

Specifications

Basler eXcite	exA640-60m, exA640-60c	exA640-120m, exA640-120c	exA640-180m, exA640-180c	Preliminary exA1390-19m exA1390-19c	Preliminary exA1600-14m exA1600-14c
Camera Section					
Resolution	Mono: 656 x 491 Color: 656 x 490	Mono: 656 x 491 Color: 656 x 490	Mono: 656 x 491 Color: 656 x 490	Mono: 1392 x 1040 Color: 1388 x 1038	Mono: 1624 x 1236 Color: 1624 x 1234
Sensor Type	CMOS	CMOS	CMOS	CCD	CCD
Pixel Size	9.9 µm x 9.9 µm	9.9 µm x 9.9 µm	9.9 µm x 9.9 µm	4.65 µm x 4.65 µm	4.4 µm x 4.4 µm
Frame Rate at Full Resolution	60 fps	132 fps	176 fps	18.7 fps	14 fps
Mono/Color	Mono or Color				
Video Output Format	Mono: 8, 10 bit/pixel Color: 8 bit/pixel YUV4:2:2, Raw, Mono 10 bit/pixel Raw, Mono	Mono: 8, 10 bit/pixel Color: 8 bit/pixel YUV4:2:2, Raw, Mono 10 bit/pixel Raw, Mono	Mono: 8 bit/pixel Color: 8 bit/pixel Raw YUV4:2:2, Raw, Mono	Mono: 8, 12 bit/pixel Color: 8 bit/pixel YUV4:2:2, Raw, Mono 12 bit/pixel Raw, Mono	Mono: 8, 12 bit/pixel Color: 8 bit/pixel
Synchronization	Via external trigger or via software				
Processor Section					
CPU Type	64 bit-Mips Processor				
Speed	1.0 GHz				
RAM/Flash	128 MB / 128 MB				
OS	Linux (Kernel 2.6)				
Interface					
USB	2 x Version 2.0				
LAN	10 / 100 / 1000 MBit				
Serial	RS 232, max 115 kBaud				
Digital IO	4 x In, 4 x Out, opto-coupled, 10-30V				
Mechanical / Electrical					
Housing Size (LxWxH)	150 mm x 55 mm x 60 mm				
Weight	Max. 600 g typical				
Power Requirements	12VDC, 17W typical				
Operation Temperature	0°C ...+45°C (+32°F...+113°F) Housing Temperature, active airflow support required				
Operation Humidity	20%...80%, relative, non-condensing				
Mount Type	C-mount				
Certifications	CE, FCC				
Software Environment					
Configuration Tools	Basler Camera Configuration Tool, Viewer GX, Telnet and FTP services				
Development Tools	Eclipse, GNU Tools, CoLinux				
PC Requirements	Linux (2.4 or higher) or Windows (2000 or XP), Ethernet port				

Specifications may change without prior notice



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BASLER eXcite



The Intelligent Camera Series

BASLER
VISION TECHNOLOGIES

VISION COMPONENTS

BASLER
VISION TECHNOLOGIES

Integration of Two Complex Components

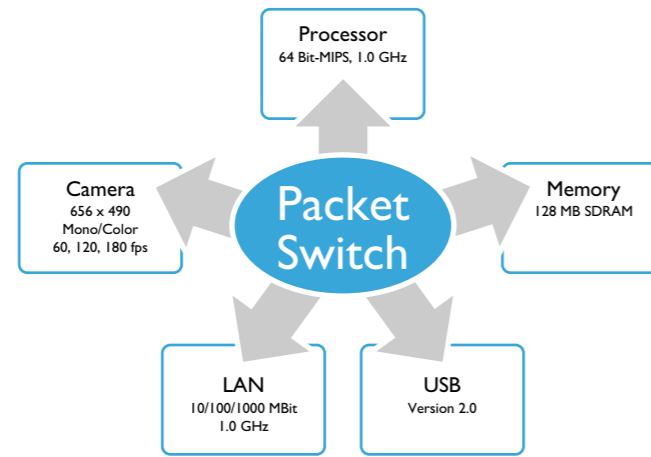
How small can you make the computer for a vision system without reducing its flexibility and power? The answer can be found in Basler's eXcite intelligent camera. The eXcite is an integration of two complex components, a top-quality digital camera and a complete, high-performance PC. The eXcite houses these two components together in a very small package while maintaining 100% compatibility with standard PCs. With its compact size and versatile interface, including USB, Gigabit Ethernet, and digital I/O connections, the eXcite is well-suited for a wide range of industrial purposes in a variety of contexts. Basler's eXcite is a flexible, high-performance platform designed to handle the easiest or the most demanding vision applications.

