# VZ-12MG-M/C9H10

Industrial Digital Cameras with GigE Interface

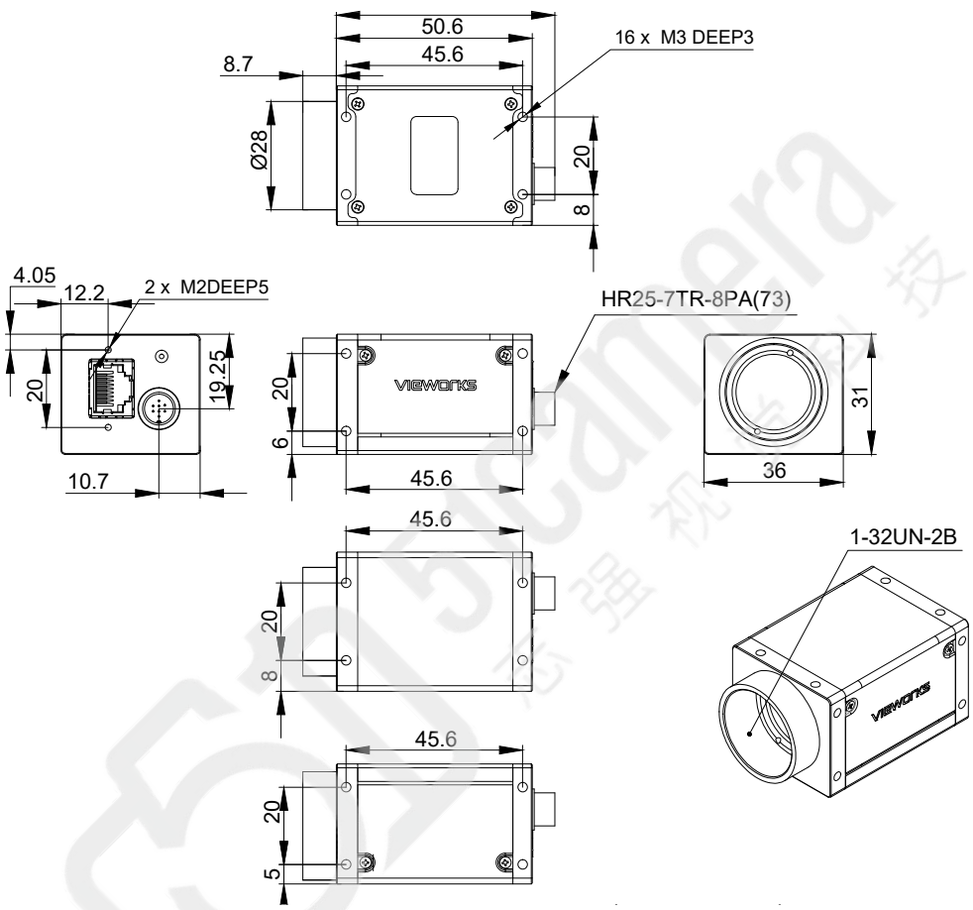

VZ-12MG-M/C9H10 is the high definition industrial digital camera, featuring outstanding performance, compact design and flexible installation. Thanks to the extremely compact design (36㎜ × 31㎜ × 50.6 ㎜) and locking screw connectors, the VZ-12MG-M/C9H10 camera can secure the reliability of cameras deployed in harsh environments.

VZ-12MG-M/C9H10 is the monochrome/color GigE Vision camera with the Sony IMX304 CMOS sensor, and has opto-isolated I/Os that adapt to specific needs.

Featuring compact design, outstanding performance, ease of installation and use, VZ-12MG-M/C9H10 is especially suitable for machine vision applications such as industrial inspection, medical, scientific research, education, security and so on.

## Mechanical Dimensions

Unit: mm

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## Main Features

- Power over Ethernet (IEEE802.3af compliant)
- Programmable ROI, increased frame rate with partial scan
- Support Timer, Counter, LUTs and storable user sets
- 4 acquisiton controls: single frame, continuous, software trigger, external trigger
- Support Gamma, Sharpness, Black Level, Static Defect Pixel Correction and Flat Field Correction
- Support Remove Parameter Limit to expand the range of exposure, gain, white balance, etc.
- Support Decimation,Binning,Digital Shift and Reverse X/Y(horizontal and vertical mirroring)

## Applications

- Industrial Inspection
- Medical Research
- Scientific Research
- Education
- Security

