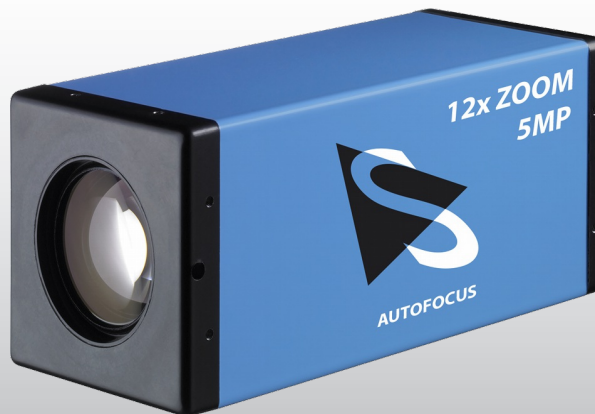# THE IMAGINGSOURCE
TECHNOLOGY BASED ON STANDARDS

DFK Z12GP031 Color Zoom Camera
The Imaging Source "12x 5MP" Series GigE Zoom Camera

Only 50 x 50 x 103 mm

The Imaging Source DFK Z12GP031 color camera has a GigE 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 $1/2.5$ " Aptina CMOS MT9P031 sensor. With up to 15 images per second, the DFK Z12GP031 is a low cost, yet highly versatile imaging solution. The camera integrates an autofocus lens (auto/man).

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 Z12GP031 to be integrated in to common machine vision software libraries, such as LabView and OpenCV. Furthermore, we author and support open source Linux drivers and software (Apache License 2.0) to integrate the camera into popular distributions. Download the Linux source code at GitHub.

Features

- GigE interface.
- Power over Ethernet.
- Binning, windowing and high-speed readout.
- Motor zoom f=4.8 to 57.6 mm.
- $1/2.5$ " Aptina CMOS MT9P031.
- Rolling shutter.
- 2,592 x 1,944 (5 MP).
- Up to 15 images per second.
- Trigger input and I/Os.
- Only 50 x 50 x 103 mm.

Accessories

- Standard GigE cable in various lengths.
- Trigger cable.
- External power supply with cable.

Device Drivers for Microsoft Windows
Device Driver for The Imaging Source GigE Cameras.

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

Extensions for Microsoft Windows
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, IC Matlab Plugin for Matlab 10.0 R2010 and IC Matlab Plugin for Matlab R2013b.

End User Software for Microsoft Windows
IC Capture, Image Acquisition, IC Fullscreen Presenter and Footswitch software for IC Capture.

Software Tools for Microsoft Windows
Processor Idle State Manager and Hot Pixel Correction.

DFK Z12GP031 Specification

GENERAL BEHAVIOR

Example Configurations

Resolution	Format	FPS	Sensitivity
2,592 x 1,944 (5 MP)	$^1/_{2.5}$ "	15	1.4 V/lux-sec
2,048 x 1,536 (3.1 MP)	$^1/_3$ "	22	1.4 V/lux-sec
1,920 x 1,080 (2.1 MP)	$^1/_{3.5}$ "	33	1.4 V/lux-sec
1,600 x 1,200 (1.9 MP)	$^1/_4$ "	34	1.4 V/lux-sec
1,280 x 960 (1.2 MP)	$^1/_{4.5}$ "	48	1.4 V/lux-sec
1,280 x 960 (1.2 MP)	$^1/_{2.5}$ "	37	5.6 V/lux-sec
1,024 x 768 (0.8 MP)	$^1/_{5.5}$ "	68	1.4 V/lux-sec
640 x 480 (0.3 MP)	$^1/_9$ "	132	1.4 V/lux-sec
640 x 480 (0.3 MP)	$^1/_{2.5}$ "	57	22.4 V/lux-sec

Set resolution, format, FPS and sensitivity with shipped software.

