THE IMAGINGSOURCE
TECHNOLOGY BASED ON STANDARDS

DFK 51BU02 Color Camera

The Imaging Source "51" Series USB 2.0 Camera



Only 50.6×50.6×56 mm

Lens not included

The Imaging Source DFK 51BU02 color camera has a USB 2.0 interface and is the perfect solution for many industrial automation, quality assurance, security, surveillance and medical applications. The color camera ships with the very sensitive 1/1.8 inch Sony CCD ICX274AQ sensor. With up to 12 images per second, the DFK 51BU02 is a low cost, yet highly versatile imaging solution. The camera includes a C to CS mount adapter, making it compatible to C and CS mount lenses. Using the optional CS to M12 board lens 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 web site. Extensions for Microsoft Windows enable the DFK 51BU02 to be integrated in to common machine vision software libraries, such as LabView and OpenCV.

Features

- USB 2.0 interface (forwards compatible)
- $^{1}/_{1.8}$ inch Sony CCD sensor (ICX274AQ)
- 1,600×1,200 (1.9 MP)
- Up to 12 images per second
- Global shutter
- Trigger input
- Only 50.6×50.6×56 mm
- Compatible to C and CS mount lenses
- Manufactured by The Imaging Source
- Ships with Windows software

Accessories

- CS to C mount adapter (shipped as standard)
- C and CS mount lenses
- CS to M12 board lens adapters
- M12 board lenses
- Standard USB 2.0 cable in various lengths
- 5 m USB 2.0 cable with fixing screws
- Trigger cable

Device Drivers for Microsoft Windows

Device Driver for USB Cameras

Software Development Kits (SDKs) for Microsoft Windows

IC Imaging Control .NET Component for C#, VB.NET, C++ Class Library for C++ projects, IC Imaging Control C Library, IC 3D SDK - C, C++ library for stereo depth estimation, IC Imaging Control ActiveX, IC Imaging Control ActiveX Runtime Setup

Extensions for Microsoft Windows

TWAIN Source for IC Imaging Control, Cognex VisionPro AIK Plugin for IC Imaging Control, LabVIEW Extension for IC Imaging Control, IC Matlab Plugin for Matlab 10.0 R2010, IC Matlab Plugin for Matlab R2013b and higher versions, IC NeuroCheck Driver for NeuroCheck 6.0, IC NeuroCheck Driver for NeuroCheck 6.1

End User Software for Microsoft Windows

IC Capture - image acquisition, IC Measure - manual on-screen image measurement and image acquisition, IC 3D - User friendly stereo calibration, depth estimation and 3D visualization, IC Fullscreen Presenter, IC Line Profiler, Footswitch software for IC Capture, Scan2Docx, Scan2Docx OCR, Scan2Voice

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DFK 51BU02 Specification

GENERAL BEHAVIOR	
Sensitivity	0.15 lx
Dynamic range	8 bit
Video formats @ frame rate (maximum)	1,600×1,200 (1.9 MP) RGB32 @ 12 fps 1,600×1,200 (1.9 MP) Y800 @ 12 fps

INTERFACE (OPTICAL)	
IR cut filter	✔
Sensor type	CCD
Sensor specification	Sony ICX274AQ
Shutter	global
Format	$^{1}/_{1.8}$ inch
Pixel size	H: 4.4 µm, V: 4.4 µm
Lens mount	C/CS

INTERFACE (ELECTRICAL)	
Interface	USB 2.0 (forwards compatible)
Supply voltage	4.5 VDC to 5.5 VDC
Current consumption	approx 500 mA @ 5 VDC
Auto iris control	✖
Trigger	✔
I/Os	✖

INTERFACE (MECHANICAL)	
Dimensions	H: 50.6 mm, W: 50.6 mm, L: 56 mm
Mass	265 g

ADJUSTMENTS	
Shutter	$^{1}/_{10,000}$ s to 30 s
Gain	0 dB to 36 dB
White balance	-2 dB to 6 dB

