

Basler dart

AREA SCAN CAMERAS



USB[®]
VISION

- Board level cameras with bare board, S- and CS-mount options
- Designed to meet smallest space as well as lowest weight and power requirements
- Plug and play with future-proof USB3 Vision technology
- Best cost-efficiency in class

OVERVIEW

Basler dart – a Flexible and Ultra Compact Camera Hit

The Basler dart camera line has been developed to meet the requirements of a broad variety of vision applications. With its one-board design that comes with a USB 3.0 interface, the dart camera series combines both latest technology and a cost-driven design in a very small format.

The benefits of this camera series showcase the technical expertise we have accumulated over 25 years in the vision industry. A distinctive combination of high quality and cost-effectiveness in development and product design allows us to offer you a surprisingly low starting list price of € 99.

With the dart series, you can choose from your ideal mix of board level type cameras:

- Bare board model without any additional lens mount, to meet high demands in extremely cost-driven system designs
- M12 / S-mount front for highest flexibility, using a complete camera in very space-limited environments, such as in medical and retail applications
- CS-mount front, popular for a variety of vision applications, either for typical machine vision in the field of factory automation, or solutions to serve the ITS (Intelligent Traffic System) business

All dart cameras come with the emerging USB 3.0 interface, providing camera data and power over only one cable. They also offer separate input/output ports for trigger or flash control and a broad set of features serving a wide range of vision applications in different industries.

Following today's standards, the Basler dart offers the most popular camera footprint of 29 mm × 29 mm for its S- and CS-mount models. Without a lens mount, the dart undercuts these impressive dimensions again, setting a new standard in single board cameras with a footprint of only 27 mm × 27 mm. Its low power consumption reduces heat dissipation issues even at this smallest dimension.

Ready to make the change? Get the digital board level camera that – beyond industrial applications – is specifically targeting retail, medical and traffic applications. Achieve improved performance at lower cost. This innovative advance in digital camera technology is available in a variety of models with different lens mounts and resolutions, and with sensors from leading manufacturers.

If you are looking for a simple but sophisticated high-quality camera, it has never been easier to find the right camera for you and your application. The dart will hit your target!

Your benefits include:

- Smallest board level cameras that fit well into nearly every application
- USB3 Vision: Plug and play with a one cable solution based on standards
- Field-proven Basler pylon Camera Software Suite with sophisticated drivers
- Extremely low weight and power consumption
- Perfect price/performance ratio
- Starting list price of 99 €



TECHNICAL DETAILS

Specifications

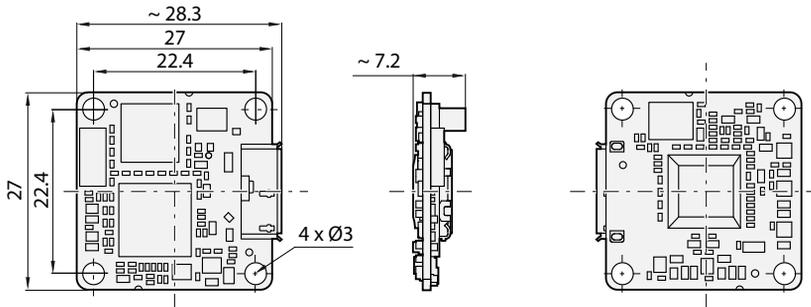


Basler dart	daA1280-54um/uc*	daA1920-15um*	daA1920-30um/uc*	daA2500-14um/uc*
Camera				
Resolution (H × V pixels)	1280 × 960	1920 × 1080	1920 × 1080	2592 × 1944
Sensor	Aptina AR0134	Aptina MT9P031	Aptina MT9P031	Aptina MT9P031
Sensor Size (optical)	1/3"	1/3.7"	1/3.7"	1/2.5"
Sensor Technology	CMOS, global shutter	CMOS, rolling shutter	CMOS, rolling shutter	CMOS, rolling shutter
Pixel Size (µm)	3.75 × 3.75	2.2 × 2.2	2.2 × 2.2	2.2 × 2.2
Frame Rate	54	15	30	14
Mono / Color	Mono / Color	Mono	Mono / Color	
Video Output Format	Mono 8/12, YUV 4:2:2 Packed (YCbCr 422), Bayer BG 8/12, RGB			
Interface	USB 3.0			
Synchronization	Via external trigger or free-run			
Exposure Control	Via external trigger or programmable via the camera API			
Mechanical / Electrical				
Housing Size (L × W × H)	S-, CS-mount models: 20 mm × 29 mm × 29 mm Bare board model: 8.5 mm × 27 mm × 27 mm			
Housing Temperature	Up to 50°C			
Lens Mount	Bare board, S, CS	Bare board	Bare board, S, CS	Bare board, S, CS
Digital I/O	2 Fast-GPIO (configurable as In/Out)			
Power Requirements	Via USB 3.0 interface			
Power Suspend Mode	Yes, less than 20 mW, configurable			
Power Consumption (typical)	-1.3 W	-1.2 W	-1.3 W	
Weight (typical)	S-, CS-mount models: <15 g		Bare board model: <5 g	
Conformity	RoHS, UL (in preparation), USB3 Vision, USB-IF (in preparation)			
Software / Driver				
Driver	Basler pylon Camera Software Suite or 3rd party USB3 Vision Software			
Operating System	Windows, Linux - 32 bit and 64 bit			
Conformity	USB3 Vision, GenICam			

