THE IMAGINGSOURCE
TECHNOLOGY BASED ON STANDARDS

DFK 23U274 Color Camera
The Imaging Source "23" Series USB 3.0 Camera

Only 29 x 29 x 43 mm

Lens not included

The Imaging Source DFK 23U274 color camera has a USB 3.0 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 $^1/_{1.8}$ " Sony CCD ICX274AQ sensor. With up to 20 images per second, the DFK 23U274 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.

Drivers, SDKs, programming samples, extensions and end-user software for Microsoft Windows can be freely downloaded from our web site (see below). Community-driven, Open Source projects allow the camera to be used on Linux. Extensions for Microsoft Windows enable the camera to be integrated in to common machine vision software libraries, such as LabView. In addition, the camera is compatible to the Open Source computer vision library, OpenCV.

Features

- USB 3.0 interface.
- $^1/_{1.8}$ " Sony CCD ICX274AQ.
- Global shutter.
- 1,600 x 1,200 (1.9 MP).
- Up to 20 images per second.
- Trigger input and I/Os.
- Compatible to C and CS mount lenses.
- Only 29 x 29 x 43 mm.

Accessories

- CS to C mount adapter (shipped as standard).
- CS to M12 board lens adapters.
- C and CS mount lenses.
- M12 board lenses.
- Standard USB 3.0 cable in various lengths.
- 3 m USB 3.0 cable with fixing screws.
- Trigger cable.
- I/O cable.

Device Drivers
Device Driver for The Imaging Source USB 3.0 Cameras.

Software Development Kits (SDKs)
IC Imaging Control .NET Component, C++ Class Library, IC Imaging Control C Library, IC Imaging Control for VC++ 6.0, IC Imaging Control ActiveX and IC Imaging Control ActiveX Runtime Setup.

Programming Samples
Barcode Scanner C# Sample for IC Imaging Control.

Extensions
TWAIN Source for IC Imaging Control, Cognex VisionPro AIK Plugin for IC Imaging Control, ActivVisionTools Driver for IC Imaging Control, HALCON Extension for IC Imaging Control, LabVIEW Extension for IC Imaging Control and IC Matlab Plugin for Matlab 10.0.

End User Software
IC Capture, Image Acquisition.

Software Tools
Processor Idle State Manager.

DFK 23U274 Specification

GENERAL BEHAVIOR	
Video formats @ frame rate	1,600 x 1,200 (1.9 MP), RGB32 @ 20, 15, 7.5, 3.75 FPS
	1,600 x 1,200 (1.9 MP), Y800 @ 20, 15, 7.5, 3.75 FPS
	1,600 x 1,200 (1.9 MP), Y16 @ 20, 15, 7.5, 3.75 FPS
Sensitivity	0.15 lx
Dynamic range	8 bit

INTERFACE (OPTICAL)	
IR cut filter	yes
Sensor specification	Sony ICX274AQ
Shutter	Global
Format	$^1/_{1.8}$ "
Resolution	H: 1,600 pixel, V: 1,200 pixel
Pixel size	H: 4.4 µm, V: 4.4 µm
Lens mount	C/CS

INTERFACE (ELECTRICAL)	
Supply voltage	11 VDC to 13 VDC or PoE: 48 VDC to 56 VDC
Current consumption	approx 400 mA at 12 VDC

INTERFACE (MECHANICAL)	
Dimensions	H: 29 mm, W: 29 mm, L: 43 mm
Mass	65 g

ADJUSTMENTS (MANUAL)	
Shutter	$^1/_{10,000}$ s to $^1/_4$ s
Gain	0 dB to 36 dB
White balance	-2 dB to 6 dB

