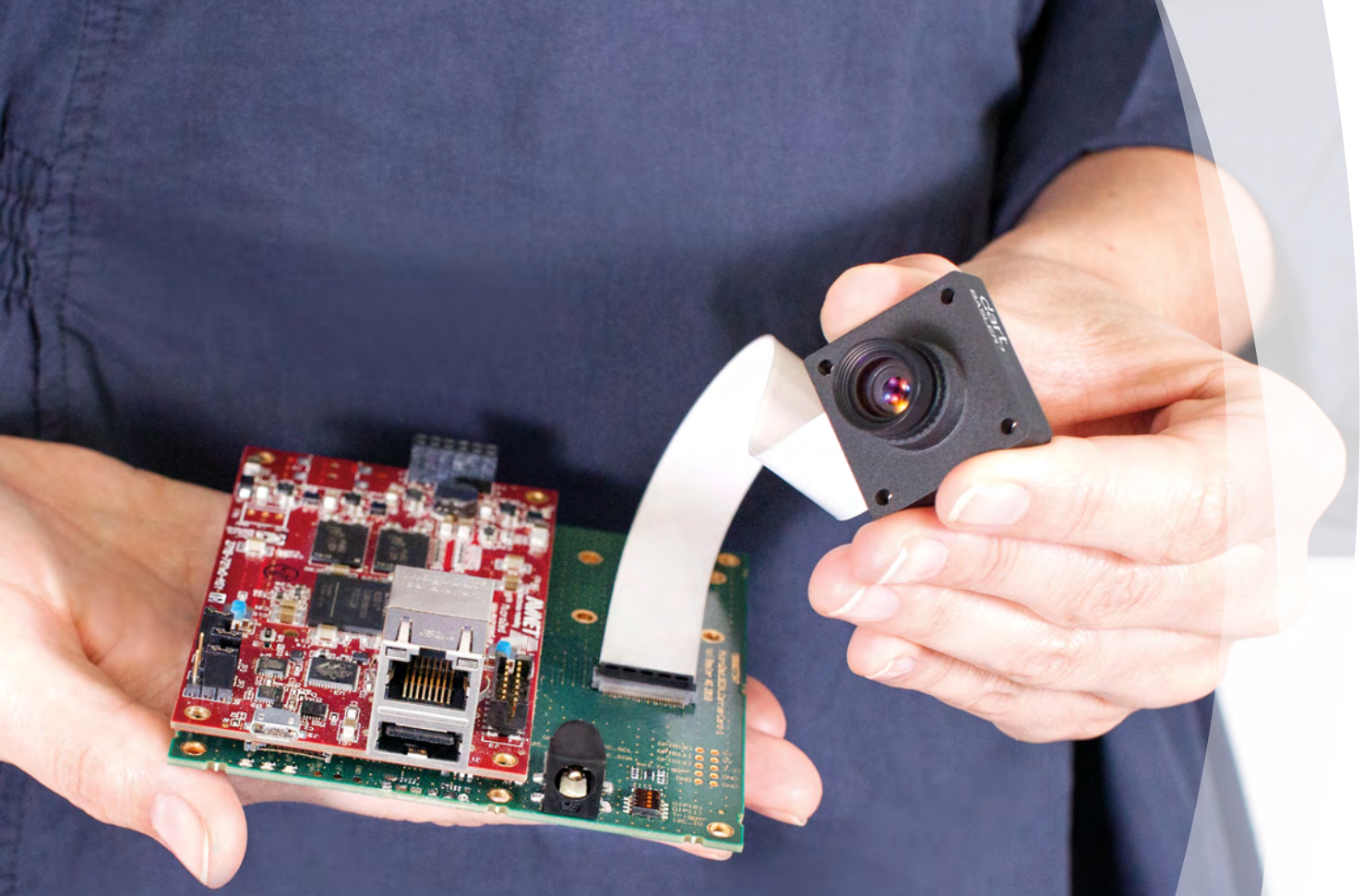


EMBEDDED VISION

- Basler cameras – the power of sight for embedded vision applications
- Plug and play evaluation and development kits
- 3-year warranty, long-term availability
- Easy integration into embedded systems
- Highest stability and flexibility thanks to machine vision standards
- Worldwide service and support

BASLER
the power of sight

WHY BASLER CAMERAS?

