

Basler IP Cameras



Preliminary

The Most Powerful IP Camera Concept

About Basler

BaslerVision Technologies is one of the world's leading vision technology companies. Founded in 1988, Basler has grown to a 300+ employee company with headquarters in Germany and subsidiaries in the USA, Singapore, and Taiwan. Our success is based on the excellent quality of our products, an unwavering focus on our customers, and continuous improvements in our processes. Basler is an ISO 9001:2000 certified company.



Basler Components is the largest division of BaslerVision Technologies. Since 1997, Basler Components has been designing, manufacturing, and selling leading-edge digital cameras for industrial, medical, and surveillance applications.

Our unique combination of digital camera design experience and image processing expertise lets us both follow and influence the market trend toward more intelligent IP camera products.



Why Basler IP Cameras?

Basler IP cameras differentiate themselves through excellent image quality. When an event occurs, Basler IP cameras offer you the highest image quality and maximum information.

Versatility, simplicity, and comprehensive documentation make our products easy to use. Basler IP cameras shorten your installation time and lower the barriers to a switch from analog to digital technology.

Our cameras are rich in useful features. Using Basler IP cameras saves network costs and increases the performance (event guarantee and scalability) of your video surveillance solution.

Designed and manufactured in Germany, our products are robust and reliable. Each camera goes through an exhaustive individual inspection and calibration process before delivery. The highest reliability virtually eliminates any reinstallation efforts.

Our excellent service and support make you feel confident and comfortable about making Basler your camera vendor of choice. Our primary goal is to make you feel at home doing business with professionals devoted to developing and producing reliable, easy-to-use products featuring cutting-edge technology.

Features and Benefits

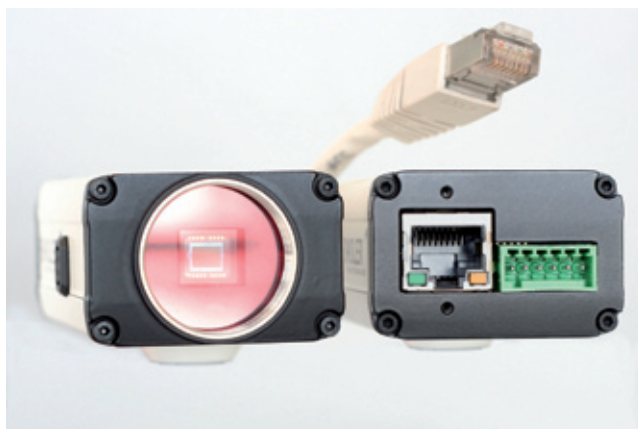
The Basler IP camera product line offers flexible, high-performance solutions for a wide range of applications in the area of video surveillance. Our cameras meet the market's requirements for exceptional image quality and an excellent price/performance ratio.

Basler IP cameras use the best available CCD and CMOS sensors and incorporate concepts specifically adapted to surveillance tasks. The outstanding performance of these cameras is a direct result of Basler's 20 years of experience in industrial image processing.

All Basler IP color cameras have the following performance characteristics:

- **Progressive scan** for all image sensors (CCD and CMOS sensors with resolutions from VGA to 2 megapixels) as the basis for exceptional image quality with reduced motion blur.
 - **Ideal image quality** assured via a set of flexible control functions. The use of configurable measurement windows for exposure control makes it possible to obtain e.g. the best brightness for a scene. White balance can either be automatically controlled or manually adjusted resulting in ideal color fidelity. Configurable gain control and an iris drive with DC control guarantee the best representation of objects under surveillance even if lighting conditions are poor or changing.
 - **Video compression** with standards-compliant MJPEG, MPEG-4, or H.264 encoding. This flexible approach allows the customized use of multiple MJPEG streams while also using an MPEG4 or H.264 encoded stream. The resolution and frame rate of the MJPEG image streams and the MPEG-4 or H.264 stream can be independently adjusted.
 - **Scaling and AOI functionalities** support customized resolutions. To display a maximum of detail with the highest precision, any image format and aspect ratio can be configured. This means that only relevant image data will be transmitted, leading to a significant reduction in bandwidth utilization and maximizing storage utilization.
- The unique AOI feature lets users define regions within the original field of view. The regions can be streamed separately to realize not only ePTZ but also multiple virtual cameras.

