13	1/2.5"
Microscopy ace 1.3MP 48	Sony PREGIUS	1280×1024	48	c	73.0	USB 3.0	5.86×5.86	9.60	1/1.8"
Microscopy ace 1.3MP 145	ON Semiconductor	1280×1024	145	c	56.2	USB 3.0	4.80×4.80	7.90	1/2"
Microscopy ace 1.3MP 200	ON Semiconductor	1280×1024	200	m	56.3	USB 3.0	4.80×4.80	7.90	1/2"
Microscopy ace 2.3 MP Mono	Sony PREGIUS	1920×1200	40	m	73.0	USB 3.0	5.86×5.86	13.30	1/1.2"
Microscopy ace 2.3 MP Color	Sony PREGIUS	1920×1200	40	c	73.0	USB 3.0	5.86×5.86	13.30	1/1.2"
Microscopy ace 3.2 MP	Sony PREGIUS	2048×1536	55	c	71.4	USB 3.0	3.45×3.45	9.00	1/1.8"
Microscopy ace 5.1 MP Mono	Sony PREGIUS	2448×2048	35	m	70.6	USB 3.0	3.45×3.45	11.20	2/3"
Microscopy ace 5.1 MP Color	Sony PREGIUS	2448×2048	35	c	70.6	USB 3.0	3.45×3.45	11.20	2/3"
Microscopy ace 12.2 MP	Sony Starvis	4024×3036	15	c	70.6	USB 3.0	1.85×1.85	9.30	1/1.7"

Basler Microscopy ace cameras are available with C-mount. Basler Microscopy pulse cameras are available with CS-mount, and are delivered with a CS- to C-mount adapter ring.

The Basler Microscopy Cameras are the centerpiece of Basler's PowerPack for Microscopy which delivers all the necessary components for a straightforward setup and easy installation, including the Basler Microscopy Software for camera control, image acquisition, processing, analysis and documentation. These cameras cannot be ordered separately from the Basler PowerPack for Microscopy. For more information please visit [baslerweb.com/MicroscopyPowerPack](http://baslerweb.com/MicroscopyPowerPack)

# BASLER'S VISION COMPONENTS

## Basler's Components Enhance Your Vision

An image processing system needs more than just a camera. Only a lens, light source, reliable data transfer and additional components such as frame grabbers, trigger cables, PC cards and power supplies turn a vision system into a functioning unit. High standards must be met in terms of quality, reliability and long-term availability with a good price/benefit ratio.

Basler offers a large selection of vision components that match each other perfectly. The priority in the careful selection of the portfolio is the compatibility and reliability of the components, as we strive to provide the right needs-oriented setup for complex, efficient systems as well as for cost-effective solutions.

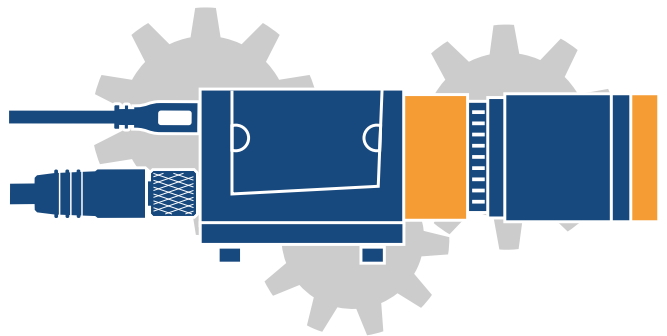
As technology leader, Basler is substantially involved in the development of new standards and offers all of the necessary, perfectly matched vision components from one source. As a result, our customers benefit from the superior reliability of their entire vision system.



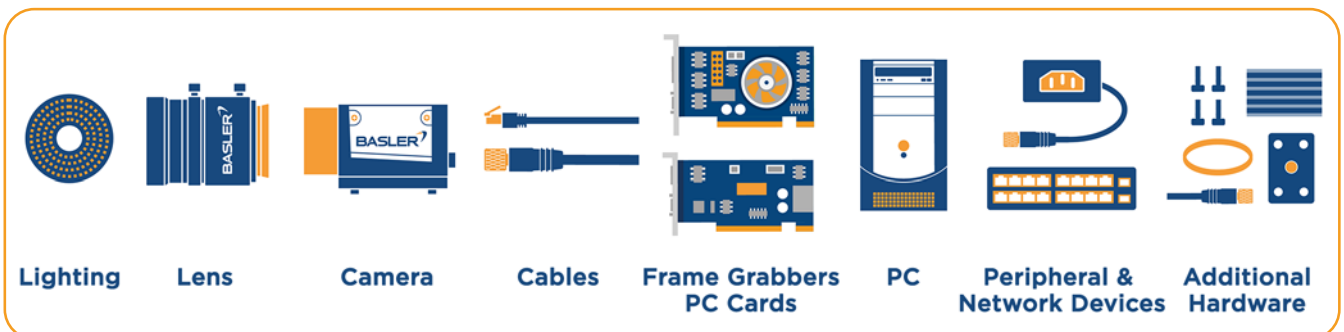
## Need Help Selecting the Right Vision Components for Your Application?