Grabbing Images

Basler's years of experience in camera design and production are demonstrated by the high image quality of the eXcite. Reliable operation is guaranteed by a separate microcontroller that regulates all camera functions including the capture and transport of image data. Pre-processing of the image data is done by an FPGA. And of course, all of our standard camera features like an electronic full frame shutter, area of interest (AOI) scanning, and real-time triggering are available on the eXcite.

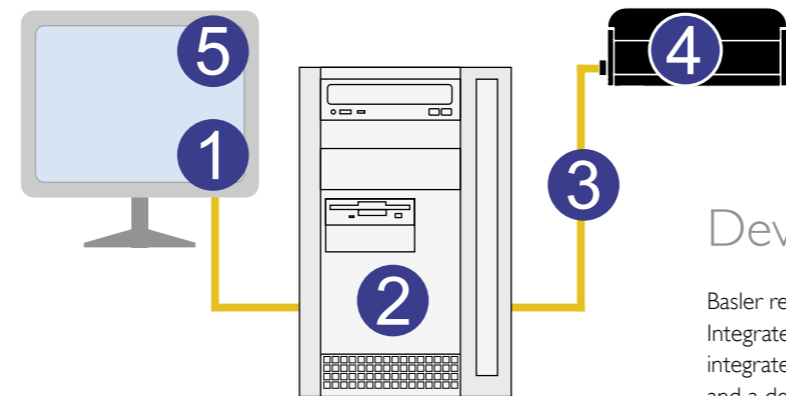
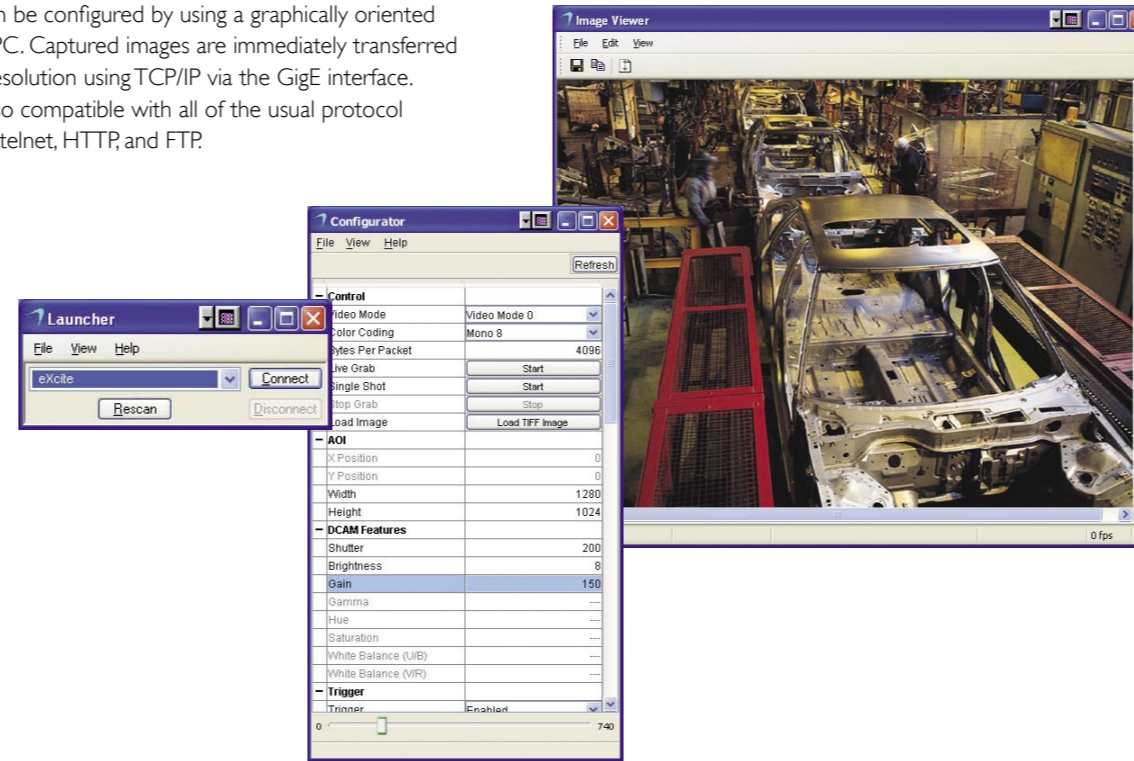
Processing Data

A 64 Bit MIPS processor with a frequency of 1.0 GHz is at the core of Basler's eXcite. The MIPS processor design is based on computer network technology, and it is equipped with a central "packet switch" data distributor for the most efficient processing of large amounts of data. In addition to the MIPS core, all necessary peripherals such as memory and Ethernet interfaces are included inside of the processor chip. This high level of integration is responsible for eXcite's compact size. The use of a Linux operating system on the processor allows the integrated hardware resources to function at top levels. This open-source operating system offers, among other things, the advantages of long-term availability and support for varied applications through a worldwide source network. An advanced combination of components puts the eXcite in a class by itself. For the first time, comprehensive image analysis is possible with high-resolution, high-frequency image capturing in an intelligent camera.