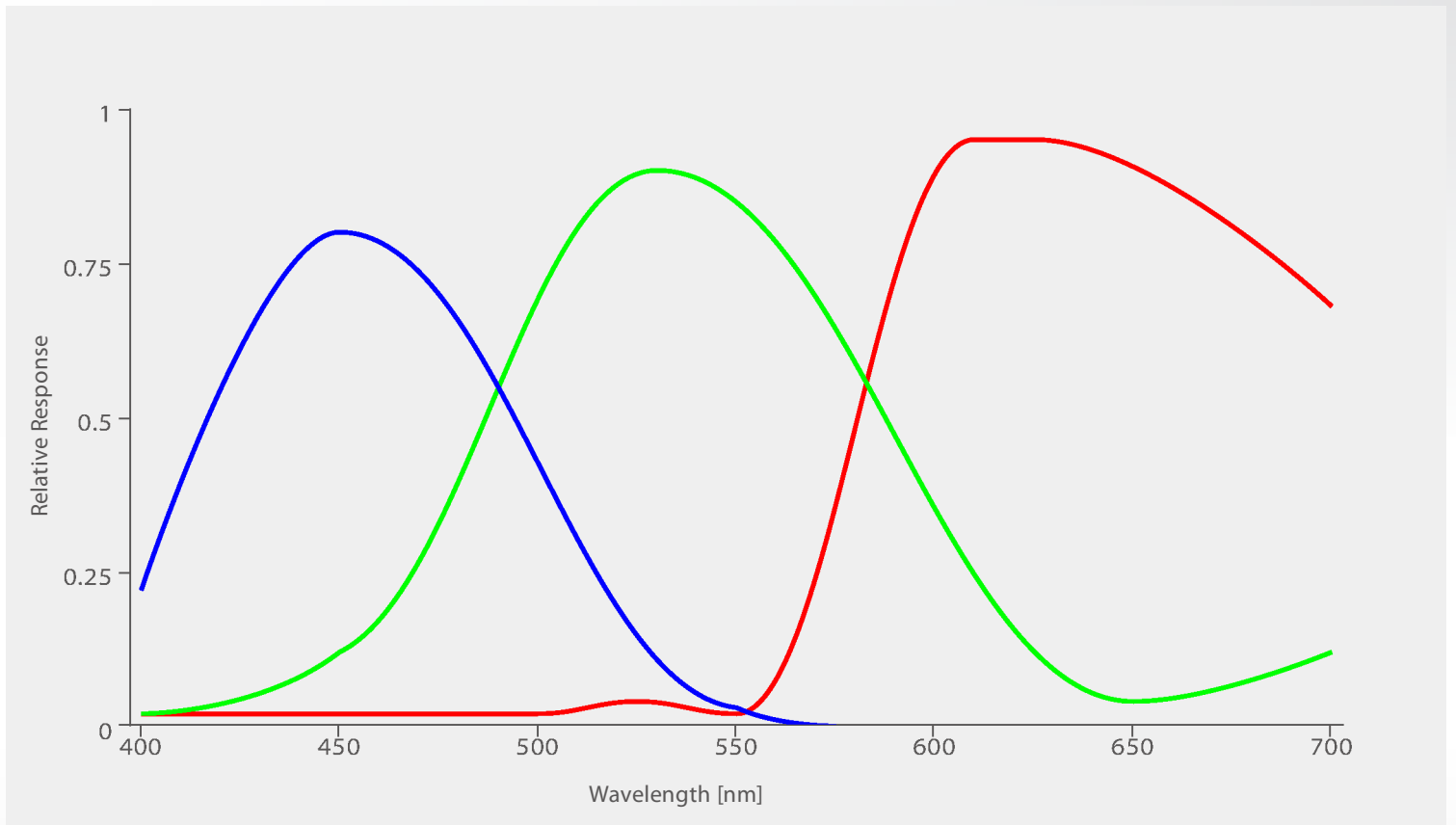| ADJUSTMENTS (AUTOMATIC)	
Shutter	$^1/_{10,000}$ s to $^1/_4$ s
Gain	0 dB to 36 dB
White balance	-2 dB to 6 dB