Select compatible components for your vision system with the help of our Vision System Configurator: [baslerweb.com/vision-system-configurator](http://baslerweb.com/vision-system-configurator)

You can pick cameras, lenses, power and data cables as well as other accessories step by step. We ensure that the selected components fit together.



## Typical set-up of a camera system





## Basler Vision Components – Benefits at a Glance

### Cost savings

- in-house developments or developments in co-operation with other companies
- needs-oriented products
- complexity reduction thanks to perfectly harmonized components
- one-stop shopping
- Single Point of Contact (SPoC)
- long-term availability

### High reliability

- matching, certified and tested vision components
- regular function and interoperability tests
- provision of all required certifications

### Good delivery times & long-term availability

- in-house logistics
- same deliverability for camera and compatible accessories
- spare parts supply throughout the entire lifecycle

### Easy system setup & simple integration

- broad and harmonized product portfolio
- time-saving tools to configure and select components
- professional consulting before and after the buying decision

# BASLER'S VISION COMPONENTS

## Basler Lenses Give Vision Applications the Required Sharpness

Lenses depict the captured light on a camera's sensor. Combined with a camera and lighting, they are instrumental in determining the image quality. In the worst case, choosing the wrong lens can result in an irretrievable loss in image quality.

Of interest when choosing the right lens is the balance between the required imaging performance, i.e. high resolution with optical image quality and the price. A very good imaging performance saves processing time in the further image analysis software and in many cases makes the analysis of even finest structures possible in the first place. If a basic imaging performance and average optical errors are acceptable or if these errors can actually be corrected through image processing, cost-efficient lenses are a better choice.

Whether there are high standards in terms of image quality or a focus on lower costs due to competitive pressure, Basler offers two product lines for both scenarios. The Standard product line stands for the best price/performance ratio and offers good basic performance. The Premium product line offers optimal imaging quality with much higher optical resolution but without neglecting the cost factor.

Both product lines support popular image circles of sensors available in Basler cameras, from 1/2.5" to 1.1", as well as all common focal lengths. The lenses are equipped with a C-mount and can also be conveniently used with CS-mount cameras with the help of an adapter.



### Highlights of the Basler Standard Lenses

- excellent price/performance ratio
- solid basic performance
- suitable for simple vision applications and price-sensitive systems
- ideal for fast cameras with a low resolution



### Highlights of the Basler Premium Lenses

- designed and tested for the most demanding applications
- best quality: very high resolution, low distortion, low vignetting
- optimal for cameras with very high resolutions for the analysis of the smallest structures
- still cost-optimized



## Need Help Selecting the Right Lens for Your Application?

Find the right lens for your Basler camera! Several suitable lenses for your application are suggested to you based on data such as focal length, angle of view, working distance or object size. Test our convenient Lens Selector: [baslerweb.com/lens-selector](https://baslerweb.com/lens-selector)