Sensitivity	0.05 lx
Dynamic range	8 / 12 bit

INTERFACE (OPTICAL)

IR cut filter	yes
Sensor specification	Aptina MT9P031
Shutter	Rolling
Format	$^1/_{2.5}$ "
Resolution	H: 2,592 pixel, V: 1,944 pixel
Pixel size	H: 2.2 μm, V: 2.2 μm
Focal length	4.8 mm (wide) to 57.6 mm (tele)
F-Stop	2.2 (wide) to 2.3 (tele)
MOD	3 cm (wide) to 70 cm (tele)
Focus	auto/man
Iris	auto/man

INTERFACE (ELECTRICAL)

Interface	GigE
Supply voltage	11 VDC to 13 VDC or PoE: 48 VDC to 56 VDC
Current consumption	approx 600 mA at 12 VDC

INTERFACE (MECHANICAL)

Dimensions	H: 50 mm, W: 50 mm, L: 103 mm
Mass	330 g

ADJUSTMENTS (MANUAL)

Shutter	$^1/_{20,000}$ s to 30 s
Gain	0 dB to 12 dB
White balance	-2 dB to +6 dB

ADJUSTMENTS (AUTOMATIC)

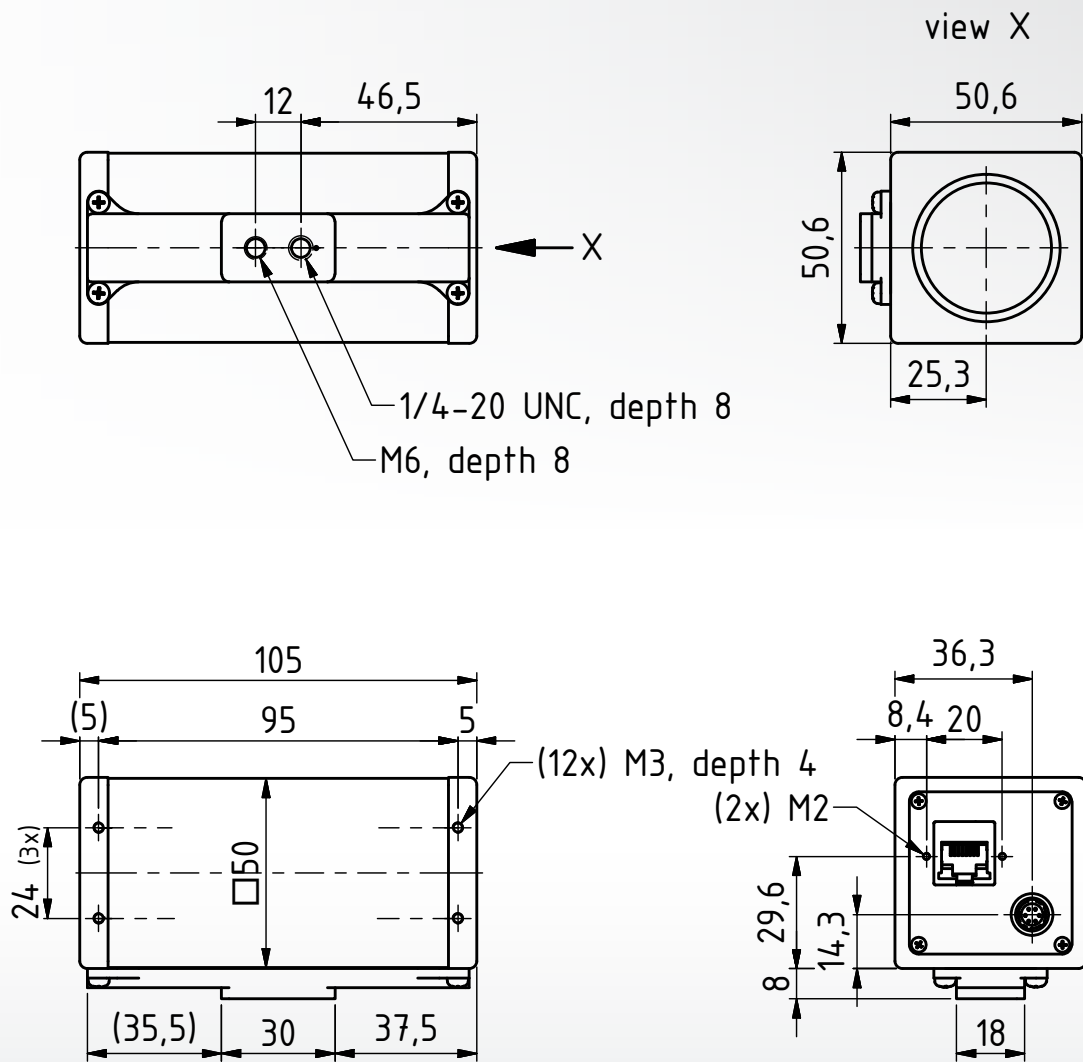|	
Shutter	$^1/_{20,000}$ s to 30 s
Gain	0 dB to 12 dB
White balance	-2 dB to +6 dB

