



## USB3.0 Monochrome or Color 1.2MP CMOS Camera (8 or 12 bit)

(Models: SMN-B012-U, SME-B012-U, SMN-C012-U, SME-C012-U)

### FEATURES

- Super-speed USB3.0 interface (5Gb/s)
- Support simultaneous image capturing from multiple cameras
- 1,280 x 960 active imaging pixels
- Ultra compact
- 4-pin GPIOs
- Digital output, no need for frame grabber
- Custom programmable with SDK provided
- DirectShow / TWAIN driver
- External and software trigger
- Strobe output for external flash
- ROI & pixel skipping/binning
- No need for external power supply
- OEM versions available

### APPLICATIONS

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



### PRODUCT DESCRIPTION

Mightex USB 3.0 cameras are optimized for machine-vision applications, and they can also be used for a wide variety of other applications such as digital microscopy and medical imaging, where quality, ease of use, and cost-effectiveness are crucial. These cameras have external trigger-in, strobe-out, and a powerful camera engine that supports multiple cameras. Frame rate can be as high as 44 fps in full resolution and up to 300fps using ROI mode. In addition, a user-friendly GUI based application software and an SDK are provided for custom software development.

### PERFORMANCE SPECIFICATIONS

| Parameters                       | SMN-C012-U (color)<br>SMN-B012-U (B/W)   | SME-C012-U (color)<br>SME-B012-U (B/W)            | Unit      |
|----------------------------------|--|---|-----------|
| Board-level/enclosed             | Board-level  | Enclosed  |           |
| Number of GPIOs                  | 4  | 4   |           |
| Resolution                       | 1,280 x 960  |   |           |
| CMOS Chip                        | Aptina MT9M031, Global Shutter   |   |           |
| Pixel Size                       | 3.75 x 3.75  |   | µm        |
| Scanning System                  | Progressive  |   |           |
| Dynamic Range                    | 64   |   | dB        |
| Sensor SNR                       | 38   |   | dB        |
| Gray Level                       | 8/12   |   | bit       |
| Responsivity                     | 6.1/5.3  |   | V/lux-sec |
| Frame Rates*<br>(@74MHz Clock)   | 60 @1,280 x 960<br>70 @1,024 x 768<br>110@768 x 480<br>110@640 x 480<br>200 @320 x 240<br>325 @192 x 128<br>380 @64 x 64 |   | fps       |
| Sub Resolutions                  | Support arbitrary ROI (Nx, Ny), with Nx and Ny multiples of 64 and16   |   |           |
| Shutter Speed<br>(Exposure time) | 0.05 ~ 750   |   | ms        |
| Hardware Gains                   | 1x ~ 8x  |   |           |
| Trigger Mode                     | With external trigger (Trigger delay < 600µs)  |   |           |
| Trigger Cable                    | ACC-CAM-DIN8   |   |           |
| Strobe Out                       | Yes  |   |           |
| Lens mount                       | C- mount or CS-mount<br>(M12.5-mount or custom-defined lens mount supported)   |   |           |
| Built-in Filters                 | IR-cut (factory standard) or custom  |   |           |
| Power consumption                | < 2.0  |   | W         |
| 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)          | 80   | 150   | g         |

