

## Basler ace

Small, affordable and highly productive

High quality and performance, low list prices from 199 € and small cases with 29 mm×29 mm as well as 30×40 mm footprints: This combination makes the ace one of the top-selling cameras, with thousands of satisfied customers. With more than 130 models, the ace series is the largest camera series in the industrial image processing market

### Highlights

- Broadest selection in the industry offering various resolutions, speeds, interfaces and sensors from all leading manufacturers
- State-of-the-art CMOS sensor technology
- High value-add features

For more information, please visit [baslerweb.com/ace](http://baslerweb.com/ace)



## ace Product Lines

(real sizes)



### ace Classic Keyfacts

The ace Classic includes camera models with CMOS sensors from ams, e2V and onsemi (MT line) as well as CCD sensors from Sony. It offers a broad selection of interfaces (USB 3.0, GigE, Camera Link) and covers resolutions from VGA to 14 MP.

- First of its kind and the most successful camera series in the Machine Vision market
- Standard Feature Set



### ace U Keyfacts

With speeds of up to 751 fps and the latest CMOS sensors from Sony (Pregius, STARVIS, Exmor R) and onsemi (PYTHON), the ace U represents the next evolution of the ace in the areas of sensor technology and firmware features.

- Advanced Feature Set including PGI, a unique feature combination, consisting of 5×5 Debayering, Color-Anti-Aliasing, Denoising and Improved Sharpness

PGI



### ace L Keyfacts

The ace L profits from the same evolutionary steps in firmware features as the ace U. Furthermore, it is capable of carrying high resolution 9 and 12 MP Sony Pregius CMOS sensors with optical formats above 1".

- Brilliant image quality at speeds of up to 42 fps
- Advanced Feature Set including PGI, a unique feature combination, consisting of 5×5 Debayering, Color-Anti-Aliasing, Denoising and Improved Sharpness

PGI

## PGI Feature Set

All cameras within the ace U and ace L product line come with Basler's powerful in-camera image optimization PGI that improves your images at the full speed of your camera. It is a unique combination of 5×5 Debayering, Color-Anti-Aliasing, Denoising and Improved Sharpness. This gives you the opportunity to get the best pictures directly from your camera without any

additional processor load. Use the options of the Basler pylon Camera Software Suite to enable PGI, or change settings for selected PGI components for optimal results.

**Learn more about PGI at**  
[baslerweb.com/PGI](http://baslerweb.com/PGI)



# ALL YOU NEED IS **ACE.**

ANY INDUSTRY. ANY NEED. WITH MORE  
THAN 130 MODELS THERE'S AN ACE FOR IT ALL.



## ACE USB

### Product Group Specifications

Interface	USB 3.0
Housing Size [L × W × H]	ace Classic/ace U: 29.3 mm × 29 mm × 29 mm, ace L: 35.8 mm × 40 mm × 30 mm
Housing Temperature	0 °C - 50 °C <sup>1</sup>
Typical Weight	< 80 g
Lens Mount	ace Classic: C- or CS-mount (depending on model), ace U/ace L: C-mount
Power Supply	Via USB 3.0 interface
Digital I/O	1 opto-isolated input + 1 opto-isolated output + 2 Fast-GPIO (configurable as In/Out)
Power Suspend Mode	Yes, less than 0.02 W, configurable
Synchronization	Via hardware trigger, via software trigger or free-run
Exposure Control	Via hardware trigger <sup>2</sup> or programmable via the camera API
Conformity	CE, RoHS, GenICam, USB3 Vision, IP30, UL, FCC, KC, EAC
Driver	Basler pylon Camera Software Suite or 3rd party USB3 Vision Software
Operating System	Windows, Linux, macOS

<sup>1</sup>0 °C - 60 °C for acA2040-90um/uc, acA2040-90umNIR.

<sup>2</sup>Not applicable for ace models with sensors of the MT line from onsemi.

CAMERA MODEL	SENSOR	RESOLUTION [H×V PIXELS]	RESOLUTION [MP]	SENSOR TYPE	SHUTTER	FRAME RATE [FPS]	PIXEL SIZE [μm <sup>2</sup> ]	OPTICAL SIZE
<b>ace Classic</b>								
acA1600-20uc	ICX274	1626 × 1236	2	CCD	Global	20	4.4 × 4.4	1/1.8"
acA1920-25um/uc	MT9P031	1920 × 1080	2	CMOS	Rolling	26	2.2 × 2.2	1/3.7"
acA2000-165um/uc	CMV2000	2048 × 1088	2	CMOS	Global	165	5.5 × 5.5	2/3"
acA2040-90um/uc	CMV4000	2048 × 2048	4	CMOS	Global	90	5.5 × 5.5	1"
acA2040-90umNIR	CMV4000 NIR-enhanced	2048 × 2048	4	CMOS	Global	90	5.5 × 5.5	1"
acA2500-14um/uc	MT9P031	2592 × 1944	5	CMOS	Rolling	14	2.2 × 2.2	1/2.5"
acA3800-14um/uc	MT9J003	3840 × 2748	10	CMOS	Rolling	14	1.67 × 1.67	1/2.3"



