Basler ace

Area Scan Cameras

- Ground-breaking price starting at 299 euros

- Gigabit Ethernet interface with PoE

- Camera Link interface for high throughput with PoCL

- VGA to 5 megapixels with selected high quality

  CCD and CMOS sensors

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Specifications GigE VISION

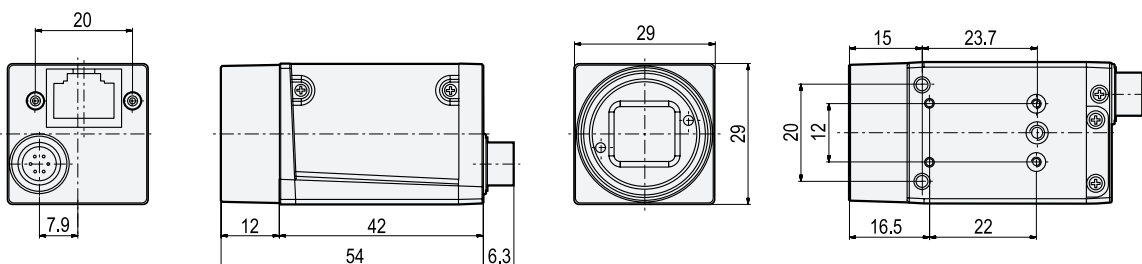| Basler ace	Resolution (H x V pixels)	Sensor	Sensor Technology	Sensor Size (optical)	Pixel Size (µm)	Frame Rate	Power Consumption (PoE/AUX)	Weight (typical)
acA640-90gm/gc	659 × 494	Sony ICX424	Progressive Scan CCD	1/3''	7.4 × 7.4	90	3.1 W/2.7 W	<90g
acA640-100gm/gc	659 × 494	Sony ICX618	Progressive Scan CCD	1/4''	5.6 × 5.6	100	2.3 W/2.0 W	<90 g
acA645-100gm/gc	659 × 494	Sony ICX414	Progressive Scan CCD	1/2''	9.9 × 9.9	100	3.6 W/3.3 W	<90g
acA750-30gm/gc	752 × 580	Sony ICX409	Interlaced Scan CCD	1/3''	6.5 × 6.25	30	2.5 W/2.3 W	<90 g
acA780-75gm/gc	782 × 582	Sony ICX415	Progressive Scan CCD	1/2''	8.3 × 8.3	75	3.6 W/3.3 W	<90g
acA1300-30gm/gc	1296 × 966	Sony ICX445	Progressive Scan CCD	1/3''	3.75 × 3.75	30	2.5 W/2.2 W	<90 g
acA1600-20gm/gc	1628 × 1236	Sony ICX274	Progressive Scan CCD	1/1.8''	4.4 × 4.4	20	3.4 W/2.9 W	<90 g
acA2000-50gm/gc*	2048 × 1088	CMOSIS CMV2000	CMOS, global shutter	2/3''	5.5 × 5.5	50		<90 g
acA2040-25gm/gc*	2048 × 2048	CMOSIS CMV4000	CMOS, global shutter	1''	5.5 × 5.5	25		<90 g
acA2500-14gm/gc	2592 × 1944	Aptina MT9P	CMOS, rolling shutter	1/2.5''	2.2 × 2.2	14	2.5 W/2.2 W	<90 g

*Available Q2/2012

Specifications Applicable For All ace GigE Models:

Mono / Color	Mono / Color
Interface	Fast Ethernet (100 Mbit/s) or Gigabit Ethernet (1000 Mbit/s)
Video Output Format	Mono 8, Mono 12, Mono 12 Packed, YUV 4:2:2 Packed, YUV 4:2:2 (YUYV) Packed, Bayer BG 8, Bayer BG 12, Bayer BG 12 Packed, acA750-30gc: Mono 8, YUV 4:2:2 Packed, YUV 4:2:2 (YUYV) Packed only
Synchronization	Via external trigger, via the Ethernet connection or free run
Exposure Control	Via external trigger or programmable via the camera API
Housing Size (L x W x H)	42 mm x 29 mm x 29 mm
Housing Temperature	Up to 50°C
Lens Mount	C-mount, CS-mount (except acA2000-50gm/gc and acA2040-25gm/gc)
Digital I/O	1 opto-isolated input / 1 opto-isolated output
Power Requirements	Via Power over Ethernet (802.3af) or + 12VDC (±10%) via the camera´s 6-pin Hirose connector
Conformity	CE, FCC, IP30, RoHS, PoE (802.3af), UL (in preparation), GigE Vision, GenICam
Driver	Basler pylon SDK including filter and performance driver
Operating System	Windows, Linux - 32 bit and 64 bit

Specifications are subject to change without prior notice.

