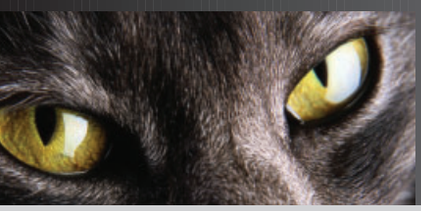


THE IMAGE YOU WANT, THE WAY YOU WANT

PicSight.com

PicSight® marks an all new approach for industrial cameras. You take control! Choose your very own industrial camera to match your needs. Pick your image characteristics from our large selection of Standard Sensor Modules based on CCD or CMOS sensors. Then select your preferred way of transferring the images from our Standard Interface Modules, or opt for on-board camera processing with a Smart Processing Module. It's new and the choice is yours.

Technical Features:

- On-board memory
- Embedded processing modules
- CCD and CMOS sensors
- Monochrome and color models
- Progressive scan or global shutter
- Integrated Bayer Decoding
- Compact industrial metal housing
- Signals for trigger, strobe and control
- Gigabit Ethernet, Camera Link, USB2.0 or analog interface
- Right angle lens mount available

Select Your Sensor

PicSight® offers a variety of CCD and CMOS sensors differing in resolution, frame rate, size, monochrome and color, and other features allowing you to find the best image sensor for your application.

Select Your Interface

Transfer the image over the interface that fits best for your application. **Gigabit Ethernet** is the new standard for machine vision. It provides many features that have been unavailable in a single camera interface until now. High data rates, universally available computer interface hardware, low cost cabling, and standardized camera controls make Gigabit Ethernet an attractive interface option for machine vision cameras. The **USB 2.0** interface allows an easy and cost effective connection of cameras to PCs, notebooks and embedded systems. **Camera Link** is the right choice for high end applications and solutions with multiple cameras.

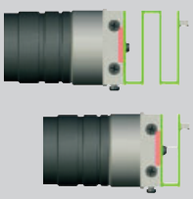
Get The Perfect Fit

The high level of flexibility allows **PicSight®** to adapt to almost any application. Also, custom-made mo-dules are available for large OEM customers.
Have a look – you will find the right model in the **PicSight®** family.

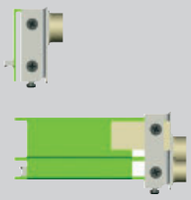
TAKE ADVANTAGE OF THE NEW ARCHITECTURE

PicSight® offers a new powerful way to produce images for your vision applications. It partitions the "Seeing" and "Image Transfer" functions into separate modules, allowing you to select the optimal combination for your application.