PRISTINE PICTURES, PERFECT COLORS

Outstanding image quality

- True colors, clear contrasts, high resolution, fast live images
- In-camera debayering, denoising, improved sharpness, and more
- Detailed pictures creating the optimal basis for computed vision data

YOUR PARTNER FOR OPTIMUM DESIGN-IN PHASE

Easy system integration

- Easy integration with SDK working on most common platforms with identical API
- Easy plug and play interfaces and embedded interfaces for the leanest systems
- Open documented and well-defined interfaces and software protocols

SELECTING YOUR PERFECT CAMERA

High quality at low cost

- Real-time video and full HD resolution for monitoring, inspection, and recognition
- Compact housings or board level variants for easy design-in
- Low processor load due to camera-internal image preprocessing

PURCHASE DECISION WITH MINIMUM RISK

Secure future investment

- Long-lasting camera life and reliability
- Long-term product availability
- Long-term support for operating systems

CARE-FREE CAMERA LIFE CYCLE

Comprehensive support and services

- 3-year warranty on our camera portfolio
- Service on demand by Basler's technical support
- Point of contact at your site via Basler worldwide network of offices

DEFINING YOUR SYSTEM REQUIREMENTS

Supported by experts

- Technology leadership with over 25 years of vision experience
- Key driver of technology trends and vision standards
- Basler's position as most trusted brand in industrial digital cameras

OVERVIEW

Go Embedded with Basler

Combining embedded design and vision technology is a rising trend, but it requires knowledge and resources. We at Basler understand the challenges along the way to an optimal embedded vision system. That's why Basler offers a broad portfolio of camera modules and components for embedded systems as well as various tools and sources of support.

As a vision technology expert, Basler provides high quality products that can easily be integrated into embedded vision systems. For camera connection, you can choose between standard USB and GigE interfaces and board-to-board connection via LVDS (Low Voltage Differential Signaling) with Basler's BCON for LVDS interface. They all work together with Basler's comprehensive pylon Camera Software Suite with its SDK (software development kit) running on several platforms. With pylon's proven and unified API (offering a standard Application Programming Interface for all operating systems and all camera interfaces), you can easily access all camera features. Furthermore, Basler's evaluation and development kits serve as a helpful tool during the design-in phase.

Basler ensures the best image quality, the highest system reliability and a low processor load with the technological maturity of Basler camera modules, as well as through stable data transfer and in-camera image preprocessing. Thus, you can trust in Basler cameras to deliver maximum performance and superior images so that you are free to focus on your main target: optimizing your product and making your application a success – with Basler and embedded vision technology.

What Is Embedded Vision?

So-called embedded systems are becoming more and more popular for an increasing range of products. This is a result of constant development in the semiconductor and IT technologies. Today SoCs (system-on-chip) are the central element in an embedded design. They are used on popular single-board computers just as in versatile computer-on-modules (CoM)/system-on-modules (SoM) which allow for a wide variety of new applications.

Simultaneously, industrial machine vision technology is evolving towards smaller and more cost-effective cameras with consistent image performance.

The combination of these two technological developments creates "Embedded Vision", utilizing the powerful opportunities of vision-based technology in small and highly optimized products – creating simple embedded solutions.

As a result, vision products can become leaner and cheaper: Typical examples of this are handheld medical examination devices, compact inspection tools or smart recognition equipment. Furthermore, completely new products can now be developed economically and make our lives more convenient, smarter, and more secure.

TYPICAL APPLICATIONS

Factory Automation

Industrial applications are the traditional field of machine vision and they are an essential part of production and processing. By utilizing embedded vision in your industrial application you can benefit from:

- Simplification of existing vision solutions in order to reduce system costs
- Modularization of inspection or control units so that they can be used in different products of the portfolio. This can decrease development costs and increase serviceability.
- Miniaturization of inspection systems, either for a smaller complete system or due to space constraints, e.g. for in-machine inspection
- Mobility of tools, such as inspection or measurement devices which need to be portable
- Technical opportunities made possible by autonomous mobile or moving machines and robots
- Applications of Industrial Internet of Things (IIoT) or Industry 4.0 for extensive inter-machine communication and smart factory automation

With over 25 years of vision expertise and a dedicated embedded portfolio, Basler will support you in taking your industrial application to the next level.

POSSIBLE APPLICATIONS

Inspection

- Web inspection
- Modules for independent machine inspection
- AOI (automatic optical inspection) with small space requirements
- Item counting
- Mobile test equipment

Logistics

- Shelf robots for logistics
- Automated guided vehicles (AGV) for transportation
- Code/text readers
- Determination of position and dimensions of an object

Robotics

- Mobile robots (transportation/security)
- Robot arm top-camera for process control or working range surveillance
- Lightweight camera on a robot arm gripper
- Pick-and-place applications

Industrial Internet of Things (IIoT)

- Control, guidance, and machine status survey units
- Smart industrial wearables
- Intelligent surveillance/safety equipment

TYPICAL APPLICATIONS

Medical & Life Sciences

The health care and life sciences sector is being deeply transformed by a variety of new requirements and calls for new approaches in technology design. Embedded vision helps medical device manufacturers achieve the right combination of high performance, low cost, low power, and programmability to meet current trends such as:

- Point-of-care-testing: Diagnostic devices are evolving towards the patient's home environment, becoming more portable, flexible, and personalized.
- Miniaturization: While devices are getting smaller, the demand for reproducibility and accuracy is growing.
- Reduction of costs: Even with growing technical requirements, pressure to control or reduce costs is also rising.
- Growing need: Emerging markets in China, India, Brazil, and the Middle East, as well as a rapidly-aging population present significant growth opportunities.

