Unbuffered USB2.0 Monochrome 1.3MP CMOS Cameras

(Part Numbers: MCN-B013-U, GLN-B013-U, MCE-B013-U, and MLE-B013-U)

FEATURES

- High resolution than color sensors
- Built-in LED drivers
- 4-pin GPIOs
- Higher sensitivity especially in IR
- Simpler data processing
- 1,280 x 1,024 active pixels
- High-speed USB2.0 (480Mb/s)
- 24 fps @1,280 x 1,024
  200 fps @ 320 x 240
  600 fps @32 x 32
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN drivers
- External and software trigger
- Strobe output for external flash
- ROI & pixel skipping/ binning
- No need for external power supply
- OEM versions available

APPLICATIONS

- Digital microscopy
- Machine vision
- Medical imaging
- Semiconductor equipment
- Test instruments
- Document scanners
- 2D barcode readers
- Web camera and security video

PRODUCT DESCRIPTION

Mightex USB 2.0 cameras are designed for a wide variety of applications (such as industrial inspections, digital microscopy and medical imaging) which require good quality cameras that are easy to use and cost-effective. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Without a Bayer color filter on the sensor, monochrome cameras are also more sensitive than color sensors especially in near IR and UV regions. Frame rate can be as high as 24 fps in full resolution and up to 600 fps using ROI mode. In addition, a user-friendly GUI based application software and an SDK are provided for custom software development. The cameras have 4-pin GPIOs and optional built-in LED drivers. A DirectShow driver and a TWAIN driver are also provided to easily link the cameras with users' applications.

PERFORMANCE SPECIFICATIONS

Parameters	MCN-B013-U	GLN-B013-U	MCE-B013-U	MLE-B013-U	Unit
Board-level / enclosed	Board-level	Board-level	Enclosed	Enclosed	
Number of GPIOs	4	4	4	NO	
Built-in LED Drivers	NO	YES	NO	YES	
Resolution	1,280 x 1,024 monochrome				
CMOS Chip	½" (5:4) Micron MT9M001, rolling shutter				
Pixel Size	5.2 x 5.2				µm
Active Imager Size	6.66 x 5.32				mm
Scanning System	Progressive				
Dynamic Range	68				dB
Sensor SNR	45				dB
Gray Level	8				bit
Responsivity	2.1				V/luxsec
Frame Rates* (@48MHz Clock)	22 @1,280 x 1,024, 32 @1,024 x 768, 50 @800 x 600, 70 @640 x 480 180 @320 x 240, 300 @160 x 120, 450 @64 x 64, 600 @32 x 32				fps
Sub Resolutions	1,024 x 768, 800 x 600, 640 x 480, 320 x 240, 160 x 120, 64 x 64, 32 x 32				
Shutter Speed (Exposure time)	0.04 ~ 750				ms
Hardware Gains	12				
Trigger Mode	With external trigger				
Lens Mount	C-mount or CS-mount (M12.5-mount or custom-defined lens mount supported)				
Built-in Filters	IR-cut (factory standard), no filter, or IR-pass				
Power Consumption	< 1.0 (excluding LED drivers, if applicable)				W
Number of LED Driver Channels	N.A.	4	N.A.	4	
LED Driver Maximum Output Voltage	N.A.	5	N.A.	5	V
LED Driver Maximum Output Current (total)	N.A.	250	N.A.	250	mA
Dimension	51 x 51 x 29 (CS-mount) 51 x 51 x 34 (C-mount)		58 x 58 x 34 (CS-mount) 58 x 58 x 39 (C-mount)		mm
Weight (excluding lens)	48		150		g

* The actual achievable frame rate depends on exposure time, as well as available resources of PC system.

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Unbuffered USB2.0 Color 3MP CMOS Cameras

(Part Numbers: MCN-C030-U, GLN-C030-U, MCE-C030-U, and MLE-C030-U)

FEATURES

- 2,048 x 1,536 active pixels
- Built-in PWM LED drivers
- 4-pin GPIOs
- High-speed USB2.0 (480Mb/s)
- 8 fps @ 2,048 x 1,536
  70 fps @ 640 x 480
  600 fps @ 32 x 32
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN drivers
- External and software trigger
- Strobe out for external flash
- ROI & pixel skipping/ binning
- IR-cut filter
- No need for external power supply
- OEM versions available

APPLICATIONS

- Digital microscopy
- Machine vision
- Medical imaging
- Semiconductor equipment
- Test instruments
- High-quality ID photos capture
- Document scanners
- 2D barcode readers
- Web camera and security video

PRODUCT DESCRIPTION

Mightex USB 2.0 cameras are designed for a wide variety of applications (such as industrial inspections, digital microscopy and medical imaging) which require good quality cameras that are easy to use and cost-effective. With a USB2.0 interface and powerful PC software, the camera delivers excellent quality images, and the frame rate can be as high as 8 fps in full resolution and up to 600 fps using ROI mode. In addition, a user-friendly GUI based application software and a SDK are provided for custom software development. The cameras have 4-pin GPIOs and optional built-in LED drivers. A DirectShow driver and a TWAIN driver are also provided to easily link the cameras with users' applications.