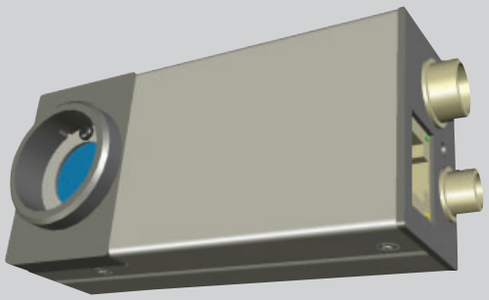
Camera Modules

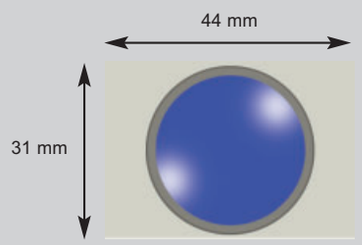


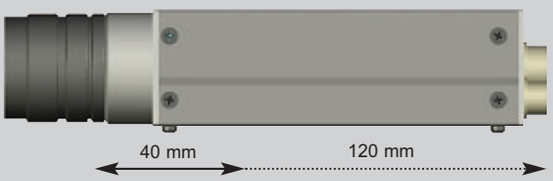
Interface Modules



Processing Modules







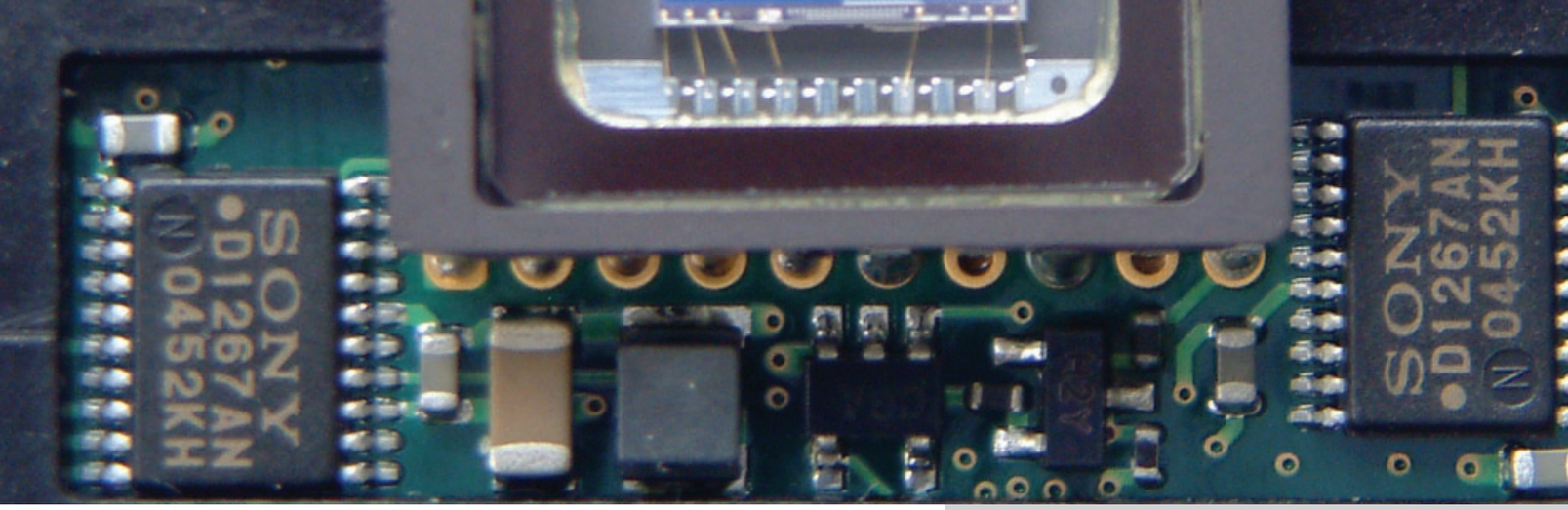
Depending on the configuration, the length of **PicSight®** varies from 40–120 mm.

The modular and flexible architecture concept offers exciting and versatile future possibilities

- **PicSight®** simplifies your hardware selection by offering a large selection of sensors combined with popular interfaces
- **PicSight®** simplifies your hardware integration by offering a single common software interface whether you are using GigE, USB2, or Leutron Vision frame grabbers
- **PicSight®** increases the reliability and quality of your product benefiting from our 25+ years of experience in professional imaging hardware design
- **PicSight®** simplifies your system integration by offering a standard mechanical housing across the entire product range
- **PicSight®** protects your investment by allowing upgrades to new technologies without changing unnecessary components
- **PicSight®** opens the door to implement more vision systems by its impressive features and aggressive pricing

Mechanical Architecture

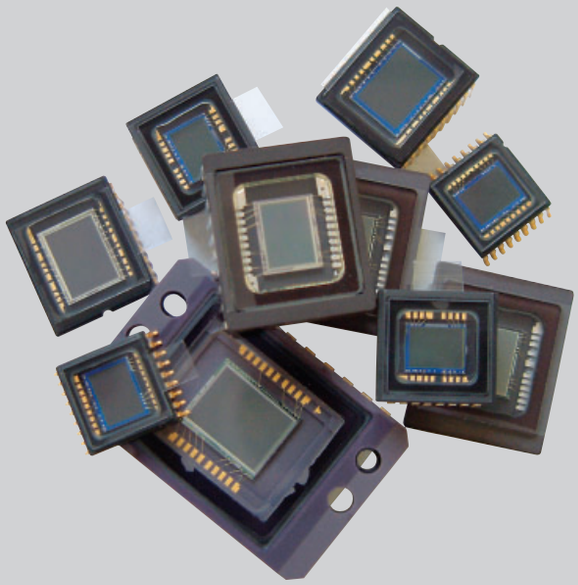
Despite the wide variety of models, the mechanical specifications have been simplified for easy integration and to facilitate model upgrade on identical target systems. The profile is identical in the entire PicSight® product range: 44 mm × 31 mm (1¾ ″ × 1¼ ″).
Only the length adapts to the complexity of models ranging from 40 mm to 120 mm (1½ ″ to 4¾ ″).
For those tight space installations, **PicSight®** offers a body with the sensor mounted on a 90 degree angle.