These factors will make embedded vision an indispensable key technology for the health sector for many years to come. With a broad range of embedded vision products and extensive experience in industrial camera design, Basler is helping make innovative medical devices more robust, reliable, flexible, and cost effective.

POSSIBLE APPLICATIONS

Ophthalmology

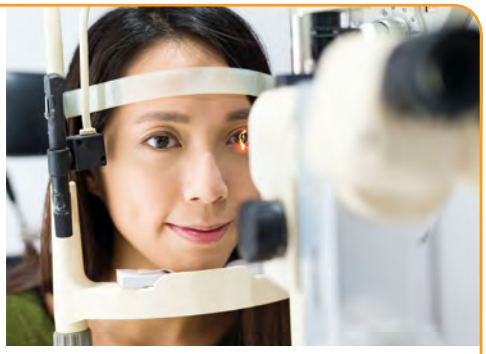
- Retinal cameras
- Autorefractors
- Optical coherence tomography (OCT)
- Non-contact tonometers
- Digital slit lamp cameras
- Specular microscopes

Lab Automation

- Gel-documentation
- Hematology testing
- Automated cell & colony counting
- Live cell imaging
- Multiplate readers

Others

- Digital dermatoscopes
- Dental scanners
- Remote surgical systems
- Surgical microscopes
- Face skin analysis
- 3D body diagnostics



TYPICAL APPLICATIONS

Traffic, Retail & Consumer Applications

Traffic and transportation, retail and consumer applications touch all our lives every day, whether it is number plate or face recognition, the Internet of Things or home automation. Embedded vision simplifies those applications and offers advantages such as:

- Mobility: Products in traffic used for monitoring, control, and enforcement can be installed on car roofs or be hand carried. Also for other monitoring and control tasks, mobile devices can replace static systems.
- Energy consumption: Due to significantly lowered energy consumption by vision and processing system, new technological solutions can be developed.
- Independence: In retail applications, small modules can be positioned discretely and work self-sufficiently.
- Data protection: Given the strict data protection laws for personal data (license plates, faces) in many countries, camera images must be processed directly after acquisition. This includes encryption, comparison, and deletion, which can be ideally performed by an embedded system.

Embedded technology opens up additional markets and enables vision in whole new applications. By bringing this technology into devices that we encounter every day, Basler aims to make our lives easier, safer and more comfortable.

POSSIBLE APPLICATIONS

Traffic & Transportation

- Automatic number plate recognition (ANPR)
- Speed enforcement equipment
- Tolling & traffic management
- Automated parking systems and billing
- Mobile monitoring & surveillance
- Geographical information systems (GIS), e.g. for agriculture

Retail

- In-store automation
- Vending machines/kiosk systems
- People counting, tracking & profiling
- Face recognition (gate control)
- Check-out systems

Consumer applications

- Internet of Things (IoT)
- Home automation
- Smart wearables
- Professional maker applications
- Privately used control, guidance, and security applications

Always the Right Choice for Your Embedded Vision Application

Embedded vision is the technology of choice for a wide variety of applications – and the design requirements are equally varied. Whatever the specifications regarding your application, Basler fulfills them with a broad range of cameras with different sensors, resolutions, and interfaces.

Basler offers two camera interface technologies for embedded vision systems:

- USB3 Vision for easiest integration and
- Basler's BCON for LVDS for leanest system design

Both work with the same Basler pylon SDK which facilitates switching from one interface technology to another.

USB3 Vision

USB 3.0 is the perfect interface for easy plug and play camera connection, and ideal for camera connection to single-board computers. With the comprehensive pylon SDK you get access to the camera (i.e., to images and settings) within seconds since USB 3.0 cameras are standard-compliant and GenICam compatible.

Main benefits:

- Easy connection to single-board computers with USB 2.0 or USB 3.0 connector
- Field-proven solutions with Raspberry Pi, NVIDIA Jetson TK1 and many other systems
- Profitable solutions for SoMs with associated base boards
- Stable data transfer with a bandwidth of up to 350 MB/s

BCON for LVDS

BCON – Basler's own LVDS-based interface allows for direct camera connection to processing boards and thus to on-board-logic devices like FPGAs (Field Programmable Gate Arrays) or comparable components. This feature enables lean system setup and you benefit from data access without overhead and direct data transfer.

