



vieworks

# VA-1MG2 / VA-2MG2 / VA-4MG2 VA-8MG2 / VA-16MG2 / VA-29MG2

1 / 2 / 4 / 8 / 16 / 29 MEGAPIXEL RESOLUTION  
HIGH SPEED PROGRAMMABLE DIGITAL CAMERA

## Vieworks GigE CCD cameras



**GigE**  
VISION

VA GigE Series is a progressive scan, high-resolution industrial area scan cameras. The camera uses an interline transfer CCD from Truesense Imaging, Inc. (formerly Kodak Imaging Solutions) and provides superior noise performance resulting in high dynamic range. All features of VA GigE series can be programmed and easily updated in the field through Gigabit Ethernet interface.

This camera series is ideal for demanding applications such as semi-conductor inspection, electronics inspection, aerial imaging inspection and FPD inspection.

### Main Features

- \* Gigabit Ethernet Interface
- \* Truesense Imaging Progressive Scan Interline Transfer CCD Imager
- \* Camera Image Memory: 128 MB
- \* Real Exposure, Stream Hold, Inter-Packet Delay
- \* Field Upgradeable Firmware
- \* Flat Field Correction
- \* Pixel Defect Correction (Binning Mode:  $2 \times 2$ ,  $4 \times 4$ )
- \* Excellent anti-blooming and anti-smear

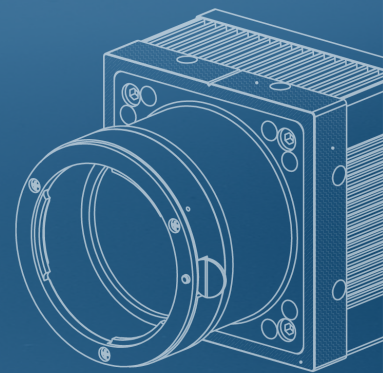
### Applications

- \* Machine Vision Inspection
- \* Research and Scientific Imaging
- \* Microscopy and Metrology
- \* Remote Sensing and Scanning
- \* Intelligent Transport System (ITS)

[machinevision.vieworks.com](http://machinevision.vieworks.com)

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HIGH SPEED PROGRAMMABLE DIGITAL CAMERA



## Specifications

Model	VA-1MG2	VA-2MG2	VA-2MG2 (HD)	VA-4MG2
Resolution (H × V)	1024 × 1024	1600 × 1200	1920 × 1080	2336 × 1752
Sensor (Truesense Imaging)	KAI-01050	KAI-02050	KAI-02150	KAI-04050
Sensor Size (Optical Format)	1/2"	2/3"	2/3"	1"
Sensor Type	Progressive Scan Interline Transfer CCD			
Pixel Size	5.5 μm × 5.5 μm			
Sensor Output	1 or 2 Tap			
Pixel Data Format	8/10/12 bit			
Output Format	Mono	Mono8, Mono10, Mono10 packed, Mono12, Mono12 packed		
	Color	Bayer8, Bayer10, Bayer10 packed, Bayer12, Bayer12 packed		
Interface	Gigabit Ethernet			
Electronic Shutter	Global Shutter			
Shutter Speed (10 μs step)	5 μs ~ 7 s			6 μs ~ 7 s
Partial Scan (Max. Speed)	193 fps at 120 Lines	110 fps at 150 Lines	107 fps at 120 Lines	82 fps at 200 Lines
Binning	×1, ×2, ×3, ×4, ×8 (Horizontal and Vertical Independent)			
Lookup Table	G = 1.0, User defined LUT (Look Up Table)			
Black Level	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)			
Gain Control	Analog: ×1 ~ ×40 (0 ~ 32 dB)			
Max. Frame Rate	40 fps / 72 fps	22 fps / 42 fps	21 fps / 39 fps	10 fps / 20 fps
Data Output Pixel Clock Speed	40 / 50 MHz			
Exposure Mode	Timed Exposure, Trigger Width Exposure, Double Exposure			
Dynamic Range	> 64 dB			
Camera Image Memory	128 MB			
Dimension (W×H×L)/ Weight	68 mm × 68 mm × 54 mm / 420 g (with C-mount) 68 mm × 68 mm × 83 mm / 460 g (with F-mount)			
Temperature	Operating: -5°C ~ 40°C, Storage: -40°C ~ 70°C			
Lens Mount	C-mount or F-mount			
Power	10 ~ 15 V DC, Max. 6W			
API SDK	Vieworks Imaging Solution 6.X			

## Specifications

Model	VA-8MG2	VA-16MG2	VA-29MG2
Resolution (H × V)	3296 × 2472	4896 × 3264	6576 × 4384
Sensor (Truesense Imaging)	KAI-08050	KAI-16050	KAI-29050
Sensor Size (Optical Format)	4/3"	32 mm (APS-H)	35 mm
Sensor Type	Progressive Scan Interline Transfer CCD		
Pixel Size	5.5 μm × 5.5 μm		
Sensor Output	1 or 2 Tap		
Pixel Data Format	8/10/12 bit		
Output Format	Mono	Mono8, Mono10, Mono10 packed, Mono12, Mono12 packed	
	Color	Bayer8, Bayer10, Bayer10 packed, Bayer12, Bayer12 packed	
Interface	Gigabit Ethernet		
Electronic Shutter	Global Shutter		
Shutter Speed (10 μs step)	6 μs ~ 7 s	8 μs ~ 7 s	16 μs ~ 7 s
Partial Scan (Max. Speed)	48 fps at 300 Lines	19 fps at 400 Lines	8.8 fps at 500 Lines
Binning	×1, ×2, ×3, ×4, ×8 (Horizontal and Vertical Independent)		
Lookup Table	G = 1.0, User defined LUT (Look Up Table)		
Black Level	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)		
Gain Control	Analog: ×1 ~ ×40 (0 ~ 32 dB)		
Max. Frame Rate	5 fps / 10 fps	3.3 fps / 4.3 fps	1.2 fps / 2.3 fps
Data Output Pixel Clock Speed	40 / 50 MHz	30 / 40 MHz	
Exposure Mode	Timed Exposure, Trigger Width Exposure, Double Exposure		
Dynamic Range	> 64 dB		
Camera Image Memory	128 MB		
Dimension (W×H×L)/ Weight	68 mm × 68 mm × 54 mm/420 g (C-mount) 68 mm × 68 mm × 83 mm/460 g (F-mount)	68 mm × 68 mm × 104 mm/ 500 g (F-mount)	
Temperature	Operating: -5°C ~ 40°C, Storage: -40°C ~ 70°C		
Lens Mount	C-mount or F-mount		
Power	10 ~ 15 V DC, Max. 6W		
API SDK	Vieworks Imaging Solution 6.X		