For detailed technical information, please see the camera manual that can be found on our website: www.baslerweb.com/manuals

Dimensions (in mm)

Specifications

Basler ace	Resolution (H × V pixels)	Sensor	Sensor Technology	Sensor Size (optical)	Pixel Size (µm)	Frame Rate	Power Consumption (typical)	Weight (typical)
acA2000-340km/kc	2048 × 1088	CMOSIS CMV2000	CMOS, global shutter	2/3''	5.5 × 5.5	340	<3.0 W	<90 g
acA2040-180km/kc	2048 × 2048	CMOSIS CMV4000	CMOS, global shutter	1''	5.5 × 5.5	180	<3.0 W	<90 g

Specifications Applicable For All ace Camera Link Models:

Mono / Color	Mono / Color
Interface	Camera Link (base, medium, or full)
Synchronization	Via external trigger or free run
Exposure Control	Trigger width or timed
Housing Size (L x W x H)	43.5 mm × 29 mm × 29 mm
Housing Temperature	Up to 50°C
Lens Mount	C-mount
Digital I/O	1 opto-isolated input or output
Power Requirements	12VDC (±10%), Power over Camera Link (PoCL) or via IO connector
Conformity	CE, FCC, RoHS, GenICam, Camera Link, UL (in preparation)
Driver	Basler pylon Release 2.3 or newer
API for Configuration	Register API for C and VB6 or Basler pylon C++ API

Specifications are subject to change without prior notice.

For detailed technical information, please see the camera manual that can be found on our website: www.baslerweb.com/manuals
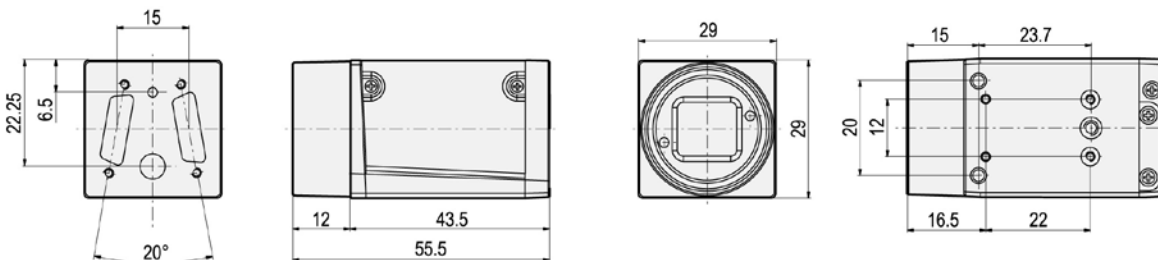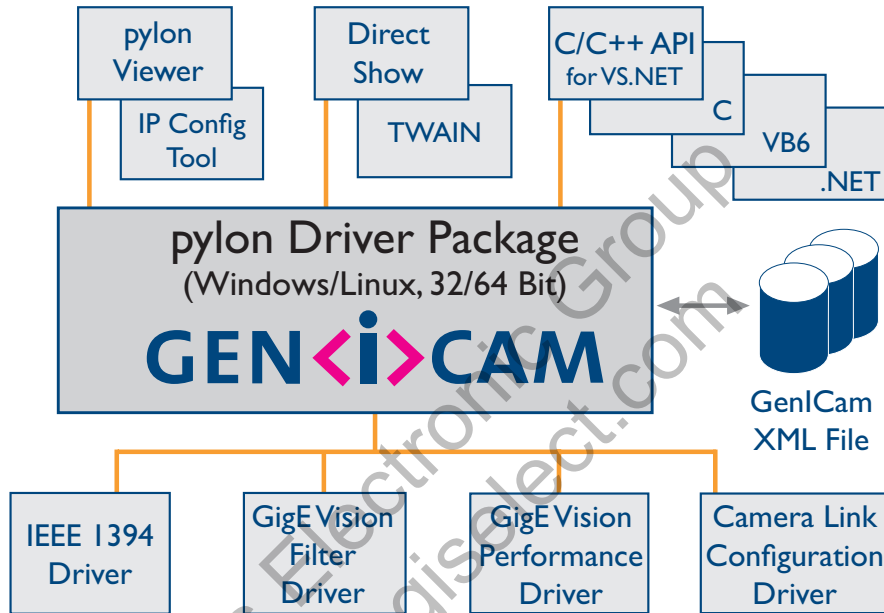
Dimensions (in mm)

Basler pylon Driver Package

The pylon driver package operates with all Basler line scan and area scan cameras. It offers stable, reliable and flexible data exchange between Basler cameras and PCs, at a very low CPU load.

