

Buffered USB2.0 Color 5MP CMOS Cameras

(Part Numbers: BCN-C050-U, BCE-C050-U)

FEATURES

- Built-in frame buffer (3 frames at full resolution)
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- 2,592 x 1,944 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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
- High-quality ID photos

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. A DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. For non-Windows based applications, a USB command set protocol and a Linux driver are also provided.

PERFORMANCE SPECIFICATIONS

Parameters	BCN-C050-U	BCE-C050-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	2,592 x 1,944 color		
CMOS Chip	Micron MT9P031, rolling shutter		
Pixel Size	2.2 x 2.2		μm
Scanning System	Progressive		
Dynamic Range	70		dB
Sensor SNR	38		dB
Gray Level	8		bit
Responsivity	1.4		V/lux-sec
Frame Rates* (@48MHz Clock)	6 @2,592 x 1,944 9@2,048 x 1,536 13 @1,600 x 1,200 18 @1,280 x 1,024 28 @1,024 x 768 40 @800 x 600 50 @752 x 480 56 @640 x 480 100 @320 x 240		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	1x ~ 16x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
Lens Mount	C- mount or CS-mount		
Built-in Filters	IR-cut (factory standard), no filter, or IR-pass		
Power Consumption	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8



Distributor

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where technologies meet solutions

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Mightex
Simply Brighter

Buffered USB2.0 Monochrome 5MP CMOS Cameras (12-bit)

(Part Numbers: BTN-B050-U and BTE-B050-U)

FEATURES

- Built-in frame buffer (3 frames at 8 bit and 2 frames at 12bit, with full resolution)
- Switchable between 8 bit and 12 bit
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- Higher sensitivity than color cameras especially in IR
- 2,592 x 1,944 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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
- High-quality ID photos



PRODUCT DESCRIPTION

Mightex USB2.0 cameras with frame buffers are optimized for machine-vision applications, and they can be also used 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. These cameras have built-in frame buffers, external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Since there is no Bayer color filter on the sensor, monochrome cameras are more sensitive than color sensors, especially in near IR and UV regions. Frame rate can be as high as 6 fps in full resolution and up to 150 fps using ROI mode. A user-friendly GUI based application software and an SDK are provided for custom software development. In addition, a DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. A USB command set protocol and a Linux driver are also provided for non-Windows based applications.

PERFORMANCE SPECIFICATIONS

Parameters	BTN-B050-U	BTE-B050-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	2,592 x 1,944 monochrome		
Bit	8/12 (switchable)		bits
CMOS Chip	Micron MT9P031, rolling shutter		
Pixel Size	2.2 x 2.2		µm
Scanning System	Progressive		
Dynamic Range	70		dB
Sensor SNR	38		dB
Gray Level	8		bit
Responsivity	1.4		V/lux-sec
Frame Rates* (@48MHz Clock)	3 @2,592 x 1,944 5 @2,048 x 1,536 7 @1,600 x 1,200 12 @1,280 x 1,024 21 @1,024 x 768 33 @800 x 600 43 @752 x 480 51 @640 x 480 100 @320 x 240		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	1x ~ 16x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

Buffered USB2.0 Color 3MP CMOS Cameras

(Part Numbers: BCN-C030-U, BCE-C030-U)

FEATURES

- Built-in 32Mb frame buffer (7 frames at full resolution)
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- 2,048 x 1,536 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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
- High-quality ID photos



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 300 fps using ROI mode. In addition, a user-friendly GUI based application software and a SDK are provided for custom software development. A DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. For non-Windows based applications, a USB command set protocol and a Linux driver are also provided.