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

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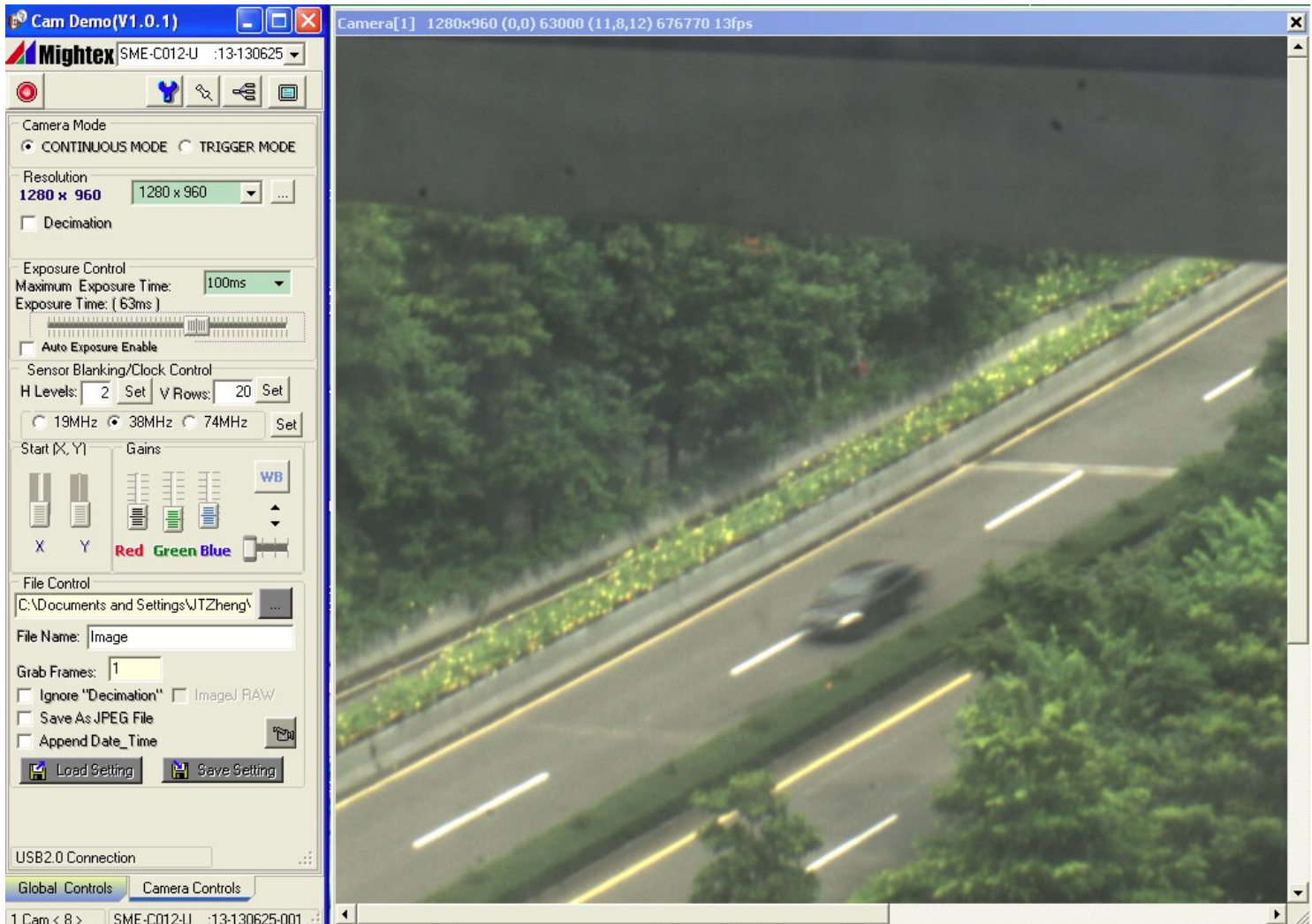
## OPERATION CONDITION

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

## RECOMMENDED SYSTEM CONFIGURATION

|                        |   |
|------------------------|---|
| Processor              | Dual-core Intel CPU 1.8GHz or better, or a compatible processor                   |
| Operating System       | Windows XP, Vista, 7 and 8  |
| RAM                    | 2GB or greater  |
| Hard Disk Space        | 40MB for software installation, plus additional space for storing captured images |
| USB3.0 Host Controller | Intel Integrated USB3.0 Host Controller is recommended                            |