## Ordering Scheme

**VA - 29MG2 - M 2 A0**

Series VA Series	Sensor Options A0 - Truesense Imaging
Sensor Resolution 1M - 1 Megapixels 2M - 2 Megapixels 4M - 4 Megapixels 8M - 8 Megapixels 16M - 16 Megapixels 29M - 29 Megapixels	Frame Rate 2 - 2.3 fps 4 - 4.3 fps 10 - 10 fps 20 - 20 fps 39 - 39 fps 42 - 42 fps 70 - 72 fps
Interface G2 - Gigabit Ethernet	Mono / Color M - Monochrome C - Color

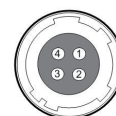
## Connector Specification

### Power



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

### Control



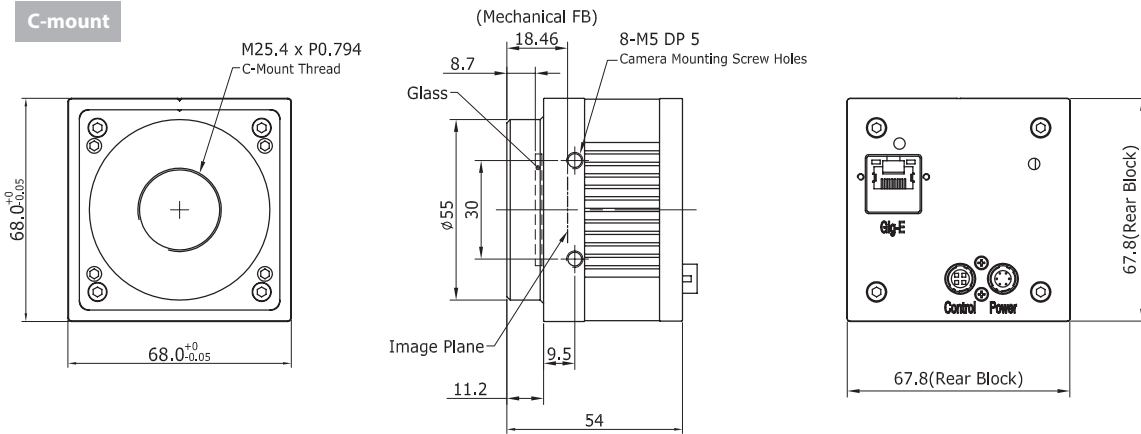
1: Trigger IN+, 2: Trigger IN-  
3: Strobe OUT- (GND), 4: Strobe OUT+  
(HR10A-7R-4S)

Connectors on camera body

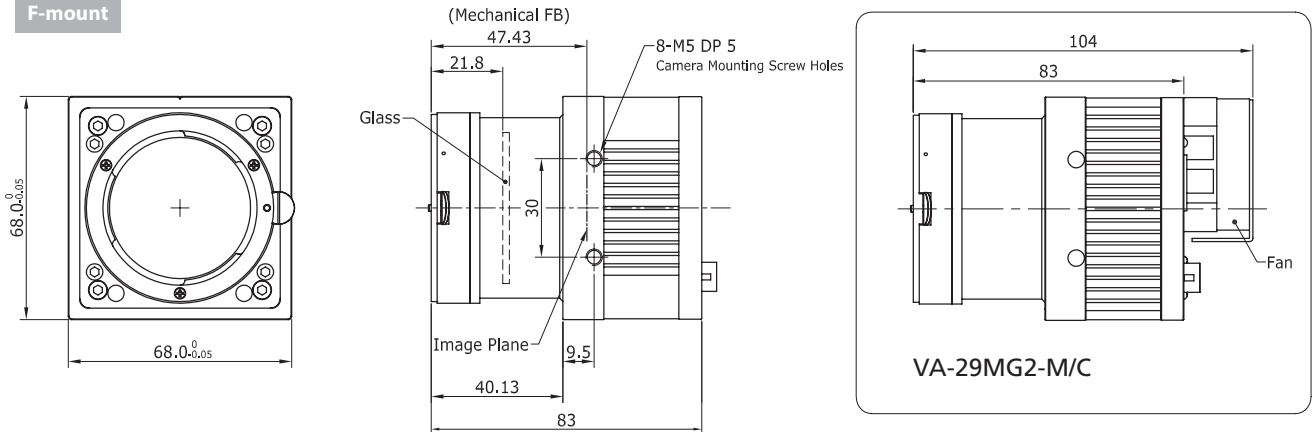
# Mechanical Dimensions

Unit: mm

## C-mount



## F-mount



For more information please contact local distributor or visit our website at [www.vieworks.com](http://www.vieworks.com)

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