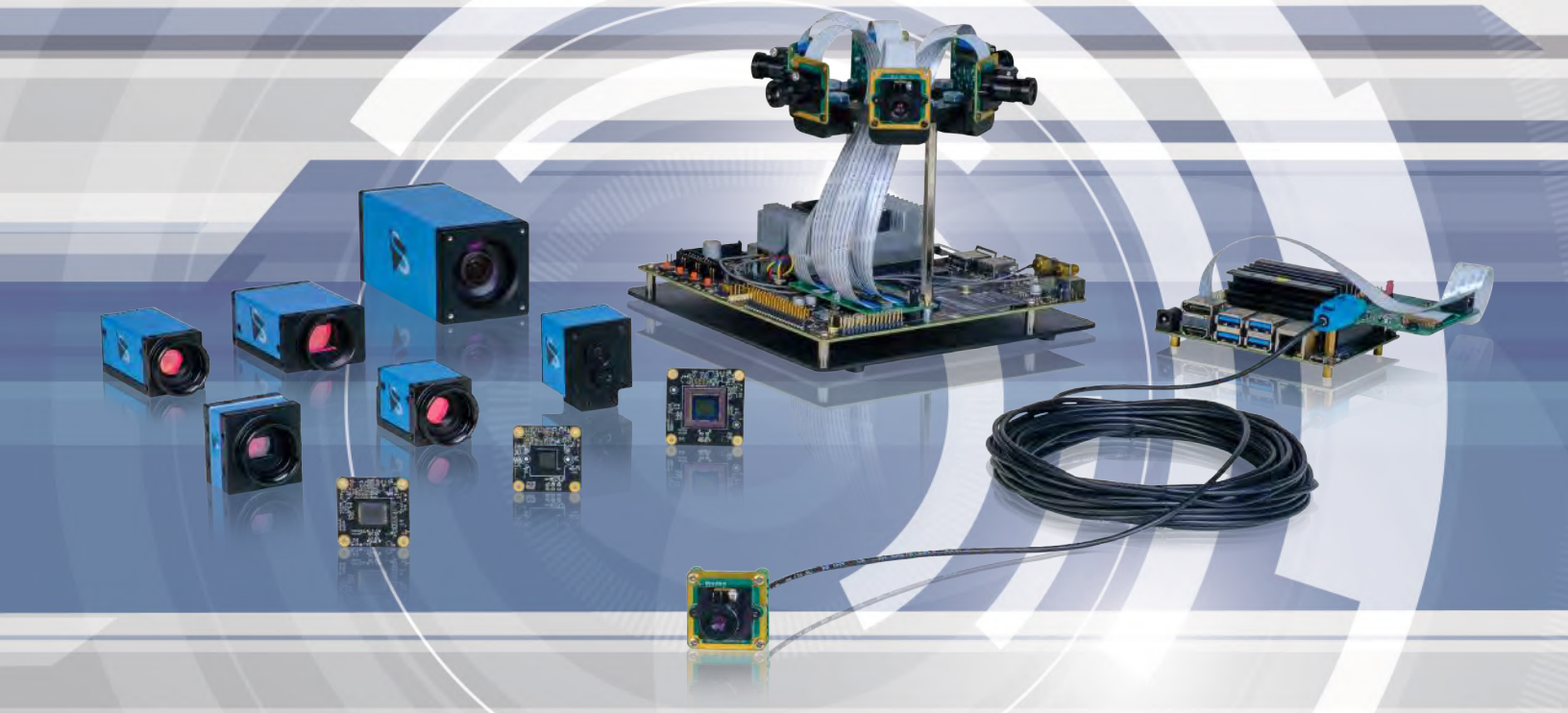
THE IMAGINGSOURCE

TECHNOLOGY BASED ON STANDARDS



| GigE Cameras | USB Cameras | MIPI | Converters | Software | Optics |

www.theimagingsource.com

THE IMAGINGSOURCE
TECHNOLOGY BASED ON STANDARDS

ABOUT
THE IMAGING SOURCE

Established in 1990, The Imaging Source is one of the leading manufacturers of industrial cameras, frame grabbers and video converters for production automation, quality assurance, logistics, medicine, science, security and traffic surveillance.

www.theimagingsource.com

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Machine Vision – Designed in Germany

The Imaging Source manufactures a comprehensive range of cameras with USB 3.1, USB 3.0, USB 2.0 and GigE interfaces. The products are renowned for being innovative, high quality and constantly meeting the performance requirements of demanding industrial applications.

Decreasing Integration Costs

The development of our soft and hardware components is driven by our customers requirements and demands. This intimate interplay guarantees that our products work in perfect harmony with one another. We are driven by manufacturing products that have attractive pricing, low integration costs and longevity.

High-Quality and Ease of Use

All cameras, frame grabbers and video converters, manufactured by The Imaging Source, are the result of
decades of experience, uncompromisingly high quality standards, and constant development by global teams consisting of experts and end-users.

Developers and system engineers prefer The Imaging Source cameras due to their ease of system integration. With branches and a strong network of distributors in Europe, USA and Asia, we are available for our customers across all time zones.

The Imaging Source Support

Industrial cameras consist of two basic components: Hardware and Software. We guarantee fast and efficient support for both components through our highly skilled support representatives and expert product developers.
Not only will we provide support regarding technical issues, but we will also work to provide assistance with software implementation questions.

Windows:

The Imaging Source authors and supports device drivers, software development kits (SDKs), programming samples, extensions, end-user software and software tools for Microsoft Windows. All Windows software can be downloaded directly from our website:

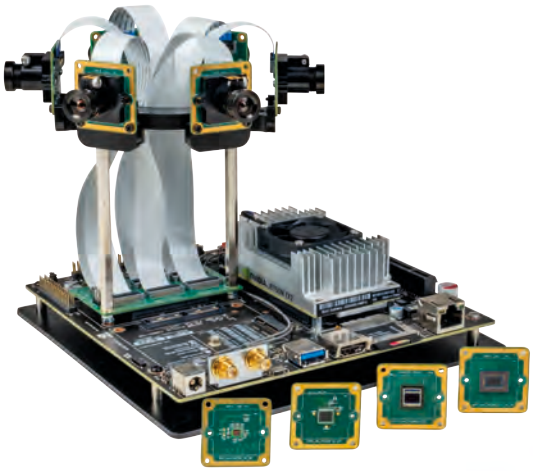
http://www.theimagingsource.com

Linux:

Additionally, The Imaging Source authors and supports open source drivers and end-user software for Linux. The Linux source code, which is released under the Apache License 2.0, enables you to integrate all machine vision cameras into popular Linux distributions. The Open Source code is available to download from GitHub:

https://github.com/TheImagingSource/tiscamera

NVIDIA® Development Kits



The Imaging Source‘s embedded development kit for the Jetson Nano platform enables rapid development of embedded vision and AI projects.

The Imaging Source offers compiled MIPI CSI-2 and FPD-Link III drivers for the latest NVIDIA® JetPack versions. For integration of the drivers into a custom kernel, the drivers are available as source code upon request.

All sensors use either the standard video4linux API or NVIDIA®‘s proprietary API based on the libargus programming interface.
The video4linux interface provides RAW video data and allows direct control of all sensor parameters.

Leveraging the hardware ISP (Image Signal Processor) available on all Jetson platforms, the NVIDIA® libargus interface delivers a processed video stream to the application with de-mosaicing, color correction and white balance algorithms applied.
The Imaging Source provides a default configuration file for the ISP.

Using the NVIDIA® GStreamer interface for libargus, the application can interface with NVIDIA®‘s standard Jetson ecosystem software stack which enables the efficient integration of powerful image processing frameworks such as DeepStream, Visionworks and others.

Features

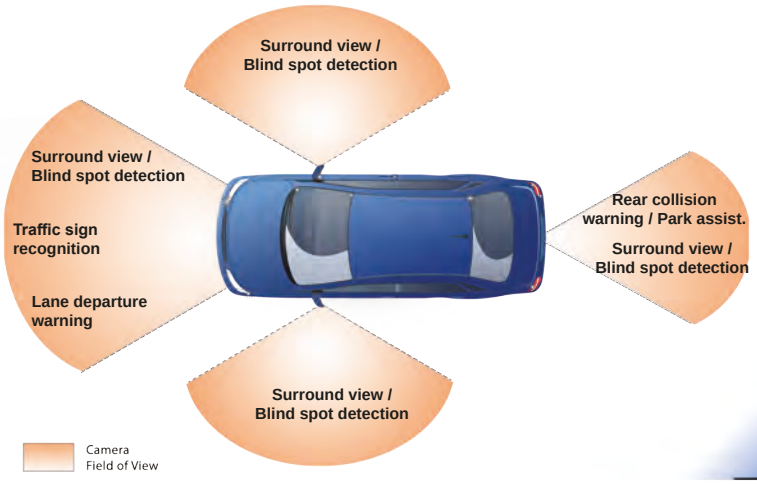
- Sony and ONSemi sensor modules
- Serializer / deserializer
- USB card reader
- Additional hardware
  (cables, screws, standoffs etc.)
- Downloadable kernel images
- HALCON Ready

Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.
The source code for all drivers is available upon request.

MIPI® CSI-2 / FPD-Link® III Camera Modules



The Eye in AI: Vision Systems in “Smart” Cars

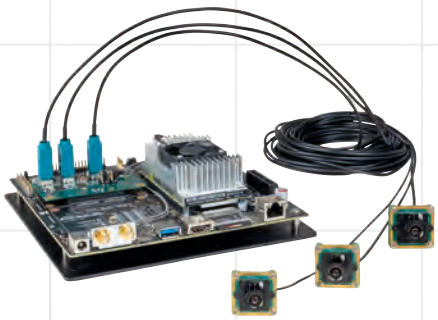
In most mobile devices, transmission distances between the SoC and the camera module, e.g. in smartphones, are short, resulting in maximum cable lengths for a standard MIPI® CSI-2 camera connection of 30 cm. MIPI® CSI-2 interface has since entered additional markets where longer cable lengths are required. Applications for Advanced Driver Assistance Systems (ADAS) are one such example from the automotive sector. Automobile manufacturers are relying increasingly on vision systems to deliver a variety of safety and convenience features: Surround view, bird’s eye view, traffic sign recognition, parking assistance and lane departure warnings.

FPD-Link® III: The Solution for Modern ADAS Systems

Typically, the cameras in a system are connected to a central computing unit, where the distances between the computing unit and each camera module are longer than 30 cm. In order to maintain the advantages offered by the MIPI® CSI-2 interface while allowing for significantly longer cable lengths is the FPD-Link® III protocol. This protocol enables data transmission, power and bidirectional control channels over a single robust coaxial cable with cable lengths up to 15 m, making it an ideal solution for ADAS applications. Via a serializer, the MIPI® CSI-2 signal is converted to the FPD®-Link III signal and is deserialized to MIPI® CSI-2 again on the computing unit.

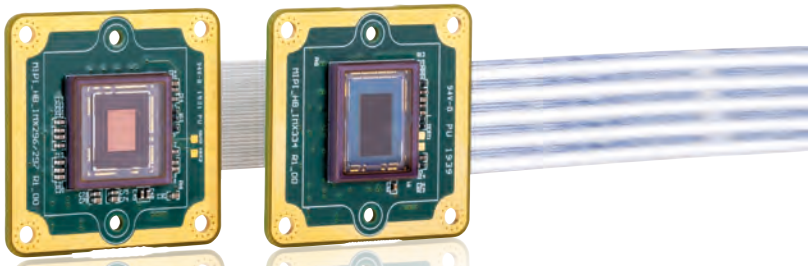
The FPD-Link® III bridge allows a placement of the MIPI® CSI-2 camera modules everywhere in the car, enabling modern ADAS functionality at low cost and maximum flexibility.

NVIDIA® Jetson Nano



NVIDIA® Jetson TX2 with FPD Link® III

MIPI Board Cameras Color



Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DFM 37MX297-ML	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX297	1/2.9" CMOS	global
DFM 37MX296-ML	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DFM 37MX290-ML	1920 x 1080 (2.1 MP)	120 fps	STARVIS	Sony IMX290	1/2.8" CMOS	rolling
DFM 37MR0234-ML	1920 x 1200 (2.3 MP)	120 fps		OnSemi AR0234CS	1/2.6" CMOS	global
DFM 37MX390-ML	1920 x 1200 (2.3 MP)	60 fps		Sony IMX390	1/2.7" CMOS	rolling
DFM 37MX335-ML	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DFM 37MX334-ML	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

The Imaging Source board-level color cameras feature the latest Sony and ONSemi CMOS color sensors for embedded machine vision applications and support the platforms: NVIDIA® Jetson Nano, TX2, AGX Xavier and Raspberry Pi 4. These high-performance MIPI CSI-2 color board-camera modules enable direct processor / ISP connection, avoiding latency issues and minimizing footprint. The MIPI CSI-2 camera modules are perfect for single and multi-camera embedded vision applications such as automotive and IoT as well as standard machine vision applications.