PERFORMANCE SPECIFICATIONS

Parameters	MCN-C030-U	GLN-C030-U	MCE-C030-U	MLE-C030-U	Unit
Board-level / enclosed	Board-level	Board-level	Enclosed	Enclosed	
Number of GPIOs	4	4	4	NO	
Built-in LED Drivers	NO	YES	NO	YES	
Resolution	2,048 x 1,536 color				
CMOS Chip	½" Micron MT9T001, rolling shutter				
Pixel Size	3.2 x 3.2				µm
Scanning System	Progressive				
Dynamic Range	61				dB
Sensor SNR	43				dB
Color (RGB)	8				bit
Frame Rates* (@48MHz Clock)	7@2,048 x 1,536, 11@1,600 x 1,200, 16@1,280 x 1,024, 26@1,024 x 768 35@800 x 600, 50@640 x 480, 80@320 x 240, 130@160 x 120, 175@64 x 64				fps
Sub Resolutions	1,600 x 1,200, 1,280 x 1,024, 1,024 x 768, 800 x 600, 640 x 480, 320 x 240, 160 x 120, 64 x 64				
Shutter Speed (Exposure time)	0.04 ~ 750				ms
Hardware Gains	12				
Trigger Mode	With external trigger				
Lens Mount	C– mount or CS-mount (M12.5-mount or custom-defined lens mount supported)				
Built-in Filters	IR-cut (factory standard), no filter, or IR-pass				
Power Consumption	< 1.0 (excluding LED drivers, if applicable)				W
Number of LED Driver Channels	N.A.	4	N.A.	4	
LED Driver Maximum Output Voltage	N.A.	5	N.A.	5	V
LED Driver Maximum Output Current (total)	N.A.	250	N.A.	250	mA
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* The actual achievable frame rate depends on exposure time, as well as available resources of PC system.

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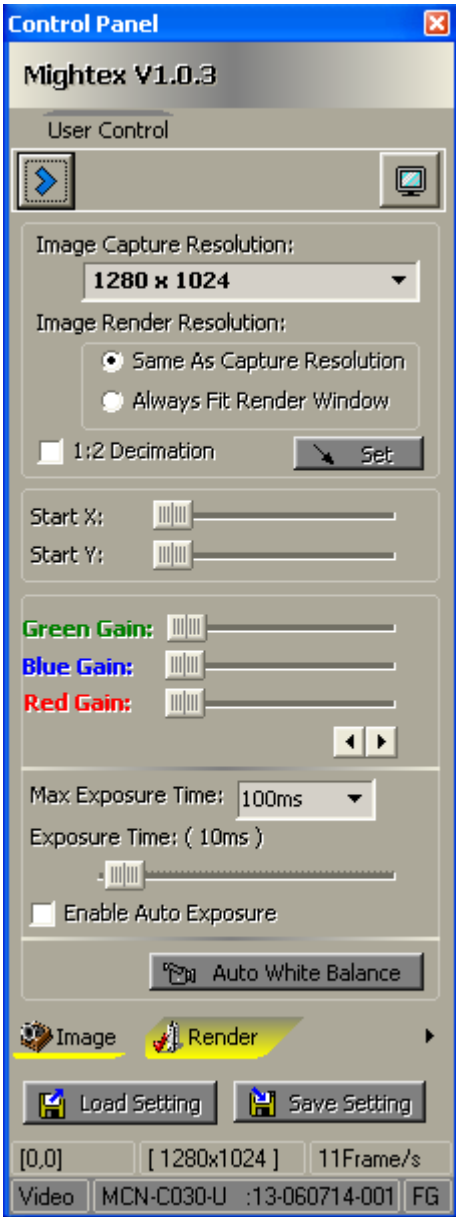
OPERATION CONDITION

Operating Temperature Range:	0°C ~ 45°C
Storage Temperature Range:	-25°C ~ 85°C
Relative Humidity, Non-condensing:	5% ~ 95%

RECOMMENDED SYSTEM CONFIGURATION

Processor:	Pentium III 900 MHz or better, or a compatible processor
Operating System:	Windows 2000, XP, Vista, Windows 7 and 8
RAM:	256MB or greater
Hard Disk Space:	30MB for software installation, plus additional space for storing captured images
USB2.0 Host Controller:	Intel integrated host controller (recommended)