## Specifcations

| | | |
|---|---|---|
| Model | VZ-12MG-M/C9H10 | |
| Resolution (H x V) | 4096 x 3000 | |
| Sensor | Sony IMX304 global shutter CMOS | |
| Pixel Size | 3.45 μm × 3.45 μm | |
| Data Interface | Fast Ethernet (100 Mbit/s) or Gigabit Ethernet (1000 Mbit/s) | |
| Frame Rate | 8.7 fps @ 4096 × 3000<br>(Adjust the packet size to 8192 and reserved bandwidth to 5, frame rate to 9fps) | |
| ADC Bit Depth | 12 bit | |
| Pixel Bit Depth | 8 bit, 12 bit | |
| Exposure Time | Standard: 36μs to 1s, Actual Steps: 1 row period<br>Ultrashort: 1μs to 100μs, Actual Steps: 1μs | |
| Gain | 0dB to 24dB, Default: 0dB, Steps: 0.1dB | |
| Mono / Color | Color | Mono |
| Pixel Formats | Bayer RG8, Bayer RG12 | Mono8, Mono12 |
| Signal Noise Ratio | 40.48dB | 40.66dB |
| Synchronization | Hardware trigger and Software trigger | |
| I/O | 1 input and 1 output with opto-isolated, 2 programmable GPIOs | |
| Temperature | Operating: 0℃ to 45℃, Storage: -20℃ to 70℃ | |
| Operating Humidity | 10% to 80% | |
| Power Requirements | PoE (Power over Ethernet, IEEE802.3af compliant) or 12VDC-10% to 24VDC+10% supplied via the camera's 8-pin Hirose connector | |
| Power Consumption | < 3.75 W @ 24 VDC, < 3.75 W @ PoE | |
| Lens Mount | C | |
| Dimensions and Weight | 36mm x 31mm x 50.6mm (without lens adapter or connectors), 80g | |
| Programmable Control | Image size, Gain, Exposure time, Trigger polarity, Flash polarity | |
| Conformity | CE, RoHS, FCC, GigE Vision, GenICam, KC | |

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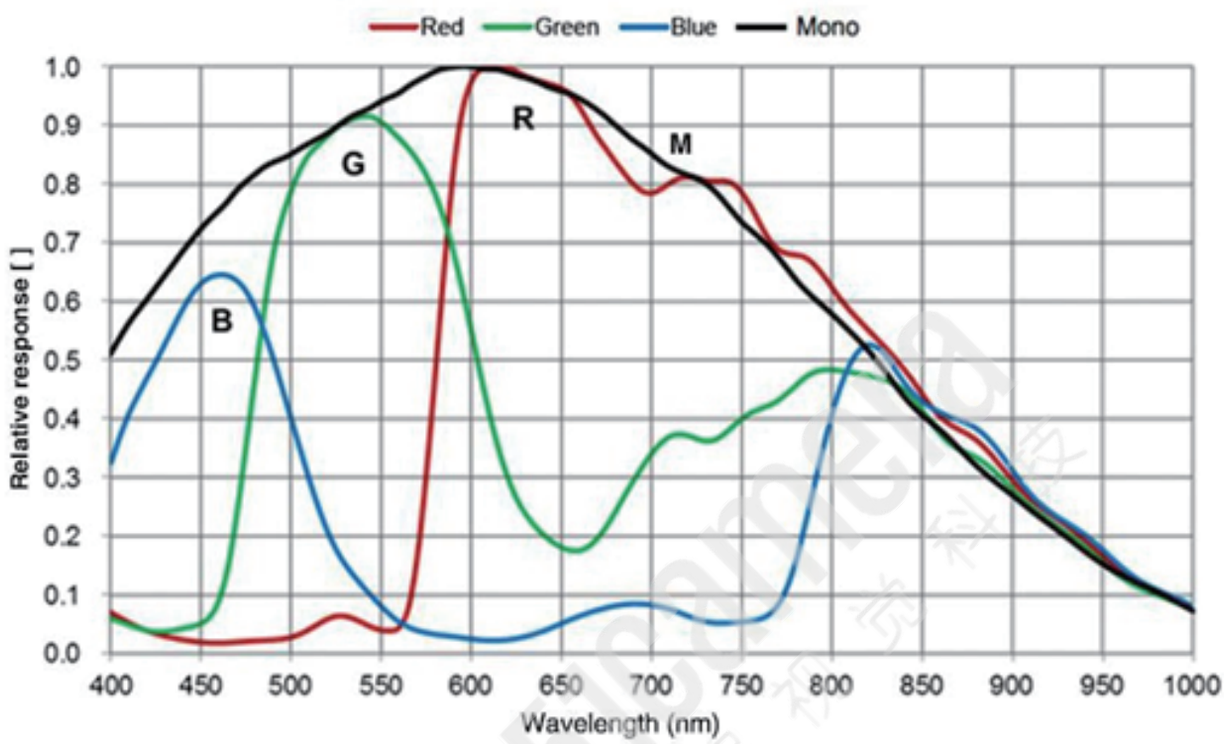
## Spectral Response




## Ordering Scheme

VZ - 12MG - M/C 9H10

Series
VZ Series

Resolution and Interface
12M - 4096 x 3000
G - Gigabit Ethernet

Frame Rate
9 - 9fps

Mono / Color
M - Mono
C - Color

## Connector Specification

Power/Control


| | |
|---|---|
| 1: Line0+ | Opto-isolated input+ |
| 2: Ground | GND & GPIO GND |
| 3: Line0- | Opto-isolated input- |
| 4: POWER_IN | Camera external power (+12 VDC ~ +24 VDC) |
| 5: Line2 | GPIO input/output |
| 6: Line3 | GPIO input/output |
| 7: Line1- | Opto-isolated input- |
| 8: Line1+ | Opto-isolated input+ |

Connectors on camera body