PERFORMANCE SPECIFICATIONS

Parameters	BCN-C030-U	BCE-C030-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	2,048 x 1,536 color		
CMOS Chip	½" (5:4) Micron MT9T001, rolling shutter		
Pixel Size	3.2 x 3.2		µm
Scanning System	Progressive		
Dynamic Range	61		dB
Sensor SNR	43		dB
Gray Level	8		bit
Responsivity	2.1		V/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@48MHz Clock)	8 @2,048 x 1,536 14 @1,600 x 1,200 25 @1,280 x 1,024 35 @1,024 x 768 50 @800 x 600 55 @752 x 480 65 @640 x 480 140 @320 x 240		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	0.125x ~ 8x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

Buffered USB2.0 Monochrome 1.3MP CMOS Cameras (8-bit)

(Part Numbers: BCN-B013-U and BCE-B013-U)

FEATURES

- Built-in frame buffer (23 frames at full resolution)
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- Higher sensitivity than color cameras especially in IR
- 2,592 x 1,944 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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 USB2.0 cameras with frame buffers are optimized for machine-vision applications, and they can be also used 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. These cameras have built-in frame buffers, external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Since there is no Bayer color filter on the sensor, monochrome cameras are more sensitive than color sensors, especially in near IR and UV regions. Frame rate can be as high as 25 fps in full resolution and up to 300 fps using ROI mode. A user-friendly GUI based application software and an SDK are provided for custom software development. In addition, a DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. A USB command set protocol and a Linux driver are also provided for non-Windows based applications.

PERFORMANCE SPECIFICATIONS

Parameters	BCN-B013-U	BCE-B013-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	1,280 x 1,024 monochrome		
CMOS Chip	1/2" (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/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@48MHz Clock)	25 @1,280 x 1,024, 35 @1,024 x 768 50 @800 x 600, 55 @752 x 480 65 @640 x 480, 140 @320 x 240		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	0.125x ~ 8x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

Buffered USB2.0 Monochrome 1.3MP CMOS Cameras (10-bit)

(Part Numbers: BTN-B013-U and BTE-B013-U)

FEATURES

- Built-in frame buffer (4 frames with 10 bit gray scale, at full resolution)
- Switchable between 10 bit and 8 bit
- 10 bit gray scale
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- Higher sensitivity than color cameras especially in IR
- 1,280 x 1,024 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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 USB2.0 cameras with frame buffers are optimized for machine-vision applications, and they can be also used 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. These cameras have built-in frame buffers, external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Since there is no Bayer color filter on the sensor, monochrome cameras are more sensitive than color sensors, especially in near IR and UV regions. Frame rate can be as high as 12 fps in full resolution and up to 150 fps using ROI mode. A user-friendly GUI based application software and an SDK are provided for custom software development. In addition, a DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. A USB command set protocol and a Linux driver are also provided for non-Windows based applications.

PERFORMANCE SPECIFICATIONS

Parameters	BTN-B013-U	BTE-B013-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	1,280 x 1,024 monochrome		
CMOS Chip	1/2" (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	10		bit
Responsivity	2.1		V/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@48MHz Clock)	12 @1,280 x 1,024, 18 @1,024 x 768, 25 @800 x 600 28 @752 x 480, 33 @640 x 480, 70 @320 x 240		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	0.125x ~ 8x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80		g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

Buffered USB2.0 Color 752x480 CMOS Cameras

(Part Numbers: BCN-CG04-U, BCE-CG04-U)

FEATURES

- Built-in 32M frame buffer (23 frames at full resolution)
- True global shutter
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- 752 x 480 active imaging pixels
- Arbitrary ROI supported
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- External and Software trigger
- Strobe output for external flash
- Precise frame rate setting
- 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. With a USB2.0 interface and powerful PC software, the camera delivers excellent quality images, and the frame rate can be as high as 60 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. A DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. For non-Windows based applications, a USB command set protocol and a Linux driver are also provided.