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 120
- Dimensions: 30 x 30 x 12 mm
- Pre-built OpenEmbedded images (standard sensor config.)
- OpenEmbedded layers to build custom images
- HALCON Ready

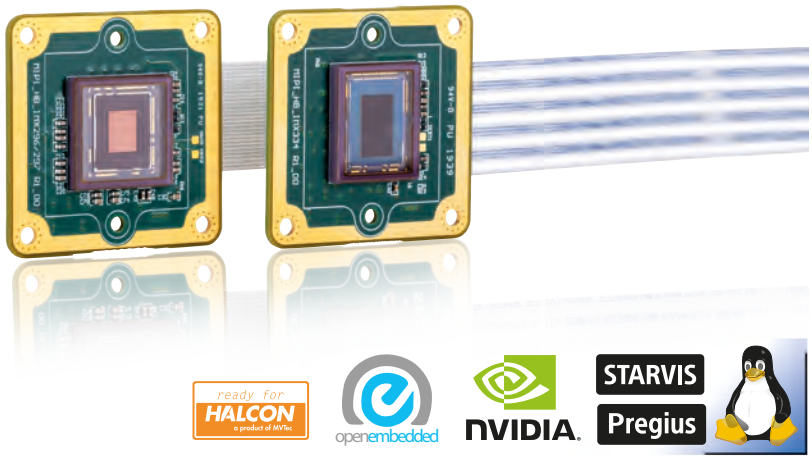
Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

MIPI Board Cameras Monochrome



Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DMM 37MX397-ML	640 x 480 (0.3 MP)	240 fps	Pregius	Sony IMX297	1/6.4" CMOS	global
DMM 37MX297-ML	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DMM 37MX296-ML	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX290	1/2.9" CMOS	global
DMM 37MX290-ML	1920 x 1080 (2.1 MP)	120 fps	STARVIS	OnSemi AR0234CS	1/2.8" CMOS	rolling
DMM 37MR0234-ML	1920 x 1200 (2.3 MP)	120 fps		Sony IMX390	1/2.6" CMOS	global
DMM 37MX335-ML	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DMM 37MX334-ML	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

The Imaging Source offers a wide variety of high-performance MIPI CSI-2 monochrome board-level cameras for embedded machine vision applications. The MIPI CSI-2 protocol enables direct processor / ISP connection, avoiding latency issues and minimizing footprint. The MIPI CSI-2 camera modules are perfect for single and multi-camera embedded vision applications in automotive and IoT as well as standard machine vision applications. The board cameras feature the latest Sony and ONSemi CMOS sensors (gloabal and rolling shutter) and are available for use with NVIDIA® Jetson Nano, TX2, AGX Xavier and Raspberry Pi 4.

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 240 fps
- Dimensions: 30 x 30 x 12 mm
- Pre-built OpenEmbedded images (standard sensor config.)
- OpenEmbedded layers to build custom images
- HALCON Ready

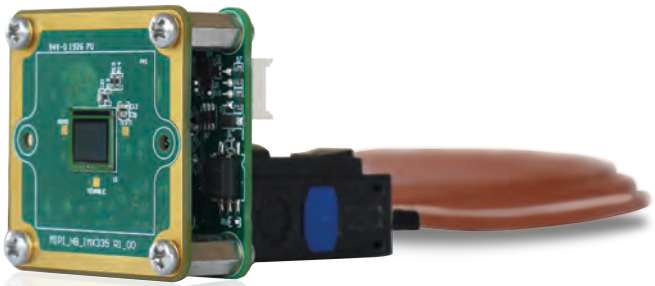
Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

FPD-Link Board Cameras Color



Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DFM 37CX297-ML	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX297	1/2.9" CMOS	global
DFM 37CX296-ML	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DFM 37CX290-ML	1920 x 1080 (2.1 MP)	120 fps	STARVIS	Sony IMX290	1/2.8" CMOS	rolling
DFM 37CR0234-ML	1920 x 1200 (2.3 MP)	120 fps		OnSemi AR0234CS	1/2.6" CMOS	global
DFM 37CX390-ML	1920 x 1200 (2.3 MP)	60 fps		Sony IMX390	1/2.7" CMOS	rolling
DFM 37CX335-ML	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DFM 37CX334-ML	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

The Imaging Source MIPI CSI-2 cameras with FPD-Link III serializer boards offer nearly the same feature set as MIPI CSI-2 cameras, but allow cable lengths up to 15m. Image data, commands and power supply are transmitted via a thin coaxial cable. The FPD-Link board cameras can be used with NVIDIA Jetson Nano, TX2, Xavier as well as Raspberry Pi 4 and feature the latest Sony and ONSemi CMOS sensors (rolling or global shutter). The board cameras are suitable for single or multi-camera embedded systems for automotive, IoT and standard machine vision applications.

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 120 fps
- Dimensions: 30 x 30 x 12 mm
- Pre-built OpenEmbedded images (standard sensor config.)
- OpenEmbedded layers to build custom images
- HALCON Ready

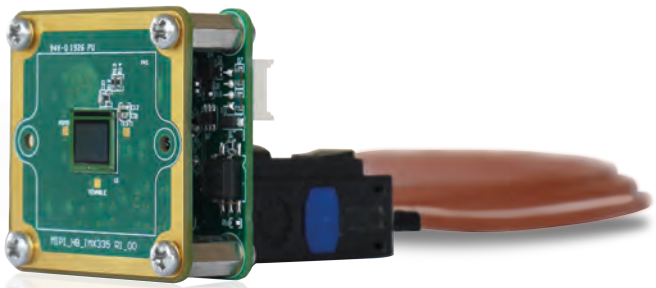
Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

FPD-Link Board Cameras Monochrome



Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DMM 37CX397-ML	640 x 480 (0.3 MP)	240 fps	Pregius	Sony IMX297	1/6.4" CMOS	global
DMM 37CX297-ML	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DMM 37CX296-ML	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX290	1/2.9" CMOS	global
DMM 37CX290-ML	1920 x 1080 (2.1 MP)	120 fps	STARVIS	OnSemi AR0234CS	1/2.8" CMOS	rolling
DMM 37CR0234-ML	1920 x 1200 (2.3 MP)	120 fps		Sony IMX390	1/2.6" CMOS	global
DMM 37CX335-ML	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DMM 37CX334-ML	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

Suitable for single or multi-camera embedded systems for automotive, IoT and standard machine vision applications, The Imaging Source MIPI CSI-2 board-level cameras with FPD-Link III serializer boards offer a similar feature set as the standard MIPI CSI-2 cameras but allow cable lengths of up to 15m. Image data, commands and power supply are transmitted via a thin coaxial cable. The FPD-Link board cameras can be used with NVIDIA Jetson Nano, TX2, Xavier as well as Raspberry Pi 4 and feature the latest Sony and ONSemi CMOS sensors (rolling or global shutter).

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 240 fps
- Dimensions: 30 x 30 x 12 mm
- Pre-built OpenEmbedded images (standard sensor config.)
- OpenEmbedded layers to build custom images
- HALCON Ready

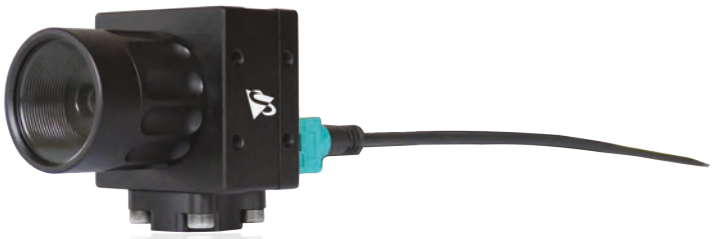
Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

FPD-Link Housed Cameras Color



Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DFK 37CX297-I67	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX297	1/2.9" CMOS	global
DFK 37CX296-I67	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DFK 37CX290-I67	1920 x 1080 (2.1 MP)	120 fps	STARVIS	Sony IMX290	1/2.8" CMOS	rolling
DFK 37CR0234-I67	1920 x 1200 (2.3 MP)	120 fps		OnSemi AR0234CS	1/2.6" CMOS	global
DFK 37CX390-I67	1920 x 1200 (2.3 MP)	60 fps		Sony IMX390	1/2.7" CMOS	rolling
DFK 37CX335-I67	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DFK 37CX334-I67	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

FPD-Link III color industrial cameras offer top embedded vision performance with an IP67-rated housing for harsh industrial environments. The cameras feature Sony and ONSemi's newest CMOS sensor technology (rolling and global shutter) using an FPD-Link III protocol which allows for cable lengths of up to 15m. Image data, commands and power supply are transmitted via a thin coaxial cable. The FPD-Link industrial cameras support the NVIDIA® Jetson Nano, TX2, AGX Xavier as well as Raspberry Pi 4 platforms.

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 120 fps
- Dimensions: 36 x 36 x 32.8 mm
- OpenEmbedded layers to build custom images
- HALCON Ready

Drivers

Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

FPD-Link Housed Cameras Monochrome

Product Code	Resolution	FPS	Type	Sensor	Format	Shutter
DMK 37CX397-I67	640 x 480 (0.3 MP)	240 fps	Pregius	Sony IMX297	1/6.4" CMOS	global
DMK 37CX297-I67	640 x 480 (0.3 MP)	120 fps	Pregius	Sony IMX296	1/2.9" CMOS	global
DMK 37CX296-I67	1440 x 1080 (1.6 MP)	60 fps	Pregius	Sony IMX290	1/2.9" CMOS	global
DMK 37CX290-I67	1920 x 1080 (2.1 MP)	120 fps	STARVIS	OnSemi AR0234CS	1/2.8" CMOS	rolling
DMK 37CR0234-I67	1920 x 1200 (2.3 MP)	120 fps		Sony IMX390	1/2.6" CMOS	global
DMK 37CX335-I67	2592 x 1944 (5 MP)	60 fps	STARVIS	Sony IMX335	1/2.8" CMOS	rolling
DMK 37CX334-I67	3840 x 2160 (8.3 MP)	30 fps	STARVIS	Sony IMX334	1/1.8" CMOS	rolling

To meet the demands of harsh industrial environments, The Imaging Source offers FPD-Link III monochrome industrial cameras with an IP67-rated housing and exceptional embedded vision performance. Featuring Sony and ONSemi's newest CMOS sensor technology (rolling and global shutter), the cameras use an FPD-Link III protocol which allows for cable lengths of up to 15m. Image data, commands and power supply are transmitted via a thin coaxial cable. The FPD-Link industrial cameras support the NVIDIA® Jetson Nano, TX2, AGX Xavier as well as Raspberry Pi 4 platforms.

Features

- Resolution: 0.3 MP - 8.3 MP
- Frame rate: up to 240 fps
- Dimensions: 36 x 36 x 32.8 mm
- OpenEmbedded layers to build custom images
- HALCON Ready

Drivers

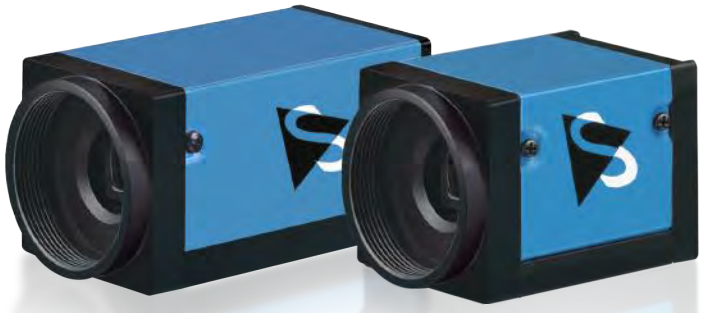
Pre-built kernel drivers are available for NVIDIA® JetPack 4.3 SDK.

The drivers are compliant with the NVIDIA® l4t video4Linux interface and work with the standard NVIDIA® software stack like JetCam, DeepStream SDK and others.

The source code for all drivers is available upon request.

Polarization Cameras

featuring IMX250MZR / IMX250MYR Sensors



GigE VISION USB3 VISION Polarsens

USB 3.0 Polarization Cameras

Dimensions: 29 x 29 x 43 mm Mass: 65g

Model	Resolution	Frame Rate	Pixel Size	Sensor	Format	Shutter	Chroma
DZK 33UX250	5.1 MP	75 fps	3.45 µm	Sony IMX250MZR	⅔ " CMOS	global	mono
DYK 33UX250	5.1 MP	75 fps	3.45 µm	Sony IMX250MYR	⅔ " CMOS	global	color

GigE Polarization Cameras

Dimensions: 29 x 29 x 57 mm Mass: 65g

Model	Resolution	Frame Rate	Pixel Size	Sensor	Format	Shutter	Chroma
DZK 33GX250	5.1 MP	24 fps	3.45 µm	Sony IMX250MZR	⅔ " CMOS	global	mono
DYK 33GX250	5.1 MP	24 fps	3.45 µm	Sony IMX250MYR	⅔ " CMOS	global	color

Sony's Polarsens™ 5.1 MP global-shutter CMOS image sensors (IMX250MZR / IMX250MYR) capture visual data which cannot be obtained using other standard monochrome and color sensors. The sensor's Polarsens technology uses four-directional (0°, 45°, 90°, 135°) nanowire micro-polarizers placed in front of each 2x2 pixel array (calculation unit) to deliver multi-directional polarized images.