EXAMPLE OF GRAPHICAL USER INTERFACE



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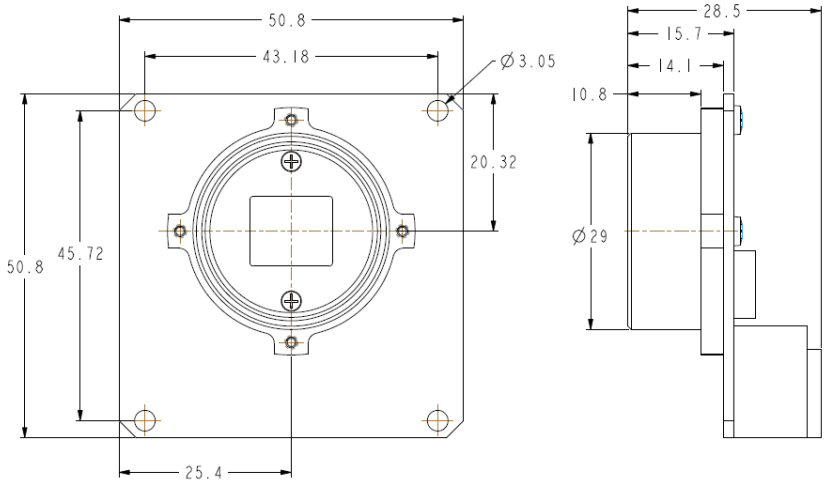
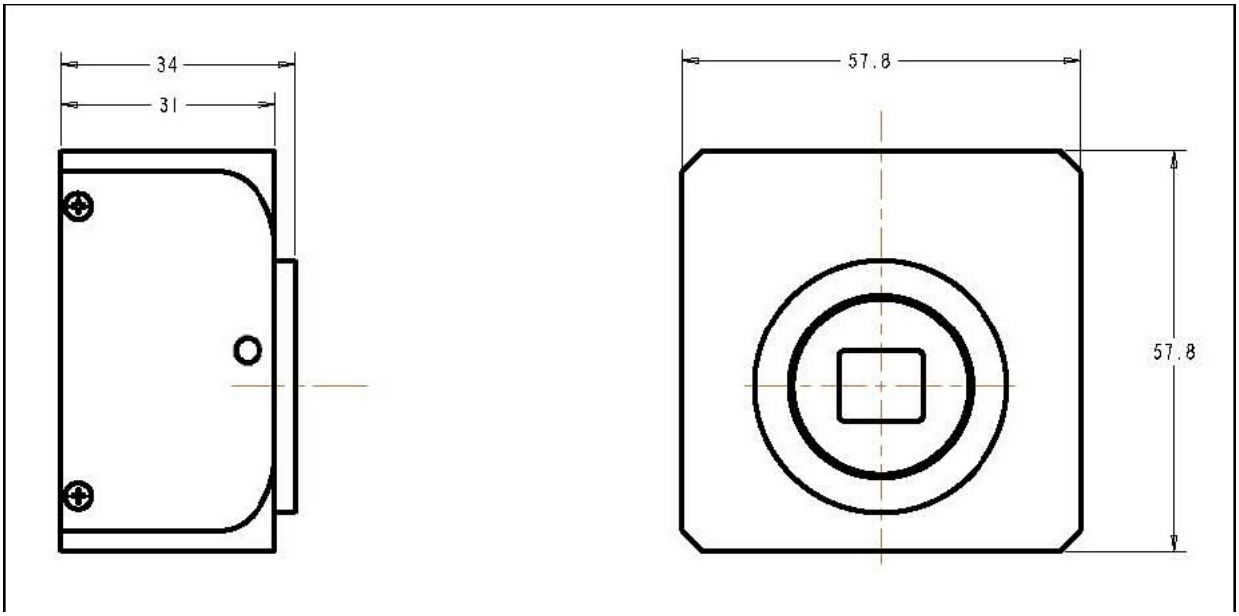
INSTALLATION DRAWINGS

1) Board-level Camera with CS-mount



2) Enclosed camera with CS-mount



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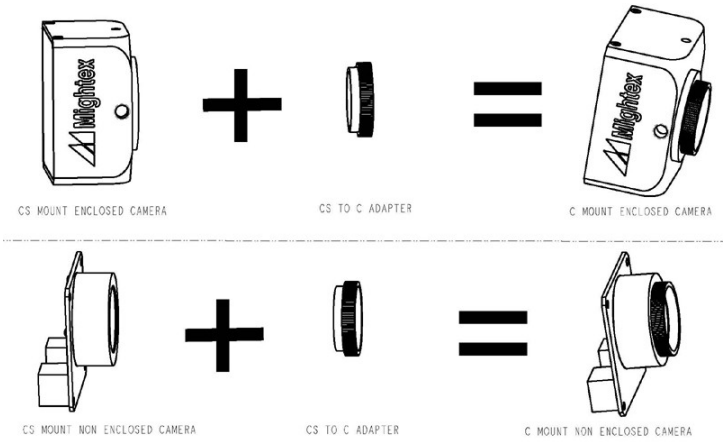
WHAT'S IN A C-MOUNT CAMERA?



A C-mount camera is composed of a CS-mount camera and a CS-to-C-mount adapter. he latter is essentially a 5 mm thick threaded ring.

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