PERFORMANCE SPECIFICATIONS

Parameters	BCN-CG04-U	BCE-CG04-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	752 x 480 color		
CMOS Chip	1/3" Micron MT9V032, Global Shutter (Micron TrueSNAP)		
Pixel Size	6.0 x 6.0		µm
Scanning System	Progressive		
Dynamic Range	>55		dB
Gray Level	8		bit
Responsivity	4.8		V/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@26MHz Clock)	60@752 x 480 65 @640 x 480 130 @320 x 240 220@160 x 120 310@64 x 64		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	1x ~ 4x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8



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Buffered USB2.0 Monochrome 752x480 CMOS Cameras (8-bit)

(Part Numbers: BCN-BG04-U and BCE-BG04-U)

FEATURES

- Built-in frame buffer (23 frames at full resolution)
- True Global Shutter
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- Higher sensitivity than color cameras especially in IR
- 752 x 480 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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 USB2.0 cameras with frame buffers are optimized for machine-vision applications, and they can be also used 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. These cameras have built-in frame buffers, external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Since there is no Bayer color filter on the sensor, monochrome cameras are more sensitive than color sensors, especially in near IR and UV regions. Frame rate can be as high as 60 fps in full resolution and up to 600 fps using ROI mode. A user-friendly GUI based application software and an SDK are provided for custom software development. In addition, a DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. A USB command set protocol and a Linux driver are also provided for non-Windows based applications.

PERFORMANCE SPECIFICATIONS

Parameters	BCN-BG04-U	BCE-BG04-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	752 x 480 monochrome		
CMOS Chip	1/3" Micron MT9V032, global shutter (Micron TrueSNAP)		
Pixel Size	6.0 x 6.0		µm
Scanning System	Progressive		
Dynamic Range	>55		dB
Gray Level	8		bit
Responsivity	4.8		V/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@26MHz Clock)	60 @752 x 480 65 @640 x 480 130 @320 x 240 220 @160 x 120 310 @64 x 64		fps
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	1x ~ 4x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
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)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

Buffered USB2.0 Monochrome 752x480 CMOS Cameras (10-bit)

(Part Numbers: BTN-BG04-U and BTE-BG04-U)

FEATURES

- Built-in frame buffer (23 frames @8bit and 4 frames @ 10bit at full resolution)
- True Global Shutter
- Support simultaneous image capturing from multiple cameras
- 4-pin GPIOs
- Higher sensitivity than color cameras especially in IR
- 752 x 480 active imaging pixels
- High-speed USB2.0 (480Mb/s)
- Digital output, no need for frame grabber
- Full-featured SDK
- DirectShow and TWAIN driver
- Linux driver available
- USB command set for non-Windows-based applications
- 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 USB2.0 cameras with frame buffers are optimized for machine-vision applications, and they can be also used 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. These cameras have built-in frame buffers, external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Monochrome cameras often exhibit 20% higher spatial resolution than their color counterparts because no pixel interpolation is necessary. Since there is no Bayer color filter on the sensor, monochrome cameras are more sensitive than color sensors, especially in near IR and UV regions. Frame rate can be as high as 60 fps in full resolution and up to 600 fps using ROI mode. A user-friendly GUI based application software and an SDK are provided for custom software development. In addition, a DirectShow driver and a TWAIN driver are available to easily link the cameras with users' applications. A USB command set protocol and a Linux driver are also provided for non-Windows based applications.

PERFORMANCE SPECIFICATIONS

Parameters	BTN-BG04-U	BTE-BG04-U	Unit
Board-level / enclosed	Board-level	Enclosed	
Number of GPIOs	4	4	
Resolution	752 x 480 monochrome		
CMOS Chip	1/3" Micron MT9V032, global shutter (Micron TrueSNAP)		
Pixel Size	6.0 x 6.0		µm
Scanning System	Progressive		
Dynamic Range	> 55		dB
Gray Level	10		bit
Responsivity	4.8		V/lux-sec
On-board Memory ("Frame Buffers")	32		MB
Frame Rates* (@26MHz Clock)	8 bit operation mode	60 @752 x 480, 65 @640 x 480, 130 @320 x 240, 220 @160 x 120, 310 @64 x 64	fps
	10 bit operation mode	36 @752 x 480, 44 @640 x 480, 130 @320 x 240, 220 @160 x 120, 310 @64 x 64	
Sub Resolutions	Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 4		
Shutter Speed (Exposure time)	0.05 ~ 750		ms
Hardware Gains	1x ~ 4x		
Trigger Mode	With external trigger**		
Strobe Out	Yes		
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	< 1.8		W
Dimension	51 x 51 x 29 (CS-mount)	58 x 58 x 34 (CS-mount)	mm
	51 x 51 x 34 (C-mount)	58 x 58 x 39 (C-mount)	
Weight (excluding lens)	80	150	g