# BASLER'S VISION COMPONENTS



Basler Lens	Maximum Image Circle	Mount	Focal Length [mm]	Maximum Relative Aperture	Resolution	Product Line
Basler Lens C23-0824-5M-P	2/3" (11 mm)	C-mount	8 mm	1:2.4	5 MP	Premium
Basler Lens C23-1224-5M-P	2/3" (11 mm)	C-mount	12 mm	1:2.4	5 MP	Premium
Basler Lens C23-1618-5M-P	2/3" (11 mm)	C-mount	16 mm	1:1.8	5 MP	Premium
Basler Lens C23-2518-5M-P	2/3" (11 mm)	C-mount	25 mm	1:1.8	5 MP	Premium
Basler Lens C23-3518-5M-P	2/3" (11 mm)	C-mount	35 mm	1:1.8	5 MP	Premium
Basler Lens C23-5028-5M-P	2/3" (11 mm)	C-mount	50 mm	1:2.8	5 MP	Premium
Basler Lens C11-0824-12M-P	1.1" (17.5 mm)	C-mount	8.5 mm	1:2.4	12 MP	Premium
Basler Lens C11-1220-12M-P	1.1" (17.5 mm)	C-mount	12 mm	1:2.0	12 MP	Premium
Basler Lens C11-1620-12M-P	1.1" (17.5 mm)	C-mount	16 mm	1:2.0	12 MP	Premium
Basler Lens C11-2520-12M-P	1.1" (17.5 mm)	C-mount	25 mm	1:2.0	12 MP	Premium
Basler Lens C11-3520-12M-P	1.1" (17.5 mm)	C-mount	35 mm	1:2.0	12 MP	Premium
Basler Lens C11-5020-12M-P	1.1" (17.5 mm)	C-mount	50 mm	1:2.0	12 MP	Premium
Basler Lens C125-0418-5M-P	1/2.5" (7.3 mm)	C-mount	4 mm	1:1.8	5 MP	Premium
Basler Lens C125-0618-5M-P	1/2.5" (7.3 mm)	C-mount	6 mm	1:1.8	5 MP	Premium
Basler Lens C125-0818-5M-P	1/2.5" (7.3 mm)	C-mount	8 mm	1:1.8	5 MP	Premium
Basler Lens C125-1218-5M-P	1/2.5" (7.3 mm)	C-mount	12 mm	1:1.8	5 MP	Premium
Basler Lens C125-1620-5M-P	1/2.5" (7.3 mm)	C-mount	16 mm	1:2.0	5 MP	Premium
Basler Lens C125-2522-5M-P	1/2.5" (7.3 mm)	C-mount	25 mm	1:2.2	5 MP	Premium
Basler Lens C23-0816-2M-S	2/3" (11 mm)	C-mount	8.6 mm	1:1.6	2 MP	Standard
Basler Lens C23-1216-2M-S	2/3" (11 mm)	C-mount	12 mm	1:1.6	2 MP	Standard
Basler Lens C23-1616-2M-S	2/3" (11 mm)	C-mount	16 mm	1:1.6	2 MP	Standard
Basler Lens C23-2518-2M-S	2/3" (11 mm)	C-mount	25 mm	1:1.8	2 MP	Standard
Basler Lens C23-3520-2M-S	2/3" (11 mm)	C-mount	35 mm	1:2.0	2 MP	Standard
Basler Lens C23-5026-2M-S	2/3" (11 mm)	C-mount	50 mm	1:2.6	2 MP	Standard
Basler Lens C10-0814-2M-S	1" (16 mm)	C-mount	8 mm	1:1.4	2 MP	Standard
Basler Lens C10-1214-2M-S	1" (16 mm)	C-mount	12.5 mm	1:1.4	2 MP	Standard
Basler Lens C10-1614-3M-S	1" (16 mm)	C-mount	16 mm	1:1.4	3 MP	Standard
Basler Lens C10-2514-3M-S	1" (16mm)	C-mount	25 mm	1:1.4	3 MP	Standard
Basler Lens C10-3514-8M-S	1" (16 mm)	C-mount	35 mm	1:1.4	8 MP	Standard
Basler Lens C10-5014-2M-S	1" (16 mm)	C-mount	50 mm	1:1.4	2 MP	Standard

For availability please refer to our website [baslerweb.com/lenses](http://baslerweb.com/lenses)

# FRAME GRABBERS AND VISUAL APPLETS

## Frame Grabber Portfolio - High-Performance, Reliable and Flexible

Frame grabbers are the control center for robust high-speed image acquisition and processing in real time on FPGAs including image pre-processing, which minimizes the CPU load. Paired with graphic FPGA programming (VisualApplets), software and appropriate components, our frame grabbers play a vital role in the success of your individual image processing project.



### Frame Grabbers and Accessories



Select the right board for your image processing task from one of the most extensive frame grabber ranges in the market. The boards excel with robust image capture, image pre-processing, minimal latencies and top speeds for all conventional camera interfaces. We realize solutions in the field of real-time image processing and industrial use. Frame grabbers have powerful FPGA processors to integrate high-quality image preprocessing functions into the firmware (A series). For programmable frame grabbers (V series), further FPGA resources and larger memory expansion are available for carrying out even complex image processing directly on the frame grabber without loading the CPU. Our extension products offer new opportunities for building new system solutions, from signal processing boards to image data replicators and to image processing library and many more.

