

# Basler Cameras

## PRODUCT LINE OVERVIEW



USB<sup>®</sup>  
VISION

BCON  
FOR LVDS

GiGE<sup>®</sup>  
VISION

CAMERA  
Link<sup>®</sup>  
HighSpeed Ethernet

FireWire

**BASLER**  
the power of sight

# TECHNICAL DETAILS

## Area Scan Cameras



	Basler ace	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/ Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	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"
NEW	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"
NEW	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"
	acA1300-30um/uc	ICX445	1296×966	30	m/c	8/12	USB 3.0	3.75×3.75	4.86×3.62	1/3"
NEW	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"
	acA1600-20um/uc	ICX274	1628×1236	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	25	m/c	8/12	USB 3.0	2.2×2.2	4.22×2.38	1/3.7"
NEW	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"
NEW	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"
	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	2590×1942	14	m/c	8/12	USB 3.0	2.2×2.2	5.70×4.28	1/2.5"
NEW	acA2500-60um/uc	PYTHON 5000	2590×2048	60	m/c	8/10	USB 3.0	4.8×4.8	12.44×9.83	1"
	acA3800-14um/uc	MT9J003	3856×2764	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 USB 3.0 cameras are available with C or CS-mount (depending on model).

Specifications are subject to change without prior notice.

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

NIR = Near Infrared Enhanced

## Area Scan Cameras



	Basler dart	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/ Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	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*1	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"
	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"

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

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\*1 Bare board only

# TECHNICAL DETAILS

## Microscopy Cameras



	Basler PowerPack - Microscopy	Sensor	Resolution (H×V pixels)	Frame Rate [Hz]	Mono/Color	Dynamic Range [dB]	Interface	Pixel Size [μm²]	Active Area [mm]	Optical Size
<b>NEW</b>	Microscopy pulse 1.2MP	Aptina	1280×960	54	Color	64	USB 3.0	3.75×3.75	6.00	1/3"
<b>NEW</b>	Microscopy pulse 2.0MP	Aptina	1920×1080	30	Color	70.1	USB 3.0	2.20×2.20	4.85	1/3.7"
<b>NEW</b>	Microscopy pulse 5.0MP	Aptina	2592×1944	14	Color	70.1	USB 3.0	2.20×2.20	7.13	1/2.5"
<b>NEW</b>	Microscopy ace 1.3MP	Sony PREGIUS	1280×1024	48	Color	73	USB 3.0	5.86×5.86	9.60	1/1.8"
<b>NEW</b>	Microscopy ace 2.3MP	Sony PREGIUS	1920×1200	82	Color	73	USB 3.0	5.86×5.86	13.30	1/1.2"

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

## Area Scan Cameras



Basler pulse	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	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"

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## Area Scan Cameras



	Basler dart	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	Optical Size
<b>NEW</b>	daA1280-54bm/bc	AR0134	1280 × 960	54	m/c	8/12	BCON	3.75 × 3.75	4.80 × 3.60	1/3"
<b>NEW</b>	daA1600-60bm/bc	EV76C570	1600 × 1200	60	m/c	8/12	BCON	4.5 × 4.5	7.20 × 5.40	1/1.8"
<b>NEW</b>	daA2500-14bm/bc	MT9P031	2592 × 1944	14	m/c	8/12	BCON	2.2 × 2.2	5.70 × 4.28	1/2.5"

