

# Onuris

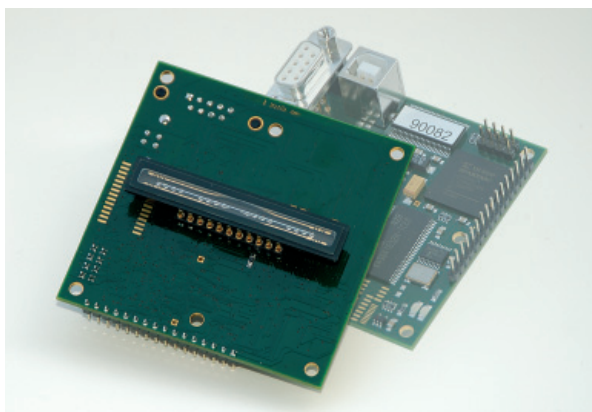
## USB 2.0/CameraLink – Camera Family

**Onuris is a modular camera platform with USB2.0 or CameraLink data-interface. The camera family offers both linescan cameras and matrix cameras.**

Linescan cameras are a special type of camera in the world of machine vision. Contrary to matrix cameras they have sensors with only one row of light-sensitive elements. Therefore it is possible to reach very high resolutions and scan rates.

Classic field of application of linescan cameras is the inspection of continuous material, like metal, plastics, paper or fabrics. The material which should be inspected, is driven along one or several cameras and is being scanned line by line. Dependent on the needs, the image processing itself could be done line by line too, or in the area, if an area is built with several lines.

In addition linescan cameras are very qualified for measurement tasks. Due to the high resolution of the sensors an accuracy of measurement of about one  $\mu\text{m}$  is possible.



*Onuris-ILX553  
OEM-Module*

*Onuris-uPD3739  
dual-tap line-  
scan camera*



There are available sensors in CCD or CMOS technology, which provide a resolution of up to 5150 pixels and a scan rate of up to 240 kHz, dependent on configuration. As matrix imagers two 1.3 megapixel sensors are used. Dependent on your needs with or without global shutter.

The video-signal can be transferred digitally per USB 2.0 interface to a connected PC, where the image data is processed. Normally up to 30 MBytes/s are realistic. Cameras with more data are available with CameraLink interface to reach a higher transfer rate.

Principally the camera can be used without PC. Image-preprocessing and simple image processing tasks can be realized to run in the camera's FPGA or on the integrated  $\mu$ controller, dependent on performance needs.

This is supported by onboard interfaces like TTL/IOs, RS232 and a CAN-bus-interface.

To adjust the image several features can be used:

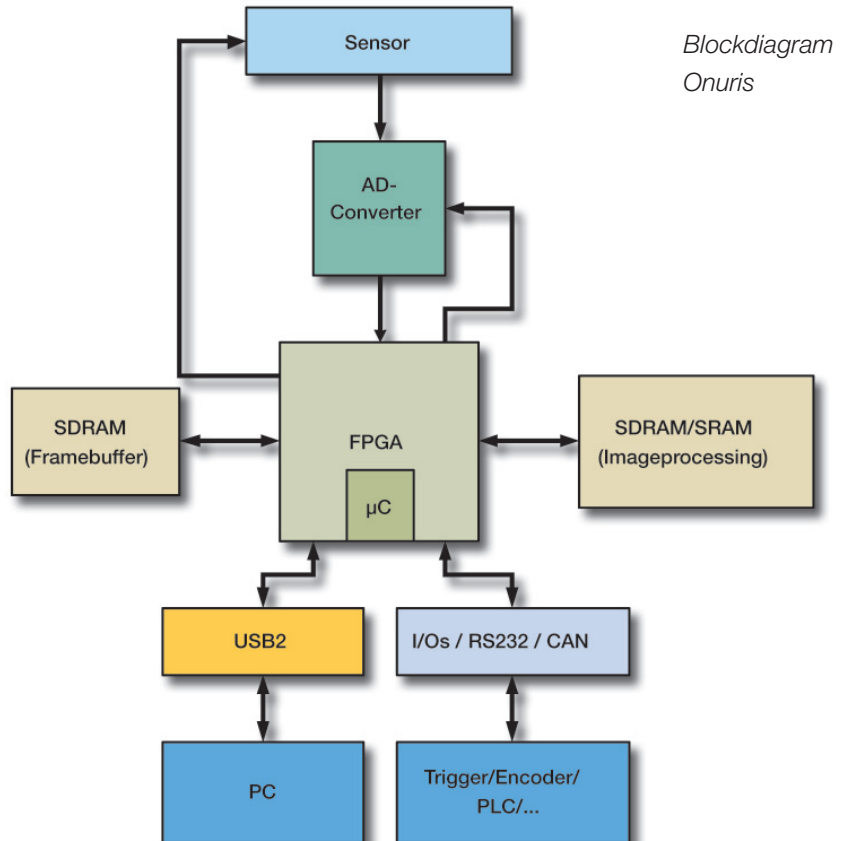
- Digital adjustment of contrast and brightness.
- Free programmable look-up table, i.e. gamma correction
- Shading correction
- Custom image processing

