Basler beat

AREA SCAN CAMERAS

- High-resolution 12 MP cameras with global shutter

- Outstanding price/performance ratio

- High speed through Camera Link interface

- Flexible and easy integration

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Convincing CMOS Image Quality and Proven Design

The convincing argument for this advanced camera family starts with its superior image quality even at high image capture rates and high resolutions. The Basler beat series uses the high-speed and very sensitive CMOS sensor CMV12000 by CMOSIS. It features both a mono and color model with a full resolution of 12 megapixels with progressive scan and global shutter technology. This next-generation CMOS sensor yields far better image quality than the older CMOS sensors. Its output is easily comparable to the image quality created by CCD sensors.

Beyond their high-performance sensors, Basler beat cameras incorporate other features developed over 25 years of imaging experience and camera design expertise. They offer a compact and rugged housing for safe and simple integration, and come with a range of reliable accessories. With their outstanding price/performance ratio this series is ideal for price-sensitive applications where high speed and high resolution are a must. The cameras are an ideal fit for all kinds of metrology and identification tasks. Typical applications include semiconductor and electronics manufacturing. With their high resolution, they also shine in traffic applications (ITS) such as license plate recognition, being able to cover multiple lanes with only one camera.

Basler beat cameras are compliant with industry standards such as Camera Link and GenICam. Also based on the GenICam standard, the Basler pylon Camera Software Suite operates with all models of the beat series, allowing for quick access to all features and optimal operation of the camera. Basler pylon is available for Windows and Linux and has been proven in tens of thousands of installations worldwide.

Your benefits include:

- Very attractive price/performance ratio

- 12 megapixels global shutter sensor

- More than 62 frames per second

- Compact and rugged housing for easy integration

- Field-proven Basler pylon Camera Software Suite

- The widest bandwidth connection for maximum grabbing speed with Camera Link and compatibility with all common frame grabbers

- 100% quality-checked and calibrated to give you consistent performance and reliability
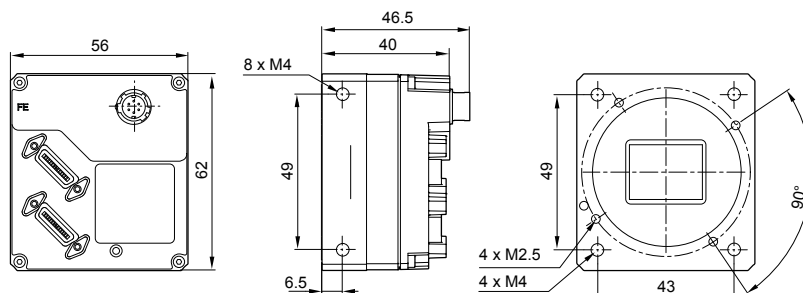
TECHNICAL DETAILS

Specifications

Basler beat	beA4000-62km	beA4000-62kc
Camera		
Resolution (H × V pixels)	4096 × 3072	
Sensor	CMOSIS CMV12000	
Sensor Size (optical)	1.75″	
Sensor Technology	CMOS	
Pixel Size	5.5 μm × 5.5 μm	
Frame Rate	62 fps	
Mono / Color	Mono / Color	
Pixel Format	8 / 10 / 12 bit	
Interface	Camera Link	
CL Pixel Clock	32,5 : 65 : 84,0 MHz	
CL Tap Geometry	2 / 3 / 8 / 10 Tap	
Synchronization	externer Trigger / Software / Free Run	
Exposure Control	trigger width or timed	
Mechanical / Electrical		
Housing Size (L × W × H)	40 mm × 56 mm × 62 mm	
Housing Temperature	0 °C to +60 °C	
Lens Mount	F, M42 x 1, M42 x 0,75, M58 x 1 Mount	
Digital I/O	via camera control signals (max. 5)	
Power Requirements	12-24 VDC (+-5%)	
Power Consumption (typical)	ca. 6 W	
Weight (typical)	210 g	
Conformity	CE, RoHS, GenICam, IP30, FCC, Camera Link, UL	
Software Environment		
Driver	Basler pylon Camera Software Suite or 3rd party Camera Link Software	
API for Configuration	Register API for C and VB6 or Basler pylon C++ API	
Conformity	Camera Link GenICam	

