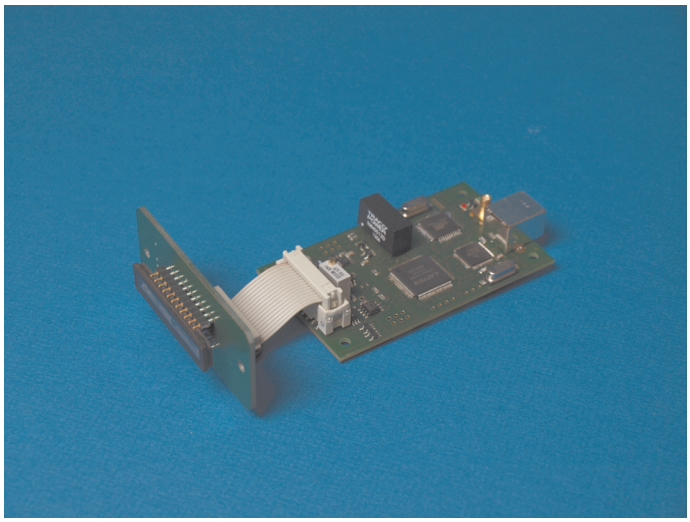
USB2 - CCD 3400C - OEM

Complete medium speed, low noise spectroscopy detector system



Key Features:

- CCD-line spectroscopy detector.
- 3648 Pixels low noise.
- Optional external and internal trigger.
- Optional Start of frame output.
- Drivers for XP/W7 (32/64) Labview.

Overview:

The USB2-CCD 3400C - OEM is an easy to use, complete CCD spectroscopy detector. It includes a low noise ccd linescan sensor with USB 2.0 interface. Additional components are not required.

The USB2-CCD was designed for spectroscopy medium speed applications with the need of high sensitivity and low noise.

Applications:

- Spectroscopy.
- Portable applications

Hardware:

The USB2-CCD spectroscopy detector system includes the complete CCD-sensor timing, a precision 12 Bit ADC and an USB 2.0 interface.

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

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Software

The USB2-CCD spectroscopy detector system is shipped with a software for Windows XP / W7 (32 / 64).

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

The user software includes various modes to edit the x/y scales and units, a run mode to observe the sensors´s signal, signal processing functions like averaging, binning and x/y zoom and a function to subtract a reference from the actual scan. To get a zero baseline at once, the reference can be loaded from the actual scan. This function works with floating point accuracy.

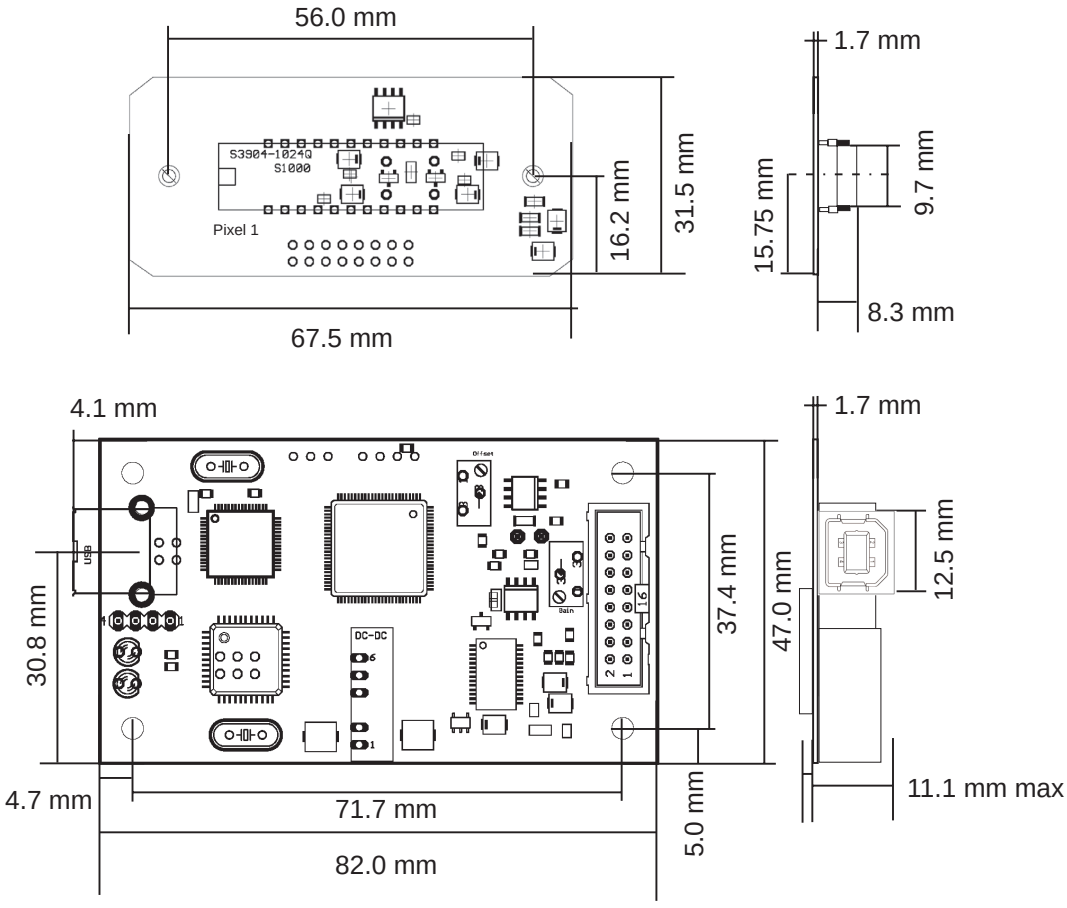
The integer accumulation mode performs a fast accumulation of several scans.

The averaging mode calculates the running mean of consecutive displayed scans.

To provide a stable display of non-repetitive signals a software trigger was included. Only these scans are displayed (and averaged) which pixels exceeding a selectable threshold .

The view modus provides functions to read and print stored files from disk. The file format for stored data is ASCII, to facilitate the data transfer to other programs like Excel.

Mechanical Dimension



Specifications

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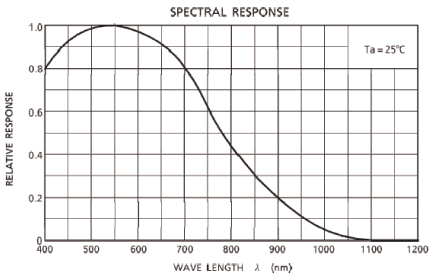
Detector array:

Number of pixels:	3648.
Pixel size:	8 µm x 200 µm.
Spectral range:	< 400nm..1000nm.
Sensitivity nonuniformity:	< 10%
Saturation exposure:	0.004 lx sec.



System & detector:

ADC	12 Bits
Offset	8 Bit (20 counts / step)
Signal / Noise pp:	about 500 : 1.
Signal / Noise rms:	about 1600 : 1.
Exposure Time:	7.6 ms to 1,0 s.
Framerate:	about 100 fps.

System requirements:

Operating system:	Win XP /7(32/64)
Disk:	300 KB free.

USB interface:

USB:	2.0.
Transfer Rate:	8 MBytes / s
Required Current:	500 mA.
RAM:	1 MB SDRAM.
User EEPROM:	> 2 Kbytes.
Optional:	
Trigger:	Input TTL.
Flashlamp pulse:	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.