Subject to change

Aptina MT9P031 Spectral Response Curve

CMOS Sensor in DFK Z12GP031

DFK Z12GP031 Dimensional Diagram

view X

12 46,5

1/4-20 UNC, depth 8
M6, depth 8

50,6
50,6
25,3

105
(5) 95 5
24 (3x)
□50
(12x) M3, depth 4
(2x) M2
(35,5) 30 37,5

36,3
8,4 20
29,6
14,3
8
18
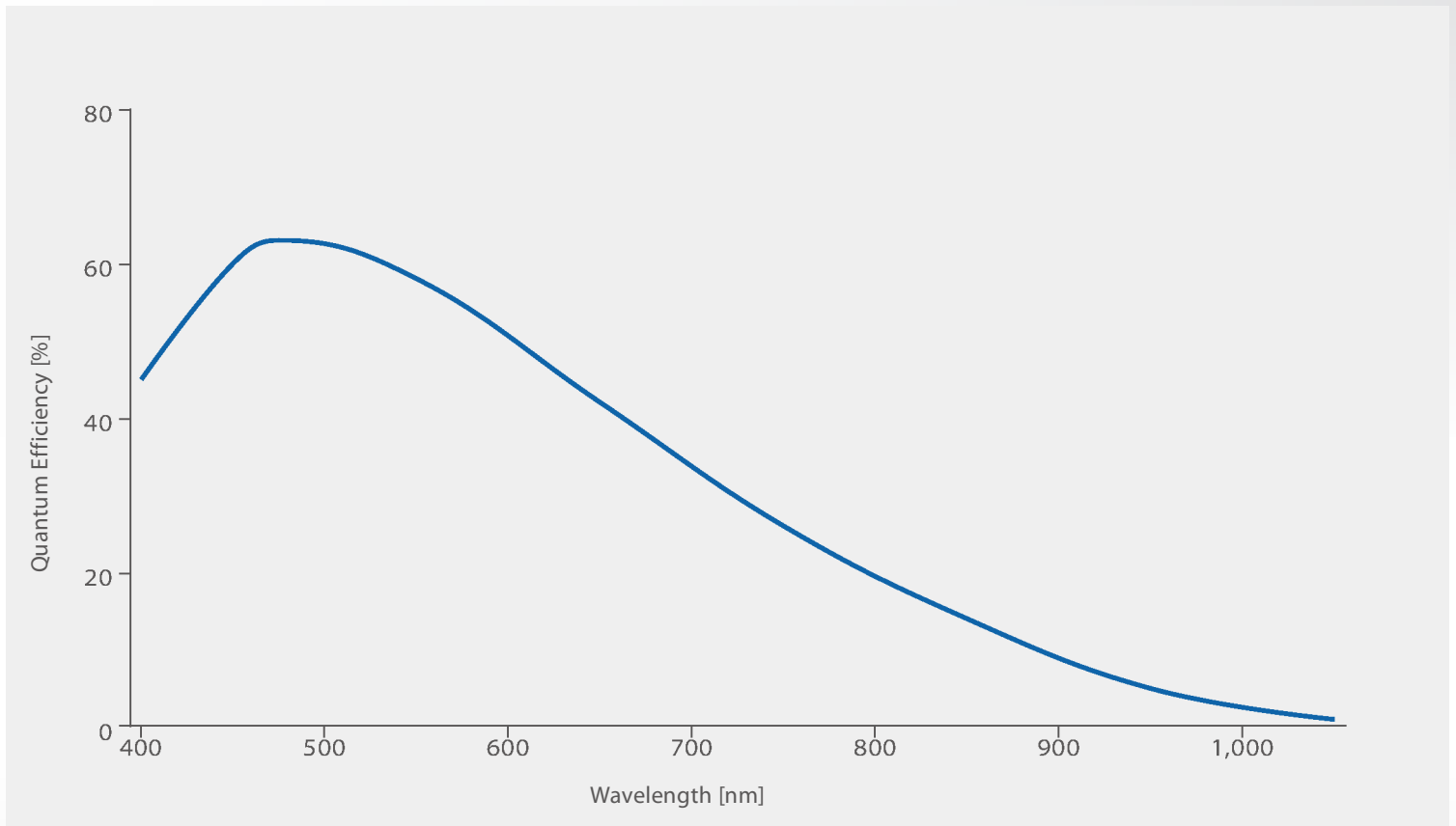
Scale: 1:2
Dimensions: mm
Tolerances: DIN ISO 2768m

