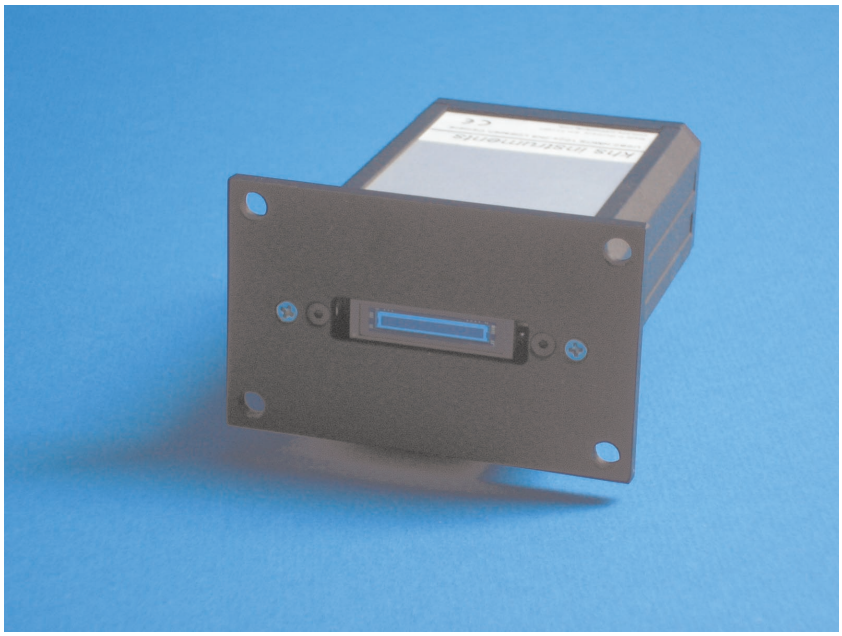
USB2 - NMOS 1024 - 2K5

Complete medium speed, low noise nmos linescan camera system



Key Features:

- NMOS-line scan camera system.
- 1024 Pixels low noise.
- Dark current compensation.
- 16 Bit ADC.
- 30.000:1 rms dynamic range.
- 10 ms to > 100 s exposure time.
- USB 2.0 Interface, bus powered.
- Drivers for Win 98 / XP / Labview.

Overview:

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

The USB2-NMOS was designed for medium speed applications with the need for low noise precision light measurements. The light shielded pixels of the NMOS sensor are used für dark current compensation.

Applications:

- Spectroscopy.
- Portable applications.
- Precision light measurements.

Hardware:

The USB2-NMOS camera head includes the complete sensor timing with signal conditioning (CDS), a precision 16 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-NMOS provides optional start of of scan output and an optional input for external triggering.

khs instruments

Software

The USB2-NMOS 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-NMOS by reading internal stored EEPROM data, so in most cases there is no need to configure the camera.

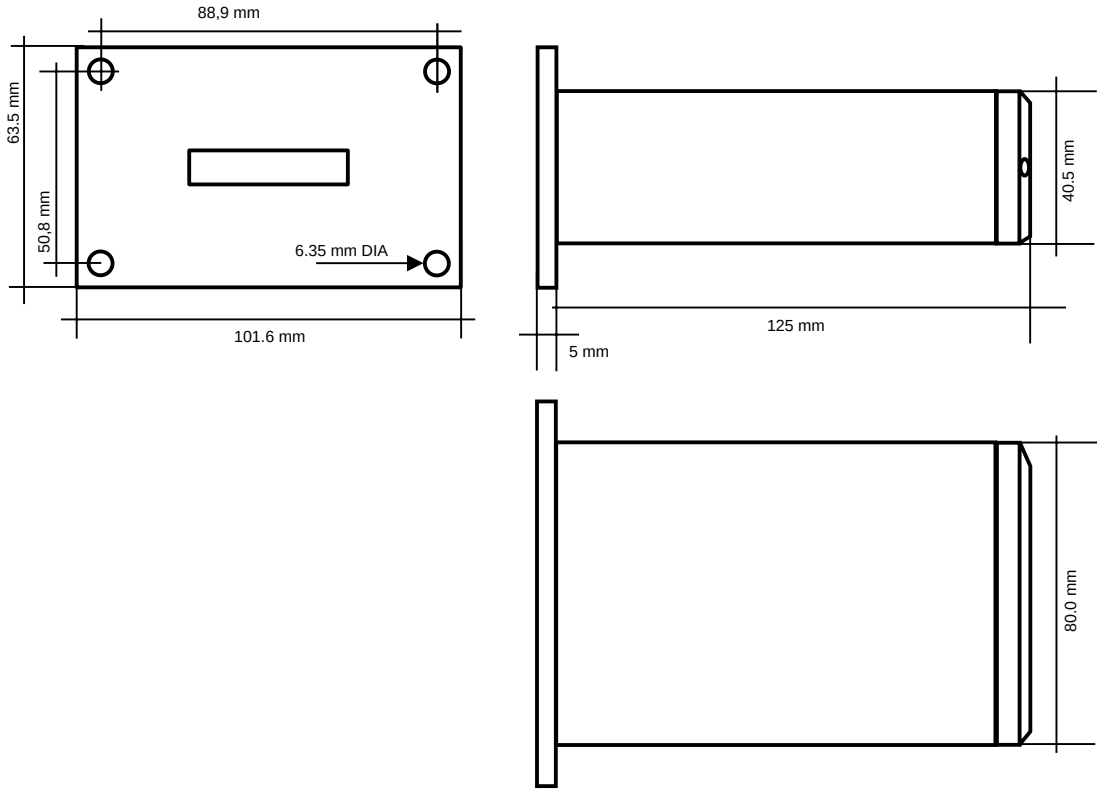
One single DLL supports all and up to 127 (different) khs-instruments cameras connected to the USB-bus.

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.

Mechanical Dimension



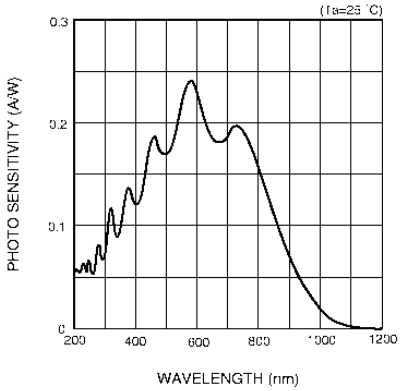
Specifications

USB2 - NMOS 1024 - 2K5

Detector Aarray:

Sensor:	Hamamatsu S3904.
Number of pixels:	256 to 1024.
Pixel size:	25 µm x 2500 µm.
Spectral range:	200 nm..1000 nm.
Sensitivity nonuniformity:	3%.
Saturation exposure:	0.18 lx sec.

Figure 5 Spectral response (typical example)



System & Detector:

ADC resolution:	16 bits.
Readout Noise:	typ. 2 counts rms.
Exposure Time:	10 ms to > 100 s.
Linerate:	100 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.

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.