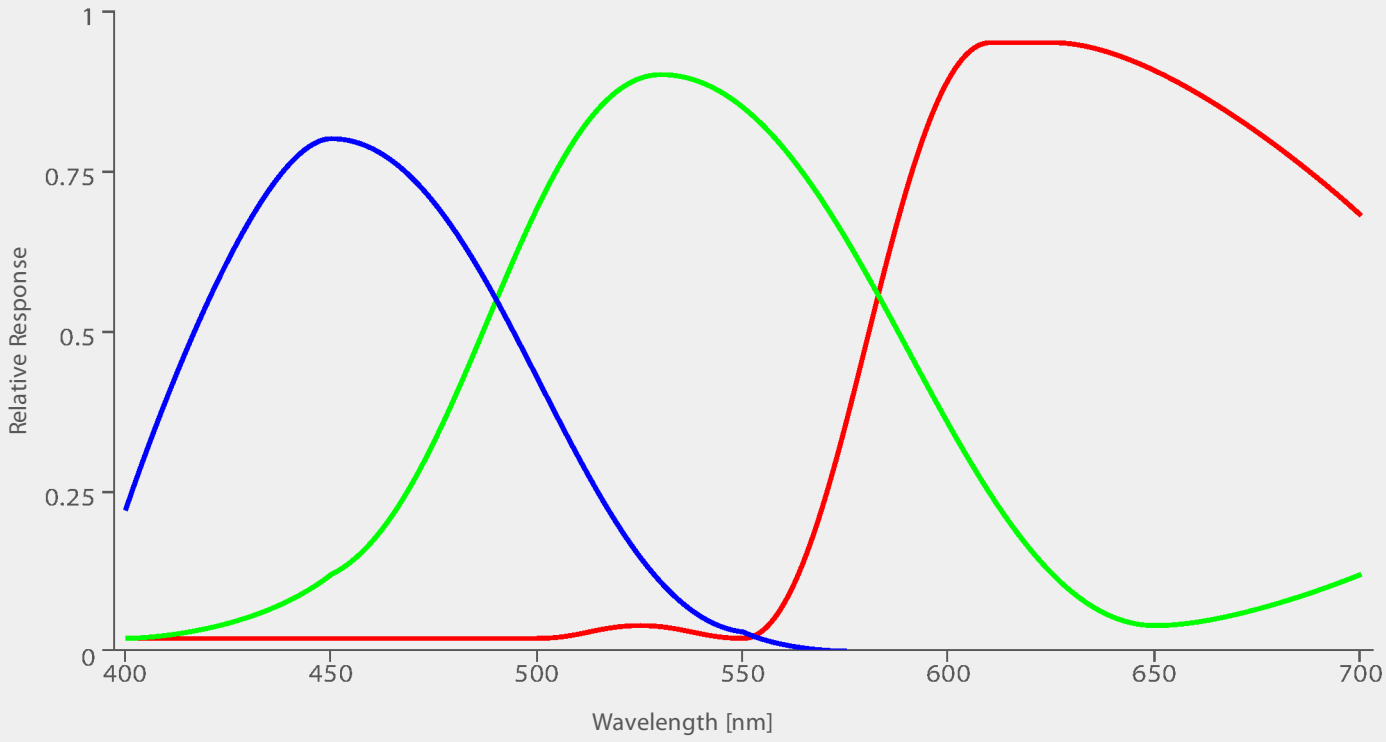
ENVIRONMENTAL	
Temperature (operating)	-5 °C to 45 °C
Temperature (storage)	-20 °C to 60 °C
Humidity (operating)	20 % to 80 % (non-condensing)
Humidity (storage)	20 % to 95 % (non-condensing)