### VisualApplets



VisualApplets is a highly intuitive tool for graphically programming FPGA processors of image processing hardware, such as frame grabbers, industrial cameras and image processing devices, to realize completely individual image processing alongside standard applications. This solution has been implemented in a variety of fields for numerous industrial applications. The approach to FPGA programming using data flow models on a GUI makes it easy for hard- as well as software developers and application engineers to intuitively generate applet designs for complex image processing tasks in short order - even with no hardware programming proficiency. All programmed applications are executed on the FPGA in real time. VisualApplets also provides extension packets consisting of Expert, Embedder, Libraries and Protection functionalities.

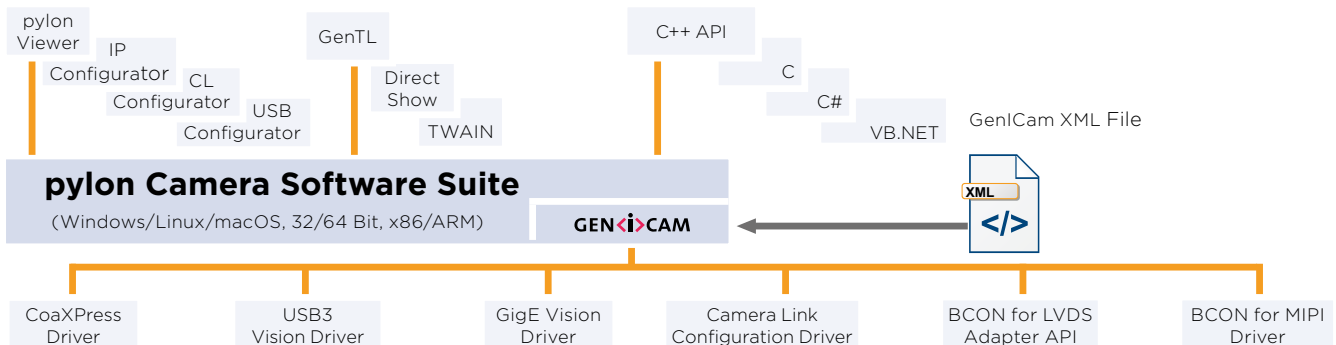
# FRAME GRABBERS

	Camera IF	Connectors	Max. Data in	FPGA programming	PC Bus IF	Resolution A:Area, L:Line
<b>GigE Vision</b>						
mEIV AQ4-GE	GigE Vision	4x RJ45	4x125 MB/s	configurable	PCIe x4 (Gen 1)	A:8kx8k, L:16k
mEIV AQ4-GPoE	GigE Vision	4x RJ45	4x125 MB/s	configurable	PCIe x4 (Gen 1)	A:8kx8k, L:16k
mEIV VQ4-GE	GigE Vision	4x RJ45	4x125 MB/s	programmable	PCIe x4 (Gen 1)	A:64kx64k, L:64k
mEIV VQ4-GPoE	GigE Vision	4x RJ45	4x125 MB/s	programmable	PCIe x4 (Gen 1)	A:64kx64k, L:64k
<b>CoaXPress</b>						
mE5 ironman AQ8-CXP6D	CoaXPress 1.1	4x DIN 1.0/2.3	4x6,25 Gb/s	configurable	PCIe x8 (Gen 2)	A:16kx64k, L:16k
mE5 ironman VQ8-CXP6D	CoaXPress 1.1	4x DIN 1.0/2.3	4x6,25 Gb/s	programmable	PCIe x8 (Gen 2)	A:64kx64k, L:64k
mE5 marathon ACX-SP	CoaXPress 1.1.1	1x DIN 1.0/2.3	1x6,25 Gb/s	configurable	PCIe x4 (Gen 2)	A:16kx64k, L:32k
mE5 marathon ACX-DP	CoaXPress 1.1.1	2x DIN 1.0/2.3	2x6,25 Gb/s	configurable	PCIe x4 (Gen 2)	A:16kx64k, L:32k
mE5 marathon ACX-QP	CoaXPress 1.1.1	4x DIN 1.0/2.3	4x6,25 Gb/s	configurable	PCIe x4 (Gen 2)	A:16kx64k, L:32k
mE5 marathon VCX-QP	CoaXPress 1.1.1	4x DIN 1.0/2.3	4x6,25 Gb/s	programmable	PCIe x4 (Gen 2)	A:64kx64k, L:64k
<b>Camera Link HS</b>						
mE5 marathon AF2	Camera Link HS	2x SFP+	2x10 Gb/s	configurable	PCIe x4 (Gen 2)	A:32kx64k, L:16k
mE5 marathon VF2	Camera Link HS	2x SFP+	2x10 Gb/s	programmable	PCIe x4 (Gen 2)	A:64kx64k, L:64k
<b>Camera Link</b>						
mE5 ironman AD8-PoCL	Camera Link 2.0	2x MDR26	850 MB/s	configurable	PCIe x8 (Gen 2)	A:16kx64k, L:16k
mE5 ironman VD8-PoCL	Camera Link 2.0	2x MDR26	850 MB/s	programmable	PCIe x8 (Gen 2)	A:64kx64k, L:64k
mE5 marathon ACL	Camera Link 2.0	2x SDR26 (miniCL)	850 MB/s	configurable	PCIe x4 (Gen 2)	A:16kx64k, L:16-52k
mE5 marathon VCL	Camera Link 2.0	2x SDR26 (miniCL)	850 MB/s	programmable	PCIe x4 (Gen 2)	A:64kx64k, L:64k
mE5 marathon VCLx	Camera Link 2.0	2x SDR26 (miniCL)	850 MB/s	programmable	PCIe x4 (Gen 2)	A:64kx64k, L:64k
mE5 marathon deepVCL	Camera Link 2.0	2x SDR26 (miniCL)	850 MB/s	programmable	PCIe x4 (Gen 2)	A:64kx64k, L:64k