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

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# TECHNICAL DETAILS

## Area Scan Cameras



Basler ace	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"
acA645-100gm/gc	ICX414	659 × 494	100	m/c	8/12	GigE, PoE	9.9 × 9.9	6.52 × 4.89	1/2"
<b>NEW</b> acA640-300gm/gc	PYTHON 300	640 × 480	376	m/c	8/10	GigE, PoE	4.8 × 4.8	3.07 × 2.30	1/4"
acA750-30gm/gc	ICX409	752 × 580	30	m/c	8/12	GigE, PoE	6.5 × 6.25	4.89 × 3.64	1/3"
acA780-75gm/gc	ICX415	782 × 582	75	m/c	8/12	GigE, PoE	8.3 × 8.3	6.49 × 4.83	1/2"
<b>NEW</b> 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"
acA1300-22gm/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"
<b>NEW</b> acA1300-75gm/gc	PYTHON 1300	1280 × 1024	88	m/c	8/10	GigE, PoE	4.8 × 4.8	6.14 × 4.92	1/2"
acA1280-60gm/gc* <sup>1</sup>	EV76C560	1280 × 1024	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	1280 × 1024	60	m/c	8/12	GigE, PoE	5.3 × 5.3	6.80 × 5.40	1/1.8"
acA1300-60gmNIR* <sup>2</sup>	EV76C661	1280 × 1024	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	1600 × 1200	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"
<b>NEW</b> acA1920-40gm/gc	IMX249	1920 × 1200	42	m/c	8/12	GigE, PoE	5.86 × 5.86	11.25 × 7.03	1/1.2"
<b>NEW</b> 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"
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"
<b>NEW</b> acA2500-20gm/gc	PYTHON 5000	2590 × 2048	21	m/c	8/10	GigE, PoE	4.8 × 4.8	12.44 × 9.83	1"
acA3800-10gm/gc* <sup>1</sup>	MT9J003	3856 × 2764	10	m/c	8/12	GigE, PoE	1.67 × 1.67	6.44 × 4.62	1/2.3"
acA4600-7gc* <sup>1</sup>	MT9F002	4608 × 3288	7	c	8/12	GigE, PoE	1.4 × 1.4	6.45 × 4.63	1/2.3"

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

Specifications are subject to change without prior notice.

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

NIR = Near Infrared Enhanced

\*1 rolling shutter \*2 global shutter (switchable)

## TECHNICAL DETAILS

### Area Scan Cameras



Basler aviator	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	Optical Size
avA1000-100gm/gc	KAI-01050	1024 × 1024	101	m/c	8/12	GigE	5.5 × 5.5	5.63 × 5.63	1/2"
avA1600-50gm/gc	KAI-02050	1600 × 1200	55	m/c	8/12	GigE	5.5 × 5.5	8.80 × 6.60	2/3"
avA1900-50gm/gc	KAI-02150	1920 × 1080	51	m/c	8/12	GigE	5.5 × 5.5	10.56 × 5.94	2/3"
avA2300-25gm/gc	KAI-04050	2330 × 1750	26	m/c	8/12	GigE	5.5 × 5.5	12.85 × 9.64	1"

aviator cameras are available with C-mount.

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### Area Scan Cameras



Basler pilot	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	Optical Size
piA640-210gm/gc	KAI-0340	648 × 488	210	m/c	8/12	GigE	7.4 × 7.4	4.80 × 3.61	1/3"
piA1000-48gm/gc	KAI-1020	1004 × 1004	48	m/c	8/12	GigE	7.4 × 7.4	7.43 × 7.43	2/3"
piA1000-60gm/gc	KAI-1020	1004 × 1004	60	m/c	8/12	GigE	7.4 × 7.4	7.43 × 7.43	2/3"
piA1600-35gm/gc	KAI-2020	1608 × 1208	35	m/c	8/12	GigE	7.4 × 7.4	11.90 × 8.94	1"
piA1900-32gm/gc	KAI-2093	1928 × 1084	32	m/c	8/12	GigE	7.4 × 7.4	14.21 × 8.02	1"
piA2400-17gm/gc	ICX625	2456 × 2058	17	m/c	8/12	GigE	3.45 × 3.45	8.47 × 7.10	2/3"

pilot cameras are available with C-mount.

Specifications are subject to change without prior notice.