- **Motion detection** with an array of 32 x 24 definable fields. Motion detection can be combined with extensive event and alarm management functionality. Configurable internal ring buffer storage makes it possible to access pre and post alarm images.
- **Multifunctional interface** for connecting peripheral equipment. The 6-pin interface connector not only provides an alternate means of applying camera power, but also makes it possible to control peripheral equipment via RS-232 or a digital I/O interface.
- **Power over Ethernet (IEEE 802.3af)** capability means that power can be supplied to the camera via the same cable used for the network connection.
- **Compact metal housing** with an 89.2 mm x 29 mm x 44 mm size and a weight of only 230 g.



RoHS Compliance

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



Specifications

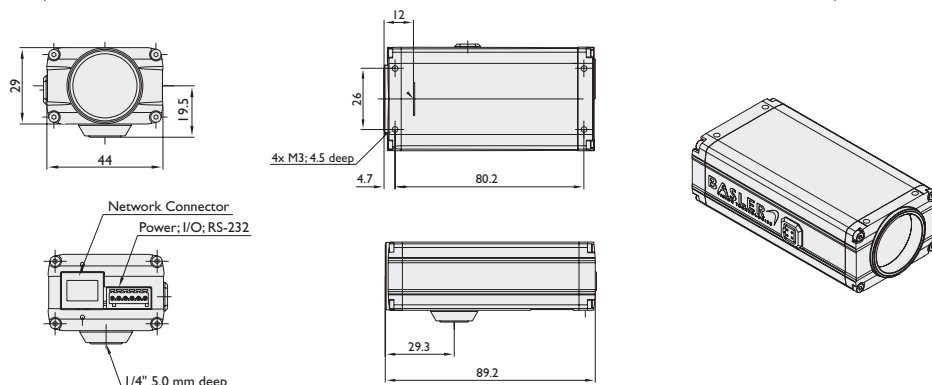
Coming soon

| Basler IP Camera | BIP-640c | | | | BIP-750c | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|------------------------------------------------------------------------------------------|----------|---------|
| Image Sensor | 1/3" Sony Wfine progressive scan RGB CCD | | | 1/3" Micron progressive scan CMOS | | |
| Effective Pixels | 659 (H) x 490 (V) | | | 752 (H) x 480 (V) | | |
| Frame Rate | MJPEG | MPEG-4 | H.264** | MJPEG | MPEG-4 | H.264** |
| Full Resolution: | 30 fps | 30 fps | 19 fps | 30 fps | 28 fps | 17 fps |
| DI (720 x 480): | 30 fps* | 30 fps* | 20 fps* | 30 fps | 30 fps | 18 fps |
| | Max sensor readout rate: 71 fps | | | Max sensor readout rate: 60 fps | | |
| Pixel Size | 7.40 μm x 7.40 μm | | | 6.0 μm x 6.0 μm | | |
| Sensitivity | tbd | | | tbd | | |
| Lens | CS-mount, DC iris drive | | | CS-mount, DC iris drive | | |
| Image Settings | Automatic gain, exposure area, backlight compensation, white balance, electronic shutter, 180° image rotation, electronic PTZ via AOI (API), text overlay, privacy masks, motion detection | | | | | |
| Resolution | From 160 x 120 to 659 x 490 (free scaling), 4:3, 16:9, multiple Areas of Interest (AOIs) | | | From 160 x 120 to 752 x 480 (free scaling), 4:3, 16:9, multiple Areas of Interest (AOIs) | | |
| Video Compression | Motion JPEG: Multiple compression Levels MPEG-4: SP (Level 3), ASP (Level 5) H.264** (MPEG-4 AVC): Baseline (Level 3) | | | | | |
| Video Streaming | Simultaneous dual encoding for MJPEG and MPEG-4 or H.264,** multi-streaming for MJPEG, multicast and unicast, VBR and CBR for MPEG-4 and H.264** | | | | | |
| Alarm Management | Ring buffer for pre and post alarm Events triggered by motion detection, external input, or scheduling Image upload over FTP, Email, or HTTP | | | | | |
| Protocols | TCP/IP, HTTP, HTTPS**, UDP, ICMP, ARP, DHCP, NTP, RTP, RTSP, RTCP, SMTP, IGMP, UPnP | | | | | |
| Processor/Memory | 600 MHz dual-core multimedia DSP, FPGA 128 MB RAM, 8 MB flash, battery backed-up real-time clock | | | | | |
| Power | PoE (Power over Ethernet IEEE 802.3af) or 7 to 20 VDC, power consumption is 5 W max at 12 VDC | | | | | |
| Connectors | Screwable RJ-45 connector for 10/100 BASE-T Ethernet, full or half duplex 6 pin Phoenix terminal for DC power, digital I/O and RS-232 | | | | | |
| Operating Conditions | 0° to 50° C (32° to 122° F), 20 % to 80 % relative humidity (non-condensing) | | | | | |
| Standards | FCC Class B, CE, RoHS | | | | | |
| Housing | 89.2 mm x 29 mm x 44 mm (full metal casing) | | | | | |
| Weight | ~230 g | | | | | |