Subject to change

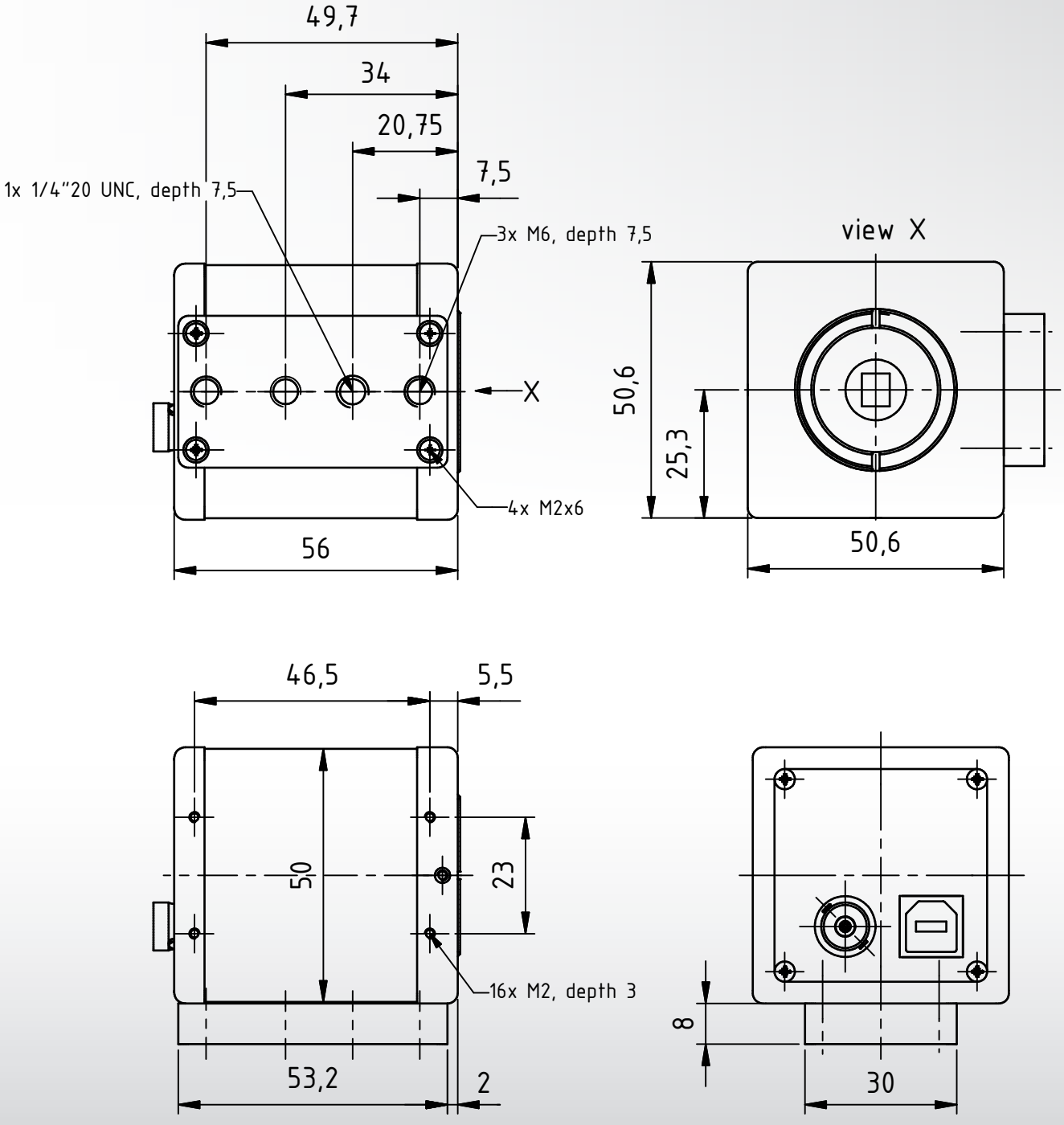
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Sony ICX274AQ Spectral Response Curve

CCD Sensor in DFK 51BU02



DFK 51BU02 Dimensional Diagram



Dimensions: mm
Tolerances: DIN ISO 2768m

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Machine vision, designed in Germany



Ever since The Imaging Source was founded in 1990, it has been one of the leading manufacturers of industrial cameras, frame grabbers and video converters for automation, quality assurance, logistics, medicine, science and security.

Our extensive range of industrial cameras ships with USB 3.0, USB 2.0, GigE, FireWire 800 and FireWire 400 interfaces. Thanks to their multi-purpose features and extremely high quality standards, the cameras are commonly used in demanding applications.

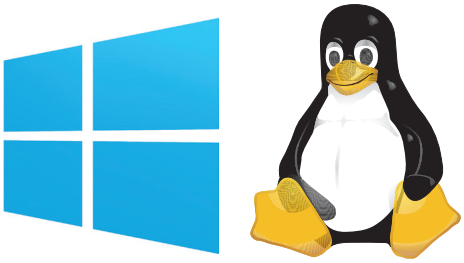
The software support offered by the cameras fulfill the requirements of demanding end-users and programmers. The cameras can be put into operation within a few minutes, or integrated into new or existing applications with only a few lines of code. All camera drivers are Microsoft certified. The easy of which the cameras can be integrated, the corresponding low integration costs, and the high quality of the software set the industry standard.

