

VC-2MC-M/C 150/340

VC-3MC-M/C 280

VC-4MC-M/C 80/180

2, 3 & 4 MEGAPIXELS RESOLUTIONS, GLOBAL ELECTRONIC SHUTTER,  
HIGH-SPEED CMOS DIGITAL CAMERA



VC Series is high-resolution CMOS digital cameras for machine vision. Equipped with the latest global shutter CMOS image sensor technology available today, these cameras offer not only high-speed image processing capabilities but also precise exposure control. Furthermore, its outstanding noise reduction technology and a wide range of camera resolutions make these cameras ideal for use in various industrial inspection and scientific research applications.

# VC-2MC / VC-3MC / VC-4MC

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## Main Features

- \* 2M/3M/4M Resolutions
- \* High-Speed Progressive Scan CMOS Image Sensor
- \* Global Shutter CMOS Technology
- \* Full Camera Link Interface with 8 bit or 10 bit Data Output
- \* Excellent Noise Reduction
- \* Field Upgradable Firmware
- \* Pixel Defect Correction

## Applications

- \* Machine Vision Inspection
- \* Research and Scientific Imaging
- \* Microscopy and Metrology

## Specifications

| Model                            | VC-2MC-M/C 150                                                       | VC-2MC-M/C 340                             | VC-3MC-M/C 280                    | VC-4MC-M/C 80                       | VC-4MC-M/C 180                             |
|----------------------------------|----------------------------------------------------------------------|--------------------------------------------|-----------------------------------|-------------------------------------|--------------------------------------------|
| Resolution (H × V)               | 2048 × 1088                                                          |                                            | 1696 × 1710                       | 2048 × 2048                         |                                            |
| Sensor                           | CMOSIS CMV 2000                                                      |                                            | On Semiconductor LUPA 3000        | CMOSIS CMV 4000                     |                                            |
| Sensor Size (Optical Format)     | 11.26 mm × 5.98 mm (2/3")                                            |                                            | 13.57 mm × 13.68 mm (1")          | 11.26 mm × 11.26 mm (1")            |                                            |
| Sensor Type                      | High Speed CMOS Image Sensor                                         |                                            |                                   |                                     |                                            |
| Pixel Size                       | 5.5 μm × 5.5 μm                                                      |                                            | 8.0 μm × 8.0 μm                   | 5.5 μm × 5.5 μm                     |                                            |
| Interface                        | Camera Link                                                          |                                            |                                   |                                     |                                            |
| Max. Frame Rate                  | 2 Tap: 74.4 fps<br>4 Tap: 148.5 fps                                  |                                            | 2 Tap: N/A<br>4 Tap: N/A          | 2 Tap: 39.6 fps<br>4 Tap: 78.9 fps  |                                            |
|                                  | 8 Tap: N/A<br>10 Tap: N/A                                            | 8 Tap: 295.4 fps<br>10 Tap: 337.6 fps      | 8 Tap: 227 fps<br>10 Tap: 284 fps | 8 Tap: N/A<br>10 Tap: N/A           | 8 Tap: 157.1 fps<br>10 Tap: 179.5 fps      |
|                                  |                                                                      |                                            |                                   |                                     |                                            |
| Transfer Time                    | 2 Tap: 13.44 ms<br>4 Tap: 6.73 ms                                    |                                            | 2 Tap: N/A<br>4 Tap: N/A          | 2 Tap: 25.3 ms<br>4 Tap: 12.67 ms   |                                            |
|                                  | 8 Tap: N/A<br>10 Tap: N/A                                            | 8 Tap: 3.38 ms<br>10 Tap: 2.96 ms          | 8 Tap: 4.41 ms<br>10 Tap: 3.51 ms | 8 Tap: N/A<br>10 Tap: N/A           | 8 Tap: 6.37 ms<br>10 Tap: 5.58 ms          |
|                                  |                                                                      |                                            |                                   |                                     |                                            |
| Pixel Data Format                | 8 bit (2/4 Tap)<br>10 bit (2/4 Tap)                                  | 8 bit (2/4/8/10 Tap)<br>10 bit (2/4/8 Tap) | 8 bit (8/10 Tap)                  | 8 bit (2/4 Tap)<br>10 bit (2/4 Tap) | 8 bit (2/4/8/10 Tap)<br>10 bit (2/4/8 Tap) |
| Electronic Shutter               | Global Shutter                                                       |                                            |                                   |                                     |                                            |
| Data Output<br>Pixel Clock Speed | 85 MHz                                                               |                                            |                                   |                                     |                                            |
| Trigger Mode                     | Free-Run, Trigger<br>Programmable Exposure Time and Trigger Polarity |                                            |                                   |                                     |                                            |
| Dynamic Range                    | 60 dB                                                                |                                            |                                   |                                     |                                            |
| Dimension / Weight               | 68 mm × 68 mm × 54 mm, 373 g (with C-mount)                          |                                            |                                   |                                     |                                            |
| Temperature                      | Operating: 0°C ~ 40°C, Storage: -40°C ~ 70°C                         |                                            |                                   |                                     |                                            |
| Lens Mount                       | C or F-mount                                                         |                                            |                                   |                                     |                                            |
| Power                            | 10 ~ 14 V DC<br>Typ. 4 W                                             | 10 ~ 14 V DC<br>Typ. 4 W                   | 10 ~ 14 V DC<br>Typ. 5 W          | 10 ~ 14 V DC<br>Typ. 4 W            | 10 ~ 14 V DC<br>Typ. 4 W                   |
| Compliance                       | CE, FCC, KC (Application of VC-3MC in preparation)                   |                                            |                                   |                                     |                                            |
| Configuration Software           | Configurator                                                         |                                            |                                   |                                     |                                            |