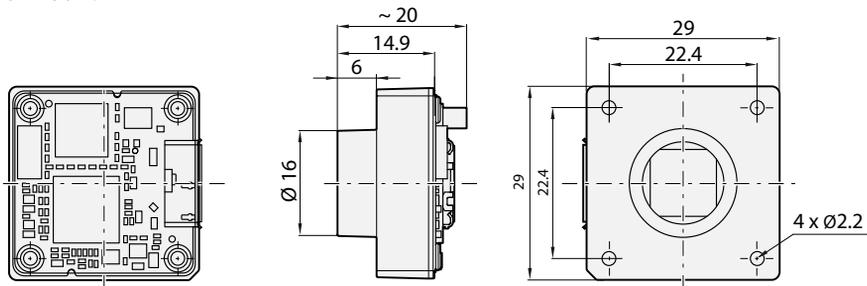
TECHNICAL DETAILS

Dimensions (in mm)

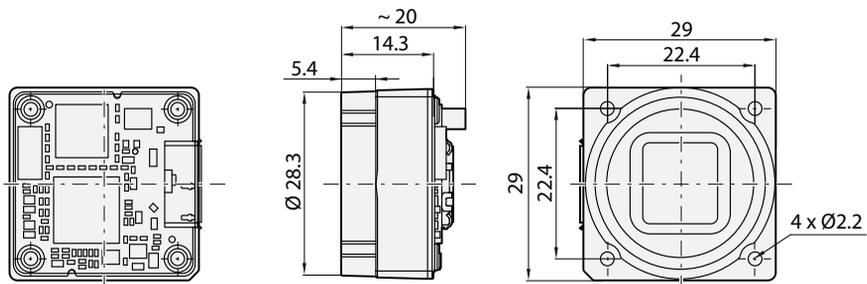
Bare board



S-mount



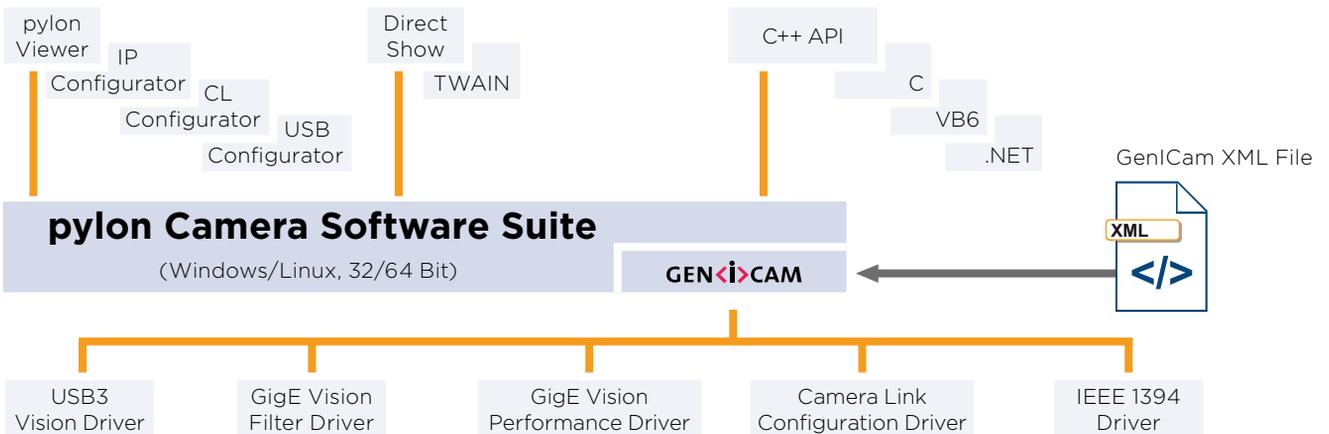
CS-mount



OTHER INFORMATION

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, 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, ...), and VB6 (the 'pylon for Linux' version only supports the GigE and USB 3.0 interface via a C++ API)

OTHER INFORMATION

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 guarantee 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 our cameras. 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 for industrial, medical, traffic and video surveillance applications. The company employs more than 400 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. Today it includes some 300 models - and it's still growing. We're committed to developing technology that drives business results for our customers: cameras that are easy to use, easy to integrate, and deliver an exceptional price/performance ratio.



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