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

### Area Scan Cameras



Basler scout	Sensor	Resolution (H × V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	Optical Size
scA640-70gm/gc	ICX424	659 × 494	70	m/c	8/12	GigE	7.4 × 7.4	4.88 × 3.66	1/3"
scA640-74gm/gc	ICX414	659 × 494	79	m/c	8/12	GigE	9.9 × 9.9	6.52 × 4.89	1/2"
scA640-120gm/gc	ICX618	659 × 494	122	m/c	8/12	GigE	5.6 × 5.6	3.69 × 2.77	1/4"
scA750-60gm/gc	MT9V022	752 × 480	64	m/c	8	GigE	6.0 × 6.0	4.51 × 2.88	1/3"
scA780-54gm/gc	ICX415	782 × 582	55	m/c	8/12	GigE	8.3 × 8.3	6.49 × 4.83	1/2"
scA1000-30gm/gc	ICX204	1034 × 779	31	m/c	8/12	GigE	4.65 × 4.65	4.81 × 3.62	1/3"
scA1300-32gm/gc	ICX445	1296 × 966	32	m/c	8/12	GigE	3.75 × 3.75	4.86 × 3.62	1/3"
scA1390-17gm/gc	ICX267	1392 × 1040	17	m/c	8/12	GigE	4.65 × 4.65	6.47 × 4.84	1/2"
scA1400-17gm/gc	ICX285	1392 × 1040	17	m/c	8/12	GigE	6.45 × 6.45	8.98 × 6.71	2/3"
scA1400-30gm/gc	ICX285	1392 × 1040	30	m/c	8/12	GigE	6.45 × 6.45	8.98 × 6.71	2/3"
scA1600-14gm/gc	ICX274	1626 × 1236	14	m/c	8/12	GigE	4.4 × 4.4	7.16 × 5.44	1/1.8"
scA1600-28gm/gc	ICX274	1626 × 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.

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

# TECHNICAL DETAILS

## Area Scan Cameras



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

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NIR = Near Infrared Enhanced

## Area Scan Cameras



Basler aviator	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
avA1000-120km/kc	KAI-01050	1024 × 1024	120	m/c	8/10/12	CL (base)	5.5 × 5.5	5.63 × 5.63	1/2"
avA1600-65km/kc	KAI-02050	1600 × 1200	67	m/c	8/10/12	CL (base)	5.5 × 5.5	8.80 × 6.60	2/3"
avA1900-60km/kc	KAI-02150	1920 × 1080	62	m/c	8/10/12	CL (base)	5.5 × 5.5	10.56 × 5.94	2/3"
avA2300-30km/kc	KAI-04050	2330 × 1750	31	m/c	8/10/12	CL (base)	5.5 × 5.5	12.85 × 9.64	1"

aviator Camera Link cameras are available with C-mount.

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## 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	CMOSIS CMV12000	4096 × 3072	62	m	8/10/12	CL (full)	5.5 × 5.5	22.53 × 16.90	1.75"
beA4000-62kc	CMOSIS CMV12000	4088 × 3070	62	c	8/10/12	CL (full)	5.5 × 5.5	22.53 × 16.90	1.75"

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

## TECHNICAL DETAILS

### Area Scan Cameras



Basler scout	Sensor	Resolution (H×V pixels)	Frame Rate [fps]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Size [mm²]	Optical Size
scA640-70fm/fc	ICX424	659×494	71	m/c	8/12	IEEE 1394b	7.4×7.4	4.88×3.66	1/3"
scA640-74fm/fc	ICX414	659×494	74	m/c	8/12	IEEE 1394b	9.9×9.9	6.52×4.89	1/2"
scA640-120fm/fc	ICX618	659×494	122	m/c	8/12	IEEE 1394b	5.6×5.6	3.69×2.77	1/4"
scA750-60fm/fc	MT9V022	752×480	64	m/c	8	IEEE 1394b	6.0×6.0	4.51×2.88	1/3"
scA780-54fm/fc	ICX415	782×582	54	m/c	8/12	IEEE 1394b	8.3×8.3	6.49×4.83	1/2"
scA1000-30fm/fc	ICX204	1034×779	30	m/c	8/12	IEEE 1394b	4.65×4.65	4.81×3.62	1/3"
scA1300-32fm/fc	ICX445	1296×966	32	m/c	8/12	IEEE 1394b	3.75×3.75	4.81×3.62	1/3"
scA1390-17fm/fc	ICX267	1392×1040	17	m/c	8/12	IEEE 1394b	4.65×4.65	6.47×4.84	1/2"
scA1400-17fm/fc	ICX285	1392×1040	17	m/c	8/12	IEEE 1394b	6.45×6.45	8.98×6.71	2/3"
scA1400-30fm/fc	ICX285	1392×1040	30	m/c	8/12	IEEE 1394b	6.45×6.45	8.98×6.71	2/3"
scA1600-14fm/fc	ICX274	1626×1236	14	m/c	8/12	IEEE 1394b	4.4×4.4	7.16×5.44	1/1.8"
scA1600-28fm/fc	ICX274	1626×1236	28	m/c	8/12	IEEE 1394b	4.4×4.4	7.16×5.44	1/1.8"