Learn more at [baslerweb.com/framegrabbers](https://baslerweb.com/framegrabbers)

## Basler pylon Camera Software Suite

The pylon Camera Software Suite operates with all Basler area scan and line scan cameras - no matter what interface they use. It offers stable, reliable and flexible data exchange between Basler cameras and PCs, for Windows, macOS, Linux on x86 and ARM based systems – at a very low CPU load.



The architecture of the pylon Camera Software Suite is based on GenICam Technology, which offers you easy access to the newest camera models and the latest features. Changes to an existing camera device in your application essentially become a plug-and-play process.

An easy-to-use set of tools lets you configure the camera's interface. Use the **pylon Viewer** to set camera parameters, to capture and display images, and to evaluate the camera.

The **pylon CoaXPress Driver** allows for effortless installation of Basler CXP-12 interface cards and Basler CoaXPress cameras. Thanks to integrated GenTL support, Basler CoaXPress cameras can also be used in any GenICam GenTL compatible 3rd party libraries.

The **pylon USB3 Vision Driver** fully supports the USB3 Vision standard. It allows Basler USB 3.0 cameras to use the full speed and bandwidth of USB 3.0 for image transmission while reducing resource load and using off-the-shelf hardware components.

The **pylon GigE Vision Driver** quickly separate incoming packets carrying image data from other traffic on the network and make the data available for use by your vision application while requiring the lowest CPU resources.

The pylon **Camera Link Configuration Driver** offers comfortable access to all camera parameters of Basler's latest Camera Link families ace, aviator, and racer.

The **BCON Adapter API** allows easy implementation of an adapter to communicate with the systems I<sup>2</sup>C interface. A ready to use sample adapter implementation is also provided.

The **MIPI Driver Package** offers plug and play experience with Basler MIPI-CSI-2 camera modules for supported platforms

The pylon Camera Software Suite also contains a powerful SDK that supports any type of application development. The pylon package contains the following main modules. Each one can be individually selected/unselected during the installation process, preventing the installation of unneeded modules on your system:

- USB3 Vision Driver
- GigE Vision Driver
- CoaXPress Driver
- BCON Adapter API
- MIPI Driver Package
- Camera Link Serial Communication Driver
- pylon Viewer
- SDK for all cameras; C, C++, C#, VB.NET (Windows only)

The pylon Camera Software Suite can be downloaded for free at [baslerweb.com/pylon](https://baslerweb.com/pylon). For more information on the installation process, refer to the pylon Installation Guide. The helpful pylon Release Notes contain all improvements and bug fixes since the first pylon version.