Sensor Modules

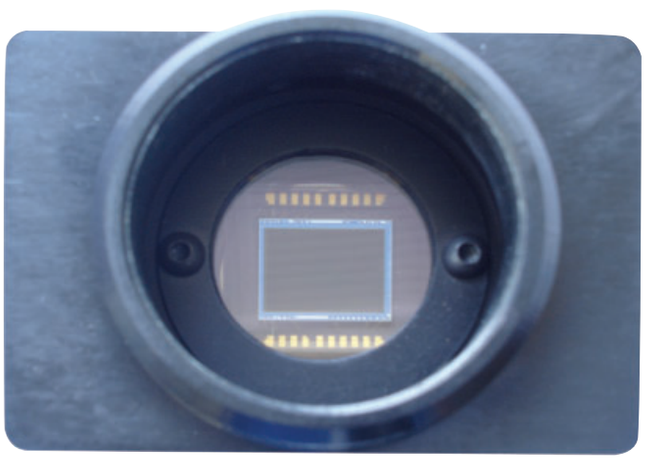
PicSight® is available with many different sensor modules and the model family is expanding rapidly. CMOS or CCD, color or monochrome, different resolutions, frame rates, sizes… Select the one that is most appropriate for your application. You will find the detailed description for any sensor in the technical data sheets of the individual cameras. For the current list of sensors, visit **www.PicSight.com.**

PicSight® is built with the latest digital sensor technology.
The design and processing of the sensor signal allows high frame rates and assures an excellent signal/noise ratio.
The on-board micro-controller controls real-time sensor parameters such as shutter, exposure time, gain and all the others.

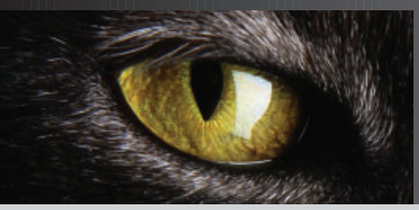


Sensor module features:

- High image quality with up to 12-bit data output
- Excellent flexibility providing full programmability for all features
- Extremely reliable and environmentally controlled with a temperature sensor
- Increased image quality with a cooling plate for CCD sensors
- Ease of integration with standard C-mount lenses



PicSight® offers a variety of different monochrome and color CCD and CMOS sensors.



TRANSFER IT THE WAY YOU WANT – THE BEST INTERFACES AND PROCESSING MODULES

Every interface standard has its advantage. It depends on your application which one fits best. PicSight offers you the most important standards you can get for digital image processing and machine vision.

Gigabit Ethernet:

GigE vision represents a significant advantage in camera technology for industrial imaging. The high data rates are more than double what can be achieved by Firewire or USB2.0.

Gigabit Ethernet – a new level of performance

This module transfers the images on an Ethernet network.

Typical usage:

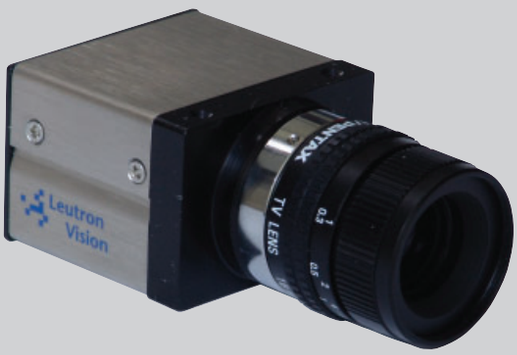
- Complete System with a single digital camera
- Digital camera with long cable runs (up to 100 m/300 ft)
- Multiple camera systems, multiple PCs/camera networks

Features:

- Uncompressed images over Ethernet network
- Maximum performance with a powerful 32-bit RISC processor
- Maximum compatibility with support for 10/100/1000 Ethernet networks
- Maximum reliability with on-board multiframe frame storage
- Real-time image acquisition with direct trigger input and strobe output
- Maximum operability with field-upgradeable firmware
- 2 opto I/Os for trigger input and strobe output

USB – PicSight® offers more

The standard USB2.0 interface guarantees easy integration without any additional interface board. **PicSight®** has a USB interface with real image processing qualities. Power over USB, pre-processing and other advanced features are available. The internal memory is a key feature for industrial USB cameras.



Typical usage:

- Simple systems with a single digital camera
- Multiple camera systems with sequential transfer

Features:

- Image buffering in continuous acquisition mode to secure an error-free image transfer
- Triggering with direct digital input
- Synchronous acquisition from multiple cameras over the USB bus
- Power over USB

Camera Link – for solutions with no compromise

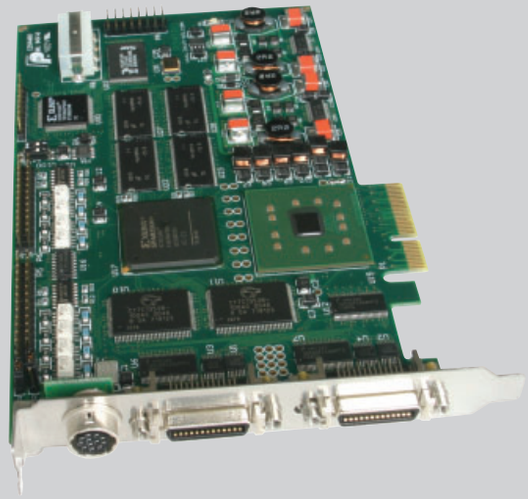
This module transfers the image in the standard Camera Link format. A frame grabber is required to make the images available to the processing software. Available frame grabbers from Leutron Vision are PicPort®-Express-CL or PicPort®-Pro-CL.