scout cameras are available with C-mount.

Specifications are subject to change without prior notice.

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

### Line Scan Cameras



Basler racer	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	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

Specifications are subject to change without prior notice.

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

### Line Scan Cameras



Basler runner	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Length [mm]
ruL2098-10gc	KLI-2113	3×2098	9.2	c	8/12	GigE	14.0×14.0	29.37

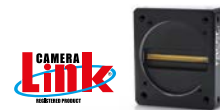
Specifications are subject to change without prior notice.

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



# TECHNICAL DETAILS

## Line Scan Cameras



Basler racer	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Length [mm]
raL2048-80km	DR-2k-7	2048	80	m	8/10/12	CL*1	7.0×7.0	14.3
raL4096-80km	DR-4k-7	4096	80	m	8/10/12	CL*2	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

Specifications are subject to change without prior notice.

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

\*1 CL (base), PoCL, \*2 CL (medium), PoCL

## Line Scan Cameras



Basler sprint	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Length [mm]
spL2048-39kc	Dual Line CMOS	2048	38.6	c	8/10/12	CL (base)	10.0×10.0	20.48
spL2048-50km/kc	Dual Line CMOS	2048	50	m/c	8/10/12	CL*1	10.0×10.0	20.48
spL2048-70km/kc	Dual Line CMOS	2048	70	m/c	8/10/12	CL*1	10.0×10.0	20.48
spL2048-140km	Dual Line CMOS	2048	140	m	8/10/12	CL (b/m/f)	10.0×10.0	20.48
spL4096-39km/kc	Dual Line CMOS	4096	38.6	m/c	8/10/12	CL (b/m/f)	10.0×10.0	40.96
spL4096-50km/kc	Dual Line CMOS	4096	50	m/c	8/10/12	CL (b/m/f)	10.0×10.0	40.96
spL4096-70km/kc	Dual Line CMOS	4096	70	m/c	8/10/12	CL (b/m/f)	10.0×10.0	40.96
spL4096-140km/kc	Dual Line CMOS	4096	140	m/c	8/10/12	CL (b/m/f)	10.0×10.0	40.96
spL8192-39kc	Dual Line CMOS	8192	38.6	c	8/10/12	CL (b/m/f)	10.0×10.0	81.92
spL8192-39kcCI*2	Dual Line CMOS	8192	38.6	c	8/10/12	CL (b/m/f)	10.0×10.0	81.92
spL8192-50km	Dual Line CMOS	8192	50	m	8/10/12	CL (b/m/f)	10.0×10.0	81.92
spL8192-70km	Dual Line CMOS	8192	70	m	8/10/12	CL (b/m/f)	10.0×10.0	81.92

Specifications are subject to change without prior notice.

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

\*1 Mono: base, Color: base/medium/full, \*2 with Color Improvement Feature, without Line Stamp Feature

## Line Scan Cameras



Basler Line Scan	Sensor	Resolution	Line Rate [kHz]	Mono/Color	Bit Depth	Interface	Pixel Size [μm²]	Sensor Length [mm]
L301k/kc	Tri-linear CCD	3×2098	9.2	m/c	8/10	CL (base)	14.0×14.0	29.37
L304k/kc	Tri-linear CCD	3×4080	7.2	m/c	8/10	CL (base)	10.0×10.0	40.80

Specifications are subject to change without prior notice.