Thus, this interface is ideal for connecting the camera to an SoM with a carrier/adapter board or to an individually designed processing unit.

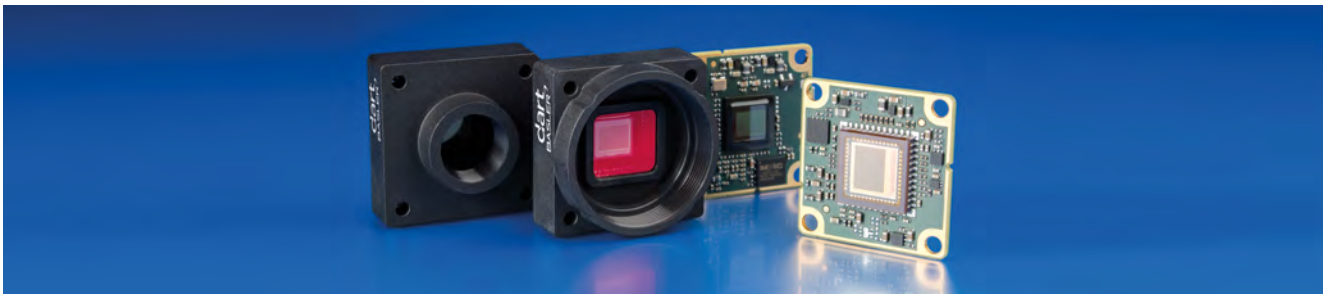
If your system is FPGA-based, you can fully use its advantages with a BCON interface.

BCON is designed with a 28-pin ZIF connector for flat flex cables. It contains the 5V power supply together with LVDS lanes for image data transfer and image triggering as well as an I^2C bus connection for camera configuration.

Basler's ready-to-use pylon SDK is tailored to work with the BCON for LVDS interface. Thus, you can change settings such as exposure control, gain, and image properties via your software code, utilizing pylon's API. The image-grabbing part of the application must be implemented separately as it depends on the hardware actually used.

Main benefits:

- Direct camera-to-processor connection for data access without overhead
- Significantly reduced integration effort: With pylon SDK, camera configuration is possible without further programming (via I^2C bus; fully GenICam compatible).
- Straightforward camera integration: image data software protocol is openly and comprehensively documented
- Development kit with reference implementation available
- Flexible flat flex cable and small connector for applications with the highest space constraints
- Stable, reliable data transfer with a bandwidth of up to 252 MB/s



Camera Modules for Embedded Vision Applications

Whatever your vision requirements are, you will benefit from Basler's extensive experience in camera design and Basler's proven ace and dart camera series, when creating your embedded vision application.

The versatile Basler ace camera is equipped with a rugged housing for industry environments, and is available with USB 3.0 or GigE interface.

For even smaller embedded vision systems, the Basler dart is your best option. It is a compact board level camera module with USB 3.0 or BCON for LVDS interface.

Both camera series come with internal image preprocessing and optimization including debayering, denoising, and improved sharpness. These optimized images do not require any further polishing, resulting in less software processing and thus lowering the overall processor load.

As with all Basler cameras, you can rely on:

- High camera quality – every Basler camera is tested individually
- Excellent image quality – through in-camera debayering, denoising, improved sharpness, and more without delay
- Stable, error-free images instead of raw, untreated sensor output
- Easy camera configuration and image capture: Universal pylon Camera Software Suite with SDK for all interfaces
- Stable and reliable data transfer

Camera Highlights

Basler dart

Small board level camera for all needs

- Standard USB 3.0 and Basler BCON for LVDS interfaces for flexible system integration
- Bare board, S- and CS-mount options
- Global and rolling shutter options
- Same camera functionality for USB and BCON models – easy evaluation of BCON models using USB version
- Camera-internal image preprocessing

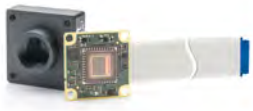
Basler ace

Ultra flexible camera for highest demands

- Standard USB 3.0 and GigE interfaces
- Over 100 models available
- Highest frame rates, resolutions, and sensitivity
- Latest SONY Pregius IMX sensors integrated
- One of the world's best-selling industrial cameras
- Camera-internal image preprocessing