DMK Z12GP031 Monochrome Zoom Camera
The Imaging Source "12x 5MP" Series GigE Zoom Camera

Only 50 x 50 x 103 mm

The Imaging Source DMK Z12GP031 monochrome camera has a GigE interface and is the perfect solution for many industrial automation, quality assurance, security, surveillance and medical applications. The monochrome camera ships with the very sensitive $^1/_{2.5}$ " Aptina CMOS MT9P031 sensor. With up to 15 images per second, the DMK Z12GP031 is a low cost, yet highly versatile imaging solution. The camera integrates an autofocus lens (auto/man).

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 DMK Z12GP031 to be integrated in to common machine vision software libraries, such as LabView and OpenCV. Furthermore, we author and support open source Linux drivers and software (Apache License 2.0) to integrate the camera into popular distributions. Download the Linux source code at GitHub.

Features

- GigE interface.
- Power over Ethernet.
- Binning, windowing and high-speed readout.
- Motor zoom f=4.8 to 57.6 mm.
- $^1/_{2.5}$ " Aptina CMOS MT9P031.
- Rolling shutter.
- 2,592 x 1,944 (5 MP).
- Up to 15 images per second.
- Trigger input and I/Os.
- Only 50 x 50 x 103 mm.

Accessories

- Standard GigE cable in various lengths.
- Trigger cable.
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End User Software for Microsoft Windows
IC Capture, Image Acquisition, IC Fullscreen Presenter and Footswitch software for IC Capture.

Software Tools for Microsoft Windows
Processor Idle State Manager and Hot Pixel Correction.

DMK Z12GP031 Specification

GENERAL BEHAVIOR

Example Configurations

Resolution	Format	FPS	Sensitivity
2,592 x 1,944 (5 MP)	$^1/_{2.5}$ "	15	1.4 V/lux-sec
2,048 x 1,536 (3.1 MP)	$^1/_3$ "	22	1.4 V/lux-sec
1,920 x 1,080 (2.1 MP)	$^1/_{3.5}$ "	33	1.4 V/lux-sec
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1,280 x 960 (1.2 MP)	$^1/_{2.5}$ "	37	5.6 V/lux-sec
1,024 x 768 (0.8 MP)	$^1/_{5.5}$ "	68	1.4 V/lux-sec
640 x 480 (0.3 MP)	$^1/_9$ "	132	1.4 V/lux-sec
640 x 480 (0.3 MP)	$^1/_{2.5}$ "	57	22.4 V/lux-sec

Set resolution, format, FPS and sensitivity with shipped software.

Dynamic range	8 / 12 bit

INTERFACE (OPTICAL)

IR cut filter	no
Sensor specification	Aptina MT9P031
Shutter	Rolling
Format	$^1/_{2.5}$ "
Resolution	H: 2,592 pixel, V: 1,944 pixel
Pixel size	H: 2.2 µm, V: 2.2 µm
Focal length	4.8 mm (wide) to 57.6 mm (tele)
F-Stop	2.2 (wide) to 2.3 (tele)
MOD	3 cm (wide) to 70 cm (tele)
Focus	auto/man
Iris	auto/man

INTERFACE (ELECTRICAL)

Interface	GigE
Supply voltage	11 VDC to 13 VDC or PoE: 48 VDC to 56 VDC
Current consumption	approx 600 mA at 12 VDC

INTERFACE (MECHANICAL)

Dimensions	H: 50 mm, W: 50 mm, L: 103 mm
Mass	330 g

ADJUSTMENTS (MANUAL)

Shutter	$^1/_{20,000}$ s to 30 s
Gain	0 dB to 12 dB
White balance	-2 dB to +6 dB

ADJUSTMENTS (AUTOMATIC)