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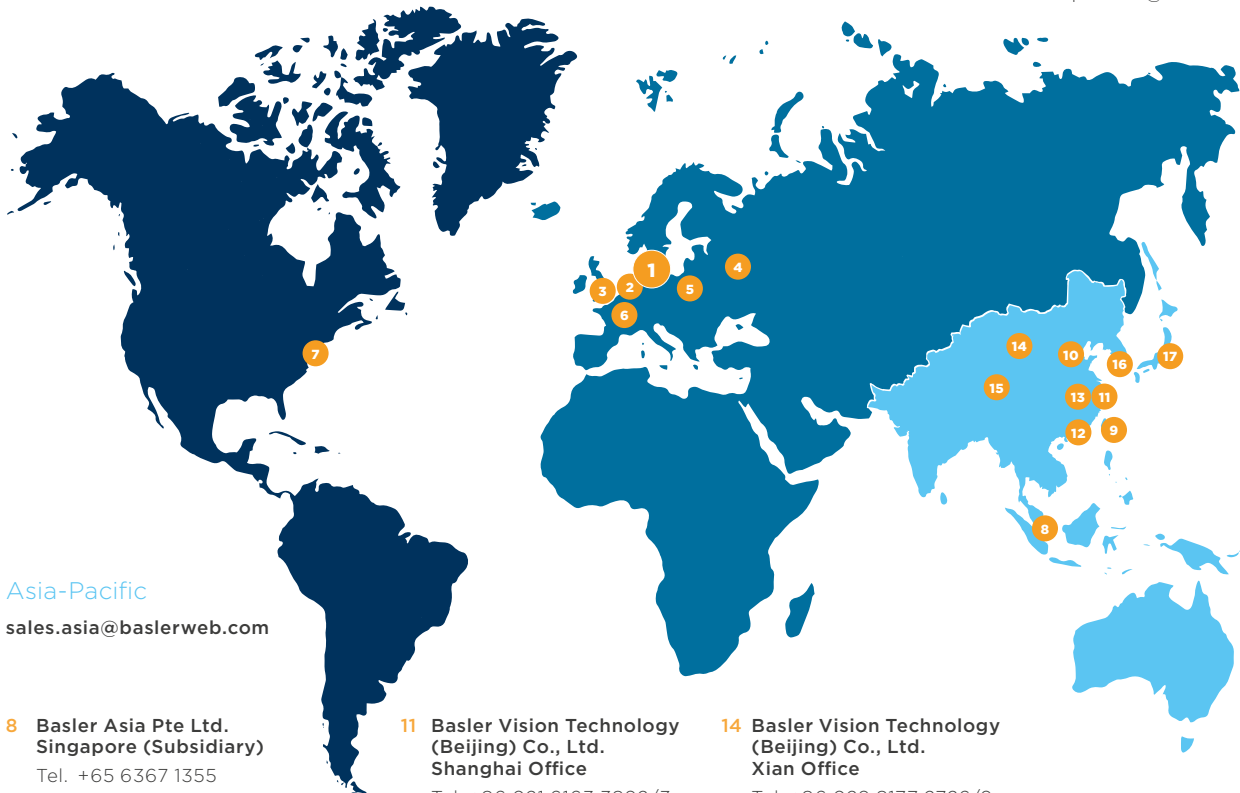
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## NOTES

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## OTHER INFORMATION

### How Does Basler Measure and Define Image Quality?



Basler is leading the effort to standardize image quality and sensitivity measurement for cameras and sensors. We are giving the EMVA 1288 standard our strongest support because it describes a unified method to measure, compute, and present the specification parameters for cameras and image sensors. Our cameras are characterized and measured in 100% compliance with the EMVA 1288 standard. Measurement reports can be downloaded from our website.

### How Does Basler Ensure Superior Quality and Reliable High Performance?

Our approach to quality assurance is rigorous: we continually audit all facets of our business to ensure powerful performance, increase efficiency and reduce costs for our customers. We are compliant with all major quality standards including ISO 9001, CE, RoHS, and more. To ensure consistently high product quality, we employ several quality inspection procedures during manufacturing.

Every Basler camera is subjected to exhaustive optical and mechanical tests before leaving the factory. We have developed a unique combination of optics, hardware, and software tools that can quickly and efficiently calibrate a camera and measure its performance against a set of standard performance criteria. Regardless of what technology or camera model you choose you can be assured of consistent performance.

### About Basler

Basler is a leading international manufacturer of high-quality imaging components for computer vision applications. In addition to classic area scan and line scan cameras, lenses, frame grabbers, light modules, and software, the company offers embedded vision modules and solutions, 3D products, as well as customized products and consulting services. Basler's products are used in a variety of markets and applications, including factory automation, medical, logistics, retail, and robotics. They are characterized by high reliability, an excellent price/performance ratio, and long-term availability. Founded in 1988, the Basler Group employs around 800 people at its headquarters in Ahrensburg and other locations in Europe, Asia and North America. Thanks to its worldwide sales and service organization and cooperation with renowned partners, it offers solutions that fit for customers from a wide range of sectors.



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