
VH-310C / VH-2MC
VH-4MC / VH-11MC
VH-16MC

VGA / 2 / 4 / 11 / 16 MEGAPIXEL RESOLUTION

CAMERA LINK INTERFACE - PROGRAMMABLE DIGITAL CAMERA



VH Camera Link series is a progressive scan high performance industrial digital camera.

Camera features are easily updated in the field using our standard serial interface. These cameras use the latest CCD technology from ON Semiconductor (formerly Truesense Imaging, Inc.) and Sony which provides superior low noise performance resulting in high dynamic range. The VH Camera Link series is an excellent choice for applications such as LCD inspection, Machine Vision inspection, Research and Scientific imaging and aerial imaging.

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Main Features

- * Camera Link Interface
- * Progressive Scan Interline Transfer CCD Imager
- * 8/10/12 bit Data Output
- * Field Upgradable Firmware
- * Flat Field Correction
- * Pixel Defect Correction
- * Available in Color or Monochrome

Applications

- * Flat Panel Display Inspection
- * Research and Scientific Imaging
- * Machine Vision Inspection
- * Microscopy and Metrology
- * Remote Sensing and Scanning

Specifications

Model	VH-310C-M/C 264	VH-2MC-M/C 42	VH-4MC-M/C 20
Resolution (H × V)	640 × 480	1600 × 1200	2048 × 2048
Sensor (ON Semiconductor)	KAI-0340	KAI-2020	KAI-4021
Sensor Size (Optical Format)	1/3"	1"	4/3"
Sensor Type	Progressive Scan Interline Transfer CCD		
Pixel Size	7.4 μm × 7.4 μm		
Sensor Output	1 or 2 Tap		
Interface	Camera Link		
Max. Frame Rate	140 fps / 264 fps	23 fps / 42 fps	11 fps / 20 fps
Exposure Time	16 μs ~ 7 s	38 μs ~ 7 s	66 μs ~ 7 s
Partial Scan (Max. Speed)	1290 fps at 60 Lines	146 fps at 150 Lines	77 fps at 256 Lines
Pixel Data Format	8 / 10 / 12 bit		
Electronic Shutter	Global Shutter		
Data Output Pixel Clock Speed	50 MHz		
Trigger Mode	Free-Run, Standard, Fast, Double, Overlap Programmable Exposure Time and Trigger Polarity		
Dynamic Range	60 dB	62 dB	
Binning	× 1, × 2, × 4 (Horizontal and Vertical Independent)		
Lookup Table	G = 1.0, User Defined Lookup Table (LUT)		
Analog Offset	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)		
Analog Gain	0 ~ 32 dB, 900 steps		
Dimension / Weight	49 mm × 49 mm × 52.8 mm, 190 g (with C-mount)	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 ~ 40 °C, Storage: -40 ~ 70 °C		
Lens Mount	C-mount	C or F-mount	
Power	10 ~ 14 V DC, Typ. 4 W	10 ~ 14 V DC, Typ. 5 W	10 ~ 14 V DC, Typ. 5.5 W
Compliance	CE, FCC, KC		
Configuration Software	Configurator		

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Specifications

Model	VH-11MC-M/C 6	VH-16MC-M/C 4
Resolution (H x V)	4008 x 2672	4872 x 3248
Sensor	ON Semiconductor KAI-11002	ON Semiconductor KAI-16000
Sensor Size (Optical Format)	35 mm	35 mm
Sensor Type	Progressive Scan Interline Transfer CCD	
Pixel Size	9.0 μm x 9.0 μm	7.4 μm x 7.4 μm
Sensor Output	1 or 2 Tap	
Interface	Camera Link	
Max. Frame Rate	3.4 fps / 6.4 fps	2.2 fps / 4.2 fps
Exposure Time	132 μs ~ 7 s	216 μs ~ 7 s
Partial Scan (Max. Speed)	30 fps at 334 Lines	12 fps at 406 Lines
Pixel Data Format	8 / 10 / 12 bit	
Electronic Shutter	Global Shutter	
Data Output Pixel Clock Speed	30 MHz / 40 MHz	
Trigger Mode	Free-Run, Standard, Fast, Double, Overlap Programmable Exposure Time and Trigger Polarity	
Dynamic Range	64 dB	
Binning	x 1, x 2, x 4 (Horizontal and Vertical Independent)	
Lookup Table	G = 1.0, User Defined Lookup Table (LUT)	
Analog Offset	Adjustable (0 ~ 127 LSB at 12 bit, 256 steps)	
Analog Gain	0 ~ 32 dB, 900 steps	
Dimension / Weight	68 mm x 68 mm x 54 mm, 420 g (with C-mount) 68 mm x 68 mm x 83 mm, 460 g (with F-mount)	
Temperature	Operating: -5 ~ 40 °C, Storage: -40 ~ 70 °C	
Lens Mount	F-mount, Custom mount available upon request	
Power	10 ~ 14 V DC, Typ. 6.5 W	10 ~ 14 V DC, Typ. 6.0 W
Compliance	CE, FCC, KC	
Configuration Software	Configurator	

