

# MV-CH120-20GM/GC V4

12 MP 1" CMOS GigE Area Scan Camera



GEN*i*CAM

GigE  
VISION

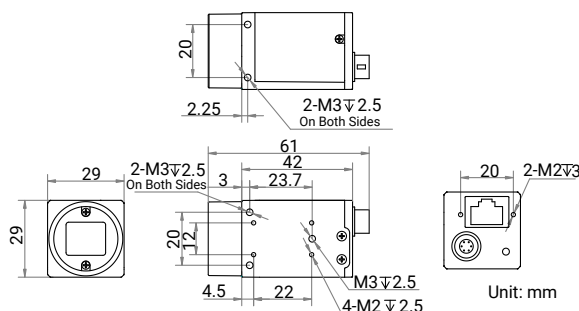
## Introduction

MV-CH120-20GM/GC V4 camera adopts OnSemi XGS12000 sensor to provide high-quality images. It uses GigE interface to transmit non-compressed images in real time, and its max. frame rate can reach 9.6 fps in full resolution.

## Key Feature

- Supports auto or manual adjustment for gain and exposure time, and manual adjustment for LUT and Gamma correction.
- Supports LSC, sequencer, passive transmission, etc.
- Color camera supports white balance, CCM, Super Palette, Super Bayer, etc.
- Adopts GigE interface and max. transmission distance of 100 meters without relay.
- Compact design with mounting holes on panels for flexible mounting from 4 sides.
- Compatible with GigE Vision V2.0 Protocol, GenICam Standard, and third-party software based on the protocol and standard.

## Dimension



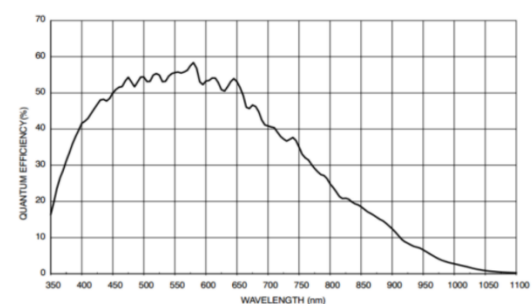
## Available Model

- Mono camera:  
MV-CH120-20GM V4
- Color camera:  
MV-CH120-20GC V4

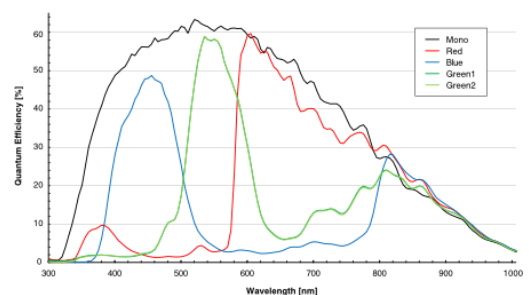
## Applicable Industry

Electronic semiconductor, factory automation, logistics, etc.

## Sensor Quantum Efficiency



MV-CH120-20GM V4



MV-CH120-20GC V4

## Specification

| Model              | MV-CH120-20GM V4                                                                                                                                                        | MV-CH120-20GC V4                                                                                          |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Performance        |                                                                                                                                                                         |                                                                                                           |
| Sensor type        | CMOS, global shutter                                                                                                                                                    |                                                                                                           |
| Sensor model       | OnSemi XGS12000                                                                                                                                                         |                                                                                                           |
| Pixel size         | 3.2 μm × 3.2 μm                                                                                                                                                         |                                                                                                           |
| Sensor size        | 1"                                                                                                                                                                      |                                                                                                           |
| Resolution         | 4096 × 3072                                                                                                                                                             |                                                                                                           |
| Max. frame rate    | 9.6 fps @ 4096 × 3072 Mono 8                                                                                                                                            | 9.6 fps @ 4096 × 3072 Bayer RG 8                                                                          |
| Dynamic range      | 66.4 dB                                                                                                                                                                 |                                                                                                           |
| SNR                | 40 dB                                                                                                                                                                   |                                                                                                           |
| Gain               | 0 dB to 18 dB                                                                                                                                                           |                                                                                                           |
| Exposure time      | UltraShort exposure mode: 52 μs to 161 μs                                                                                                                               |                                                                                                           |
|                    | Standard exposure mode: 162 μs to 10 sec                                                                                                                                |                                                                                                           |
| Exposure mode      | Off/Once/Continuous exposure mode                                                                                                                                       |                                                                                                           |
| Mono/color         | Mono                                                                                                                                                                    | Color                                                                                                     |
| Pixel format       | Mono 8/10/10Packed/12/12Packed                                                                                                                                          | Mono 8/10/12,<br>Bayer RG 8/10/10Packed/12/12Packed,<br>YUV422Packed, YUV422_YUYV_Packed,<br>RGB 8, BGR 8 |
| Binning            | Supports 1 × 1, 2 × 2, 4 × 4                                                                                                                                            |                                                                                                           |
| Decimation         | Supports 1 × 1, 2 × 2, 4 × 4                                                                                                                                            |                                                                                                           |
| Reverse image      | Supports horizontal and vertical reverse image output                                                                                                                   |                                                                                                           |
| Electrical feature |                                                                                                                                                                         |                                                                                                           |
| Data interface     | Gigabit Ethernet (1000 Mbit/s), compatible with Fast Ethernet (100 Mbit/s)                                                                                              |                                                                                                           |
| Digital I/O        | 6-pin P7 connector provides power and I/O, including opto-isolated input × 1 (Line 0), opto-isolated output × 1 (Line 1), bi-directional non-isolated I/O × 1 (Line 2). |                                                                                                           |
| Power supply       | 9 VDC to 24 VDC, supports PoE                                                                                                                                           |                                                                                                           |
| Power consumption  | Typ. 2.6 W @ 12 VDC                                                                                                                                                     | Typ. 2.7 W @ 12 VDC                                                                                       |
| Mechanical         |                                                                                                                                                                         |                                                                                                           |
| Lens mount         | C-mount                                                                                                                                                                 |                                                                                                           |
| Dimension          | 29 mm × 29 mm × 42 mm (1.1" × 1.1" × 1.7")                                                                                                                              |                                                                                                           |
| Weight             | Approx. 100 g (0.2 lb.)                                                                                                                                                 |                                                                                                           |
| Ingress protection | IP40 (under proper lens installation and wiring)                                                                                                                        |                                                                                                           |
| Temperature        | Working temperature: −10 °C to 50 °C (14 °F to 122 °F)                                                                                                                  |                                                                                                           |
|                    | Storage temperature: −30 °C to 80 °C (−22 °F to 176 °F)                                                                                                                 |                                                                                                           |
| Humidity           | 20% RH to 95% RH (no condensation)                                                                                                                                      |                                                                                                           |
| General            |                                                                                                                                                                         |                                                                                                           |
| Client software    | MVS or third-party software meeting with GigE Vision Protocol                                                                                                           |                                                                                                           |
| Operating system   | 32/64-bit Windows 7/10, 64-bit Windows 11, and 32/64-bit Linux                                                                                                          |                                                                                                           |
| Compatibility      | GigE Vision V2.0, GenICam                                                                                                                                               |                                                                                                           |
| Certification      | CE, RoHS, KC                                                                                                                                                            |                                                                                                           |