Many materials, such as plastics, glass, metals and liquids display intrinsic polarization properties. The sensors' polarization filters make use of this to visualize material stress and surface scratches as well as to reduce unwanted glare, improve edge detection or to enhance contrast in low-contrast materials. The supplied IC Measure software supports various methods of processing the 2x2 pixel arrays.

The 5.1 MP cameras are available as color and monochrome variants with either a GigE (max. 24 fps) interface or a faster USB 3.0 interface (max. 75 fps).

Visible-light intensity image

Black pyramid displaying poor contrast overall with ambient light

Images from DZK 33UX250 camera with Polarsens sensor

Image using DoLP image data, removes shadows and adds contrast

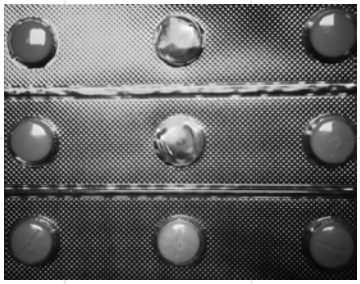
Image using AoLP image data and HSV color mapping for effective segmentation

Glare Reduction

Standard visible-light intensity image with glare on windshield obstructing view inside.

Image from DZK 33UX250: DoLP image data to reduce glare, making inside-view of cabin possible.

Presence Detection



Standard visible-light intensity image of pills in blister pack. Glare and low contrast make presence detection difficult.

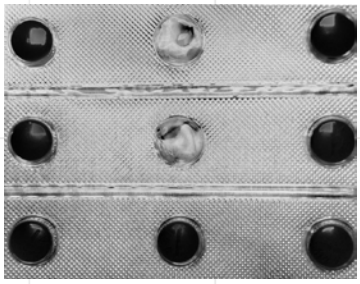
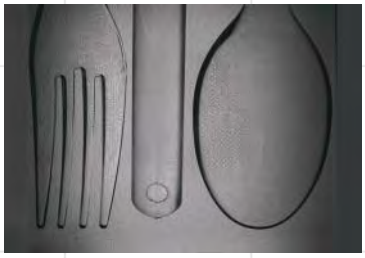


Image from DZK 33UX250 showing reduced glare and added contrast, enabling more precise presence detection.

Visualization of Residual Stress



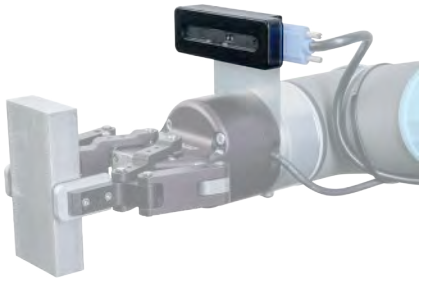
Standard visible-light intensity image of plastic cutlery displaying almost no useful visual data.

Image using AoLP data from DZK 33 UX250 and HSV color mapping visualizes residual stress in plastics and glass (birefringence).

Pick & Load: 3D Vision System

Software and 3D Camera for Pick and Place Applications

- Robot independent
- No training or CAD files needed
- No part palletizing required.
- No expertise in image processing or robotics is required.



Easy Installation
Simply mount the system on your robot arm and calibrate with the intuitive user interface. Multiple calibrations are not necessary. No external integrator needed for installation, set-up and ramp-up.

Compatibility
Easily integrate Pick & Load with your robot with the open communication protocol. Use it with four, five or six axis robots. Pick & Load is robot independent.

No training, no CAD files
Pick & Load is able to automatically segment basic geometries of your raw materials and finished parts. No training or CAD files needed.

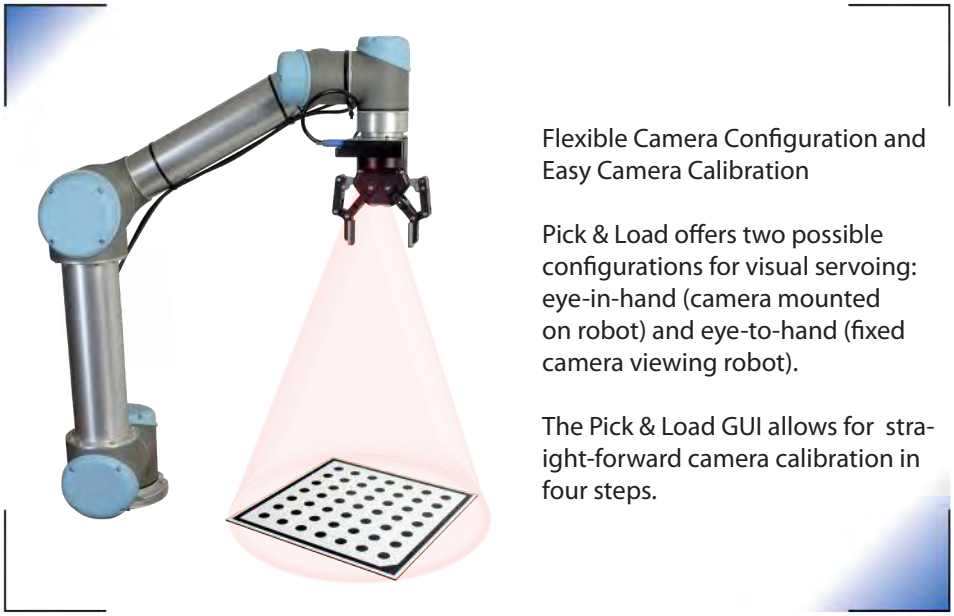
Small form factor
The light-weight, credit-card-sized 3D sensor can be easily mounted to most robot end-effectors.

Improved Efficiency and Accuracy
Pick & Load not only automates: it is even faster than humans. Increased throughput and fewer errors due to fatigue and human factors.

Robust 3D sensor
The active 3D sensor allows an operation independent of environment lighting conditions.
Load and unload your machines day and night.

Anyone can use it!
Smart software and simplified user interaction ensure that Pick & Load can be used by everyone. No expertise in image processing or robotics is required.

Unpalletized parts?
No Problem. Special staging containers or trays are not necessary. Pick & Load detects parts on tables, palettes or even drawers. No part palletizing required.



Flexible Camera Configuration and Easy Camera Calibration

Pick & Load offers two possible configurations for visual servoing: eye-in-hand (camera mounted on robot) and eye-to-hand (fixed camera viewing robot).

The Pick & Load GUI allows for straight-forward camera calibration in four steps.

Pick & Load is an affordable and efficient solution for the automation of machine loading and unloading tasks. Even small and medium sized enterprises can now automate their CNC machine tending. A compact 3D sensor with active illumination is integrated with smart software to deliver a cost-effective solution in a compact form factor. Pick & Load can be quickly configured to load and unload unpalletized parts from tables, palettes or drawers.

Technical Data: 3D Sensor

Camera technology	**3D stereo with active IR illumination**
Field of view	**69° x 42°**
Camera dimensions	**98 mm x 20 mm x 22 mm**
Camera protection	**dustproof, waterproof**
Camera weight	**200g**
Supported part geometries	**cuboids, cylinders, rings, N-gons**
Segmentation accuracy x/y/z	**1 mm / 1 mm / 2 mm**
Connectors	**USB Type C**
Power consumption	**~ 3.5 W**
Operating temperature	**0 ~ 60° C**

USB 3.1 CMOS Cameras : 38 Series

- Compatible to UVC and USB3 Vision
- Sony Pregius 9 and 12 megapixel
- Onboard image pre-processing

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 38UX267	4096 x 2160	9	3.45 µm	35 fps	Sony IMX267 Pregius	1" CMOS	8/12 bit
DxK 38UX255	4096 x 2160	9	3.45 µm	42 fps	Sony IMX255 Pregius	1" CMOS	8/12 bit
DxK 38UX304	4096 x 3000	12	3.45 µm	26 fps	Sony IMX304 Pregius	1.1" CMOS	8/12 bit
DxK 38UX253	4096 x 3000	12	3.45 µm	30 fps	Sony IMX253 Pregius	1.1" CMOS	8/12 bit

DxK: x = M (= monochrome) or F (= color)

The Imaging Source "38 series" industrial cameras are equipped with highly-sensitive, low-noise Sony Pregius global-shutter sensors which offer exceptional distortion-free image quality and color fidelity. The 9 and 12 MP cameras support the USB3 Vision standard which ensures stability and compatibility for easy integration and flexible configuration. Available in color and monochrome, the cameras feature a compact and robust industrial design and support applications such as intelligent traffic systems (ITS), inspection tasks and automation as well as microscopy. Additionally, their sensor sizes (2/3" and 1/1.8") mean they are easily combined with a variety of low-priced standard industrial lenses available from The Imaging Source.

Included:

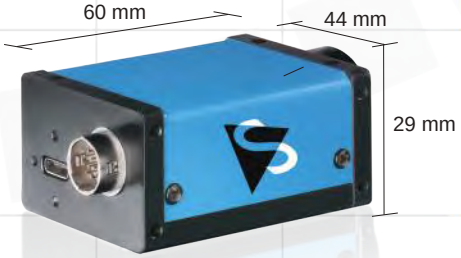
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Reversible Type-C connector
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- USB 3.1 (Gen 1) cable



USB 3.1 CMOS Cameras : 37 Series

- Reversible Type-C port connection
- Sony STARVIS and Pregius CMOS sensors
- Single-board cameras

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 37BUX287	720 x 540	0.4	6.9 µm	539 fps	Sony IMX287 Pregius	1/2.9 " CMOS	8/10 bit
DxK 37BUX273	1140 x 1080	1.6	3.45 µm	238 fps	Sony IMX273 Pregius	1/2.9 " CMOS	8/10 bit
DxK 37BUX290	1920 x 1080	2.1	2.9 µm	143 fps	Sony IMX290 STARVIS	1/2.8 " CMOS	8/10 bit
DxK 37BUX265	2048 x 1536	3.1	3.45 µm	60 fps	Sony IMX265 Pregius	1/1.8 " CMOS	8/12 bit
DxK 37BUX252	2048 x 1536	3.1	3.45 µm	119 fps	Sony IMX252 Pregius	1/1.8 " CMOS	8/12 bit
DxK 37BUX264	2448 x 2048	5	3.45 µm	38 fps	Sony IMX264 Pregius	2/3 " CMOS	8/12 bit
DxK 37BUX250	2448 x 2048	5	3.45 µm	75 fps	Sony IMX250 Pregius	2/3 " CMOS	8/12 bit
DxK 37BUX178	3072 x 2048	6.3	2.4 µm	60 fps	Sony IMX178 STARVIS	1/1.8 " CMOS	8/12 bit

DxK: x = M (= monochrome) or F (= color)

"37" series industrial cameras offer Sony's latest high-performance STARVIS and Pregius Sony CMOS sensors with the USB 3.1 (gen. 1) reversible Type-C port connection. Designed specifically to meet the demands of industrial imaging, Pregius sensors provide excellent image quality for moving machine vision applications, while the STARVIS (IMX178) is optimal in environments where fluctuations in light or lower light levels are an issue. These USB Vision compliant cameras are well-suited to applications such as automated inspection, quality control and medical diagnostics.