CAMERA MODEL	SENSOR	RESOLUTION [H×V PIXELS]	RESOLUTION [MP]	SENSOR TYPE	SHUTTER	FRAME RATE [FPS]	PIXEL SIZE [μm <sup>2</sup> ]	OPTICAL SIZE
<b>ace U</b>								
acA640-750um/uc	PYTHON 300	640×480	VGA	CMOS	Global	751	4.8×4.8	1/4"
acA720-520um/uc	IMX287	720×540	VGA	CMOS	Global	525	6.9×6.9	1/2.9"
acA800-510um/uc	PYTHON 500	800×600	CCIR	CMOS	Global	511	4.8×4.8	1/3.6"
acA1300-200um/uc	PYTHON 1300	1280×1024	1.3	CMOS	Global	203	4.8×4.8	1/2"
acA1440-220um/uc	IMX273	1440×1080	1.6	CMOS	Global	227	3.45×3.45	1/2.9"
acA1920-40um/uc	IMX249	1920×1200	2.3	CMOS	Global	41	5.86×5.86	1/1.2"
acA1920-150um/uc	PYTHON2000	1920×1200	2.3	CMOS	Global	150	4.8×4.8	2/3"
acA1920-155um/uc	IMX174	1920×1200	2.3	CMOS	Global	164	5.86×5.86	1/1.2"
acA2040-55um/uc	IMX265	2048×1536	3	CMOS	Global	55	3.45×3.45	1/1.8"
acA2040-120um/uc	IMX252	2048×1536	3	CMOS	Global	120	3.45×3.45	1/1.8"
acA2440-35um/uc	IMX264	2448×2048	5	CMOS	Global	35	3.45×3.45	2/3"
acA2440-75um/uc	IMX250	2448×2048	5	CMOS	Global	75	3.45×3.45	2/3"
acA2500-60um/uc	PYTHON5000	2592×2048	5	CMOS	Global	60	4.8×4.8	1"
acA3088-57um/uc	IMX178	3088×2064	6	CMOS	Rolling	59	2.4×2.4	1/1.8"
acA4024-29um/uc	IMX226	4024×3036	12	CMOS	Rolling	31	1.85×1.85	1/1.7"
acA5472-17um/uc	IMX183	5472×3648	20	CMOS	Rolling	17	2.4×2.4	1"
<b>ace L</b>								
acA4096-30um/uc	IMX267	4096×2168	9	CMOS	Global	32	3.45×3.45	1"
acA4096-40um/uc	IMX255	4096×2168	9	CMOS	Global	42	3.45×3.45	1"
acA4112-20um/uc	IMX304	4096×3000	12	CMOS	Global	23	3.45×3.45	1.1"
acA4112-30um/uc	IMX253	4096×3000	12	CMOS	Global	30	3.45×3.45	1.1"

## ACE GIGE

### Product Group Specifications

Interface	Fast Ethernet (100 Mbit/s) or GigE (1000 Mbit/s)
Housing Size [L × W × H]	ace Classic/ace U: 42 mm × 29 mm × 29 mm, ace L: 50 mm × 40 mm × 30 mm
Housing Temperature during operation	0 °C - 50 °C
Typical Weight	<90 g
Lens Mount	ace Classic: C- or CS-mount (depending on model), ace U/ace L: C-mount
Power Supply	ace Classic: Power over Ethernet (IEEE 802.3af) or 12 VDC (+/- 10%) ace U/ace L: Power over Ethernet (IEEE 802.3af) or 12-24 VDC (+/- 10%) <sup>1</sup>
Digital I/O	ace Classic: 1 opto-isolated input + 1 opto-isolated output ace U/ace L: 1 opto-isolated input + 1 opto-isolated output + 1 GPIO
Synchronization	Via hardware trigger, via software trigger or free-run
Exposure Control	Via hardware trigger <sup>2</sup> or programmable via the camera API
Conformity	CE, RoHS, GenICam, GigE Vision, IP30, UL, FCC, IEEE 802.3af (PoE), KC, EAC
Driver	Basler pylon Camera Software Suite or 3rd party GigE Vision Software
Operating System	Windows, Linux, macOS

<sup>1</sup> Also applies to ace Classic models acA3800-10gm/gc.

<sup>2</sup> Not applicable for acA1280-60gm/gc, acA1300-60gm/gc, acA1600-60gm/gc, acA3800-10gm/gc.