Typical usage:

- Systems requiring low and stable latency between image capture and image transfer
- High bandwidth systems
- Systems requiring a large number of cameras

Features:

- Selectable Camera Link clock frequency and bit depth
- 12-bit output-LUT for monochrome cameras
- Fully integrated Bayer decoder with color space rotator and output LUT for color cameras
- True grey level image generation from color cameras by extracting the luminance of the previously calculated true RGB image. Thus every color camera can work also as a true monochrome camera.
- Minimum cabling by using the Camera Link serial interface to set camera configuration
- Minimum cabling by allowing power on Camera Link cable
- Maximum flexibility with a fully configurable microcontroller
- Maximum operatibility with field-upgradeable firmware
- 8, 12 or 24-bit resolution for luminance or RGB
- Reprogrammable FPGA for image preprocessing
- +12V Power on new mini Camera Link connector



PicSight® and PicPort®-Express-CL:
The fastest way to grab images

Analog – for OEM´s only

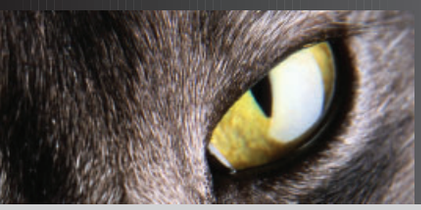
This module transfers the images in analog format. A frame grabber is required to make the images available to the processing software. Available frame grabbers from Leutron Vision are PicPort®-Mono or PicPort®-Stereo.

Typical usage:

- Replacement of analog cameras to benefit from sensor properties and digital flexibility of the **PicSight®** architecture (available for OEM´s only)

Features:

- Maximum image quality with a 10-bit DAC
- Maximum operability with field-upgradeable firmware
- Maximum flexibility with an on-board micro-controller
- Maximum integration by accepting power between 10–15 VDC
- Serial RS-232 interface to control all camera parameters
- Accepts 10–15 VDC



LOOKING FOR A SMART CAMERA – THE PROCESSING POWER INSIDE

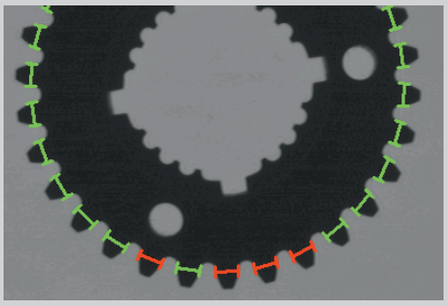
Custom specific cameras:
Because of our modular design, we can provide custom OEM cameras for that perfect solution with little effort.

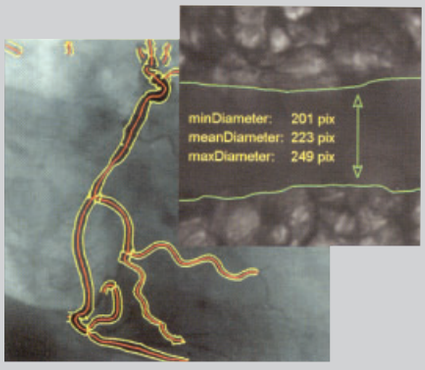
Need a custom camera? Talk to us!

If your requirements do not fit into our standard product offering, let's talk. If you need a custom interface, or a real specific sensor module, our modular and flexible architecture makes it easy.

Smart Processing Modules

If you have your own image processing software, our smart processing module can give you the ability to create your own smart camera. OEMs can integrate their know-how into a small hardware platform with plenty of possibilities and flexibility.