Included:

- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Reversible Type-C connector
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- USB 3.1 (Gen 1) cable

USB 3.0 CMOS Cameras: 33 Series

- Compatible to UVC and USB3 Vision
- Sony Pregius and STARVIS sensors
- Onboard image pre-processing

Pregius STARVIS

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 33UP1300	1280 x 1024	1.3	4.8 µm	168 fps	OnSemi P1300	½" CMOS	8/10 bit
DxK 33UX290	1920 x 1080	2.1	2.9 µm	143 fps	Sony IMX290 STARVIS	½.8" CMOS	8/12 bit
DxK 33UP2000	1920 x 1200	2.3	4.8 µm	129 fps	OnSemi P2000	⅔" CMOS	8/10 bit
DxK 33UX174	1920 x 1200	2.3	5.86 µm	162 fps	Sony IMX174 Pregius	1/1.2" CMOS	8/12 bit
DxK 33UX249	1920 x 1200	2.3	5.86 µm	48 fps	Sony IMX249 Pregius	1/1.2" CMOS	8/12 bit
DxK 33UX252	2048 x 1536	3.1	3.45 µm	120 fps	Sony IMX252 Pregius	1/1.8" CMOS	8/12 bit
DxK 33UX265	2048 x 1536	3.1	3.45 µm	60 fps	Sony IMX265 Pregius	1/1.8" CMOS	8/12 bit
DxK 33UX250	2448 x 2048	5	3.45 µm	75 fps	Sony IMX250 Pregius	⅔" CMOS	8/12 bit
DxK 33UX264	2448 x 2048	5	3.45 µm	38 fps	Sony IMX264 Pregius	⅔" CMOS	8/12 bit
DxK 33UP5000	2592 x 2048	5.3	4.8 µm	60 fps	OnSemi P5000	1" CMOS	8/10 bit
DxK 33UX178	3072 x 2048	6.3	2.4 µm	30 fps	Sony IMX178 STARVIS	1/1.8" CMOS	8/12 bit
DxK 33UJ003	3856 x 2764	10.7	1.67 µm	14 fps	Aptina MT9J003	½.3" CMOS	8/12 bit

DxK: x = M (= monochrome) or F (= color)

Included:

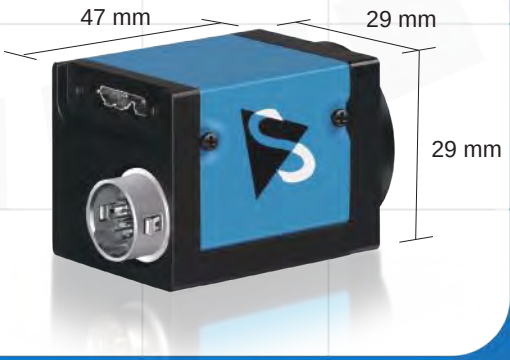
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Variable trigger delay (4 µs to 1 s)
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI (CMOS only)

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- 12-pin Hirose trigger cable



USB 3.0 CMOS Cameras : 27 Series

- Flat compact housing
- 5 and 10 megapixel
- Available as 1 PCB

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DMK 27A (B) UR0135	1280 x 960	1.2	3.75 µm	60 fps	OnSemi AR0135 M	⅓ " CMOS	8/12 bit
DFK 27A (B) UR0135	1280 x 960	1.2	3.75 µm	60 fps	OnSemi AR0135 C	⅓ " CMOS	8/12 bit
DMK 27A (B) UP006	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006 M	⅓ " CMOS	8/12 bit
DFK 27A (B) UP006	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006 C	⅓ " CMOS	8/12 bit
DMK 27A (B) UJ003	3856 x 2764	10	1.67 µm	7 fps	Aptina MT9J003 M	½.₃ " CMOS	8/12 bit
DFK 27A (B) UJ003	3856 x 2764	10	1.67 µm	7 fps	Aptina MT9J003 C	½.₃ " CMOS	8/12 bit

DMK = monochrome | DFK = color

The Imaging Source 27 series of CMOS machine vision cameras is the perfect solution for many industrial automation, quality assurance, security, surveillance, and medical applications.
Utilizing the highly sensitive Aptina CMOS sensors, the housed products are very compact and are ideally suited to cost sensitive applications. Binning, windowing and high-speed readout are but a few of the performance enhancements that dramatically reduces image noise levels.
The Imaging Source 27 series CMOS cameras are characterized by small housings and very competitive prices.

Included:

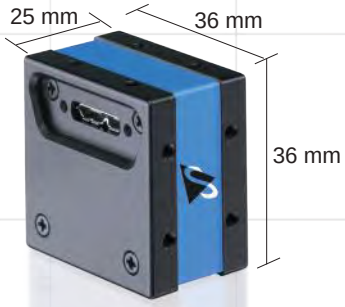
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses



USB 3.0 Cameras : 42 Megapixel Camera

- Flat compact housing
- Resolution 7728 x 5368
- C/CS-Mount

Product Code	Resolution	Megapixel	Frame Rate	Sensor Size	Shutter
DFK AFU420-CCS	7716 x 5360	41.4	110 fps	⅔ ″ CMOS	rolling
DFK AFU420-L62 with integrated lens	7716 x 5360	41.4	110 fps	⅔ ″ CMOS	rolling

The Imaging Source DFK AFU420-CCS color camera has a USB 3.0 interface and is the perfect solution for many industrial automation, quality assurance, security, surveillance and medical applications.
With up to 110 images per second, the DFK AFU420-CCS is a low cost, yet highly versatile imaging solution. The cameraincludes a C to CS mount adapter, making it compatible to C and CS mount lenses. Using the optional CS to M12 boardlens adapter, the camera is also compatible to M12 board lenses.
The Imaging Source authors and supports drivers, SDKs, extensions and end-user software for Microsoft Windows, which can be freely downloaded from our website.
Extensions for Microsoft Windows enable the DFK AFU420-CCS to be integrated in to common machine vision software libraries, such as LabView and OpenCV.

Included:

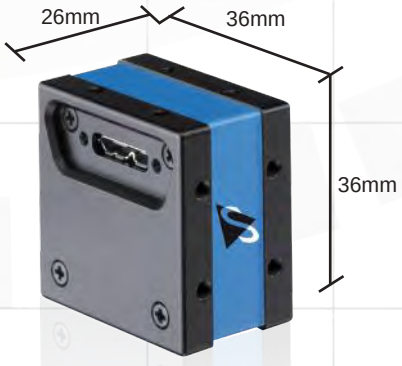
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Digital I/O strobe
- Binning and ROI

Accessories:

- CS to C adapters
- C and CS mount lenses
- USB 3.0 cable in various lengths
- 3 m USB 3.0 cable with fixing screws



The Imaging Source One4all Series: USB 2.0 CMOS Cameras

- Dimensions 36 x 36 x 25 mm
- Several CMOS sensors available
- Free measurement tool included
- Free barcode SDK included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DMK 22A (B) UC03	744 x 480	0.3	6 µm	76 fps	Aptina MT9V024 M	⅓ " CMOS	8 bit
DFK 22A (B) UC03	744 x 480	0.3	6 µm	76 fps	Aptina MT9V024 C	⅓ " CMOS	8 bit
DMK 42A (B) UC03	1280 x 960	1.2	3.75 µm	25 fps	Aptina MT9M021 M	⅓ " CMOS	8 bit
DFK 42A (B) UC03	1280 x 960	1.2	3.75 µm	25 fps	Aptina MT9M021 C	⅓ " CMOS	8 bit
DMK 42A (B) UE03	1280 x 960	1.2	3.75 µm	25 fps	Aptina AR0132 M	⅓ " CMOS	8 bit
DFK 42A (B) UE03	1280 x 960	1.2	3.75 µm	25 fps	Aptina AR0132 C	⅓ " CMOS	8 bit
DMK 72A (B) UC02	2592 x 1944	5	2.2 µm	6 fps	Aptina MT9P031 M	½.₅ " CMOS	8 bit
DFK 72A (B) UC02	2592 x 1944	5	2.2 µm	6 fps	Aptina MT9P006 C	½.₅ " CMOS	8 bit

DMK = monochrome | DFK = color

The Imaging Source “One4all” series of CMOS machine vision cameras is the perfect solution for many industrial automation, quality assurance, security, surveillance, and medical applications. Utilizing the highly sensitive Aptina CMOS sensors, the housed products are very compact and are ideally suited to cost sensitive applications.
Binning, windowing and high-speed readout are but a few of the performance enhancements that dramatically reduces image noise levels. The Imaging Source “One4all” CMOS cameras are characterized by small housings and very competitive prices.

Included:

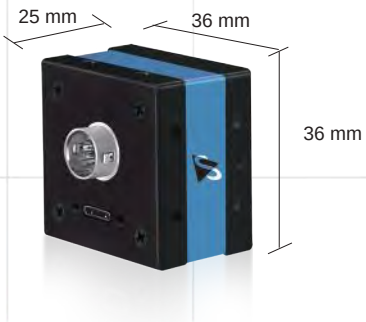
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- USB 2.0 cable (1.8m, 3m, 4.5m)
- 4-pin Hirose trigger cable



GigE Cameras: 38 Series

- Dimensions 29 x 44 x 60 mm
- New interface ix Industrial
- GigE Vision compliant
- Free measurement tool included
- Free barcode SDK included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 38GX267	4096 x 2160	9	3.45 µm	13 fps	Sony IMX267 Pregius	1" CMOS	8/12 bit
DxK 38GX304	4096 x 2160	12.3	3.45 µm	9 fps	Sony IMX304 Pregius	1.1" CMOS	8/12 bit

DxK: x = M (= monochrome) or F (= color)

The Imaging Source "38 series" GigE industrial cameras are equipped with high-sensitivity, low-noise Sony Pregius global-shutter sensors which offer exceptional color fidelity. The 9 and 12 MP cameras are GigE Vision compliant and feature a compact and robust industrial design and support applications such as intelligent traffic systems (ITS), inspection tasks and automation as well as microscopy. Using the new ix Industrial Ethernet interface, which requires 70% less installation space than RJ45 and is set to replace RJ45 connectors, the cameras are ideal for applications with miniaturized requirements.
An active locking mechanism ensures a secure, shock and vibration-resistant connection - making the need for locking screws obsolete. Additionally, the cameras' sensor sizes (2/3" and 1/1.8") mean they are easily combined with a variety of low-priced standard industrial lenses available from The Imaging Source.

Included:

- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

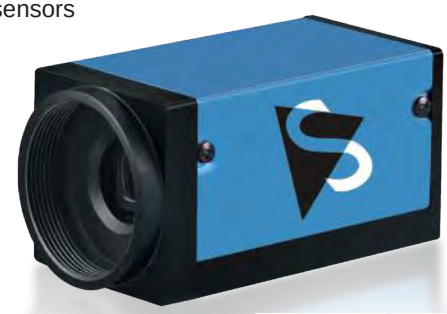
- Variable trigger delay (4 µs to 1 s)
- Digital I/O strobe
- C mount (CS mount optional)
- Binning and ROI
- Power over Ethernet
- Direct power option
- Optional external DC driven auto iris controller

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- 12VDC power adapter
- 6-pin Hirose break-out cable
- External power and trigger cable

GigE Cameras: 33 Series

- Dimensions 29 x 29 x 57 mm
- GigE Vision compliant
- Wide range of CCD and CMOS sensors
- Power over Ethernet
- Free measurement tool included
- Free barcode SDK included



GiGE VISION Pregius STARVIS

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 33GX287	720 x 540	0.4	6.9 µm	300 fps	Sony IMX287 Pregius	1/2.9 " CMOS	8/12 bit
DxK 33GV024	752 x 480	0.4	6 µm	100 fps	Aptina MT9V024	1/3 " CMOS	8/10 bit
DxK 33GR0134	1280 x 960	1.2	3.75 µm	70 fps	ARO134	1/3 " CMOS	8/12 bit
DxK 33GP1300	1280 x 1024	1.3	3.75 µm	90 fps	PYTHON 1300	1/2 " CMOS	8/10 bit
DxK 33GX273	1440 x 1080	1.6	3.45 µm	75 fps	Sony IMX273 Pregius	1/2.9 " CMOS	8/12 bit
DxK33GX290	1920 x 1080	2.1	2.9 µm	56 fps	Sony IMX290 STARVIS	1/2.8 " CMOS	8/12 bit
DxK 33GX174	1920 x 1200	2.3	5.86 µm	50 fps	Sony IMX174 Pregius	1/1.2 " CMOS	8/12 bit
DxK 33GX236	1920 x 1200	2.3	2.8 µm	50 fps	Sony IMX236 STARVIS	1/2.8 " CMOS	8/12 bit
DxK 33GX249	1920 x 1200	2.3	5.86 µm	30 fps	Sony IMX249 Pregius	1/1.2 " CMOS	8/12 bit
DxK 33GX265	2048 x 1536	3.1	3.45 µm	36 fps	Sony IMX265 Pregius	1/1.8 " CMOS	8/12 bit
DxK 33GX264	2448 x 2048	5	3.45 µm	24 fps	Sony IMX264 Pregius	2/3 " CMOS	8/12 bit
DxK 33GP006	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006	1/2.5 " CMOS	8/12 bit
DxK 33GX178	3072 x 2048	6.3	2.4 µm	19 fps	Sony IMX178 STARVIS	1/1.8 " CMOS	8/12 bit
DxK 33GX183	5472 x 3648	20	2.4 µm	6 fps	Sony IMX183 STARVIS	1 " CMOS	8/12 bit

DxK: x = M (= monochrome) V F (= color)

Included:

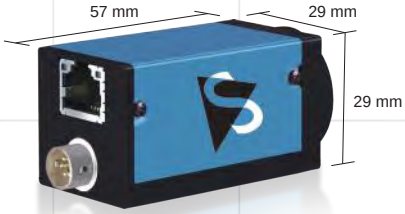
- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Variable trigger delay (4 µs to 1 s)
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI (CMOS only)
- Power over Ethernet
- Direct power option
- Optional external DC driven auto iris controller

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- 12VDC power adapter
- 6-pin Hirose break-out cable
- External power and trigger cable