Latest specifications and availability can be found on our website [www.baslerweb.com/L300](http://www.baslerweb.com/L300). Please visit [www.baslerweb.com/manuals](http://www.baslerweb.com/manuals) for the detailed camera User's Manual and [www.baslerweb.com/thirdparty](http://www.baslerweb.com/thirdparty) for information on third party software.



# TECHNICAL DETAILS

## 3D Cameras



Basler ToF Camera	Sensor	Resolution	Frame Rate	Mono/Color	Type	Interface	Accuracy	Working Range
Engineering Sample ToF	Panasonic	640 x 480	15 fps	m	NIR	GigE	+/- 1 cm*	0.5m to 6.6m

Specifications are subject to change without prior notice.

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

\*Scene dependent: in a range of 0.5m to 5m, based on a flat white target with over 90% reflectivity, in a room with zero ambient light at 22°C, in factory settings mode, looking at the center of the range image.

## IP Cameras



IP Fixed Box	Sensor	Resolution	Max. Frame Rate [fps]	Interface	Pixel Size [μm²]	Optical Size	Video Compression	Lens Mount	Day/Night
BIP2-640c	CCD	640×480	95	Fast Ethernet	5.60×5.60	1/4"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-640c-dn	CCD	640×480	95	Fast Ethernet	5.60×5.60	1/4"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
BIP2-1000c	CCD	1024×768	30	Fast Ethernet	4.65×4.65	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	---
BIP2-1000c-dn	CCD	1024×768	30	Fast Ethernet	4.65×4.65	1/3"	MJPEG, MPEG-4, H.264	CS-mount, DC iris	Movable IR-cut filter
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	---
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

Specifications are subject to change without prior notice.

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

## TECHNICAL DETAILS

### Basler Lenses

#### Get Perfectly Proportioned Performance With Basler Lenses

Trends in sensor technology have moved to CMOS with smaller sensor sizes. Only Basler offers lenses that are optimally designed for cameras with sensors sized of  $< 1/2''$ . The sensor size our new lens series is optimized for is  $1/2.5''$  (7.3 mm) – a range which accommodates nearly every standard machine vision application. Basler Lenses have a diameter of just 29 mm – affording you the same space efficiency of the ace camera. Best of all, they set a new standard in terms of price-performance ratio, starting at just € 99.



Basler Lenses	C125-0418-5M	C125-0618-5M	C125-0818-5M	C125-1218-5M	C125-1620-5M	C125-2522-5M
Maximum image circle	1/2.5" (7.3 mm)					
Mount	C-mount					
Focal Length	4 mm	6 mm	8 mm	12 mm	16 mm	25 mm
Maximum relative aperture	1:1.8		1:2.0		1:2.2	

Specifications are subject to change without prior notice.