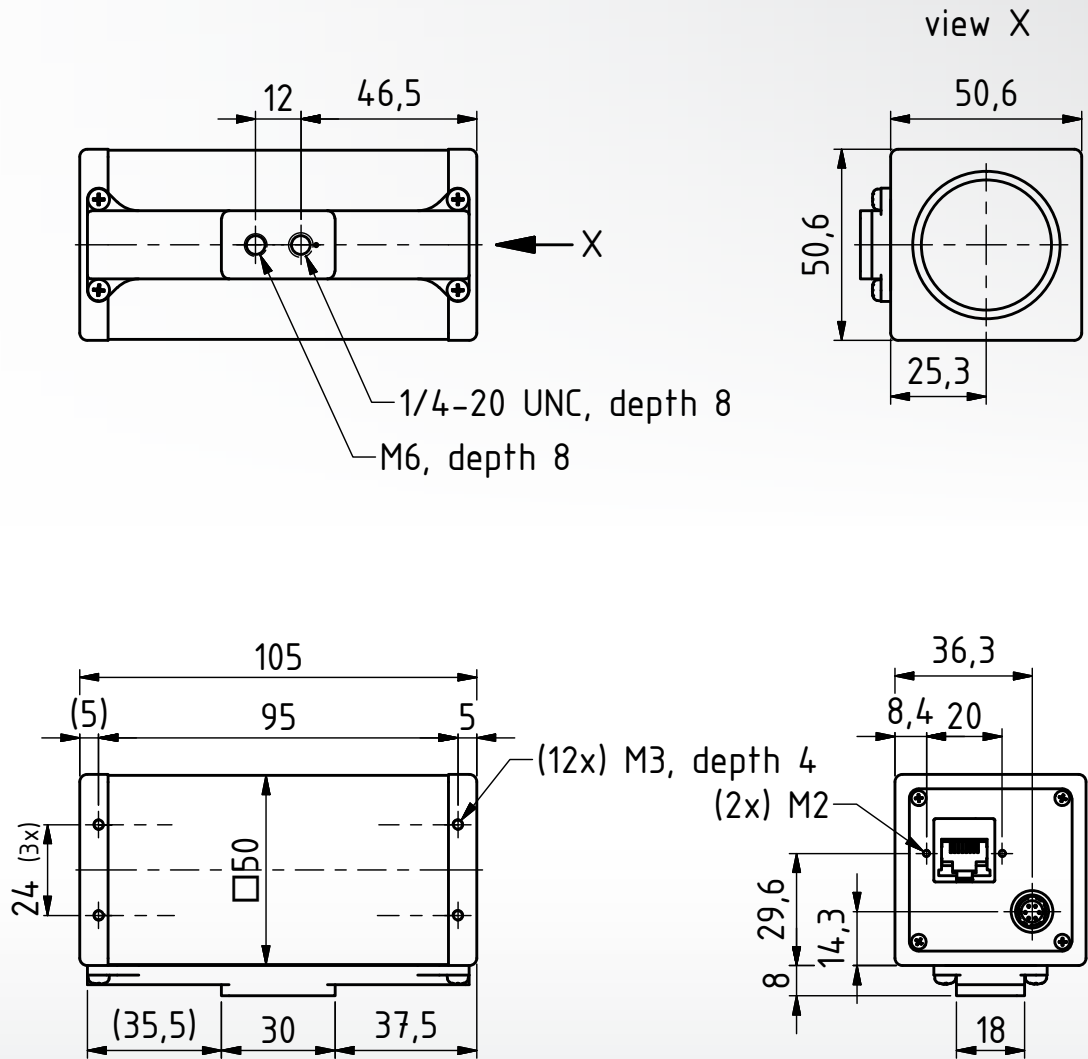|	
Shutter	$^1/_{20,000}$ s to 30 s
Gain	0 dB to 12 dB
White balance	-2 dB to +6 dB

Subject to change

Aptina MT9P031 Spectral Response Curve

CMOS Sensor in DMK Z12GP031

DMK Z12GP031 Dimensional Diagram

view X

12 46,5

X

50,6

50,6

25,3

1/4-20 UNC, depth 8

M6, depth 8

105

(5)   95   5

(12x) M3, depth 4

36,3

8,4 20

(2x) M2

24 (3x)

□50

29,6

14,3

8

(35,5)   30   37,5

18

Scale: 1:2
Dimensions: mm
Tolerances: DIN ISO 2768m