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

** Part number of the trigger cable for external trigger : ACC-CAM-DIN8

B-Series CMOS Cameras

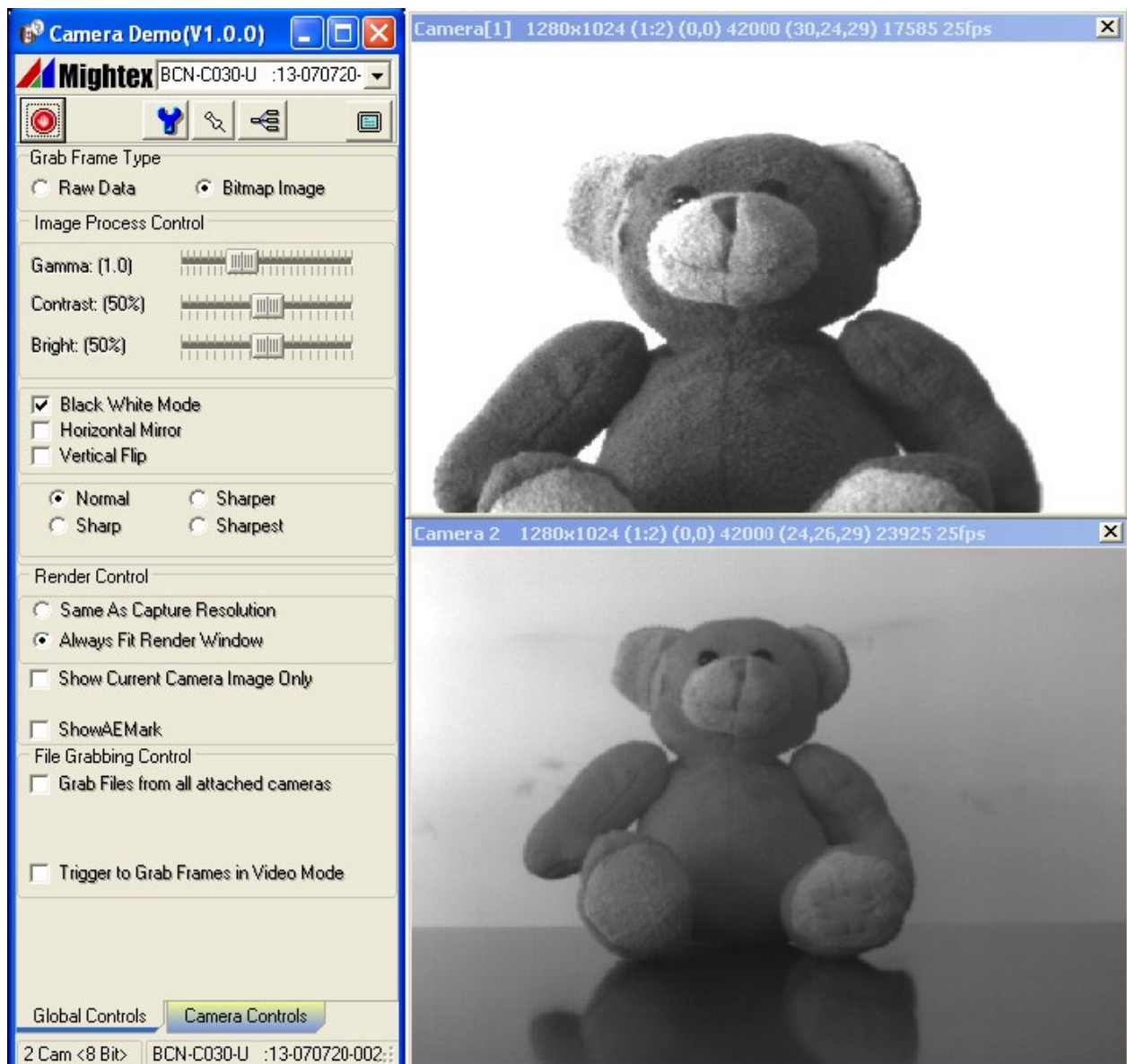
OPERATION CONDITION

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)