Typical Usage:

- 1D and 2D code identification
- Optical character recognition
- Measuring and comparing
- Quality assurance
- Automated production

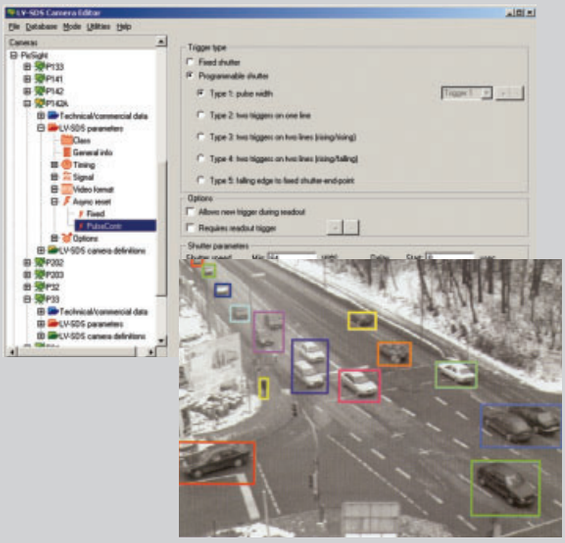
Features:

- Embedded capabilities with a 32-bit RISC Processor
- Custom software with development in C, C++
- Long cable runs, multi-system and easy integration with network connection
- Easy communication and controlled by a serial interface (RS-232)
- Real-time image acquisition with direct trigger input and strobe output
- Direct interaction with peripherials through user I/O
- 10/100/1000 Ethernet Bridge Technology from Intel
- 64MB on-board frame store to save multiple images and program code
- 2 opto I/Os for trigger input and strobe output
- 6 opto I/Os for communication with the application environment
- 32MB on-board flash for firmware
- Programmable 2-D display interface to display images or graphics with a resolution of up to 1280 × 1024

THE SOFTWARE MAKES THE DIFFERENCE – COMPATIBLE IN ALL DIRECTIONS

Common Software Interface

Leutron Vision provides a single software interface for all its products. This single software interface gives our customers the flexibility to integrate any of our products without modifications to their software achitecture. Changing hardware easily allows them to use the most appropriate products with minimal development time, increasing their competitiveness and reducing their time to market. The PicSight® product family offers easy integration to applications with the same single software interface.



Leutron Vision Software Development Suite

LV-SDS is a software development suite for Windows, 64-bit Windows, Linux and VxWorks.
The package consists of basic software interfaces with high level libraries and drivers for the newest video standards. It comes complete with a set of demo programs and additional examples with source code.

Third Party Software

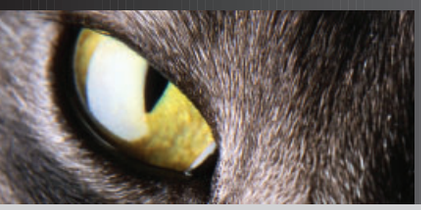
Third party image processing software packages such as HALCON, ActivVisionTools, Vision Blox, and NeuroCheck, can be easily integrated with **PicSight®**.

The PicSight® software is compatible with:

- All Leutron Vision frame grabber and camera products
- Multiple operating systems
- Multiple development tools
- Newest video standards
- Third party products for image processing

New Standards for vision and image processing

Leutron Vision is an active member of the GenICam and GigEVision committees identifying and defining new standards.



PIONEERS IN IMAGE ACQUISITION

Company Profile – Since 1979

From its creation in 1979, Leutron Vision has been dedicated to innovative designs of reliable image acquisition components and vision systems. Since that time the company has grown to an international organization through technological leadership, expertise and customer orientation. Headquartered in Switzerland, Leutron Vision has offices in USA, Germany, and Czech Republic. A worldwide distribution network along with close co-operation with industry partners are the basis in providing the best technology to our customers.

Products – Vision only

Our products cover the entire field for image acquisition and processing:

Cameras:
The PicSight® line opens the way into the future by combining the newest sensors, processors and interfaces.

Frame grabbers:
The PicPort® and PicPort®-Pro product range allows interfacing to almost any analog or digital camera.

Vision processors:
The PicSight®-Smart and PicPort®-Pro-RTF products provide on-board processing capabilities for fast and reliable image processing.

Embedded Vision Systems:
The Leutron Vision microPC (LVmPC) is the high end image processing system for embedded vision applications.

Software:
Leutron Vision Software Development Suite (LV-SDS) is the common software interface for all products and supports third party packages for real-time image processing and analysis.

Custom designs:
Adaptations of the above products are available for the special needs of our OEM customers.

Expertise – why OEM´s trust us, worldwide

OEM´s, System Integrators, and End-Users worldwide come to us to solve their imaging needs. With more than 25 years of experience in manufacturing reliable hardware products, responsive technical support and professional custom designs makes Leutron Vision the best partner for your vision applications. Our strengths are the design of versatile products to respond to a diverse range of applications, the ease of use of the products, the best price/performance ratio and the responsiveness of support.

ZEISS
TRUMPF
Giesecke & Devrient
kontron
BOSCH
Technik fürs Leben
Panasonic
BMW Group