TECHNICAL DETAILS

Specifications Basler dart



Basler dart	Sensor	Resolution (MP, H × V pixels)	Frame Rate [fps], Mono/ Color	Interface	Pixel Size [µm²]	Sensor Size [mm²]	Optical Size	Shutter Technology
daA1280-54um/uc	AR0134 CMOS	1.3 MP, 1280 × 960	54, m/c	USB 3.0	3.75 × 3.75	4.80 × 3.60	1/3″	Global shutter
daA1280-54bm/bc	AR0134 CMOS	1.3 MP, 1280 × 960	54, m/c	BCON for LVDS	3.75 × 3.75	4.80 × 3.60	1/3″	Global shutter
daA1600-60um/uc	EV76C570 CMOS	2 MP, 1600 × 1200	60, m/c	USB 3.0	4.5 × 4.5	7.20 × 5.40	1/1.8″	Global shutter
daA1600-60bm/bc	EV76C570 CMOS	2 MP, 1600 × 1200	60, m/c	BCON for LVDS	4.5 × 4.5	7.20 × 5.40	1/1.8″	Global shutter
daA1920-15um	MT9P031 CMOS	2 MP, 1920 × 1080	15, m	USB 3.0	2.2 × 2.2	4.22 × 2.38	1/3.7″	Rolling shutter
daA1920-30um/uc	MT9P031 CMOS	2 MP, 1920 × 1080	30, m/c	USB 3.0	2.2 × 2.2	4.22 × 2.38	1/3.7″	Rolling shutter
daA2500-14um/uc	MT9P031 CMOS	5 MP, 2592 × 1944	14, m/c	USB 3.0	2.2 × 2.2	5.70 × 4.28	1/2.5″	Rolling shutter
daA2500-14bm/bc	MT9P031 CMOS	5 MP, 2592 × 1944	14, m/c	BCON for LVDS	2.2 × 2.2	5.70 × 4.28	1/2.5″	Rolling shutter

All dart cameras are available with S- or CS-mount or as a bare board variant without a lens mount. Current consumption max. 260 mA.

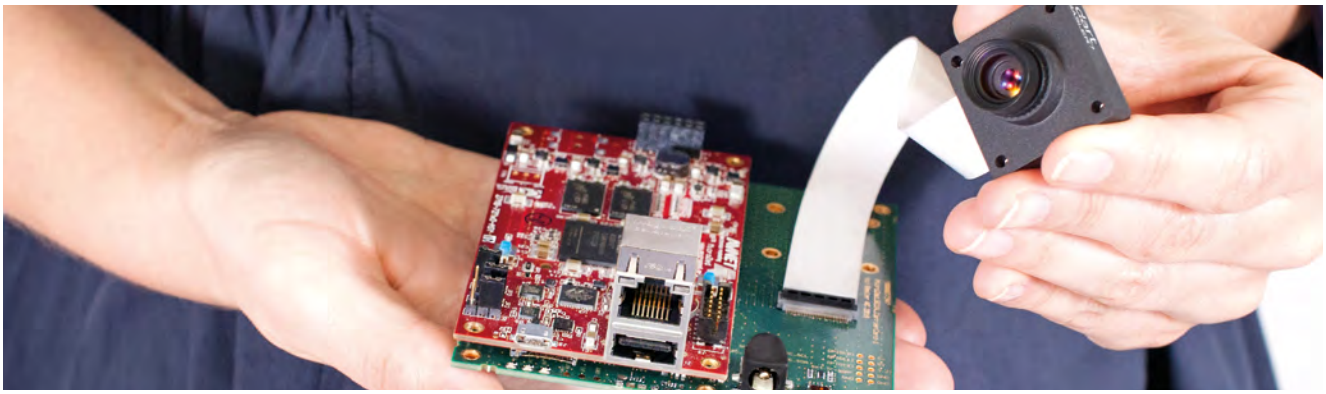
Specifications are subject to change without prior notice.
Latest specifications and availability can be found on our *website www.baslerweb.com/dart*. Please visit *www.baslerweb.com/manuals* for the detailed camera User's Manual and *www.baslerweb.com/thirdparty* for information on third party software.

Specifications Basler ace

Basler ace series with CMOS sensors	Benefits	Resolution (H × V pixels)	Frame Rate [fps]	Interface	Pixel Size [µm²]	Shutter Technology
ace with PYTHON sensors by ON Semiconductor	Highest speed, excellent price/performance ratio	VGA – 5 MP	Up to 750	USB 3.0, GigE	4.80 × 4.80	Global shutter
ace with CMOSIS sensors	High speed, NIR enhance-ment options, big pixel size	2 MP, 4 MP	Up to 165	USB 3.0, GigE	5.50 × 5.50	Global shutter
ace with SONY Pregius IMX sensors	Outstanding image quality, high speed for demanding applications	2.3 MP – 5 MP	Up to 164	USB 3.0, GigE	5.86 × 5.86 3.45 × 3.45	Global shutter
ace with APTINA sensors	Highest resolutions	2 MP – 14 MP	Up to 25	USB 3.0, GigE	2.2 × 2.2 1.67 × 1.67 1.4 × 1.4	Rolling shutter

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

POWERPACKS



All-in-one Packages for Easy Development

Get acquainted with the dart series:

Basler's PowerPacks provide developers with an easy-to-use kit with all components needed to evaluate a Basler dart camera with a USB 3.0 or BCON for LVDS interface and for hassle-free camera integration.