Specifications are subject to change without prior notice.
Latest specifications and availability can be found on our *website www.baslerweb.com/beat*. Please visit *www.baslerweb.com/manuals* for the detailed camera User's Manual and *www.baslerweb.com/thirdparty* for information on third party software.
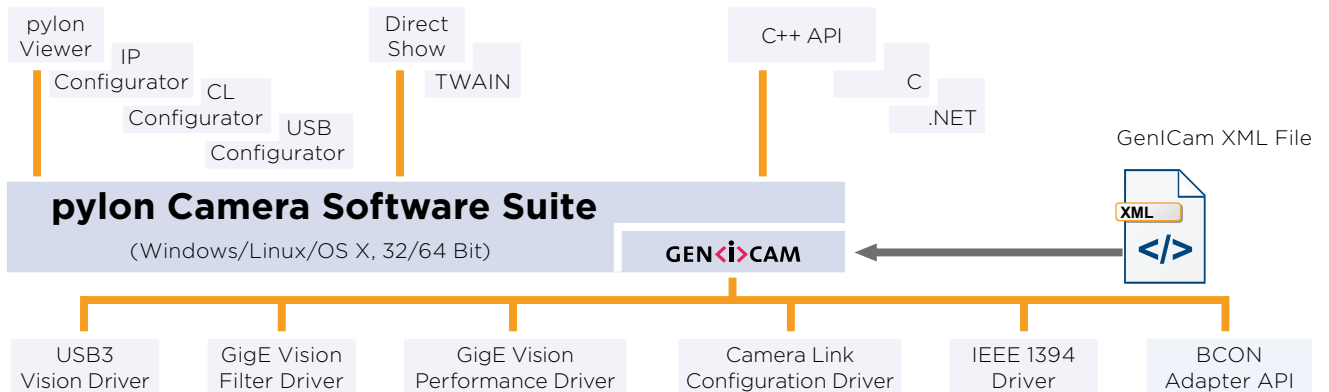
Dimensions (in mm)

www.avsupply.com | email: sales@avsupply.com | Ph: 858.565.1101

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 as well as on ARM based systems and OS X – at a very low CPU load.

pylon Viewer | IP Configurator | CL Configurator | USB Configurator | Direct Show | TWAIN | C++ API | C | .NET | GenICam XML File

pylon Camera Software Suite
(Windows/Linux/OS X, 32/64 Bit)

GEN⟨i⟩CAM

XML </>

| USB3 Vision Driver | GigE Vision Filter Driver | GigE Vision Performance Driver | Camera Link Configuration Driver | IEEE 1394 Driver | BCON Adapter API |

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 Drivers** 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 **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 **BCON Adapter API** allows easy implementation

of an adapter to communicate with the systems I^2C interface. A ready to use sample adapter implementation is also provided.

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
- BCON Adapter API
- 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.* 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.

Camera Link

Camera Link is an extremely robust and powerful interface designed for industrial cameras in all performance categories. The bandwidth available with Camera Link can accommodate very small cameras with the size of a sugar cube as well as cameras with several megapixel resolution and often several hundred frames per second speed. Camera Link is currently the recommended standard interface for data rates from 100 MB/s to about 800 MB/s.

Because Camera Link was specifically designed for use with industrial cameras, it can handle large amounts of data easily and securely. All components in a Camera Link solution must meet the Camera Link standard.

Some of the advantages of the Camera Link interface as implemented in Basler cameras are:

- Standardized camera/frame grabber integration with defined connectors, cables, data format, and control signals

- Standardized cables - users can take advantage of competitive pricing

- Easy handling of all current image data transmission requirements thanks to high data rate capability

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 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 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.

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