CAMERA MODEL	SENSOR	RESOLUTION [H×V PIXELS]	RESOLUTION [MP]	SENSOR TYPE	SHUTTER	FRAME RATE [FPS]	PIXEL SIZE [μm <sup>2</sup> ]	OPTICAL SIZE
<b>ace Classic</b>								
acA1280-60gm/gc	EV76C560	1282×1026	1.3	CMOS	Rolling	60	5.3×5.3	1/1.8"
acA1300-60gm/gc	EV76C560	1282×1026	1.3	CMOS	Global & Rolling	60	5.3×5.3	1/1.8"
acA1300-60gmNIR	EV76C661	1282×1026	1.3	CMOS	Global & Rolling	60	5.3×5.3	1/1.8"
acA1600-20gc	ICX274	1626×1236	2	CCD	Global	20	4.4×4.4	1/1.8"
acA1600-60gm/gc	EV76C570	1602×1202	2	CMOS	Global & Rolling	60	4.5×4.5	1/1.8"
acA1920-25gm/gc	MT9P031	1920×1080	2	CMOS	Rolling	25	2.2×2.2	1/3.7"
acA2000-50gm/gc	CMV2000	2048×1088	2	CMOS	Global	50	5.5×5.5	2/3"
acA2040-25gm/gc	CMV4000	2048×2048	4	CMOS	Global	25	5.5×5.5	1"
acA2040-25gmNIR	CMV4000 NIR-enhanced	2048×2048	4	CMOS	Global	25	5.5×5.5	1"
acA2500-14gm/gc	MT9P031	2592×1944	5	CMOS	Rolling	14	2.2×2.2	1/2.5"
acA3800-10gm/gc	MT9J003	3840×2748	10	CMOS	Rolling	10	1.67×1.67	1/2.3"
<b>ace U</b>								
acA640-121gm	ICX618 Replacement	659×494	VGA	CMOS	Global	134	5.6×5.6	1/4"
acA640-300gm/gc	PYTHON 300	640×480	VGA	CMOS	Global	376	4.8×4.8	1/4"
acA720-290gm/gc	IMX287	720×540	VGA	CMOS	Global	291	6.9×6.9	1/2.9"
acA800-200gm/gc	PYTHON 500	800×600	CCIR	CMOS	Global	240	4.8×4.8	1/3.6"
acA1300-75gm/gc	PYTHON 1300	1280×1024	1.3	CMOS	Global	88	4.8×4.8	1/2"
acA1440-73gm/gc	IMX273	1440×1080	1.6	CMOS	Global	73	3.45×3.45	1/2.9"
acA1920-40gm/gc	IMX249	1920×1200	2.3	CMOS	Global	42	5.86×5.86	1/1.2"
acA1920-48gm/gc	PYTHON 2000	1920×1200	2.3	CMOS	Global	50	4.8×4.8	2/3"
acA1920-50gm/gc	IMX174	1920×1200	2.3	CMOS	Global	50	5.86×5.86	1/1.2"
acA2040-35gm/gc	IMX265	2048×1536	3	CMOS	Global	36	3.45×3.45	1/1.8"
acA2440-20gm/gc	IMX264	2448×2048	5	CMOS	Global	23	3.45×3.45	2/3"
acA2500-20gm/gc	PYTHON 5000	2592×2048	5	CMOS	Global	21	4.8×4.8	1"
acA3088-16gm/gc	IMX178	3088×2064	6	CMOS	Rolling	16	2.4×2.4	1/1.8"
acA4024-8gm/gc	IMX226	4024×3036	12	CMOS	Rolling	8	1.85×1.85	1/1.7"
acA5472-5gm/gc	IMX183	5472×3648	20	CMOS	Rolling	5	2.4×2.4	1"
<b>ace L</b>								
acA4096-11gm/gc	IMX267	4096×2160	9	CMOS	Global	12	3.45×3.45	1"
acA4112-8gm/gc	IMX304	4096×3000	12	CMOS	Global	8	3.45×3.45	1.1"



## ACE CAMERA LINK

### Product Group Specifications

Interface	Camera Link (base, medium or full)
Housing Size [L × W × H]	42 mm × 29 mm × 29 mm, ace
Housing Temperature during operation	0 °C – 50 °C
Typical Weight	≈ 100 g
Lens Mount	C-mount
Power Supply	Power over Camera Link (PoCL) or 12VDC (+/- 10%)
Digital I/O	1 opto-isolated input or output (GPIO)
Synchronization	Via hardware trigger, via software trigger or free-run
Exposure Control	Trigger width or timed
Conformity	CE, RoHS, GenICam, Camera Link, IP30, FCC, KC, EAC
Driver	Basler pylon Camera Software Suite or 3rd party Camera Link Software
Operating System	Windows, Linux, macOS

CAMERA MODEL	SENSOR	RESOLUTION [H×V PIXELS]	RESOLUTION [MP]	SENSOR TYPE	SHUTTER	FRAME RATE [FPS]	PIXEL SIZE [μm <sup>2</sup> ]	OPTICAL SIZE
<b>ace Classic</b>								
acA2000-340km/kc	CMV2000	2048×1088	2	CMOS	Global	340	5.5×5.5	2/3"
acA2040-180km/kc	CMV4000	2048×2048	4	CMOS	Global	180	5.5×5.5	1"
acA2040-180kmNIR	CMV4000	2048×2048	4	CMOS	Global	180	5.5×5.5	1"



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