The internal architecture of the pylon driver package 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.

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

The pylon Viewer offers you a convenient application for testing and evaluating Basler cameras. The pylon IP Configuration tool helps you

to set up multi-camera systems easily via local network boundaries. The pylon SDK 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.

- GigE Vision Filter Driver
- GigE Vision Performance Driver
- IEEE 1394 Driver
- Camera Link Serial Communication Driver
- pylon Viewer
- IP Configuration Tool
- pylon SDK for all cameras; C, C++, C# and VB6 (the 'pylon for Linux' version only supports the GigE interface via a C++ API)

The pylon driver package can be downloaded for free from our website. 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.

The Cost-effective Camera For All Your Needs

For the first time, a Basler camera family covers the entire range from cost sensitivity to ultra-fast high performance in a very small 42 x 29 x 29 mm housing. The Basler ace series includes CCD and CMOS camera models featuring the most popular resolutions from VGA to 5 megapixels with a fast throughput of up to 340 fps in monochrome and color. These cameras have a price-driven design that maintains our quality commitment by leveraging the technical knowledge we gained from our scout and pilot cameras and from our earlier A series cameras.

With the ace series, you can choose from the two most popular data interfaces in the vision market: the field-proven Camera Link interface with the widest bandwidth or the new de facto standard of GigE Vision, which is based on standard Ethernet technology. Both variants of the Basler ace family offer the option of providing camera power and data via a single cable or providing camera power through a separate connector. Both variants also offer a separate input/output port for triggering or flash control. And like all Basler cameras, the ace family comes with a long list of firmware features.

It has never been easier or less expensive to get better at what you do

With a starting price of only 299 € and a design targeted for industrial, medical, and traffic applications, you can enjoy a new class of digital cameras that will help you to be even more successful at what you do. The entry price level for the new ace Camera Link models opens up new fields for gigapixel applications, such as AOI inspection or other throughput orientated applications. A Camera Link camera of this size has never before provided such performance. These ace cameras offer you clear advantages compared to classic Camera Link cameras with respect to size, weight, power consumption, temperature, and pixel output per second. This cost effectiveness opens up a new era of pricing in a camera class that used to be described as the "high end segment".

Replacement with a smile

Because the Basler ace uses the same 29 x 29 mm footprint that has been standard on analog cameras for many years, replacement of analog cameras is very easy. Some existing Camera Link cameras and IEEE 1394a or 1394b cameras with this same footprint can also be easily replaced. Because we have applied the same bottom mounting options to the Basler ace as seen on most standard analog cameras, Basler has made mechanical replacement extremely simple. The use of a single cable to apply camera power and to transfer data between the Basler ace and a PC makes using these cameras even more convenient. The trigger speed and latency have been greatly improved, making integration easy, even in time-critical applications.

Your benefits include:

- More than 100 megabytes of data per second and up to 100 meter cable length with GigE

- The widest bandwidth connection for maximum grabbing speed with Camera Link and compatibility with all common base, medium, or full configuration frame grabbers

- Minimum delay and jitter time for more accurate applications

- Power over Ethernet (PoE) and Power over Camera Link (PoCL) support

- Field-proven Basler pylon driver package with both filter and performance drivers

- Outstanding price/performance ratio

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How Does Basler Measure and Define Image Quality?

1288
EMVA Standard Compliant

Basler is leading the effort to standardize image quality and sensitivity measurement for machine vision cameras and sensors. All measurements done by Basler will be in 100% compliance with the new European Machine Vision Association EMVA 1288 standard. Because it describes a unified way to measure, compute, and present the specification parameters for cameras and image sensors used in machine vision applications, Basler is giving the EMVA 1288 standard our strongest support.

The ace family will be characterized and measured to provide information about the quality and sensitivity of our products. All data can be found on Basler's website: www.baslerweb.com

RoHS Compliance

The Basler ace series is RoHS compliant. This is especially important in applications where the the end-user requires strict RoHS compliance in all system components.

RoHS COMPLIANT 2002/95/EC

This information is brought to you by:

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