The usage of FPGA technology offers the great flexibility for application specific image-processing tasks to run in hardware. As there exists a documented programming interface, FPGA resources can be used by customers too.

The camera is available as OEM camera-module/pcb or in an industrial-suited housing.

## SPECIFICATIONS

ONURIS	ILX553	UPD3739	ELIS1024	SLIS2048	KAC9638/48	IBIS5
Linescan Sensor	•	•	•	•		
Matrix Sensor					•	•
Monochrome / Color	m	m	m	m	m / c	m / c
Pixel	5150	5000	1024	2048	1280×1024	1280×1024
Pixel Size	7 µm×7 µm	7 µm×7 µm	7.8 µm×125 µm – 64.4 µm×125 µm	7 µm×7 µm	6 µm×6 µm	6.7 µm×6.7 µm
Pixel Clock	10 MHz	2T20 MHz	30 MHz	30MHz	27 MHz	40 MHz
Frames / s	2000	800	30000 – 240000	15000	18	27.5
USB 2.0	•	•	•	•	•	in planing
Camera Link		in planing		•		
FPGA	Xilinx Spartan 2E	Xilinx Spartan 3	Xilinx Spartan 3	Xilinx Spartan 3	Xilinx Spartan 2E	Xilinx Spartan 2E
CPU	8051 Softcore	8051 Softcore	8051 Softcore	8051 Softcore	8051 Softcore	8051 Softcore
CAN Interface		•	•	•		
RS232	up to 2	up to 2	up to 2	up to 2	up to 2	up to 2
TTL-I/Os	up to 4	up to 4	up to 4	up to 4	up to 4	up to 4
Framebuffer	8 MB SDRAM	8 MB SDRAM	8 MB SDRAM	8 MB SDRAM	8 MB SDRAM	8 MB SDRAM
FPGA Programming Interface		•	•	•		
FPGA Memory	16 MB SDRAM / 512 kByte SRAM	16 MB SDRAM / 512 kByte SRAM	16 MB SDRAM / 512 kByte SRAM	16 MB SDRAM / 512 kByte SRAM	16 MB SDRAM / 512 kByte SRAM	16 MB SDRAM / 512 kByte SRAM
Image Processing Library	SAC Coake	SAC Coake	SAC Coake	SAC Coake	SAC Coake	SAC Coake
Power Supply	15 V / 300 mA	12 V / 500 mA	12 V / 500 mA	12 V / 500 mA	12 V / 500 mA	12 V / 500 mA
Dimensions PCB in mm (W×H×D)	69×69×26	84×69×26	84×69×26	84×69×26	69×69×26	69×69×26
Dimensions Housing in mm (W×H×D)	100×85×75	100×85×75	100×85×40	100×85×40	100×85×40	100×85×40
Lense Thread	F-Mount / M42	F-Mount / M42	C-Mount	C-Mount	C-Mount	C-Mount



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