You can choose from two PowerPacks: a plug and play evaluation kit with a dart USB camera, and a development kit including a dart BCON camera module with a BCON for LVDS interface and a suitable processing board with a ZYNQ SoC by Xilinx. Both PowerPacks come with additional components such as a lens, cables, and the pylon Camera Software Suite.

Basler PowerPacks

PowerPack dart USB for Evaluation

Plug and play evaluation kit

- Evaluation kit with a Basler dart USB camera
- Get familiar with the software connection, camera properties and configuration
- Evaluate the camera's optical performance; also useful if you are planning an embedded vision solution with a dart BCON camera
- Develop software application code for subsequent use on other systems or interfaces

PowerPack for Embedded Vision

Development kit for easy integration

- Development kit with a Basler dart BCON camera and a processing board
- Reference design including camera connection to pylon SDK and code examples for easier development, adaptation, and testing
- Same camera functionality for USB and BCON models – easy evaluation of BCON models using USB version
- Sample carrier board design

TECHNICAL DETAILS

Specifications

PowerPacks	Basler PowerPack dart USB for Evaluation	Basler PowerPack for Embedded Vision (BCON)
Components		
Scope of Delivery	Camera, lens, USB 3.0 cable	Camera, lens, processing board, carrier card, power supply. cables (USB, FFC, Ethernet) and accessories
Camera		
Camera Model	daA2500-14uc	daA2500-14bc
Resolution (H × V pixels)	2592 × 1944	
Sensor	Aptina MT9P031, 1/2.5", CMOS, rolling shutter	
Pixel Size [µm²]	2.2 × 2.2	
Frame Rate [fps]	14	
Mono / Color	Color	
Video Output Format	Mono (8, 12), YUV 4:2:2 Packed (YCbCr 422), Bayer (8, 12), RGB 8	
Interface	USB 3.0	Basler BCON (LVDS)
Exposure Control	Via external trigger or programmable via the camera API	
Housing Size Camera (L × W × H)[mm]	20 × 29 × 29	17.5 × 29 × 29
Lens Mount	S-mount (M12)	
Digital I/O	2 Fast-GPIO	1 LVDS input, 2 outputs
Power Requirements	Via USB 3.0 interface	Via Basler BCON interface
Power Consumption (typical)	~1.3 W	~1.4
Conformity	CE, FCC, RoHS, USB3 Vision	CE, FCC, RoHS
Lens		
Lens Model	Evetar M12B0816W F1,6 f8 mm 1/2"	
Focal Length	8 mm	
Processing Board		
Board Model	–	AVNET 7010 MicroZed SOM
SoC	–	Zynq-7010 by Xilinx
Size (L × W × H)[mm]	–	101.6 × 57.2 × 25.5
Interfaces	–	10/100/1000 Ethernet,USB 2.0, USB-UART
Memory	–	1 GB DDR3 SDRAM, 128 MB QSPI Flash
Software / Driver		
Driver	Basler pylon Camera Software Suite	
Operating System	Windows, Linux, Mac OS X	Linux
Conformity	USB3 Vision, GenICam	GenICam

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

INTEGRATION

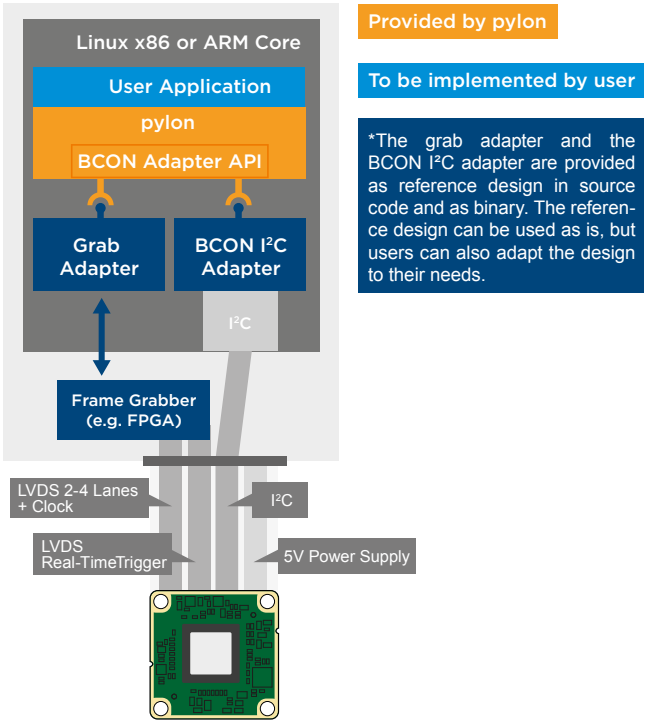
Step-by-Step Development for all Requirements

Basler cameras are highly flexible and versatile – so it's up to you to decide on your own specific system setup. If you use an off-the-shelf ARM-based or x86-based single-board computer, you will find an efficient solution with a Basler dart or ace USB camera and the Basler pylon SDK for both platforms. The SDK is easy to install and you can gain camera access (and thus images) within seconds. pylon has been successfully tested on Raspberry Pi 3, NVIDIA Jetson TK1, Odroid-U3, and many other processing boards.