GigE Cameras: 33e Series

- Dimensions 44 x 29 x 57 mm
- GigE Vision compliant
- Large image buffer
- Free measurement tool included
- Free barcode SDK included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxK 33GP1300e	1280 x 1024	1.3	4.8 µm	90 fps	OnSemi P1300	½ " CMOS	8/10 bit
DxK 33GX290e	1920 x 1080	2.1	2.9 µm	56 fps	Sony IMX290 STARVIS	½.8 " CMOS	8/12 bit
DxK 33GP2000e	1920 x 1200	2.3	4.8 µm	50 fps	OnSemi P2000	⅔ " CMOS	8/10 bit
DxK 33GX174e	1920 x 1200	2.3	5.86 µm	50 fps	Sony IMX174 Pregius	1/1.2 " CMOS	8/12 bit
DxK 33GX249e	1920 x 1200	2.3	5.86 µm	48 fps	Sony IMX249 Pregius	1/1.2 " CMOS	8/12 bit
DxK 33GX265e	2048 x 1536	3.1	3.45 µm	36 fps	Sony IMX265 Pregius	1/1.8 " CMOS	8/12 bit
DxK 33GX264e	2448 x 2048	5	3.45 µm	24 fps	Sony IMX264 Pregius	⅔ " CMOS	8/12 bit
DxK 33GP5000e	2592 x 2048	5.3	4.8 µm	22 fps	OnSemi P5000	1 " CMOS	8/10 bit
DxK 33GX178e	3072 x 2048	6.3	2.4 µm	19 fps	Sony IMX178 STARVIS	1/1.8 " CMOS	8/12 bit
DxK 33GJ003e	3856 x 2764	10.7	1.67 µm	11 fps	Aptina MT9J003	1/2.3 " CMOS	8/12 bit

DxK: x = M (= monochrome) V F (= color)

With an assortment of global and rolling shutter CMOS sensors to choose from as well as on-board image pre-processing and frame buffering, the “33e” GigE camera series offers a broad portfolio of ethernet cameras that are ideal for any number of machine vision applications. A Hirose port allows for a variety of input, output, strobe and trigger options, and the Gigabit Ethernet interface enables easy setup and integration into existing and new applications.

Included:

- Camera, CS to C mount adapter and tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Variable trigger delay (4 µs to 1 s)
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI
- Power over Ethernet
- Direct power option
- Optional external DC driven auto iris controller

Accessories:

- CS to M12 adapters
- C, CS and M12 lenses
- 12VDC power adapter
- 6-pin Hirose break-out cable
- External power and trigger cable

Customized Cameras

- Save time and money
- You design, we manufacture
- Take advantage of our experience

In addition to manufacturing a wide variety of ready-made machine vision cameras, The Imaging Source also manufactures customized camera solutions for customer-specific requirements. Customers may specify minor or major changes to casing design, PCB layout, connection type, location and pinning, in addition to alterations to software drivers and end-user applications. The Imaging Source guarantees to manufacture customized camera solutions to the same high technical level as our ready-made cameras.

OEM customers have direct access to our decades of experience, and our internal design and development processes, to ensure customized camera solutions fulfill customer-specific requirements perfectly. Furthermore, The Imaging Source offers feasibility studies, application-specific training, and practical advice for the integration of our products into customer-specific solutions.

Customization services:

- Camera setup services, such as cable, lens and mount installation.
- OEM solutions: Modifications to shape, size and design of casing and labeling.
- Customized connector type, location and pinning.
- Modifications to camera casing, or PCB shape in the case of board cameras.
- Modifications to PCB and other electronic components.
- Customization of software drivers and end-user applications.

GigE 12x/30x Zoom Cameras

- Integrated motorized 12x/30x zoom, focus and iris
- Several CMOS and CCD sensors
- Free measurement tool included
- Free barcode SDK included

Product Code	Mega-pixel	Resolution	Frame Rate	Sensor	Focal Lenght (mm)	Sensor Size	Focus
DxK Z12G445	1.2	1280 x 960	30 fps	Sony ICX445ALA	4.8 to 57,6	⅓ " CCD	auto/man
DxK Z12GX236	2.3	1920 x 1200	60 fps	Sony IMX236LLJ	4.8 to 57,6	½.8 " CMOS	auto/man
DxK Z12GP031	5.0	2592 x 1944	15 fps	Aptina MT9P031	4.8 to 57,6	½.5 " CMOS	auto/man
DxK 39GX265-Z20	3.1	2048 x 1536	36 fps	Sony IMX265LQR	6.8 to 136	1/1.8 " Pregius	auto/man
DxK Z30GP031	5.0	2592 x 1944	15 fps	Aptina MT9P031	4.3 to 129	½.5 " CMOS	auto/man

DxK: x = M (= monochrome) or F (= color)

The Imaging Source 12x and 30x zoom cameras have an integrated 12x or 30x optical zoom lens, iris and focus. Using the included SDK or end-user software IC Capture the camera functions can be adjusted automatically or manually. The cameras, which ship with Gigabit Ethernet interfaces, are ideally suited to a wide range of applications in the fields of industrial automation, quality assurance, traffic (ITS), surveillance and medicine.

Included:

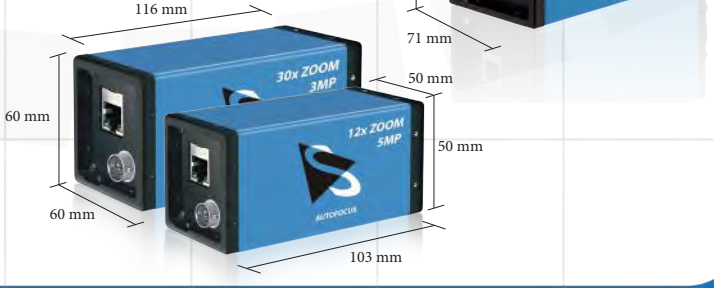
- Camera, tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Integrated motorized lens
- Zoom, focus and iris adjustable by software
- Trigger and digital I/O
- Binning and ROI (CMOS only)
- Power over Ethernet

Accessories:

- 12VDC power adapter
- External power and trigger cable
- Close-up lenses for macro imaging



USB 3.0 & 2.0 Autofocus Cameras

- Dimensions 36 x 36 x 25 mm
- C/CS mount or integrated optics
- Motorized focus control (via software)
- Free measurement tool included
- Free barcode SDK included

Product Code	Interface	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size
DxK AFUX236-M12	USB 3.0	1920 x 1200	2	2.8 µm	54 fps	Sony IMX236LQJ	1/2.8 " CMOS
DxK AFUP031-M12	USB 3.0	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P031	1/2.5 " CMOS
DxK AFUJ003-M12	USB 3.0	3856 x 2764	10	1.67 µm	7 fps	Aptina MT9J003	1/2.3 " CMOS
DxK AFUX178-M12	USB 3.0	3072 x 2048	6	2.4 µm	22 fps	Sony IMX178LQJ	1/1.8 " CMOS
DFK AFU420-L62	USB 3.0	7716 x 5360	42	1.12 µm	110 fps	N/A	2/3 " CMOS
DxK 22AUC03-F	USB 2.0	744 x 1944	0.3	6 µm	76 fps	Aptina MT9V024	1/3 " CMOS
DxK 72AUC02-F	USB 2.0	2592 x 1944	5	2.2 µm	6 fps	Aptina MT9P031 M	1/2.5 " CMOS

DxK: x = M (= monochrome) or F (= color)

The Imaging Source autofocus cameras are the perfect solution for many industrial automation, quality assurance, security, and surveillance applications. Utilizing the highly sensitive Aptina CMOS sensors with selectable windows and pixel binning capabilities, the accurate 125 micron stepper motor accepts a wide range of M12 lenses for a broad range of uses. With wide VGA global shutter model, as well as, 5 megapixel rolling shutter versions, the application possibilities are endless. The easy to use USB 2.0 and 3.0 protocol, the software driven automatic 'One Push' focus, and the small housing makes this camera both elegant and versatile.

Included:

- Camera, tripod mount
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Motorized focus control (via software)
- Manual & automatic control
- For M12 lenses optimized
- Binning and ROI

For 42 MP Cameras:

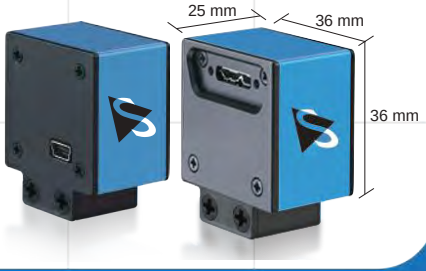
- Integrated Optics (f=6.2) or
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- M12 lenses
- USB 2.0 / USB 3.0 cables with fixing screws

For 42 MP Cameras:

- CS to M12 adapters
- C/CS/M12 lenses



USB 3.1 Board Cameras: 37 Series

- Dimensions 36 x 36 x 15 mm / 30 x 30 x 15 mm
- Sony STARVIS & Pregius CMOS sensors
- Free measurement tool included
- Free barcode SDK included

Pregius
STARVIS
USB3 VISION

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DMM 37AUX287-ML	720 x 540	0.4	6.9 µm	539 fps	Sony IMX287 Pregius	½.9 " CMOS	8/12 bit
DFM 37BUX287-ML	720 x 540	0.4	6.9 µm	539 fps	Sony IMX287 Pregius	½.9 " CMOS	8/12 bit
DMM 37UX273-ML	1440 x 1080	1.6	3.45 µm	236 fps	Sony IMX273 Pregius	½.9 " CMOS	8/12 bit
DFM 37UX273-ML	1440 x 1080	1.6	3.45 µm	236 fps	Sony IMX273 Pregius	½.9 " CMOS	8/12 bit
DMM 37UX290-ML	1920 x 1080	2.1	2.9 µm	143 fps	Sony IMX290 STARVIS	½.8 " CMOS	8/12 bit
DFM 37UX290-ML	1920 x 1080	2.1	2.9 µm	143 fps	Sony IMX290 STARVIS	½.8 " CMOS	8/12 bit
DMM 37UX178-ML	3072 x 2048	6.3	2.4 µm	60 fps	Sony IMX178 STARVIS	1/1.8 " CMOS	8/12 bit
DFM 37UX178-ML	3072 x 2048	6.3	2.4 µm	60 fps	Sony IMX178 STARVIS	1/1.8 " CMOS	8/12 bit

DMM = monochrome | DFK = color

As with the “37” series industrial cameras, the board-level versions feature Sony's STARVIS and Pregius sensors – the first sensors developed by Sony especially for industrial applications. These USB Vision compliant cameras deliver superb image quality suitable for demanding embedded machine vision tasks - making them a cost-effective solution for a range of applications such as intelligent traffic systems (ITS), optical inspection, medical engineering, logistics etc. The cameras' small form-factor and reversible Type-C port connection allow for easy integration in applications adhering to the standard.

Included:

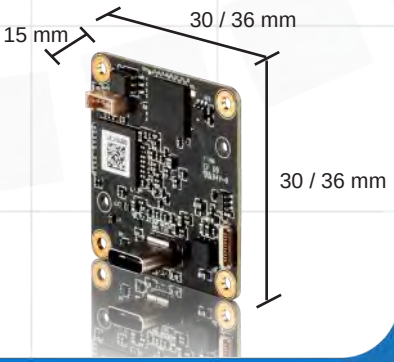
- Camera
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10
- Free barcode SDK & measurement tool for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Reversible Type-C connector
- Digital I/O strobe
- C/CS/M12 mount adapter
- Binning and ROI

Accessories:

- M12 lenses
- USB 3.1 (Gen 1) cables



USB 3.0 Board Cameras: 27 Series

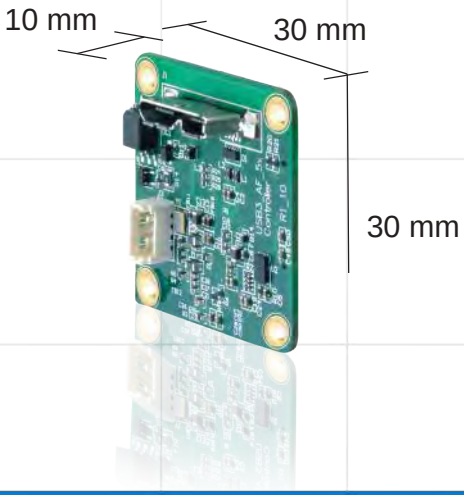
- Dimensions 30 x 30 x 10 mm
- Several CMOS sensors available
- JST trigger connector cable included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DMM 27UR0135-ML	1280 x 960	1.2	3.75 µm	60 fps	OnSemi AR0135	⅓ " CMOS	8/12 bit
DFM 27UR0135-ML	1280 x 960	1.2	3.75 µm	60 fps	OnSemi AR0135	⅓ " CMOS	8/12 bit
DMM 27UP006-ML	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006 M	½.5 " CMOS	8/12 bit
DFM 27UP006-ML	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006 C	½.5 " CMOS	8/12 bit
DMM 27UJ003-ML	3856 x 2764	10.7	1.67 µm	7 fps	Aptina MT9J003 M	½.3 " CMOS	8/12 bit
DFM 27UJ003-ML	3856 x 2764	10.7	1.67 µm	7 fps	Aptina MT9J003 C	½.3" CMOS	8/12 bit

DMM = monochrome | DFK = color

The Imaging Source 27 series of CMOS machine vision cameras is the perfect solution for many industrial automation, quality assurance, security, surveillance, and medical applications.
Utilizing the highly sensitive Aptina CMOS sensors, the board version products are very compact and are ideally suited to cost sensitive applications. Binning, windowing and high-speed readout are but a few of the performance enhancements that dramatically reduces image noise levels.
The Imaging Source 27 series CMOS board cameras are characterized by small PCB dimensions and very competitive prices.