Specifications are subject to change without prior notice.

** available in Q4/2008 by firmware update

Dimensions (in mm)



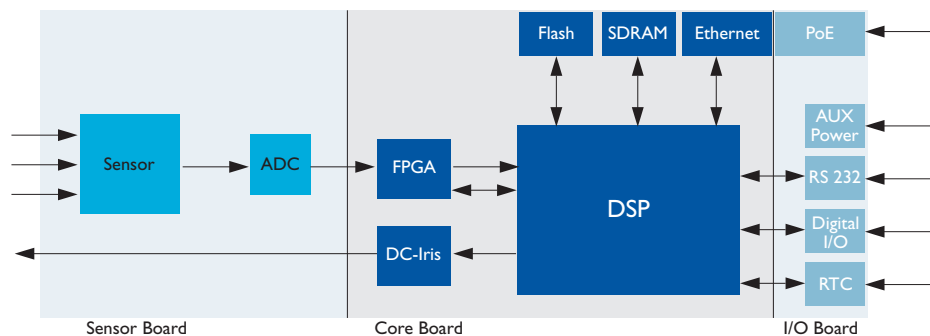
Specifications

| Basler IP Camera | BIP-1000c | | | BIP-1300c | | | BIP-1600c | | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|-------------------------------------------------------------------------------------------|--------|---------|--------------------------------------------------------------------------------------------|---------|---------|
| Image Sensor | 1/3" Sony Wfine progressive scan RGB CCD | | | 1/3" Sony EXview HAD progressive scan RGB CCD | | | 1/1.8" Sony Wfine progressive scan RGB CCD | | |
| Effective Pixels | 1034 (H) x 779 (V) | | | 1296 (H) x 966 (V) | | | 1628 (H) x 1236 (V) | | |
| Frame Rate | MJPEG | MPEG-4 | H.264** | MJPEG | MPEG-4 | H.264** | MJPEG | MPEG-4 | H.264** |
| Full Resolution: | 20 fps | 12 fps | 7 fps | 13 fps | 8 fps | 4 fps | 8 fps | 5 fps | 3 fps |
| DI (720 x 480): | 30 fps | 30 fps | 18 fps | 30 fps | 30 fps | 18 fps | 30 fps* | 30 fps* | 18 fps* |
| | Max sensor readout rate: 30 fps | | | Max sensor readout rate: 30 fps | | | Max sensor readout rate: 14 fps * by AOI | | |
| Pixel Size | 4.65 µm x 4.65 µm | | | 3.75 µm x 3.75 µm | | | 4.40 µm x 4.40 µm | | |
| Sensitivity | 1.3 lux (F 1.4 / 30 ms) | | | tbd | | | 0.6 lux (F 1.4 / 30 ms) | | |
| Lens | CS-mount, DC iris drive | | | CS-mount, DC iris drive | | | CS-mount with adapter ring, DC iris drive | | |
| Image Settings | Automatic gain, exposure area, backlight compensation, white balance, electronic shutter, 180° image rotation, electronic PTZ via AOI (API), text overlay, privacy masks, motion detection | | | | | | | | |
| Resolution | From 160 x 120 to 1024 x 768 (free scaling), 4:3, 16:9, multiple Areas of Interest (AOIs) | | | From 160 x 120 to 1280 x 960 (free scaling), 4:3, 16:9, multiple Areas of Interest (AOIs) | | | From 160 x 120 to 1600 x 1200 (free scaling), 4:3, 16:9, multiple Areas of Interest (AOIs) | | |
| Video Compression | Motion JPEG: Multiple compression Levels MPEG-4: SP (Level 3), ASP (Level 5) H.264** (MPEG-4 AVC): Baseline (Level 3) | | | | | | | | |
| Video Streaming | Simultaneous dual encoding for MJPEG and MPEG-4 or H.264**, multi-streaming for MJPEG, multicast and unicast, VBR and CBR for MPEG-4 and H.264** | | | | | | | | |