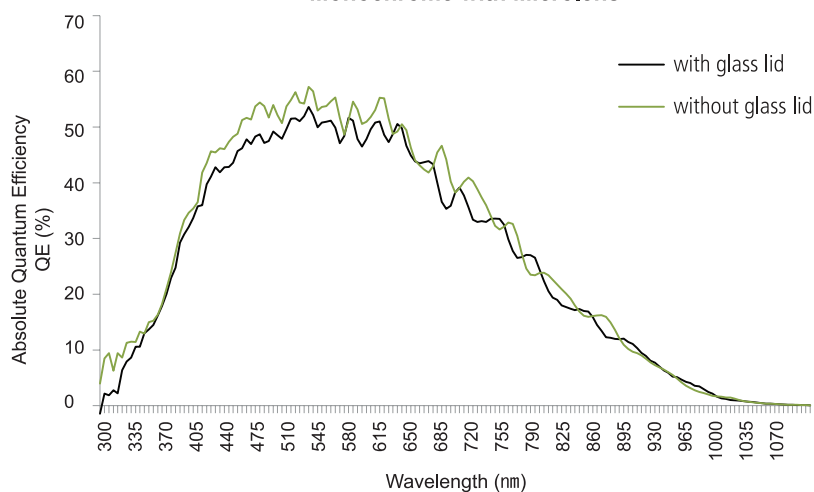
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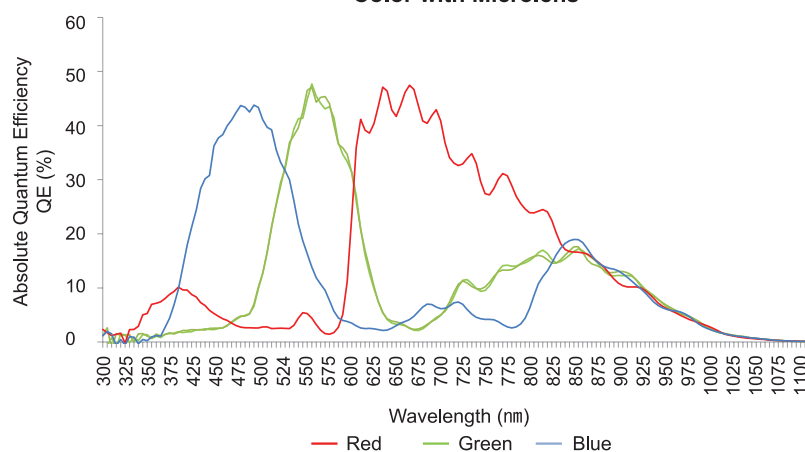
## Quantum Efficiency Curves

CMOSIS

### Monochrome with Microlens



### Color with Microlens



## Ordering Scheme

|                                                                                  |                                                                                               |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| VC - 4M C - M 180 DO                                                             |                                                                                               |
| Series<br>VC Series                                                              | Sensor Options<br>DO - On Semiconductor<br>EO - CMOSIS                                        |
| Sensor Resolution<br>2M - 2 Megapixels<br>3M - 3 Megapixels<br>4M - 4 Megapixels | Frame Rate<br>80 - 80 fps<br>150 - 150 fps<br>180 - 180 fps<br>280 - 280 fps<br>340 - 340 fps |
| Interface<br>C - Camera Link                                                     | Mono / Color<br>M - Monochrome<br>C - Color                                                   |