- Resolution: VGA to 10 MP
- Frame rate: Up to 15 fps
- Dimensions: 30 x 30 x 18 mm
- Aptina color CMOS sensors
- Windowing and high-speed readout
- M12 lens compatibility
- Free software for camera control
- Free barcode SDK for Windows 7/8/10



The Imaging Source One4all Series USB 2.0 CMOS Board Cameras

- Dimensions 30 x 30 x 10 mm
- Several CMOS sensors available
- Free measurement tool included
- Free barcode SDK included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DxM 22BUC03-ML	744 x 480	0.3	6 µm	76 fps	Aptina MT9V024	⅓ " CMOS	8 bit
DxM 42BUC03-ML	1280 x 960	1.2	3.75 µm	25 fps	Aptina MT9M021	⅓ „ CMOS	8 bit
DxM 72BUC02-ML	2592 x 1944	5	2.2 µm	6 fps	Aptina MT9P031	½.5 „ CMOS	8 bit

DxM: x = M (= monochrome) or F (= color)

The Imaging Source “One4all” series of CMOS machine vision cameras is the perfect solution for many industrial automation, quality assurance, security, surveillance, and medical applications. Utilizing the highly sensitive Aptina CMOS sensors, the board version products are very compact and are ideally suited to cost sensitive applications. Binning, windowing and high-speed readout are but a few of the performance enhancements that dramatically reduces image noise levels. The Imaging Source “One4all” CMOS board cameras are characterized by small PCB dimensions and very competitive prices.

Included:

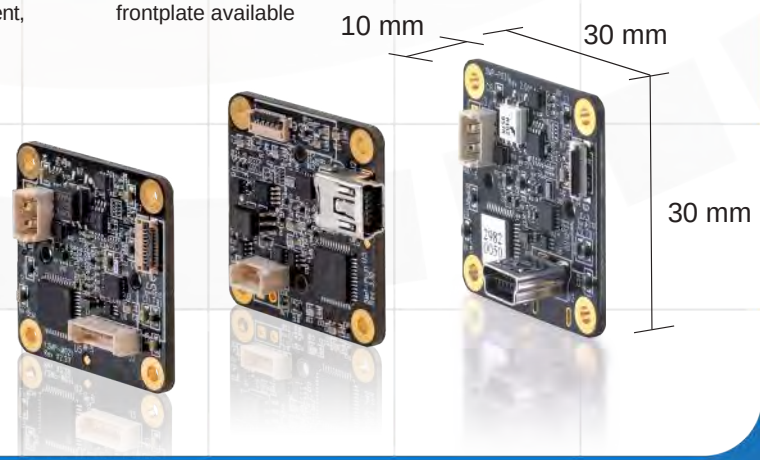
- Camera
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Digital I/O strobe
- Binning and ROI
- Angled USB connector available
- Molex Picoblade connector available
- C/CS-Mount frontplate available

Accessories:

- M12 adapters
- M12 lenses
- USB 2.0 cable (1.8m, 3m, 4.5m)
- JST trigger connector cable included



GigE Board Cameras

- Dimensions 45 x 45 x 20 mm
- Power over Ethernet
- JST trigger connector cable included

Product Code	Resolution	Megapixel	Pixel Size	Frame Rate	Sensor	Sensor Size	A/D
DMM 25G445-ML	1280 x 960	1.2	3.75 µm	30 fps	Sony ICX445ALA	⅓ " CCD	8/12 bit
DFM 25G445-ML	1280 x 960	1.2	3.75 µm	30 fps	Sony ICX445AQA	⅓ " CCD	8/12 bit
DMM 25GX236-ML	1920 x 1200	2.3	2.8 µm	36 fps	Sony IMX236LL	½.₈ " CMOS	8/12 bit
DFM 25GX236-ML	1920 x 1200	2.3	2.8 µm	36 fps	Sony IMX236LQ	½.₈ " CMOS	8/12 bit
DMM 25GP031-ML	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P031 M	½.₅ " CMOS	8/12 bit
DFM 25GP031-ML	2592 x 1944	5	2.2 µm	15 fps	Aptina MT9P006 C	½.₅ " CMOS	8/12 bit

DMM = monochrome | DFK = color

The Imaging Source “GigE Board Camera” series of machine vision cameras is the perfect solution for many industrial automation, quality assurance, security, surveillance, and medical applications. Utilizing the highly sensitive Sony and Aptina sensors, the board version products are very compact and are ideally suited to cost sensitive applications. Binning, windowing and high-speed readout are but a few of the performance enhancements of the CMOS cameras, dramatically reduces image noise levels. The Imaging Source GigE board cameras are characterized by small PCB dimensions and very competitive prices.

Included:

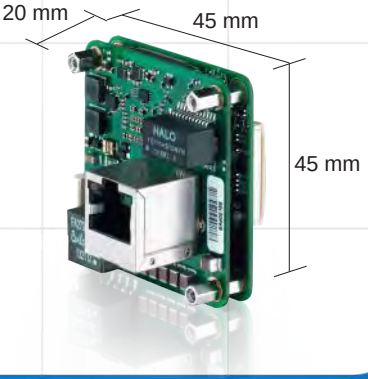
- Camera
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10
- Open source drivers and end-user software for Linux (Apache License 2.0)

Features:

- Trigger and digital I/O
- Binning and ROI (CMOS only)
- Power of Ethernet

Accessories:

- M12 adapters
- M12 lenses
- JST trigger connector cable included



High Quality 5 MP Lenses

Available focal lengths:
4 - 75 mm

Optical Resolution:
5 megapixel

For sensors up to 1"

Type: C/CS Mount

Product Code	Format	Mount	Iris Range	MOD (m)	Focal Length	Filter	Mass (g)
TCSL 0418 5MP	1/2.5"	CS	1.8	0.1	4	N/A	28
TCL 0616 5MP	1/1.8"	C	1.6 - 16	0.1	6	M34 x 0.5mm	110
TCSL 0618 5MP	1/2.5"	CS	1.8	0.1	6	N/A	33
TCL 0814 5MP	1/1.8"	C	1.4 - 16	0.1	8	M27 x 0.5mm	94
TCSL 0818 5MP	1/2.5"	CS	1.8	0.1	8	N/A	35
TCL1216 5MP	2/3"	C	1.6 - 16	0.1	12	M27 x 0.5mm	100
TCL 1616 5MP	2/3"	C	1.6 - 16	0.2	16	M27 x 0.5mm	108
TCL 2518 5MP	2/3"	C	1.8 - 16	0.3	25	M27 x 0.5mm	86
TCL 3520 5MP	2/3"	C	2 - 16	0.4	35	M27 x 0.5mm	84
TCL 5026 5MP	2/3"	C	2.6 - 32	0.5	50	M30.5 x 0.5mm	113
TCL 7528 5MP	1"	C	2.8 - 32	0.6	75	M34 x 0.5mm	146

The lenses are available in C- or CS-mount types with a focal length of 4 mm up to 75 mm.
To ensure **maximum stability**, the C-mount lenses are of a screw-thread type with a **locking screw**.
The very competitively priced CS-mount lenses, on the other hand, are exceptionally **light and compact**.

With image formats of up to 1" and an optical resolution of 5 megapixel, the lenses can be used in conjunction with a variety of CCD and CMOS sensors.

The 5 megapixel lenses are delivered in a **compact, robust metal housing** making them well suited to industrial applications.
In cases where the working distance is less than the minimum object distance (MOD) of the lens, The Imaging Source offers a range of moderately-priced **extension rings and tubes.**
These features make the lenses especially practical for measurement and imaging tasks in automation, quality control, medical, logistics, sciences and security.

Compact Lenses

Optical Resolution:
6 - 10 megapixel

Available focal lengths:
4 -50 mm

7 different lenses

Product Code	Format	Filter Thread	Iris Range	Focal Length	MOD
TPL 0420 6MP	1/1.8"	-	2 - C	4	0.1
TPL 0620 6MP	1/1.8"	M25.5 x 0.5mm	2 - C	6	0.1
TPL 0820 7MP	1/1.8"	M25.5 x 0.5mm	2 - C	8	0.1
TPL 1220 8MP	1/1.8"	M25.5 x 0.5mm	2 - C	12	0.1
TPL 1620 9MP	1/1.8"	M25.5 x 0.5mm	2 - C	16	0.1
TPL 2520 10MP	1/1.8"	M25.5 x 0.5mm	2 - C	25	0.1
TPL 5028 10MP	1/1.8"	M28 x 0.5mm	2 - C	50	0.3

1" Lenses

Available focal lengths:
12.5 - 75 mm

6 different lenses

Product Code	Format	Filter Thread	Iris Range	Focal Length	MOD
TOL 1214 5MP	1"	M46 x 0.75mm	1.4 - 16	12.5	0.1
TOL 1614 5MP	1"	M46 x 0.75mm	1.4 - 16	16	0.1
TOL 2514 5MP	1"	M40.5 x 0.50mm	1.4 - 16	25	0.1
TOL 3514 5MP	1"	M46 x 0.75mm	1.4 - 16	35	0.15
TOL 5014 5MP	1"	M46 x 0.75mm	1.4 - 16	50	0.3
TOL 7518 5MP	1"	M55 x 0.75mm	1.8 - 16	75	0.7

Macro 1.1" Lenses

Magnification:
0.3x - 8.5x

8 different lenses

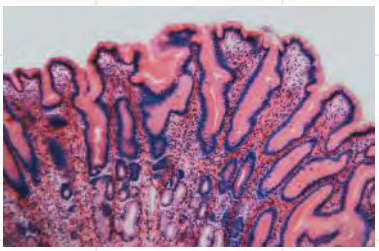
For sensors up to 1.1"

Product Code	Magnification (x)	Working Distance (mm)	Field of Coverage (mm)					
			1/3"	1/2"	1/1.8"	2/3"	1"	1.1"
TMN 0.3/110	0.3	110	16 x 12	21 x 16	25 x 18	28 x 21	42 x 32	47 x 35
TMN 1.0/50	1.0	50	4.8 x 3.6	6.4 x 4.8	7 x 5	9 x 6	13 x 9	14 x 10
TMN 1.5/35	1.5	35	3.2 x 2.4	4.3 x 3.2	5 x 3.4	6 x 4	9 x 6	10 x 7
TMN 2.5/30	2.5	30	1.9 x 1.4	2.6 x 1.9	3 x 2.1	3.3 x 2.5	5.1 x 3.8	5.7 x 4.2
TMN 3.0/25	3.0	25	1.6 x 1.2	2.1 x 1.6	2.5 x 1.8	2.8 x 2.1	4.2 x 3.2	4.7 x 3.5
TMN 4.0/20	4.0	20	1.2 x 0.9	1.6 x 1.2	1.8 x 1.3	2.1 x 1.6	3.2 x 2.4	3.6 x 2.6
TMN 6.0/6	6.0	6	0.8 x 0.6	1.1 x 0.8	1.2 x 0.9	1.4 x 1.0	2.1 x 1.6	2.4 x 1.7
TMN 8.5/4	8.5	4	0.6 x 0.4	0.8 x 0.6	0.8 x 0.6	1.0 x 0.7	1.5 x 1.1	1.7 x 1.2

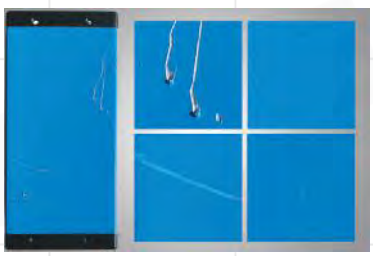
The Imaging Source's new macro lenses deliver an excellent price-to-performance ratio. The eight new lenses have a high optical resolution and can be used with pixels < 2µm and camera sensors up to 1.1".

The Imaging Source macro lenses are optimized for use with high-resolution industrial cameras for close-up (macro) images. Designed to deliver superior resolution at short working distances, these lenses are optimal for applications in microscopy, electronics and surface inspection.

