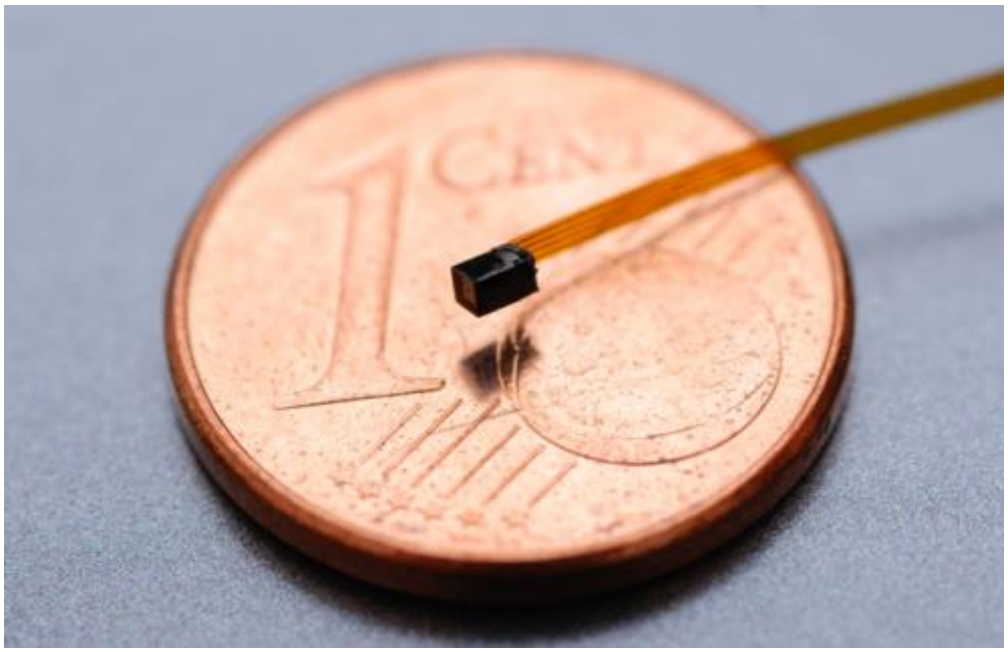
AC62KUSB – Color Area Camera based on NanEye sensor

The device operates with up to two NanEye tiny camera head modules which consist of CMOS image sensors. Those sensor are assembled with special lens, fit in a diameter of only 1.5 mm and can be driven by a ribbon cable up to 2 m in length.

The camera optic covers a field of 1 mm x 1 mm with 62.5 KPixel (250 x 250 Pixel) at a 3 µm pitch and provides clear and sharp images with a wide depth of field.



Advantages:

- Image quality due to true 10-bit processing and image output
- Adjustable frame rates
- Non-volatile camera calibration (flat field + shading compensation)
- Pre-processing of the image content in hardware
- USB 2.0 interface for video transfer, set up and software updates
- Built-in test patterns for debugging and verification
- Light source control

Technical description:

- Two inputs for NanEye sensor heads
- USB Mini-B header
- Physical dimensions: 47 x 22 x 10 mm
- Speed: up to 44 fps
- Interfaces:
  - USB 2.0 High speed
  - RS-232 with TTL logic level
- Power supply: 5V from USB host

NanEye sensor specification:

- Number of Pixels: 62k pixels (249 x 250)
- Bit depth: 10-bit color
- Pixel size: 3µm x 3µm
- Color: Bayer Pattern RGB
- Shutter: Rolling
- Dynamic range: 58dB
- Programmable Gain Range: - 1.5dB ± 6dB ± 2dB
- Responsivity at nominal gain: 5,5DN/nJ/cm²
- Responsivity max gain: 11,5DN/nJ/cm²
- Full well capacity: 15Ke-
- Full well capacity: 6Ke-
- DSNU: <0.4%
- PRNU: <5%

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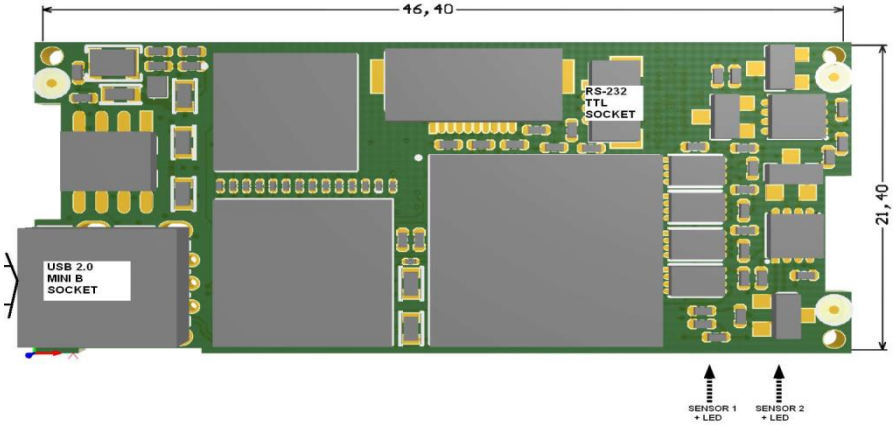
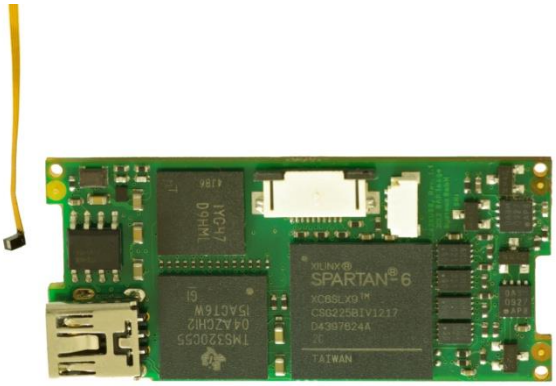
For an excellent image quality, the camera controls the lighting. On the sensor edges, there are four LED lights installed; the luminous intensity of each LED light is independently controlled.





To reduce the heating of this small electronic, the frame rate can be dropped down.
The power supply of the electronic is about 5V from USB host. Pictures , set ups and software updates are transferred via USB 2.0 to the host, where two independent working cameras can be connected.
For the communication with peripheral equipment, the camera is equipped with a RS232 output.
AC62KUSB camera is compatible with LabView from National Instruments.

BAP Image Systems (BAPis) is a dependable and reliable imaging products and solution provider with highly proven industry experience. BAPis develops and manufactures cameras based not only on high speed CCD and CMOS line sensors, but also on area CMOS/CCD sensors. BAPis cameras are used in the machine vision industry as well as in the film industry. Additionally, BAPis develops and produces image grabbers and processing boards based on DSP and FPGA technologies using its own algorithms. Image processing boards are matched with camera performance and, when combined, are able to reach the highest possible throughput.

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