## EXAMPLE OF GRAPHICAL USER INTERFACE

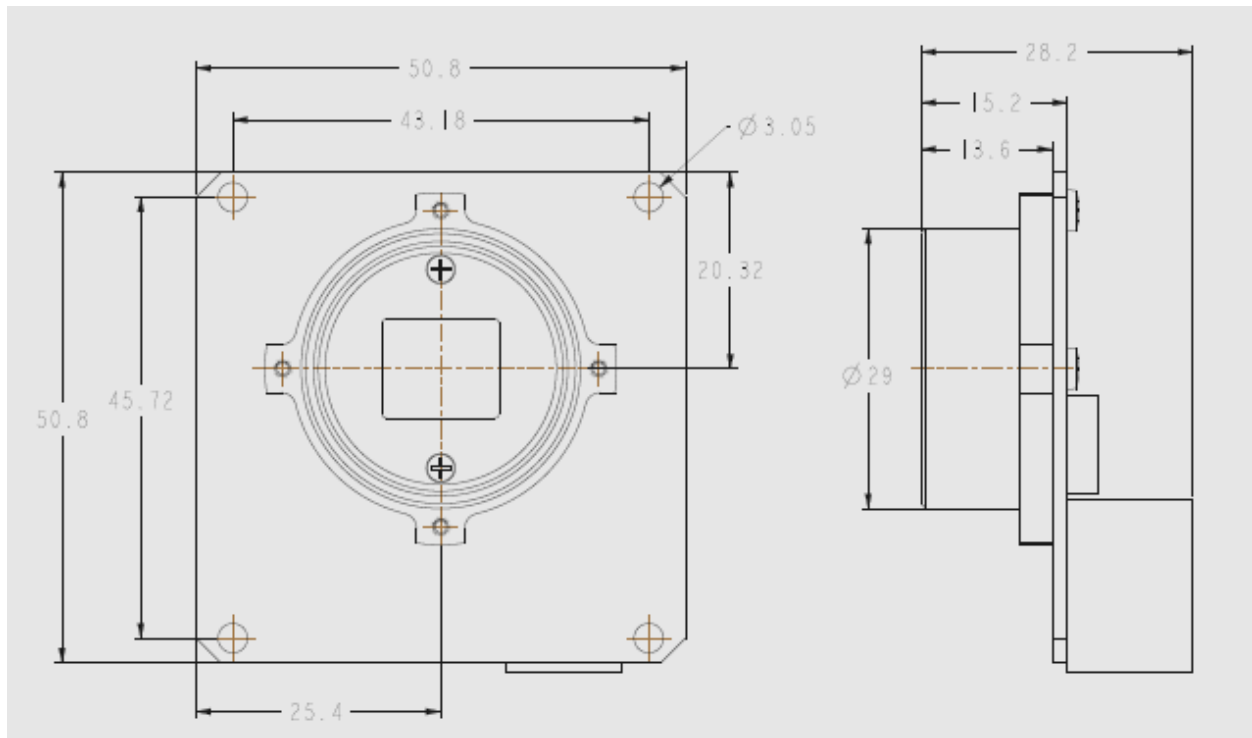


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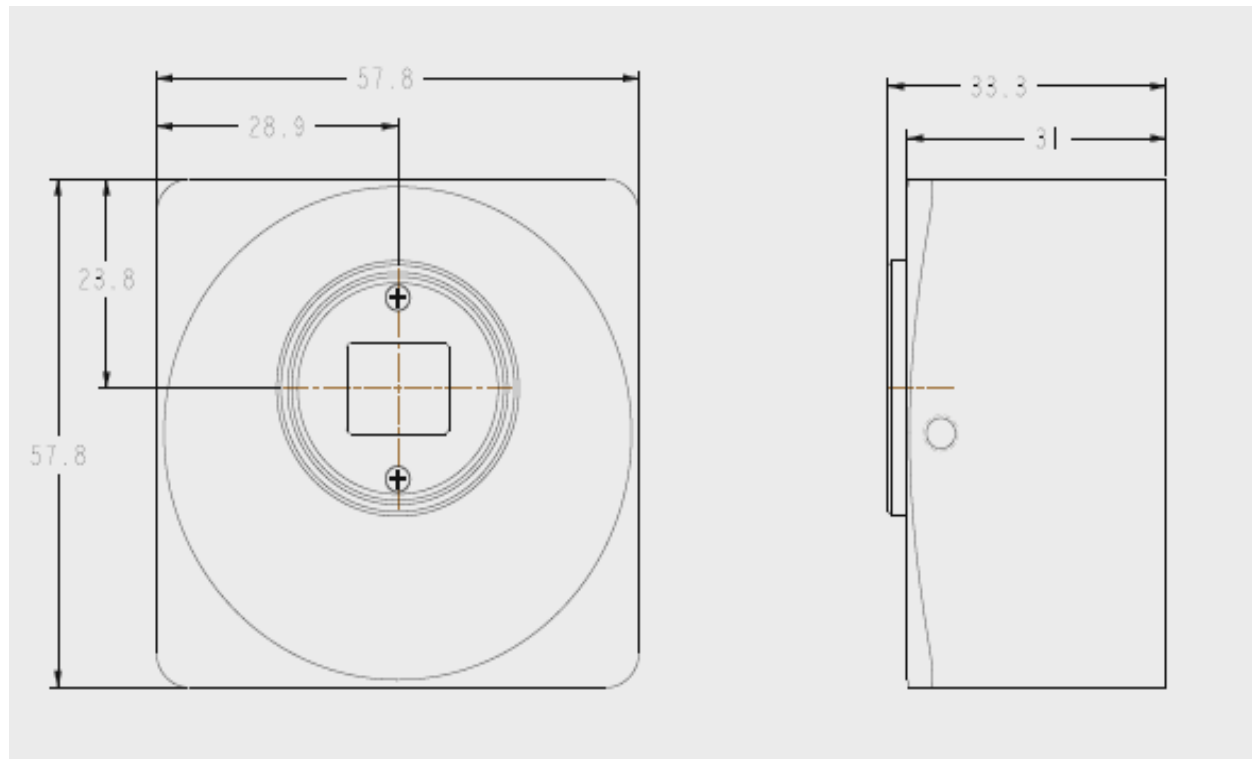
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## INSTALLATION DRAWINGS

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



### 2) Enclosed camera with CS-mount

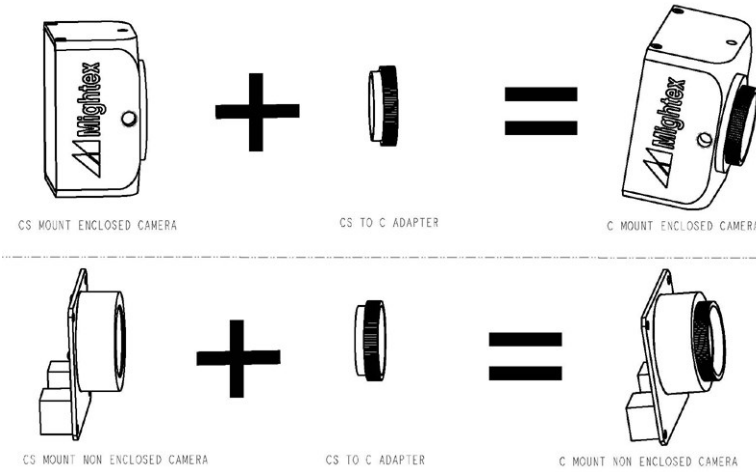




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### WHAT'S IN A C-MOUNT CAMERA?



A C-mount camera is composed of a CS-mount camera and a CS-to-C-mount adapter. The latter is essentially a 5mm 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.