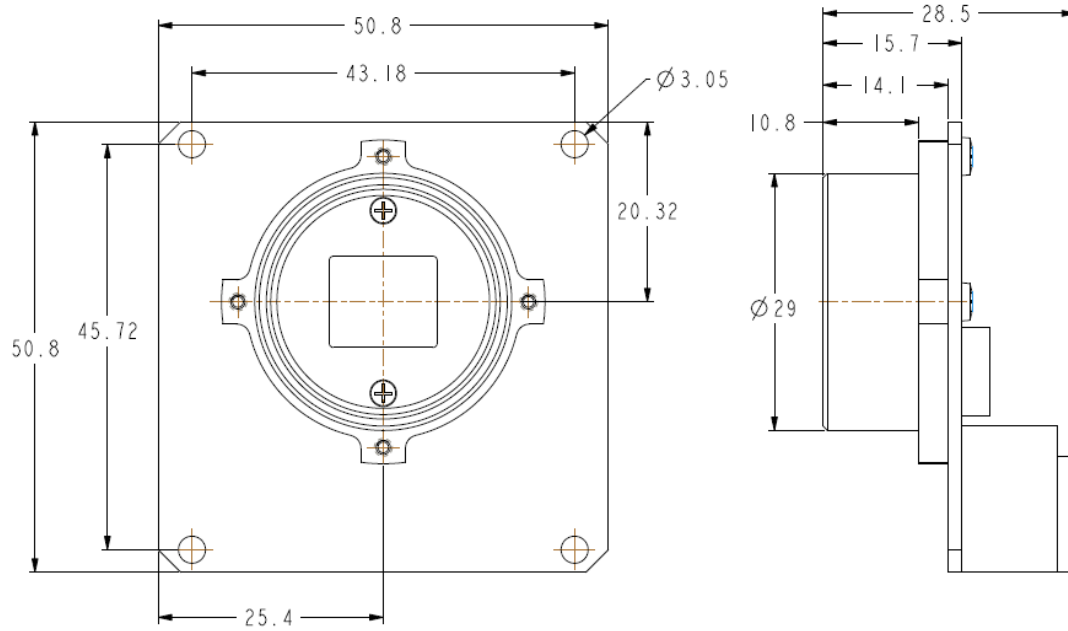
EXAMPLE OF GRAPHICAL USER INTERFACE



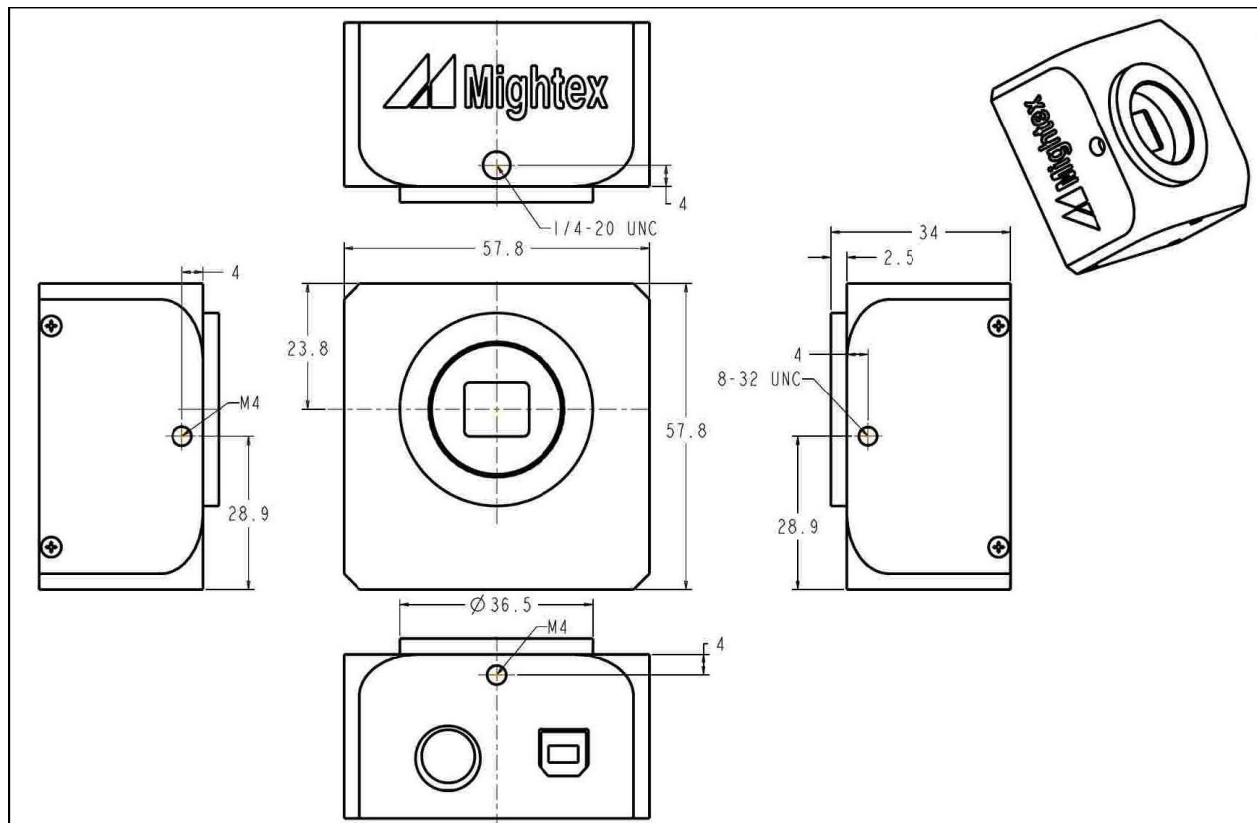
B-Series CMOS Cameras

INSTALLATION DRAWINGS

1) Board-level Camera with CS-mount

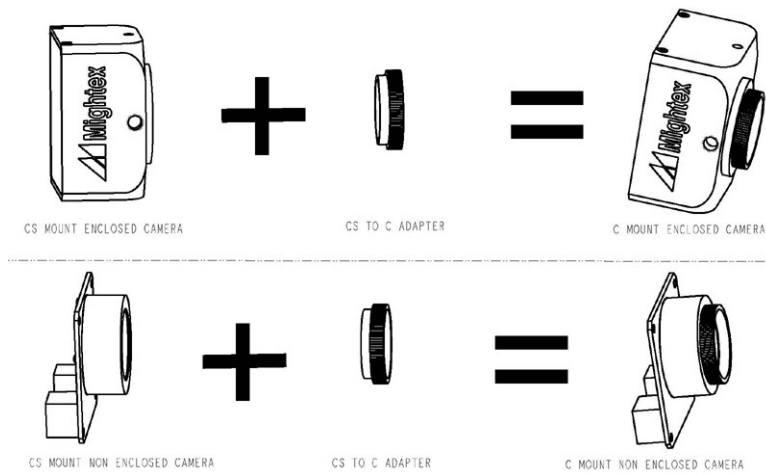


2) Enclosed camera with CS-mount



B-Series CMOS Cameras

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. The latter is essentially a 5mm thick threaded ring.

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