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

### Accessories for Basler Cameras

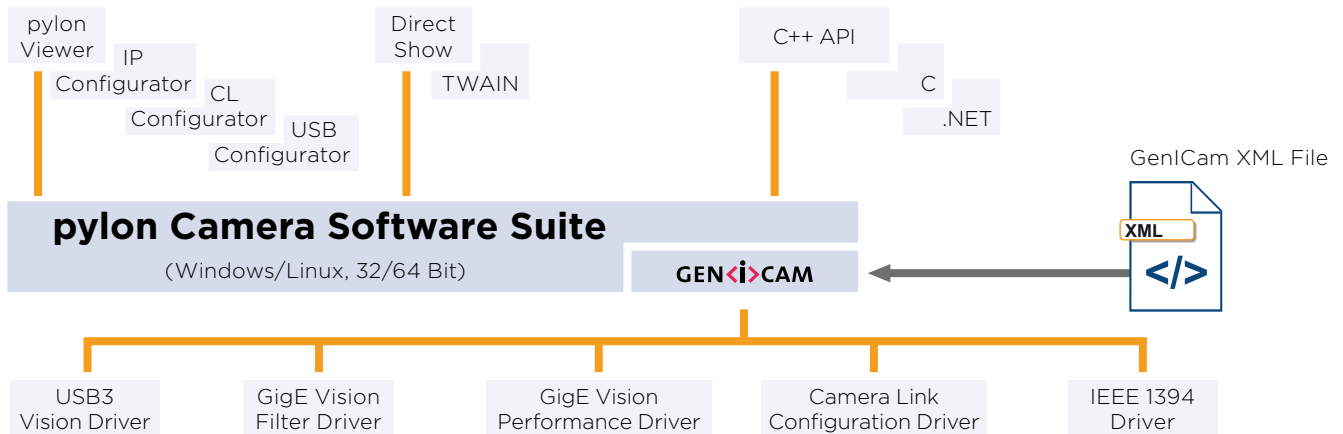
Basler offers a wide variety of accessories designed to help you get the most out of your camera. To ensure full compatibility, all accessories are tested with our cameras. Cables and power supplies are all EMC proven for industrial conditions by our support team. Our portfolio includes several accessories in each of the following categories:

- Lenses
- I/O Cables and/or Power Supplies
- Data Cables
- Lens Accessories
- Cards, Hubs, Switches
- Housings
- Dome Accessories
- Others

You can view the entire portfolio, including order numbers and data sheets, at [www.baslerweb.com/accessories](http://www.baslerweb.com/accessories).

## Basler pylon Camera Software Suite

The **pylon Camera Software Suite** operates with all Basler line scan and area scan cameras - no matter what interface they use. It offers stable, reliable and flexible data exchange between Basler cameras and PCs, for Windows and 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 **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 Performance Driver** quickly separates incoming packets carrying image data from other traffic on the network and makes the data available for use by your vision application while requiring the lowest CPU resources. This driver can only be used with network cards that include specific Intel chipsets. The pylon **GigE Vision Filter Driver** supports all kinds of hardware, common GigE network cards, and GigE ports on your motherboard as well.

The pylon **IEEE 1394b Driver** gives you access to a well-established interface technology, and 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 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 Filter Driver
- GigE Vision Performance Driver
- IEEE 1394 Driver
- Camera Link Serial Communication Driver
- pylon Viewer
- SDK for all cameras; C, C++, .NET (C#, VB.NET, ...); the 'pylon for Linux' version only supports the GigE and USB 3.0 interface via a C++ API

The pylon Camera Software Suite can be downloaded for free at [www.baslerweb.com/pylon](http://www.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.

## 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.

### 3-Year Warranty

Basler offers a 3-year warranty for their cameras and Basler Lenses. We make this unprecedented promise because we have unparalleled confidence in our products. We continually reinvest in research, development and superior manufacturing capabilities so that our customers can fully rely on the products we manufacture.

### About Basler

Founded in 1988, Basler is a leading global manufacturer of high quality digital cameras and lenses for factory automation, medical & life sciences, retail and traffic applications. The company employs 500 people at its headquarters in Ahrensburg, Germany and subsidiaries in the United States and Asia.

Basler's portfolio of products offers customers the vision industry's widest selection of industrial and network cameras as well as lenses. Today it includes some 300 camera models – and it's still growing. We're committed to developing technology that drives business results for our customers: cameras and lenses that are easy to use, easy to integrate, and deliver an exceptional price/performance ratio.



**Basler AG**  
**Germany, Headquarters**  
Tel. +49 4102 463 500  
sales.europe@baslerweb.com

**Basler, Inc.**  
**USA**  
Tel. +1 610 280 0171  
sales.usa@baslerweb.com

**Basler Asia Pte Ltd.**  
**Singapore**  
Tel. +65 6367 1355  
sales.asia@baslerweb.com

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ID 2000030024

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