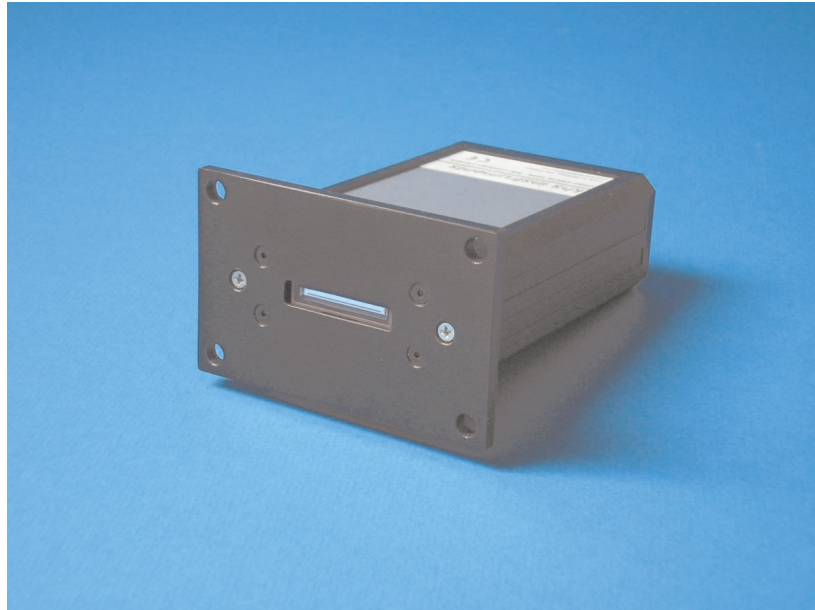# USB2 - CMOS 1024 - 500

Complete medium speed, low noise cmos linescan camera system

khs instruments

Key Features:

- NMOS-line scan camera system.
- 256 to 1024 Pixels low noise.
- 12 Bit ADC
- 4.000:1 Dynamic Range
- 2.2 ms to > 100 s exposure time
- USB 2.0 Interface, bus powered
- Drivers for Win 98 / XP / Labview.

Overview:

The USB2-CMOS is an easy to use, complete ccd linescan camerasystem. It includes a low noise CMOS linescan camera with USB 2.0 interface. Additional components are not required.

The USB2-CMOS was designed for medium speed applications with the need for low noise precision light measurements.

Applications:

- Spectroscopy.
- Portable applications

Hardware:

The USB2-CMOS camera head includes the complete CMOS timing with signal conditioning (CDS), a precision 12 Bit ADC and an USB 2.0 interface.

The camera head is powered by the USB-bus. Additional power-supplies are not required. The USB2-CMOS provides optional start of of scan output and an optional input for external triggering.

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1 / 3

Software

The USB2-CMOS linescan camera system is shipped with a software and drivers for Windows 98 and Windows XP.

The software includes a DLL to provide an interface to other software and the user software. Drivers for Labview are available upon request.