LVDS-Based Integration Made Easy

For a leaner system setup using an SoM (or custom-designed processing unit) and the LVDS-based BCON interface, Basler provides support for all steps of integration.

The preceding camera evaluation is straightforward: all Basler cameras with BCON for LVDS interface are also available with a plug and play USB 3.0 interface, so that information on camera performance is available immediately, also on Linux, Windows, and Mac OS X.



After connecting a BCON camera to your system, you can benefit from the pylon SDK similarly. Using the standardized I²C data bus, pylon accesses the camera directly, without further actions required on most systems. Via the pylon API, you can simply configure the camera using your software application.

The grabbing of images via LVDS must be adapted to the specific hardware and system setup, e.g. by an individual FPGA implementation. To facilitate this process, Basler provides a development kit with a reference design. Combined with BCON's open documentation and a well-defined software protocol, creating the grabbing algorithms becomes straightforward at minimized risk.

Easy Code Transfer

The great advantage of pylon is its universality as it works equally on desktop and embedded platforms with different operating systems. This means that existing applications (and thus the code for camera operation via pylon) can be re-used. New applications can be developed conveniently on a desktop system and transferred to the embedded board at a later stage.

Changing the interface – e.g. from USB 3.0 to BCON – becomes simpler as well. This is not only because the cameras provide the same features, but because the software code can be reused (at least in parts), reducing integration and development efforts to a minimum.

Main benefits:

- Access to camera from your software code via pylon API; same pylon APIs for all platforms and interfaces
- Development kit with example code for creation of LVDS-based image grab routine
- Clear, open interface documentation and SW protocol description
- Easy pre-evaluation with plug and play USB camera models and evaluation kit

INTEGRATION

Evaluation Kit
(PowerPack dart USB for Evaluation)

All-in-one kit incl. SDK

SDK with one API for all platforms

IDEA AND SPECS FOR NEW EMBEDDED VISION APPLICATION

DECISION ON INTERFACE

USB3 VISION

BCON FOR LVDS

Easy camera evaluation
(image quality, features, etc.) via plug and play USB camera

Integration evaluation

Application development
If applicable: start development on desktop PC, migrate to embedded system later. Existing code can be reused.

Off-the shelf hardware integration

Custom board integration

If an LVDS-based solution is required at a later stage

Implementation of image grabbing logic on FPGA

Development Kit
(PowerPack for Embedded Vision)

