Requirements and Compatibility

For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

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Basler aviator Cameras

Camera Link and GigE Vision Cameras

- 1 MP, 2 MP, and 4 MP resolution CCD sensors
- Capture rate up to 120 fps
- Camera Link cameras provide minimum delay and jitter times for applications requiring strict timing
- GigE Vision cameras offer up to 1 Gbit/s throughput and up to 100 m cable lengths for maximum flexibility
- Optoisolated digital I/O

Overview

Basler is a leading global manufacturer of digital cameras for industrial applications, medical devices, traffic systems, and the video surveillance market.

Basler aviator Camera Link Cameras

Camera Link is the ideal interface choice for applications that require determinism, throughput, and inspection speed, such as semiconductor inspection and medical imaging. National Instruments offers several Camera Link frame grabbers that work with Basler aviator Camera Link cameras and provide superior performance using NI-IMAQ driver software.

Basler aviator GigE Vision Cameras

GigE Vision is a widely adopted camera interface that takes advantage of standard, inexpensive cables and hardware for easy implementation. The GigE Vision standard offers the most flexibility, with long cable lengths up to 100 m and the ability to connect multiple cameras to a single port using network hubs.

NI-IMAQdx, a high-performance GigE Vision driver (part of NI Vision Acquisition Software), is optimized for Intel Pro 1000 chipsets to help you reduce CPU loads when acquiring from GigE cameras. For the best experience, you can use GigE Vision cameras with the powerful stand-alone NI Embedded Vision System and NI GigE Vision plug-in boards.

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Driver Information

- NI-IMAQ
- NI-IMAQdx

Software Compatibility

- LabVIEW Vision Development Module
- NI Vision Builder for Automated Inspection

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Application and Technology

Basler aviator Camera Link Camera Specifications

	Resolution			Sensor

Basler aviator Cameras	(H x V pixels)	Sensor	Sensor Technology	Size (optical)	Pix Siz
avA1000-120km/kc	1024 x 1024	Kodak KAI-01050	Progressive Scan CCD, global shutter	1/2 in.	5.5
avA1600-65km/kc	1600 x 1200	Kodak KAI-02050	Progressive Scan CCD, global shutter	2/3 in.	5.5
avA1900-60km/kc	1920 x 1080	Kodak KAI-02150	Progressive Scan CCD, global shutter	2/3 in.	5.5
avA2300-30km/kc	2330 x 1750	Kodak KAI-04050	Progressive Scan CCD, global shutter	1 in.	5.5

Additional Specifications for All aviator Camera Link Cameras

Mono/Color	Mono/Color
Pixel Format	Mono 8, Mono 10, Mono 12, Bayer GR 8, Bayer GR 10, Bayer GR 12
Interface	Camera Link (base), single 26-pin MDR connector
CL Pixel Clock	32.5, 40, 48, or 65 MHz (selectable via software)
CL Tap Geometry	1X2-1Y or 1X-2YE
Synchronization	Via external trigger or free run
Exposure Control	Trigger width or timed
Housing Size (L x W x H)	41.2 mm x 62 mm x 62 mm
Housing Temperature	Up to 50 °C
Lens Mount	C-mount
Digital I/O	2 optoisolated input/1 optoisolated output
Power Requirements	12 VDC (±10%) via 6-pin Hirose connector
Conformity	CE, FCC, IP30, RoHS

Basler aviator GigE Vision Camera Specifications

Basler aviator Cameras	Resolution (H x V pixels)	Sensor	Sensor Technology	Sensor Size (optical)	Pix Siz (m)
avA1000-100gm/gc	1024 x 1024	Kodak KAI-01050	Progressive Scan CCD, global shutter	1/2 in.	5.5
avA1600-50gm/gc	1600 x 1200	Kodak KAI-02050	Progressive Scan CCD, global shutter	2/3 in.	5.5
avA1900-50gm/gc	1920 x 1080	Kodak KAI-02150	Progressive Scan CCD, global shutter	2/3 in.	5.5
avA2300-25gm/gc	2330 x 1750	Kodak KAI-04050	Progressive Scan CCD, global shutter	1 in.	5.5

Additional Specifications for All aviator GigE Vision Cameras

Mono/Color	Mono/Color
Video Output Format	Mono 8, Mono 12, Mono 12 Packed, YUV 4:2:2 Packed, YUV 4:2:2 (YUYV) Packed, Bayer GB 8, Bayer GB 12, Bayer GB 12 Packed
Interface	Gigabit Ethernet (1000 Mbit/s)
Synchronization	Via external trigger, via the Ethernet connection, or free run
Exposure Control	Via external trigger signal or programmable via the camera API
Housing Size (L x W x H)	40.7 mm x 62 mm x 62 mm
Housing Temperature	Up to 50 °C
Lens Mount	C-mount
Digital I/O	2 optoisolated input/4 optoisolated output
Power Requirements	12 VDC (±10%) via 12-pin Hirose connector
Conformity	CE, FCC, IP30, RoHS

Support and Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at ni.com/advisor to find a system assurance program to meet your needs.

Calibration

NI measurement hardware is calibrated to ensure measurement accuracy and verify that the device meets its published specifications. To ensure the ongoing accuracy of your measurement hardware, NI offers basic or detailed recalibration service that provides ongoing ISO 9001 audit compliance and confidence in your measurements. To learn more about NI calibration services or to locate a qualified service center near you, contact your local sales office or visit ni.com/calibration.

Technical Support

Get answers to your technical questions using the following National Instruments resources.

- **Support** - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
- **Discussion Forums** - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
- **Online Community** - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

- **Classroom training in cities worldwide** - the most comprehensive hands-on training taught by engineers.
- **On-site training at your facility** - an excellent option to train multiple employees at the same time.
- **Online instructor-led training** - lower-cost, remote training if classroom or on-site courses are not possible.
- **Course kits** - lowest-cost, self-paced training that you can use as reference guides.
- **Training memberships** and training credits - to buy now and schedule training later.

Visit ni.com/training for more information.

Extended Warranty

NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

OEM

NI offers design-in consulting and product integration assistance if you need NI products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

Alliance

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 700 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.

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