PCB / Electronics Inspection



Pathology



Surface Inspection

Vario Lenses

High-End Lenses

Vario Lenses

Product Code	Format	Filter Thread	Iris Range	Focal Length	MOD	Mount
T2Z 1816 CS	1/3"	N/A	1.6 - C	1.8 - 3.6	0.2	CS
T3Z 3510 CS	1/3"	N/A	1 - 16	3.5 - 10.5	0.3	CS
H3Z 4512 CS-IR	1/2"	35.5 x 0.5 mm	1.2- 16	4.5 - 12.5	0.3	CS

High-End Lenses

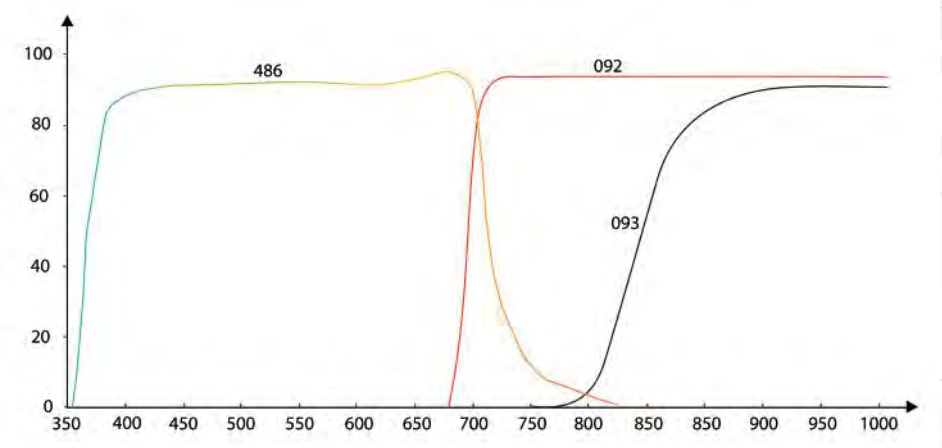
Product Code	Format	Filter Thread	Iris Range	Focal Length	MOD
M111FM08	1.1	M77 x 0.75	1.8 - 22	8	0.3
M111FM16	1.1	M55 x 0.75	1.8 - 22	16	0.3
M111FM25	1.1	M55 x 0.75	1.8 - 22	25	0.3
M111FM50	1.1	M49 x 0.75	1.8 - 22	25	0.4
V0828-MPY	1.1	N/A	2.8 - 16	8	0.2
V1228-MPY	1.1	M40.5 x 0.5	2.8 - 16	12	0.3
V2528-MPY	1.1	M34 x 0.5	2.8 - 16	25	0.3
V3528-MPY	1.1	M34 x 0.5	2.8 - 16	35	0.3
V5028-MPY	1.1	M34 x 0.5	2.8 - 16	50	0.5

Tubes, Rings and Filters

Tubes and Rings

Product Code	Mount	Length (mm)
LAex0.5	C/CS	0.5
LAex1	C/CS	1
LAex5	C/CS	5
LAexSet	C/CS	0.5, 1, 5, 10, 20, 40

Filters



Filter Type	27 x 0.5	30.5 x 0.5	35.5 x 0.5	40.5 x 0.5	43 x 0.75	46 x 0.75	49 x 0.75	52 x 0.75	55 x 0.75	58 x 0.75
092	x	x	x	x	x	x	x	x	x	x
093	x	x	x	x	x	x	x	x	x	x
486	x	x	x	x	x	x	x	x	x	x

Mega-Pixel Board Lenses

Available focal lengths:
1.4 - 16 mm

Optical Resolution:
5 megapixel

12 different Lenses

Type: M12

Product Code	Format	Mount	Iris Range	Focal Length	IR Cut Filter
TBL 1.4 5MP	1/2.5"	M12 x 0.5mm	2.0	1.4	×
TBL 1.4 C 5MP	1/2.5"	M12 x 0.5mm	2.0	1.4	✓
TBL 2.5 5MP	1/2.5"	M12 x 0.5mm	2.4	2.5	×
TBL 2.5 C 5MP	1/2.5"	M12 x 0.5mm	2.4	2.5	✓
TBL 2.9 5MP	1/2.5"	M12 x 0.5mm	2.0	2.9	×
TBL 2.9 C 5MP	1/2.5"	M12 x 0.5mm	2.0	2.9	✓
TBL 3.6 5MP	1/2.5"	M12 x 0.5mm	1.8	3.6	×
TBL 3.6 C 5MP	1/2.5"	M12 x 0.5mm	1.8	3.6	✓
TBL 4 5MP	1/2.5"	M12 x 0.5mm	1.8	4	×
TBL 4 C 5MP	1/2.5"	M12 x 0.5mm	1.8	4	✓
TBL 6 5MP	1/2.5"	M12 x 0.5mm	1.8	6	×
TBL 6 C 5MP	1/2.5"	M12 x 0.5mm	1.8	6	✓
TBL 8 5MP	1/2.5"	M12 x 0.5mm	1.8	8	×
TBL 8 C 5MP	1/2.5"	M12 x 0.5mm	1.8	8	✓
TBL 8.4-2 5MP	1/2"	M12 x 0.5mm	2.8	8.4	×
TBL 8.4-2 5MP	1/2"	M12 x 0.5mm	2.8	8.4	✓
TBL 9.6-2 C 3MP	1/2"	M12 x 0.5mm	3.0	9.6	✓
TBL 12-2 5MP	1/2"	M12 x 0.5mm	2.8	12	×
TBL 12-2 C 5MP	1/2"	M12 x 0.5mm	2.8	12	✓
TBL 12 3MP	1/2.5"	M12 x 0.5mm	1.6	12	×
TBL 12 C 3MP	1/2.5"	M12 x 0.5mm	1.6	12	✓
TBL 16 3MP	1/2.5"	M12 x 0.5mm	1.6	16	×
TBL 16 C 3MP	1/2.5"	M12 x 0.5mm	1.6	16	✓

Low Distortion Lenses

- Type: M12
- Available focal lengths: 3.5-16 mm
- 5 different Lenses
- Format: Up to 1/1.8"
- Optical Resolution: Up to 10 megapixel

Product Code	Format	Mount	Iris Range	Focal Length	IR Cut Filter
TBN 3.4 5MP	1/2"	M12 x 0.5mm	2.8	3.4	×
TBN 3.5 3MP	1/2.5"	M12 x 0.5mm	1.8	3.5	×
TBN 4.5 3MP	1/1.8"	M12 x 0.5mm	1.8	4.5	×
TBN 4.5 C 3MP	1/1.8"	M12 x 0.5mm	1.8	4.5	✓
TBN 5.4 10MP	1/2.3"	M12 x 0.5mm	2.5	5.4	×
TBN 5.4 C 10MP	1/2.3"	M12 x 0.5mm	2.5	5.4	✓
TBN 6 5MP	1/1.8"	M12 x 0.5mm	2.8	6	×
TBN 7.2 10MP	1/2.3"	M12 x 0.5mm	2.4	7.2	×
TBN 7.2 C 10MP	1/2.3"	M12 x 0.5mm	2.4	7.2	✓
TBN 8 5MP	1/1.8"	M12 x 0.5mm	2.8	8	×
TBN 12 5MP	1/1.8"	M12 x 0.5mm	2.8	12	×
TBN 16 5MP	1/1.8"	M12 x 0.5mm	1.8	16	×
TBN 16 C 5MP	1/1.8"	M12 x 0.5mm	1.8	16	✓
TBN 25 5MP	1/1.8"	M12 x 0.5mm	2.8	25	×

⅔" Board Lenses

Available focal lengths:
1.4 - 16 mm

Optical Resolution:
10 megapixel

5 different Lenses

Type: M12

Product Code	Format	Mount	Iris Range	Focal Length	Megapixel
TB23 12 10MP	⅔"	M12 x 0.5mm	2.8	12	10
TB23 16 10MP	⅔"	M12 x 0.5mm	2.2	16	10
TB23 25 10MP	⅔"	M12 x 0.5mm	2.5	25	10
TB23 35 10MP	⅔"	M12 x 0.5mm	2.8	35	10
TB23 50 10MP	⅔"	M12 x 0.5mm	4	50	10

The Imaging Source Standard Lenses

Available focal lengths:
2.1 - 50 mm

IR Cut Filter available

11 different Lenses

Type: M12

Product Code	Format	Mount	Iris Range	Focal Length	IR Cut Filter
TBL 2.1	1/3"	M12 x 0.5mm	2	2.1	×
TBL 2.1 C	1/3"	M12 x 0.5mm	2	2.1	✓
TBL 2.9	1/3"	M12 x 0.5mm	2	2.9	×
TBL 2.9 C	1/3"	M12 x 0.5mm	2	2.9	✓
TBL 3.6	1/3"	M12 x 0.5mm	2	3.6	×
TBL 3.6 C	1/3"	M12 x 0.5mm	2	3.6	✓
TBL 4.6	1/3"	M12 x 0.5mm	2	4.6	×
TBL 4.6 C	1/3"	M12 x 0.5mm	2	4.6	✓
TBL 6	1/3"	M12 x 0.5mm	2	6	×
TBL 6 C	1/3"	M12 x 0.5mm	2	6	✓
TBL 8	1/3"	M12 x 0.5mm	2	8	×
TBL 8 C	1/3"	M12 x 0.5mm	2	8	✓
TBL 12b	1/3"	M12 x 0.5mm	2	12	×
TBL 12b C	1/3"	M12 x 0.5mm	2	12	✓
TBL 16b	1/3"	M12 x 0.5mm	2	16	×
TBL 16b C	1/3"	M12 x 0.5mm	2	16	✓
TBL 25	1/3"	M12 x 0.5mm	2.5	25	×
TBL 35	1/2"	M12 x 0.5mm	2.5	35	×
TBL 50	1/2"	M12 x 0.5mm	2.5	50	×

Cables

- Cameras and accessories from one source
- Save time
- Make sure it all fits

USB 3.1

Product Code	Connects...	To...	Length	Manufacturer
CA-USB31-AC-BLS/3	USB 3.1 (Type-A)	USB 3.1 (Type-C) Locking screws	3 m	The Imaging Source

USB 3.0

Product Code	Connects...	To...	Length	Manufacturer
CA-USB30-AmB-BLS/3	USB 3.0 (Type-A)	USB 3.0 (Micro-B) Locking screws	3 m	The Imaging Source
CA-USB30-AmB-BLS/10	USB 3.1 (Type-A)	USB 3.0 (Micro-B) Locking screws	10 m	The Imaging Source

USB 2.0

Product Code	Connects...	To...	Length	Manufacturer
CA-USB20-AmB-BLS/5	USB 2.0 (Type-A)	USB 3.1 (Type-C) Locking screws	3 m	The Imaging Source

GigE

Product Code	Connects...	To...	Length	Manufacturer
CA-GigE-ix/5	GigE (RJ-45)	GigE (ix) ix Industrial® Ethernet Interface	5 m	The Imaging Source
CA-GigE/5/BLS	GigE (RJ-45)	GigE (RJ-45) Locking screws	5 m	The Imaging Source
CA-GigE/10/BLS	GigE (RJ-45)	GigE (RJ-45) Locking screws	10 m	The Imaging Source
GigE23/PWR/Trig	Trigger (Trigger in) Power (Power in)	Hirose (Hirose) GigE 23 and 33 camera series only	0.2 m	The Imaging Source

HD-SDI to USB 3.0 Converter

- Dimensions 27 x 56 x 95 mm
- HD-SDI to USB 3.0
- Free measurement tool included
- Free barcode SDK included

HD-SDI is a serial, digital interface, primarily designed to transmit uncompressed and unencrypted video data over one or more coaxial cables with BNC connectors at a nominal impedance of 75 ohms. The cabling and connector type are relics from the previous analog video signal standard. When using high quality cable, the maximum cable length can be up to 100 meters.

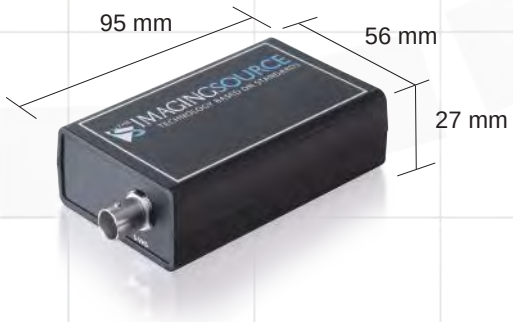
The DFG/HDSDI converts digital serial video signals into uncompressed image data streams for USB 3.0 interfaces.

Included:

- HD-SDI converter
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10

Features:

- Inputs: HD-SDI
- Output: USB 3.0, uncompressed image data stream
- Video formats:
  SD 525i and 625i
  HD 720p
  HD 1080i
  HD 1080p



Video to USB Converter

- Dimensions 27 x 56 x 95 mm
- Video / Audio to USB
- Free measurement tool included
- Free barcode SDK included

Kernel 4.19 and higher

Despite the fast growing world of digital cameras, there is still an enormous number of analog video sources. Using a Video-to-USB converter, such as the DFG/US2pro and the DFG/USB2aud, analog video sources become usable in a digital environment.