Reference setup

SDK with one API for all platforms

Blueprints for board design

FPGA reference design

Final application
based on **USB** interface

Final application
based on **BCON for LVDS** interface

IDEA & CONCEPT

CAMERA EVALUATION

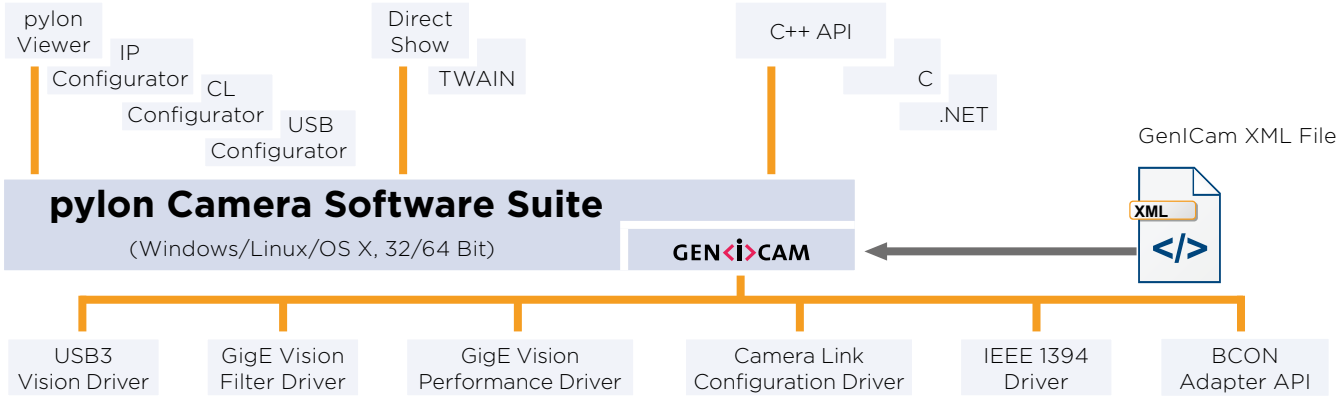
DEVELOPMENT & INTEGRATION

APPLICATION

Get your free version:
www.baslerweb.com/pylon

Basler pylon Camera Software Suite

The pylon Camera Software Suite operates with all Basler cameras – no matter what interface they use. It offers stable, reliable, and flexible data exchange between Basler cameras and computer systems: for Linux on ARM-based systems, but also on Windows, Linux and OS X on x86 – at a very low processor load.



The architecture of the pylon Camera Software Suite is based on GenICam Technology, which offers easy access to the newest camera models and the latest features. Changing an existing camera device in any application essentially becomes 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 Camera Software Suite also contains a powerful SDK that supports any type of application development.

Besides other Basler camera interfaces like GigE Vision, IEEE1394 and Camera Link, pylon also supports the interfaces which are of particular interest for embedded vision applications: USB3 Vision and BCON for LVDS. For those applications, Basler's pylon for Linux is the ideal solution - for ARM-based as well as for x86-based embedded systems.

pylon for USB 3.0 interface

pylon contains a USB3 Vision Driver which fully supports the USB3 Vision standard. It allows the camera to use the full speed and bandwidth of USB 2.0 or USB 3.0 respectively for image transmission, while reducing resource load and using off-the-shelf hardware components. The easy-to-use pylon SDK is available for Windows, Mac OS X, and Linux (on x86/x64 and ARM-based systems) and allows the creation of applications in C, C++, and .NET languages (e.g. C#, VB.NET).

pylon for BCON interface

The proven and user-friendly pylon Camera Software Suite also supports Basler's BCON for LVDS interface and is available for Linux on x86 or ARM-based systems. The programming interface for creating user-specific applications is identical to other interfaces, such as USB 3.0. This fact makes migrations from one camera model to another much easier.

Based on GenICam technology, the camera configuration is performed via the I^2C bus of the Linux system. For this purpose, pylon introduces a new BCON Adapter API which needs to be implemented in order to let pylon communicate with the system's I^2C bus. A ready-to-use sample implementation is provided as binary as well as in source code – it can be used as-is without any modification or as a blueprint for a custom adapter implementation.

The BCON Adapter API also provides an interface for implementing the logic for grabbing images. Subsequently, pylon can be used without limitation, even for image data transfer. For the development kit with a dart BCON camera, a ready-to-use sample implementation is provided as binary and in source code. Image data transfer can also be implemented independently from pylon.

BASLER PARTNER NETWORK

Supported by Experts

Apart from Basler's own reliable Support Team helping you on various camera and integration aspects, Basler has set up new ways to support you during development of your embedded vision system.

Initial setup of an embedded vision system can be complex and expensive, requiring expert knowledge in embedded hardware and software technology and system integration.

Therefore, Basler has founded the Basler Partner Network to connect companies specializing in hardware, software, technology topics, and integration services to deliver embedded vision solutions for a variety of applications and markets.

The Basler Partner Network combines different areas of expertise, making the design flow as lean as possible and to provide for smooth and efficient system integration – offering you complete and affordable embedded vision solutions.

To learn more about Basler's Partner Network please visit: *www.baslerweb.com/partnernetwork*

imaging hub
Get Vision on Board

One Step Further: Online Developer Community

If you are already in your project's design phase, and looking for solutions, inspiration, and support during development, Imaginghub might just do the trick: Imaginghub is a web-based collaboration and information portal, where engineers meet to work on joint embedded vision projects and share their knowledge and reference designs.

As a community portal, Imaginghub aims to facilitate mutual exchange of design experiences and thus reduce integration efforts on the way to cost-effective embedded vision solutions.

At Imaginghub you can:

- connect with other engineers, developers, professional makers, and manufacturers from all over the world
- exchange ideas with others, discuss applications, and work together to find the best solution for your embedded vision project
- search for reference designs and application examples
- find technology or integration partners in the partners gallery

Learn more and join the community on *www.imaginghub.com*

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OTHER INFORMATION

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.

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. 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.

> Basler has always been in on the ground floor of game-changing camera technology and it's in our DNA to move forward. By embracing and shaping embedded vision technology, we bring new value to applications that touch our lives every day.
>
> *Arndt Bake*
> *Chief Marketing Officer (CMO)*
> *Basler AG Germany*

Discover Basler

For more information about Basler's offering for your individual embedded vision application please visit:

www.baslerweb.com/embedded

Or stay in touch through our social media channels:

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