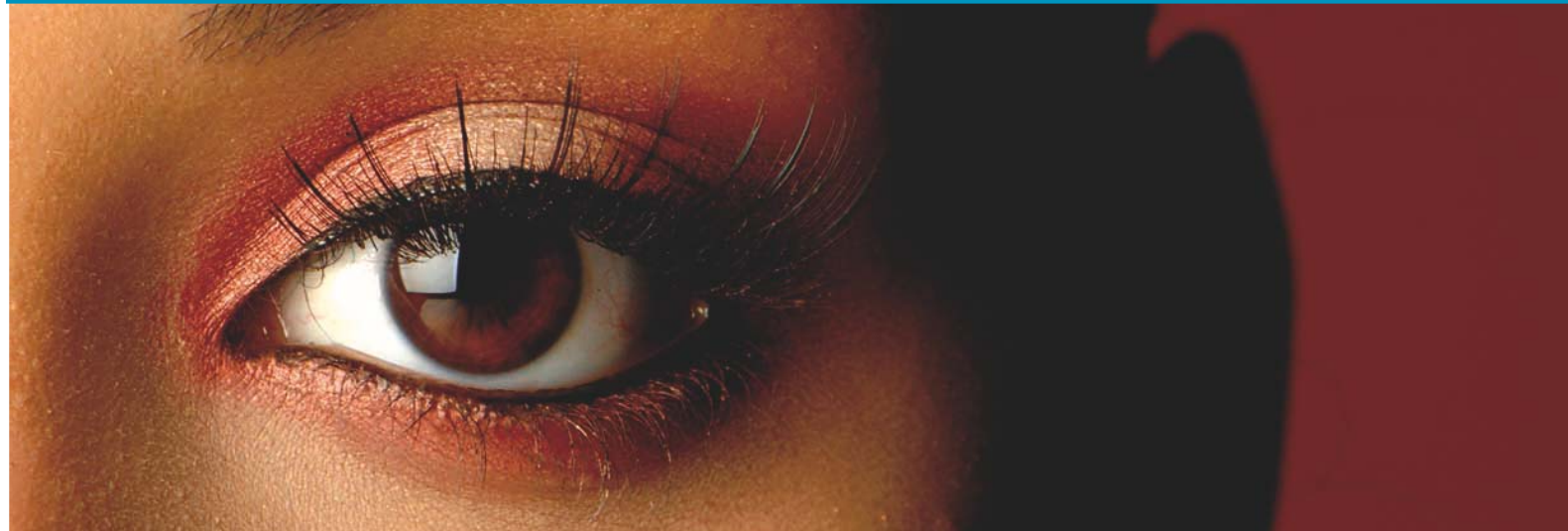


iCube 

USB2.0 CMOS Cameras



Industrial and OEM Version

www.net-gmbh.com

NET
NEW ELECTRONIC TECHNOLOGY

iCube – Makes Tro

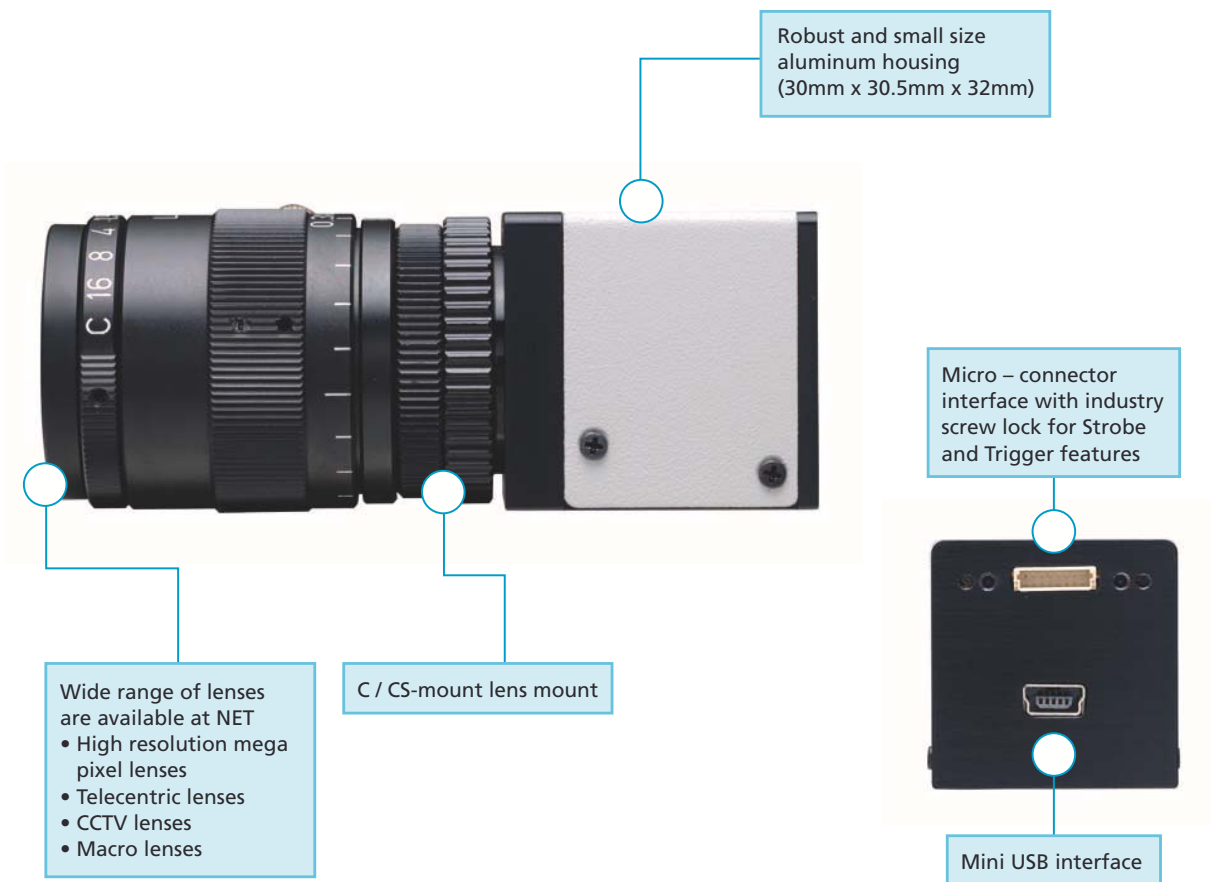
Introduction

iCube USB2.0 Series

NET has developed with the iCube family a competitive and extreme compact camera with an USB interface. iCube is dedicated for the integration into professional factory automation, quality inspection, surveillance and non-industrial applications. iCube cameras have been equipped with the latest available high performance CMOS Micron image sensors to offer the best image quality that can be achieved with the camera process electronic. The iCube supports monochrome and color image sensors, allowing a wide selection of resolutions and selectable frame rates. Furthermore does the iCube support industrial and board-level versions.

Fast connection and power via USB port makes the iCube series to a universal plug and play camera for laptops, PC's and also for OEM board systems. A single cable connection, no additional power supply devices and inexpensive cabling makes this USB camera to a flexible solution which is also fast to implement due the user friendly interface.

The additional viewer software iControl allows a quick implementation, access and handling of all iCube cameras.



ends Compatible

Technical Data - CMOS Camera Line

Product Overview

The iCube series consist of 2 monochrome and 5 color models in an industrial and OEM board version. The Micron CMOS image sensors with resolutions from WVGA up to 5 mega pixel will provide for all types an efficient plug and play solution and an available high speed frame rate at full resolution of up to 87 fps. Higher frame rates are easily possible when using free scalable ROI, Binning or Sub-sampling mode. Needless to say iCube supports the Trigger and Strobe functionality.

CMOS sensors provide an excellent image quality combined with the full range of color indication. The benefits of a USB interface combined with CMOS technology and all of its advantages, like low power consumption, anti blooming technology and an economic price level, make the iCube family to a precise camera alternative for many image capturing and processing applications.