The DFG/USB2pro converts analog video signals (PAL, NTSC, CCIR, EIA) into uncompressed image data streams. The DFG/USB2aud additionally converts analog audio signals.

Included:

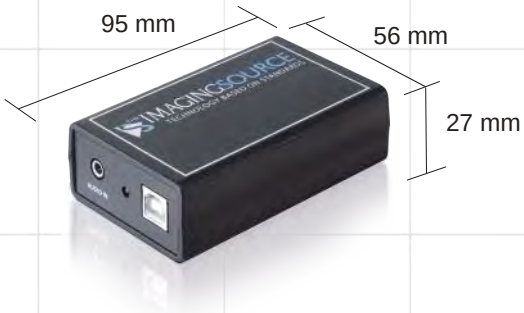
- Converter
- Drivers compatible to DirectShow, DirectX, TWAIN, VfW, WDM, ActivVisionTools, HALCON, LabVIEW, Matlab, and NeuroCheck
- IC Capture camera control and acquisition software for W 7/8/10, Vista, XP
- IC Imaging Control Software Development Kit (SDK) including a .NET component, an ActiveX component, and a C++ class library for W 7/8/10, Vista, XP
- Free barcode SDK for W 7/8/10

Features:

- Inputs: composite and Y/C
- Output DFG/USB2pro: USB 2.0, uncompressed image data stream without audio
- Output DFG/USB2aud: USB2.0, uncompressed image and audio data stream
- Video formats: PAL/CCIR, NTSC/RS-170
- Max resolution (NTSC/RS-170): 640x480 @ 30 Hz
- Max resolution (PAL/CCIR): 768x576 @ 25 Hz

Additional Features Audio Version:

- Inputs: Audio
- Output: USB 2.0, uncompressed image stream with audio



Software Development Kit: IC Imaging Control

- SDK to capture images and video streams, and parameterize video sources
- Save images and image sequences
- Overlay graphics and text on live stream

IMAGINGCONTROL
image acquisition components

IC Imaging Control is an SDK for acquiring images from a video source, such as The Imaging Source machine vision cameras, frame grabbers and video converters. The SDK automatically recognizes video sources, which are installed on the PC and enables you to switch between them via program code. You can capture single images, sequences of single images, and live video streams from the connected video source.

Key features:

- Programmable access to video capture sources
- Set and adjust device parameters
- Save images and image sequences
- Overlay graphics and text on live stream
- .NET component, ActiveX component and C++ class library
- Supports all cameras and frame grabbers from The Imaging Source

IC Imaging Control allows the real-time preview of video streams, up to the maximum frame rate of the video capture device. Furthermore, IC Imaging Control can preview multiple video streams at once, making it suited to surveillance applications.This SDK provides built in scrolling and zooming. The image can be easily zoomed to fit the size of the control or the entire window. Single image frames can be captured from a live video stream. Once images have been acquired to the image buffer, they may be saved as a BMP, TIFF or JPEG file. A number of frames can be acquired to image buffers, which are organized as a ring buffer. IC Imaging Control fires an event each time it has finished writing to an image buffer. This has the advantage that the end-user application does not have to check the most recent complete image.

IC Imaging Control provides a dialog box that allows the end-user to open a device and to configure the video norm, video format, input channel, frame rate and orientation (horizontal and vertical flip state). Video capture devices can be queried from program code for their settings in order to build customized dialog boxes.

Among others, the following image settings are supported: brightness, contrast, hue, saturation, gain and exposure. All changes in settings are immediately visible on the live video stream.

IC Imaging Control provides a dialog that allows you to manipulate all properties of a video capture device.

If supported by the video capture device, its serial number can be retrieved with IC Imaging Control and can be used as a dongle. IC Imaging Control can flip the live video stream horizontally or vertically. It can rotate the live video stream 90°, 180° or 270°. In addition to processing the full video stream, IC Imaging Control allows you to define a region of interest (ROI), upon which, all of IC Imaging Control‘s functions can be applied.

End-User-Software & SDK: IC Barcode

- Reads multiple barcodes at any orientation
- Easy to use SDK with sample application
- Comes free with all The Imaging Source cameras

IC BARCODE
accurate recognition SDK

IC Barcode is a highly accurate and powerful developer library, which recognizes 1D and 2D barcodes from digital images. Using this SDK, you can integrate barcode recognition functionality into your document processing systems and Windows applications. The unique and fast barcode recognition algorithm searches for barcodes in any position and orientation in your images.

Key features:

- Read multiple 1D and 2D barcodes at any orientation.

- Report comprehensive information with 100% confidence for all detected barcodes, such as the barcode type, data string, location, check digit, etc.

- High-speed barcode recognition. All barcodes in an image are located and reported back in a fraction of a second.

- Speed up the whole process of barcode detection and decoding, by configuring the options to read only barcodes of a certain type or orientation, or limit processing to a region of interest.

Supported 1D Barcodes:

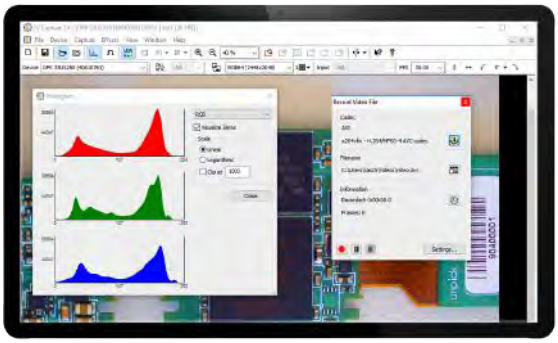
- EAN8
- EAN13
- CODE39
- CODE93
- CODE128
- UPC_A
- APC_E
- INTERLEAVED_2_OF_5

Supported 2D Barcodes:

- AZTEC
- DATA_MATRIX
- QR CODE
- MAXICODE
- PDF417

End-User-Software: IC Capture

- acquire images from any video device
- set all properties of video devices
- Comes free with all The Imaging Source cameras



IC Capture is an end-user application to acquire images from any video device, manufactured by The Imaging Source, including industrial cameras, frame grabbers and video converters. All the properties of video devices, such as video formats, exposure times and many more can be set. All video devices connected to the computer are recognized automatically and multiple video sources can be opened in IC Capture simultaneously.

Three ways to capture images:

- Single images can be saved manually
- Image sequences can be saved manually
- Image sequences can be saved via a timer.
  For example: Save 1 image per second for 24 hours

Single image frames can be captured from a live video stream and can be saved to a BMP, TIFF or JPEG file. A number of frames can be acquired and saved to a sequence of image files. This can be done by pressing the space key, pressing a foot switch, or automatically, using a timer. The timer allows the time interval to be defined between two images. The number of image frames, which are saved can be limited by either a specific number of by a time limit.

The name of the files written to disk can be created automatically. The filenames consist of a prefix, and an optional time stamp or sequence number.

If a camera is set to trigger mode, the camera waits for an external event to deliver a single image. IC Capture supports this camera feature and is able to save the images. An external trigger signal can also be used to synchronize several cameras.

IC Capture saves image streams directly to AVI files, either uncompressed, or by using software codecs for image compression. AVI capture also works with triggered cameras. All installed image compression codecs can be selected in IC Capture, and used to compress the video stream.

All settings made in IC Capture can be stored and used for future purposes.

All available camera properties can be adjusted in IC Capture. The software can flip the live video stream horizontally and vertically. Furthermore, it can rotate the live video stream 90°, 180° and 270°. 90° rotation is often used for body scans.

IC Capture allows a region of interest to be defined. All frame rates supported by the video capture device can be selected. Several cameras, manufactured by The Imaging Source, support long exposure times of up to one hour, or short exposure times of 1/100,000 second to capture fast moving objects.

IC Capture supports the gray world and color temperature models to adjust the white balance. If the color temperature of the light source is known, the color temperature model delivers best results. Under daylight conditions, where the color temperature constantly changes, the gray world model is recommended.

End-User-Software: IC Measure

- On-screen image measurement tools
- Easy-to-use image and AVI capture
- Comes free with all The Imaging Source cameras

IC Measure is a powerful end-user application for microscopy measurement and image acquisition using any video device, manufactured by The Imaging Source, including industrial cameras, frame grabbers and video converters.
All the properties of video devices, such as video formats, exposure times and many more can be set.
It has been specially developed for microscopy applications and is very easy to use.

Measurement:

IC Measure provides multiple tools for manual measurement (circles, lines, polygons and angles). Using the intuitive interface, it is easy to measure lengths, angles, areas and perimeters directly on the live preview and export the measured data to any spreadsheet application via the CSV export function.

Annotations:

Using IC Measure's annotation tools, features of interest can marked and provided with text annotations.
The annotations are fully customizable in font, size and color.

Filters:

IC Measure includes advanced image processing filters for optical distortions correction (Barrel and Pincushion distortion) and enhancement tools to discover details within your images (histogram equalization, sharpness, brightness and contrast).

On-screen Calibration:

IC Measure's on-screen calibration tools, allow you to easily calibrate the software using a stage micrometer, millimeter paper or virtually any object of known size. Therefore, the software can also be used for measuring tasks outside the field of microscopy. The scale of an image can be easily redefined, in order to express values of measure in inches, millimeters, micrometers, nanometers or almost any unit of measurement.

Save and Load Measurement Objects:

All measurement objects placed in IC Measure can be stored and used for future projects.

Acquisition of Single Images:

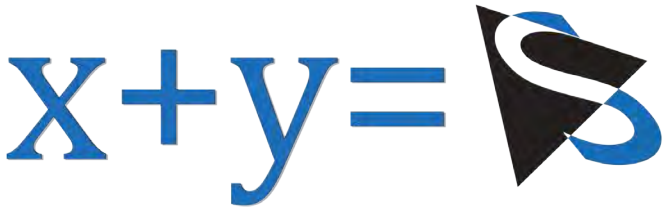
Single image frames can be captured from the live video stream and can be saved to a BMP, TIFF or JPEG file.

Acquisition of an Image Sequence:

A number of frames can be acquired and saved to a sequence of image files. This can be done by pressing the space key, pressing a foot switch or automatically, using a timer. The timer allows the time interval to be defined between two images. The number of image frames, which are saved can be limited by either a specific number of by a time limit.

The Imaging Source - Software Services

- Consulting
- Training
- Feasibility studies
- System architecture



In the design and realization of machine vision systems, we will support you in every possible way - whether with in-depth consultation or by creating an integrated overall concept. Even well-versed professionals depend on our team's extensive machine vision know-how.

Consulting:

Professional support for your project

Over 20 years of experience enables us to offer a range of consulting services from telephone consultation and initial concept development to feasibility studies and prototype development (hardware and software). In the event our products don't meet your application's needs, we will of course use thoroughly-tested products from third-party service providers.

Training:

Custom-made training programs

Rather than traditional training sessions, The Imaging Source offers customized seminars that are tailored to your particular inspection task.

Feasibility Studies:

Evaluation of your project

Looking at your machine vision task and system requirements, our team of experts will make precise suggestions on how your specific task may be solved. Using HDevelop, we will even write sample applications to illustrate our suggestions. We will also show you how you can acquire the necessary images using our portfolio of cameras and accessories.

System Architecture:

Custom design & development

We will work with you to meet any machine vision challenge – regardless of whether it's a 2D or 3D vision solution or simply an application with demanding specifications. Our experienced interdisciplinary team has created thousands of machine vision systems - from pure image capture and archive applications to the precision measurement (10 µm range) of machine parts.

Machine Vision Software - Halcon & Merlic

- Consulting
- Technical Support
- Custom-made training program s
- MVTec Certified Training Partner

HALCON
MERLIC

As an MVTec distributor, we want to assist you as quickly as possible with questions pertaining to HALCON and MERLIC. Therefore, we have dedicated in-house specialists for MVTec's imaging programs and software libraries. Our highly-experienced support team is available to assist you quickly and efficiently with any problems that may arise.

Consulting & Technical Support:

Because of the variety of tasks and the corresponding breadth of potential solutions in machine vision, it is often difficult to determine which solution will deliver the best combination of value and efficiency in a particular application. Not only will we help you in the selection of the right hardware, but we will also actively support you throughout the process - starting from the development of simple user interfaces (via sample programs or support in HDevelop Script) all the way up to prototyping.

Training:

Attend one of our regular MERLIC training seminars or schedule a HALCON or MERLIC training seminar tailored to your topic or application.

HALCON:

HALCON is the comprehensive standard software for machine vision with an integrated development environment (IDE) that is used worldwide. It enables cost savings and improved time to market.

MERLIC:

MERLIC is an all-in-one software product for quickly building machine vision applications without programming. It is based on MVTec's extensive machine vision expertise and combines reliable, fast performance with ease of use.

MVTec CERTIFIED TRAINING PARTNER

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