All cameras, frame grabbers and video converters, manufactured by The Imaging Source, are the result of decades of experience, uncompromisingly high quality standards, and continual development. Developers and system engineers prefer The Imaging Source cameras due to their ease of system integration.

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World-Class Software and Customer Care





What really separates The Imaging Source from its competitors is the comprehensive Windows and Linux software available free of charge with all its products, and the unsurpassed level of customer service.

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 download directly from our web site:

http://www.theimagingsource.com

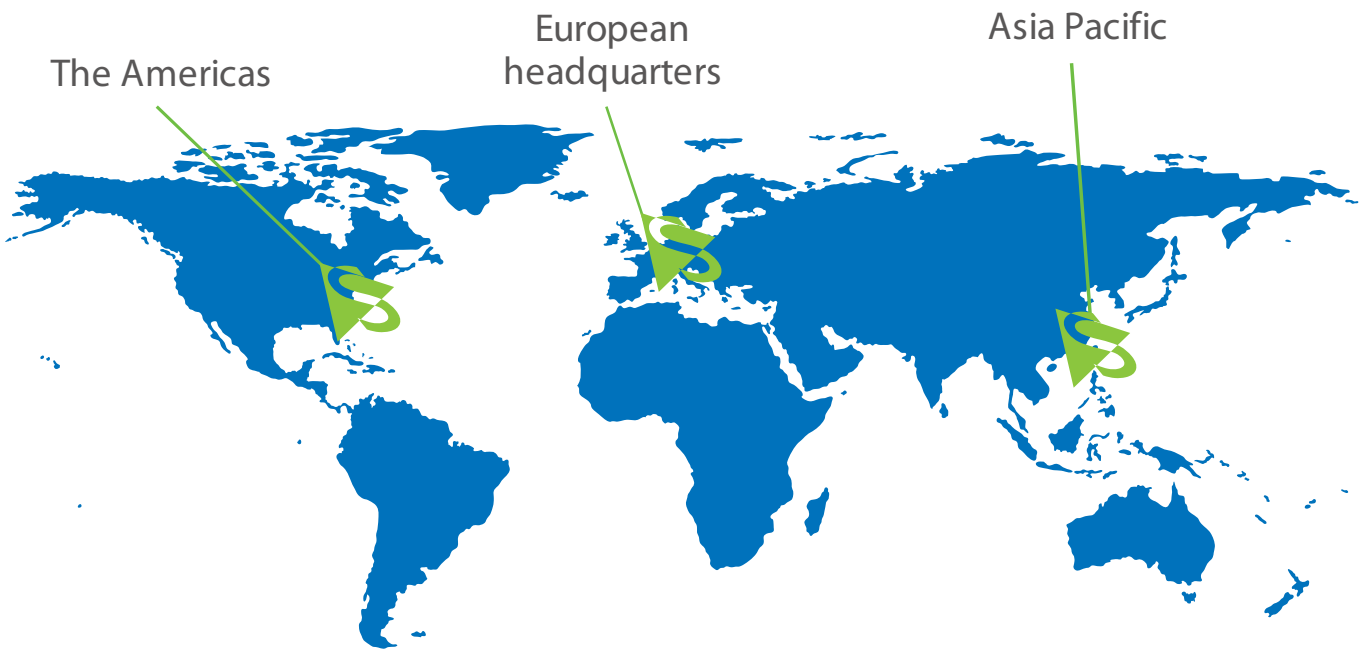
Additionally, The Imaging Source authors and supports open source drivers and end-user software for Linux. The Linux source code, which is released under the Apache License 2.0, enables you to integrate all machine vision cameras into popular Linux distributions. The Open Source code is available to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

https://github.com

The Imaging Source guarantees fast and efficient customer service for all hardware and software issues via our skilled customer service representatives. Not only will we provide support regarding technical issues, but we will also work with you to implement our components into your project. Contact customer service at:

http://www.theimagingsource.com

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All weights and dimensions are approximate. Unless otherwise specified the lenses shown in the context of cameras are not shipped with these cameras.

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