Configuration and Control

Camera options can be configured by using a graphically oriented tool installed on a PC. Captured images are immediately transferred to the PC in high resolution using TCP/IP via the GigE interface. Basler's eXcite is also compatible with all of the usual protocol variations including telnet, HTTP, and FTP.



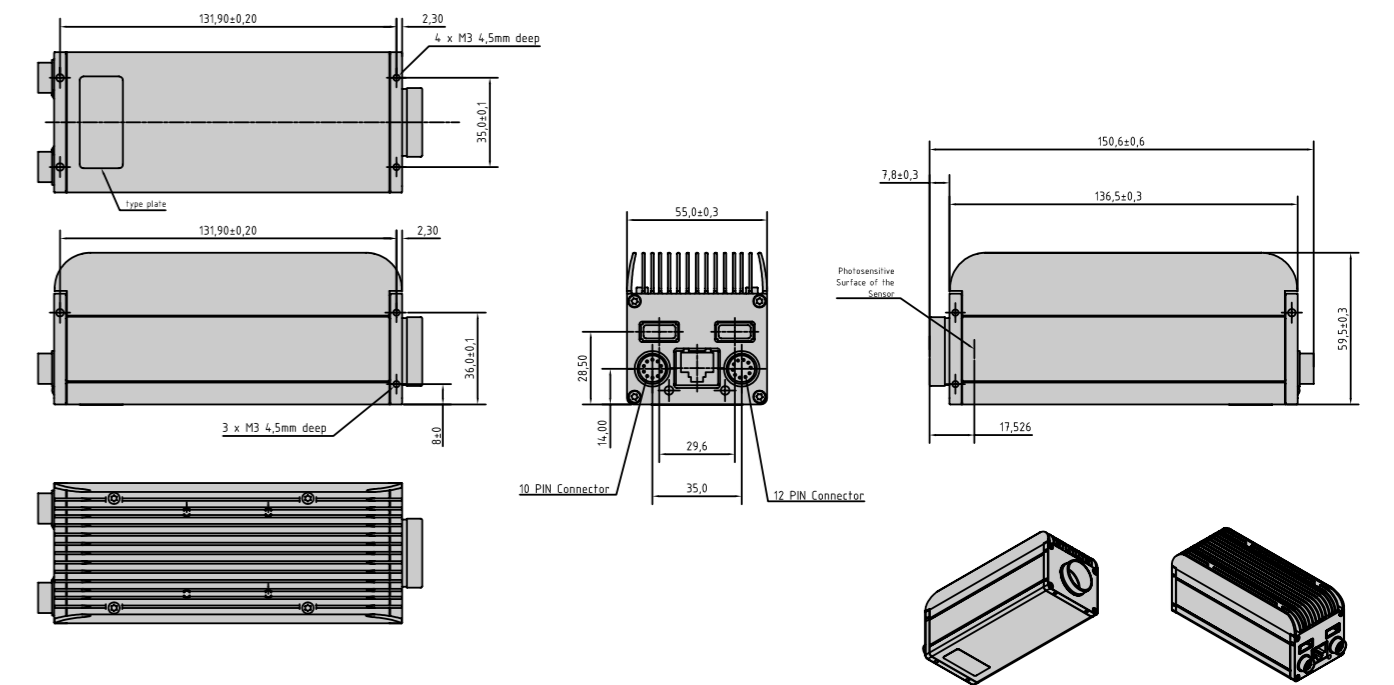
1. Code your application and 2. Build it on the PC (Linux or Windows/CoLinux). 3. Copy the application to the eXcite. 4. Run the application on the eXcite and 5. Monitor the results on your PC.

Connecting

The Gigabit Ethernet (GigE) interface provides ample bandwidth to allow continuous and uninterrupted transfer of the high data volumes generated by capturing live images at high resolution. Automatic compatibility with 100 / 10 MBit networks means that slower hardware can also be used. Mobile data storage components such as memory sticks or disk drives can be easily attached to the eXcite's USB interface, simplifying information exchange with the system. The digital I/Os are designed for use in an industrial environment. The four input ports and four output ports have a quick reaction time and are compatible with PLC signals. Opto-coupler isolation on the output ports makes them short circuit resistant.



Dimensions



Developing

Basler recommends using the platform-independent Eclipse Integrated Development Environment with the eXcite. The Eclipse integrated GNU tool collection, which includes a compiler, a linker, and a debugger, creates optimally tuned applications for the eXcite. All tools are open source software, are available long term, and are supported worldwide. Extensive documentation and sample programs minimize learning time. A free, CD-based installation package is available to simplify your first steps with the eXcite.