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| Housing | 89.2 mm x 29 mm x 44 mm (full metal casing) | | | | | | | | |
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Architecture

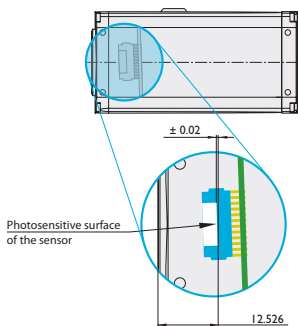


What Makes Basler Camera Quality So Special?

To ensure consistently high product quality, we employ several inspection procedures during manufacturing. The following list indicates three of the most important quality assurance tools we use to meet your highest requirements.

Camera Sensor Alignment Tool (CSAT):

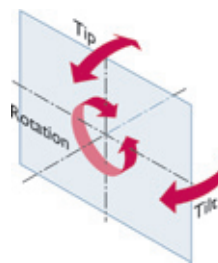
Due to higher resolutions and smaller pixels, depth of focus and the exact positioning of the imaging sensor in the camera are becoming more and more critical. An area scan sensor must be aligned in six degrees of freedom.



The back focal length on each camera is carefully measured and adjusted by our patented “CSAT” procedure. This guarantees an optimum distance between the lens flange and the sensor and ensures outstanding image quality based on compliance with optics standards.

Camera Test Tool (CTT+)

Our advanced Camera Test Tool (CTT+), the first fully automated inspection system for digital cameras, checks all of the significant quality aspects of each camera we produce. The CTT+ is a unique combination of optics, hardware, and software that can be quickly and efficiently used to calibrate a camera and to measure its performance against a set of standards. For defined sets of conditions, an automated software program examines the camera’s output, makes any calibration adjustments necessary, and compares the output to a strictly defined set of performance criteria.



Basler customers get a 100% tested camera, all of the benefits that go along with 100% testing, and a much higher level of satisfaction. This is a definite win-win situation.

Temperature Test

As a final check, our cameras pass a stress test. Cameras are tested over the entire temperature range specified in our documentation. By doing this, we can identify and remove temperature sensitive weak spots in the camera. This guarantees consistent image quality in conditions with quickly changing temperatures.



www.basler-ipcam.com

Germany, Headquarters
 Phone +49 4102 463 500
 Fax +49 4102 463 599
bc.sales.europe@baslerweb.com

USA
 Phone +1 610 280 0171
 Fax +1 610 280 7608
bc.sales.usa@baslerweb.com

Singapore
 Phone +65 6425 0472
 Fax +65 6425 0473
bc.sales.asia@baslerweb.com