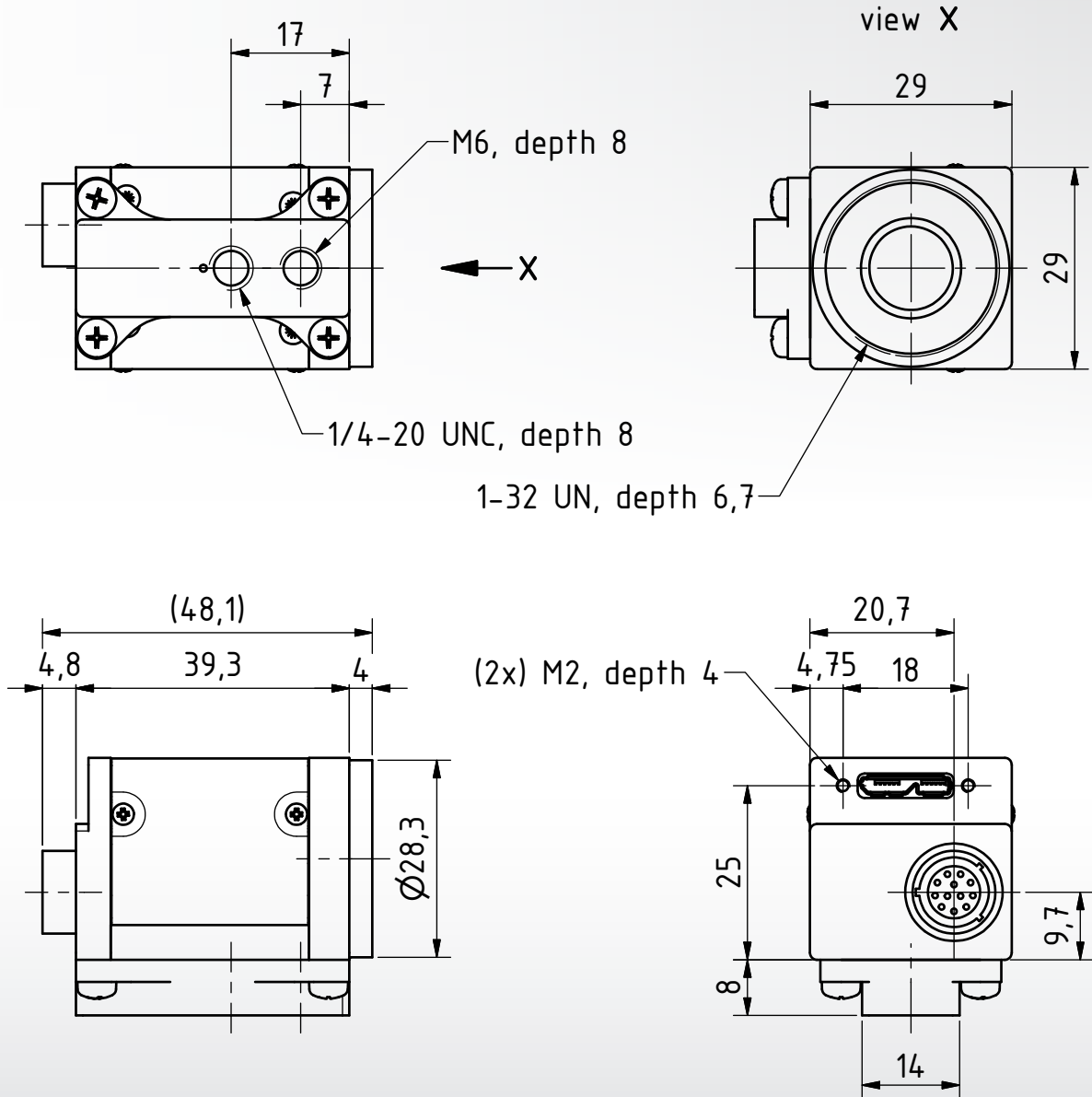| ENVIRONMENTAL	
Temperature (operation)	-5 °C to 45 °C
Temperature (storage)	-20 °C to 60 °C
Humidity (operation)	20 % to 80 % non-condensing
Humidity (storage)	20 % to 95 % non-condensing

Subject to change

Sony ICX274AQ Spectral Response Curve

CCD Sensor in DFK 23U274

DFK 23U274 Dimensional Diagram

view X

17
7

M6, depth 8

X

1/4-20 UNC, depth 8

1-32 UN, depth 6,7

29

29

(48,1)

4,8   39,3   4

Ø28,3

(2x) M2, depth 4

20,7

4,75   18

25

9,7

8

14

Dimensions: mm
Tolerances: DIN ISO 2768m