INDUSTRIAL	NS1044BU	NS1044CU	NS1130BU	NS1130CU	NS1201CU	NS1300CU	NS1500CU
OEM	KS1044BU	KS1044CU	KS1130BU	KS1130CU	KS1201CU	KS1300CU	KS1500CU
Image Sensor	1/3" CMOS MT9V032	1/3" CMOS MT9V032	1/2" CMOS MT9M001	1/3" CMOS MT9M131	1/3" CMOS MT9D131	1/2" CMOS MT9T001	1/2.5" CMOS MT9P001
Effective pixel	0.36MP, WVGA 752(H) x 480(V)	0.36MP, WVGA 752(H) x 480(V)	1.3 MP, SXGA 1280(H) x 1024(V)	1.3 MP, SXGA 1280(H) x 1024(V)	2 MP, UXGA 1600(H) x 1200(V)	3.2 MP, QXGA 2048(H) x 1536(V)	5.0 MP, QSXGA 2592(H) x 1944(V)
Pixel Size	6.00 x 6.00 µm	6.00 x 6.00 µm	5.2 x 5.2 µm	3.6 x 3.6 µm	2.8 x 2.8 µm	3.2 x 3.2 µm	2.2 x 2.2 µm
Image Area	4.51 x 2.88 mm	4.51 x 2.88 mm	6.66 x 5.32 mm	4.6 x 3.7 mm	4.73 x 3.52 mm	6.55 x 4.92 mm	5.70 x 4.28 mm
Frame Rate	87fps	87fps	25 fps	25 fps	15 fps	12 fps	6 fps
Exposure Time (Freerun & Trigger) Shutter	0.03 - 66 ms	0.03 - 66 ms	0.05 - 110 ms	0.05 - 110 ms	0.07 - 133 ms	0.06 - 175 ms	0.07 - 207 ms
Dynamic Range	>80dB	>80dB	68.2dB	71dB	61 dB	61 dB	67.4 dB
Binning	ROI & Binning Mode	ROI & Binning Mode	ROI & Binning Mode		Binning Mode	ROI & Binning Mode	ROI & Binning Mode
Sub-Sampling Modes (Binning or Skipping)	376 x 270	376 x 270	640 x 512 / 320 x 512		1024 x 768 / 800 x 600 / 640 x 480	1024 x 768 / 640 x 480 / 512 x 384	1280 x 960 / 1024 x 768 / 640 x 480
Shutter	Global Shutter	Global Shutter	Rolling Shutter		Rolling Shutter with Global Reset	Rolling Shutter	Rolling Shutter with Global Reset
Aspect Ratio	14 : 9	14 : 9	5 : 4		4 : 3	4 : 3	4 : 3
Exact Real Diagonal	5,4 mm	5,4 mm	8,5 mm	5,9 mm	5,6 mm	8,2 mm	-
Power Consumption	<1.0W	<1.0W	<1.0W		<1.5W	<1.5W	<1.5W
Lens Mount	C- / CS- mount, optional S-mount						
Scanning System	Progressive Scan						
Trigger	External Trigger / Software Trigger						
Strobe	Yes						
GPIO	1x						
Gain	1-128 (Hardware Gain)						
Interface/Transfer Rate	USB2.0 Interface / 480 Mbits/sec						
Operating Temperature	- 5°C to + 45°C						
Regulations	FCC, CE, RoHS						
Dimension	Cased: 30 (W) x 30.5 (H) x 32 (D) m, 50g Board: 28 x 28 x 22 mm, 12g						
USB Connection	Mini - B USB Connector						
Digital I/O Connection	8 pin lockable						

Industrial and OEM Version

iCube - Makes Trends Compatible

Software

Application Overview

The iCube family with USB2.0 interface is designed for a wide range of use and suitable for many image capturing and processing solutions. The camera targets specific industries in rough environments, like quality control or inspection, positioning or alignment, completeness, surface- and printing inspection, edge- or contour analysis, bar code and data matrix applications.

But also suitable for non industrial solutions, like medicine and microscopy which requires small and efficient cameras. A further ideal application for the iCube camera is the security sector which needs to be small and reliable for surveillance or access control. More application areas like solutions for document management, passport/id-card identification and OCR solutions are possible too. Please contact us for your specific requirements.

All iCube products are targeting reliable high performance applications to achieve small budget solutions in a short time. The camera is especially designed for the easy and quick implementation of a broad application range. The simple handling of cameras with USB interface allows an additional integration in an existing environment.

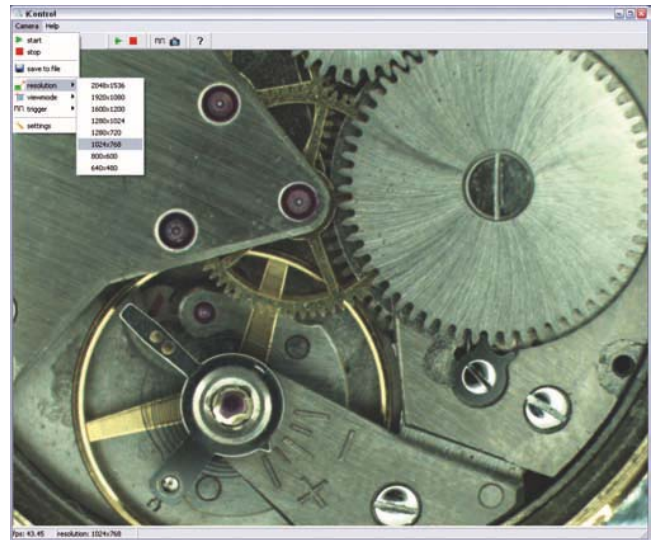
OEM Application

The iCube series is also available without housing as small sized board level cameras for OEM use. All advantages of the standard iCube camera with case plus additional customer requirements can be implemented in a board camera to a competitive pricing. Specific board level features for customized OEM solutions on request.



Viewer Software

The iControl viewer software is an easy and quick access to all iCube cameras by computer for testing and evaluation. The iControl allows to change camera settings very simple, save these in customer modes and viewing these live as well. The software also supports to store images in BMP or JPG format on connected computer. The iControl is part of the SDK software and is included in the package.



Software Development Kit (SDK)

The flexible SDK software package from NET makes the integration into existing and customized image capturing and processing systems simple. The software allows an easy integration into many commercial systems. Programming samples are available for Microsoft Visual C++ 6.0

Third Party Software - Application

The integration of iCube USB cameras is supported through a wide variety of common features and allows an easy handling of the camera. The iCube family is compatible to software libraries with Direct-X/ Direct-Show interface.

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