Ordering Scheme

Series		Sensor Options	
VH Series		A0 - ON Semiconductor	
		B0 - Sony	
Sensor Resolution		Frame Rate	
310 - VGA		4 - 4.2 fps	
2M - 2 Megapixels		6 - 6.4 fps	
4M - 4 Megapixels		20 - 20 fps	
11M - 11 Megapixels		42 - 42 fps	
16M - 16 Megapixels		264 - 264 fps	
Interface		Mono / Color	
C - Camera Link		M - Monochrome	
		C - Color	

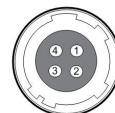
Connector Specification

Power



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

Control



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

Connectors on camera body

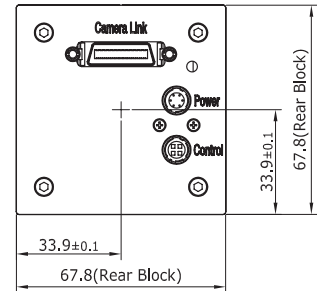
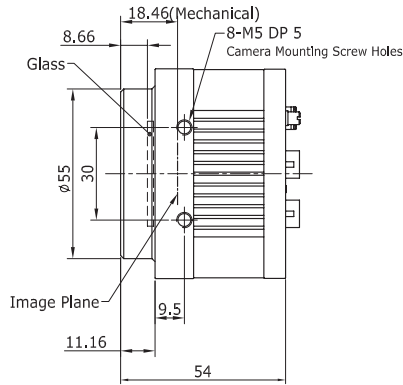
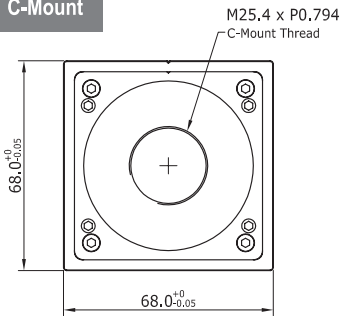
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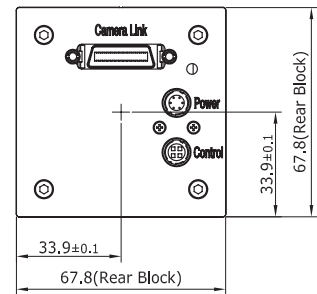
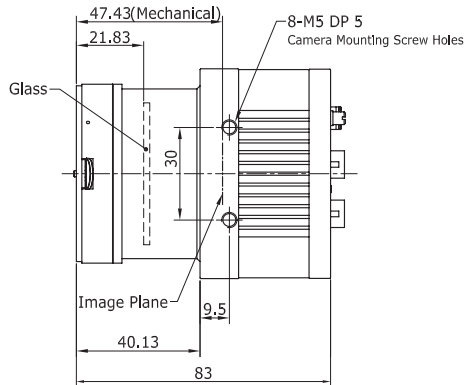
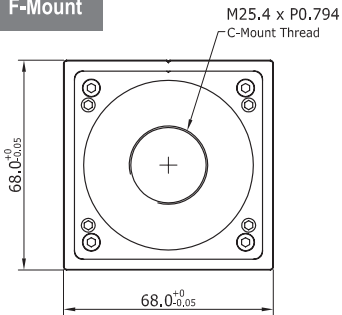
Mechanical Dimensions

Unit: mm

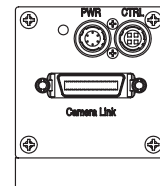
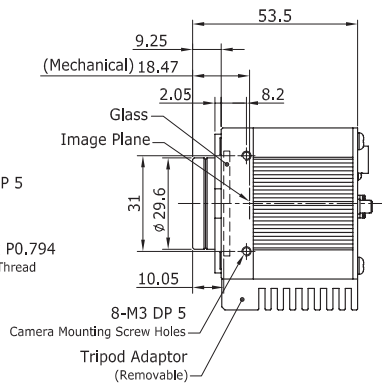
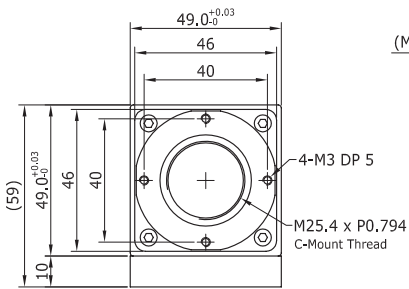
C-Mount



F-Mount



VGA C-Mount



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