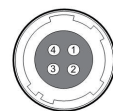
## Connector Specification

Power



1 2 3: +12V DC, 4 5 6: GND  
(HR10A-7R-6PB)

Control



1: Trigger IN+, 2: Trigger IN-  
3: DC Ground, 4: Strobe OUT+  
(HR10A-7R-4S)

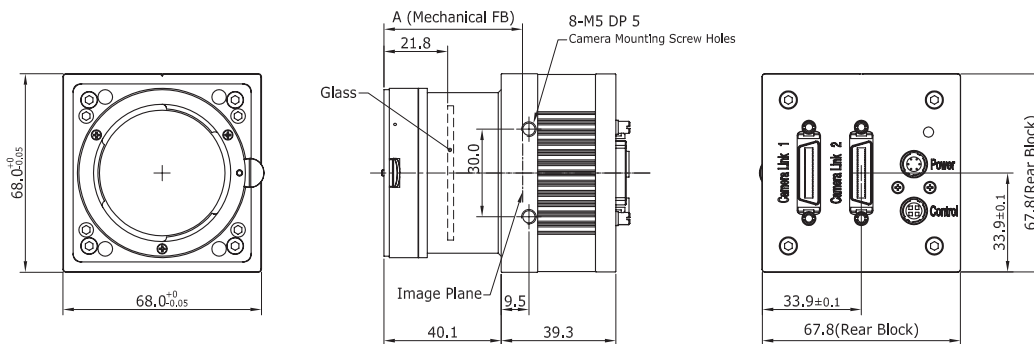
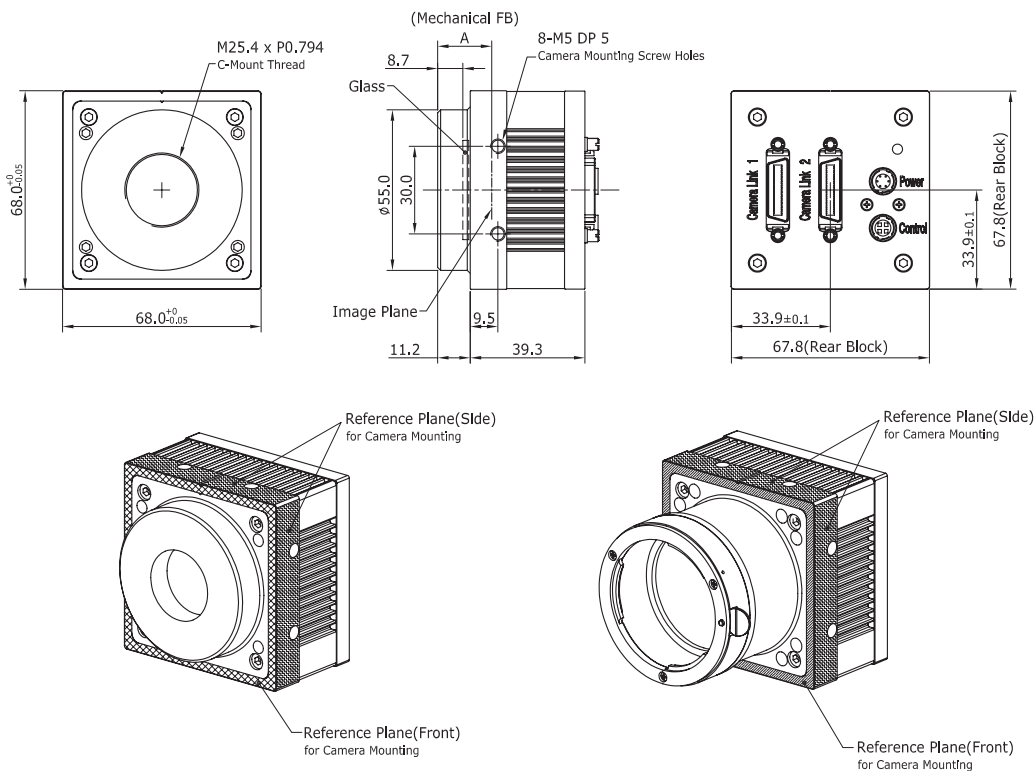
Connectors on camera body

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## Mechanical Dimensions

Unit: mm

### C-mount for VC-2MC, VC-3MC, VC-4MC



For more information please contact local distributor or visit our website at <http://www.viewworks.com>.