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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



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.

**VIEWORKS**

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

1 / 2 / 4 / 8 / 16 / 29 MEGA PIXEL RESOLUTION – HIGH-SPEED PROGRAMMABLE DIGITAL CAMERA

## Main Features

- \* Truesense Imaging Progressive Scan IT CCD Imager
- \* Camera Image Memory: 128 MB
- \* Real Exposure, Stream Hold, Inter-packed Delay
- \* Field Upgradable Firmware
- \* Flat Field Correction
- \* Pixel Defect Correction (Binning Mode: 2 × 2, 4 × 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)

## Specifications

Model	VA-1MG2-M/C 70	VA-2MG2-M/C 42	VA-4MG2-M/C 20
Resolution (H × V)	1024 × 1024	1600 × 1200	2336 × 1752
Sensor (Truesense Imaging)	KAI-01050	KAI-02050	KAI-04050
Sensor Size (Optical Format)	1/2"	2/3"	1"
Sensor Type	Progressive Scan Interline Transfer CCD		
Pixel Size	5.5 μm × 5.5 μm		
Sensor Output	1 or 2 Tap		
Interface	Gigabit Ethernet		
Max. Frame Rate	40 fps / 72 fps	22 fps / 42 fps	10 fps / 20 fps
Exposure Time	5 μs ~ 7s		6 μs ~ 7s
Partial Scan (Max. Speed)	193 fps at 120 Lines	110 fps at 150 Lines	82 fps at 200 Lines
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	
Electronic Shutter	Global Shutter		
Data Output Pixel Clock Speed	40 MHz / 50 MHz		
Exposure Mode	Timed Exposure, Trigger Width Exposure, Double Exposure		
Dynamic Range	64 dB		
Binning	×1, ×2, ×3, ×4, ×8 (Horizontal and Vertical Independent)		
Lookup Table	G = 1.0, User Defined Lookup Table (LUT)		
Black Level	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)		
Gain Control	×1 ~ ×40 (0 ~ 32 dB)		
Auto Control	Auto Gain, Auto Exposure, Auto White Balance		
Camera Image Memory	128 MB		
Dimension / 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 or F-mount, Custom mount available upon request		
Power	10 ~ 15 V DC, MAX. 6 W		
Compliance	CE, FCC, KC		
API SDK	Vieworks Imaging Solution 6.X or above		

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

1 / 2 / 4 / 8 / 16 / 29 MEGA PIXEL RESOLUTION - HIGH-SPEED PROGRAMMABLE DIGITAL CAMERA

## Specifications

Model	VA-8MG2-M/C 10	VA-16MG2-M/C 4	VA-29MG2-M/C 2
Resolution (H × V)	3296 × 2472	4896 × 3264	6576 × 4384
Sensor (Truesense Imaging)	KAI-08051	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		
Interface	Gigabit Ethernet		
Max. Frame Rate	5 fps / 10 fps	3.3 fps / 4.3 fps	1.2 fps / 2.3 fps
Exposure Time	6 μs ~ 7s	8 μs ~ 7s	16 μs ~ 7s
Partial Scan (Max. Speed)	48 fps at 300 Lines	20 fps at 300 Lines	8.8 fps at 500 Lines
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	
Electronic Shutter	Global Shutter 64 dB		
Data Output Pixel Clock Speed	40 MHz / 50 MHz	30 MHz / 40 MHz	
Exposure Mode	Timed Exposure, Trigger Width Exposure, Double Exposure		
Dynamic Range	66 dB	64 dB	
Binning	×1, ×2, ×3, ×4, ×8 (Horizontal and Vertical Independent)		
Lookup Table	G = 1.0, User Defined Lookup Table (LUT)		
Black Level	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)		
Gain Control	×1 ~ ×40 (0 ~ 32 dB)		
Auto Control	Auto Gain, Auto Exposure, Auto White Balance		
Camera Image Memory	128 MB		
Dimension / Weight	68 mm × 68 mm × 54 mm, 420 g (with C-mount) 68 mm × 68 mm × 83 mm, 460 g (with F-mount)	68 mm × 68 mm × 104 mm 500 g (with F-mount)	
Temperature	Operating: -5°C ~ 40°C, Storage: -40°C ~ 70°C		
Lens Mount	C or F-mount	F-mount, Custom mount available upon request	
Power	10 ~ 15 V DC, MAX. 6 W		
Compliance	CE, FCC, KC (Application of VA-16MG in preparation)		
API SDK	Vieworks Imaging Solution 6.X or above		

## Ordering Scheme

Series VA Series	VA - 29M G2 - M 2 A0	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 42 - 42 fps 70 - 72 fps	Mono / Color M - Monochrome C - Color
Interface G2 - Gigabit Ethernet		

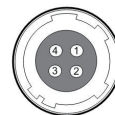
## Connector Specification

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

