

# 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<br>35@800 x 600, 50@640 x 480, 80@320 x 240, 130@160 x 120,<br>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,<br>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<br>(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)<br>51 x 51 x 34 (C-mount)  |             | 58 x 58 x 34 (CS-mount)<br>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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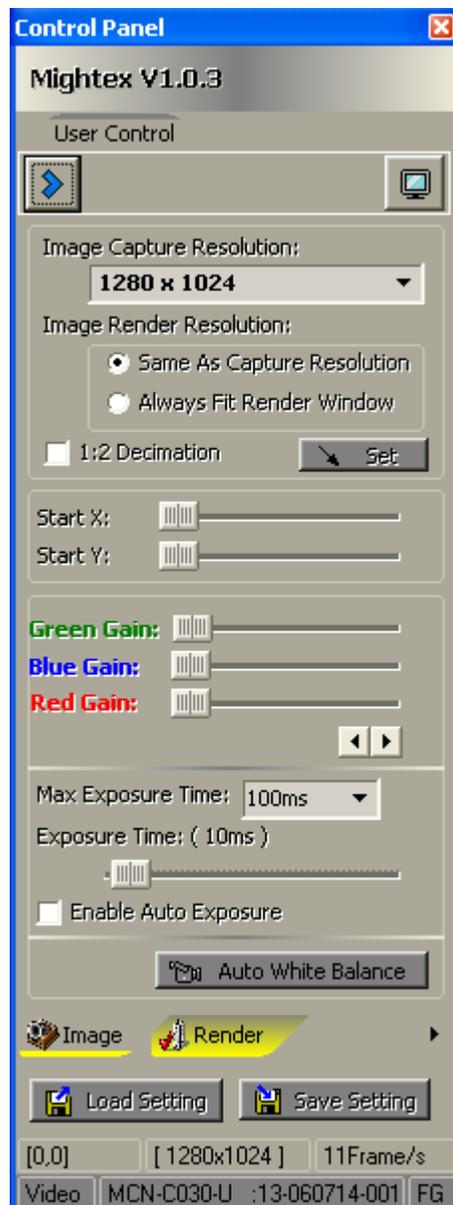
## OPERATION CONDITION

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

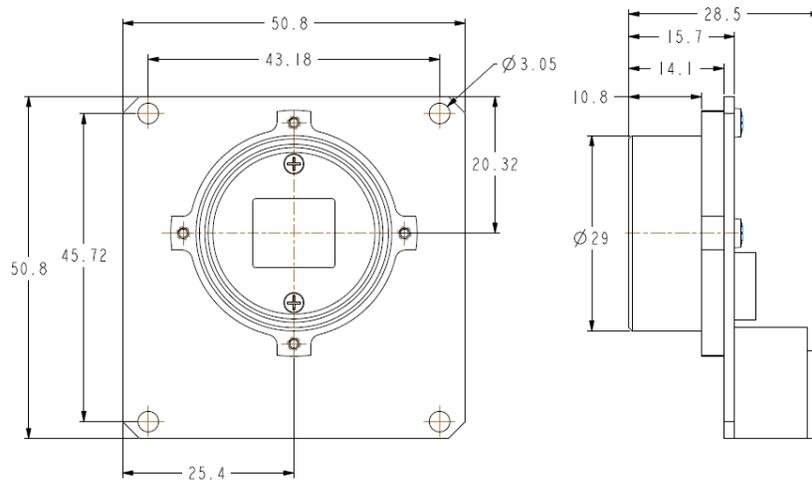


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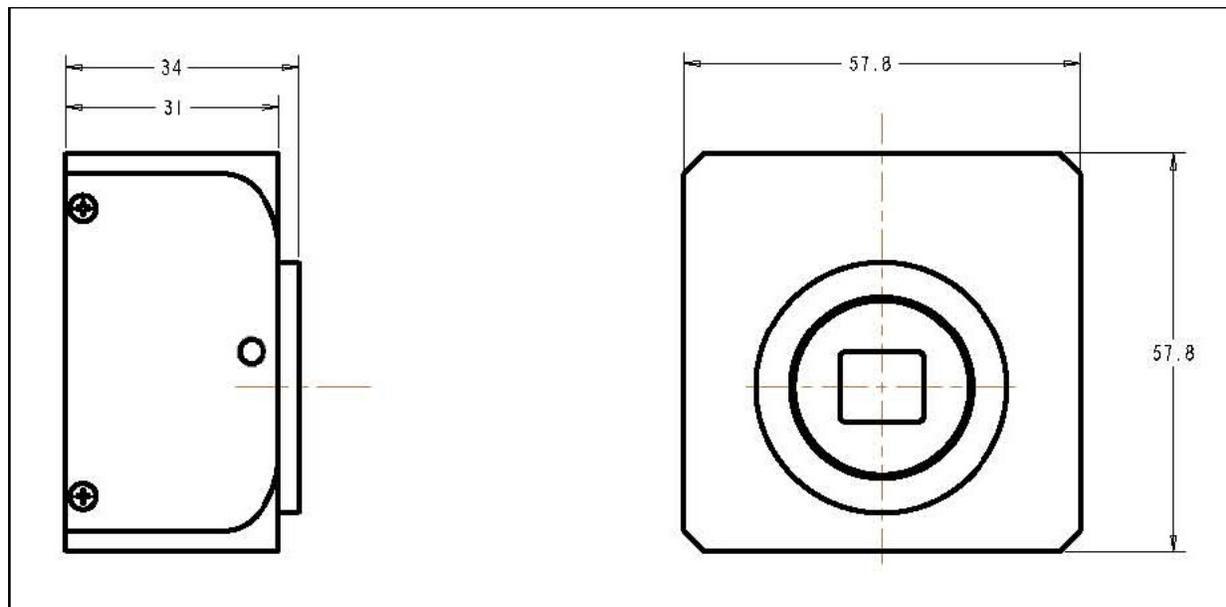
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## INSTALLATION DRAWINGS

### 1) Board-level Camera with CS-mount



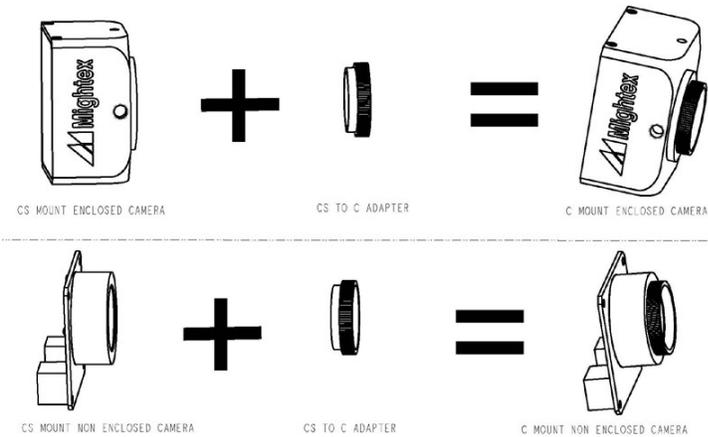
### 2) Enclosed camera with CS-mount



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

With a world-class OEM design team, Mightex offers a broad range of customized solutions in order to meet individual customer's unique requirements. Please call 1-416-840 4991 or email [sales@mightex.com](mailto:sales@mightex.com) for details.