The DLL configures the USB2-CMOS by reading internal stored EEPROM data, so in most cases there is no need to configure the camera.
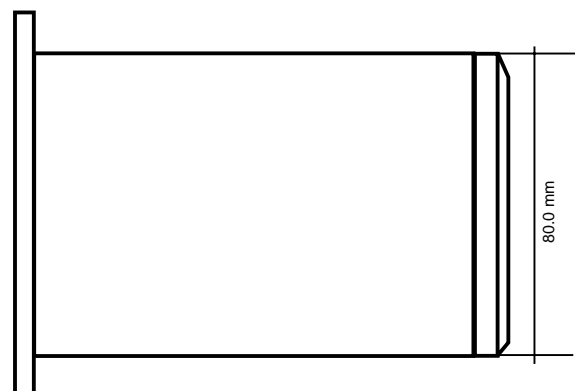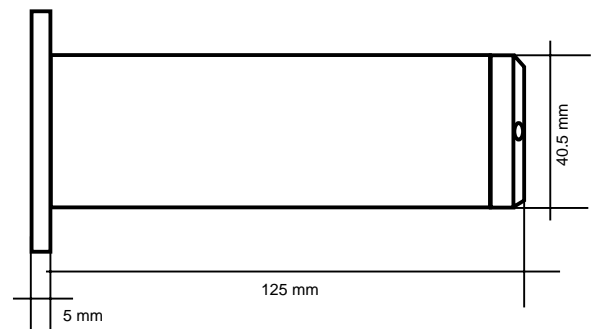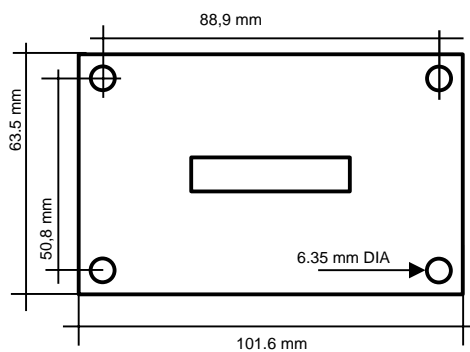
One single DLL supports all and up to 127 (different) khs-instruments cameras connected to the USB-bus.

The user software supports all cameras from khs-instruments. It provides following and more functions:

- X/Y Scaling
- X/Y Zoom
- Two Cursors
- Averaging
- Binning
- Subtract a Reference Scan

It provides functions to read, write and print stored (ASCII) files.

USB2 - CMOS 1024 - 500

Mechanical Dimension

88,9 mm
63.5 mm
50,8 mm
6.35 mm DIA
101.6 mm
40.5 mm
125 mm
5 mm
80.0 mm

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USB2 - CMOS 1024 - 500

Detector Aarray:

Sensor:	Hamamatsu S8378
Number of pixels:	256 to 1024
Pixel size:	25 µm x 500 µm
Spectral range:	200 nm..1000 nm
Sensitivity nonuniformity:	3%
Saturation exposure Gain low:	0.57 lx sec

System & Detector:

ADC resolution:	12 bits
Readout Noise Gain low:	typ. 1 counts rms
Readout Noise Gain high:	typ. 2 counts rms
Exposure Time:	2.2 ms to >5 s.
Linerate:	450 lps.

System Requirements:

Operating system:	Win 98 / XP.
Disk:	300 KB free.

USB Interface:

USB:	2.0.
Required Current:	500 mA.

Optional:

Trigger:	Input TTL.
Start of scan:	Output TTL.

Software:

Software includes:	User software, DLL interface, Driver for Labview upon request.

(Typ. Ta=25 °C)

RELATIVE SENSITIVITY (%) vs WAVELENGTH (nm)
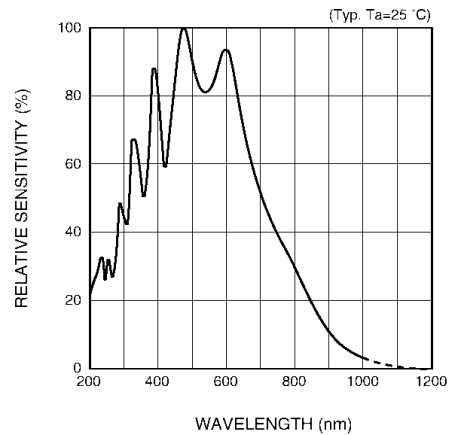
User Software:

X scale edit:	Enter start and stop. Enter the values at two cursor positions.
Y scale edit:	Enter start and stop. Enter the values at two cursor positions.
X / Y unit edit:	Enter units.
Averaging:	Integration of several scans (up to 15). Running mean of n consecutive scans.
Binning:	Up to 64 pixels.
Display options:	Display actual scan. Load reference from actual scan and display scan minus reference. Set refernce to zero.
Data operations:	Write to disk. Write consecutive scans to disk. Read from disk. Print scan.

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3 / 3