



vieworks

# VH-310C / VH-2MC / VH-4MC / VH-5MC /

VGA/2M/4M/5M MEGA PIXEL RESOLUTION, HIGH SPEED,  
CAMERA LINK INTERFACE, PROGRAMMABLE DIGITAL CAMERA



VH series is a Progressive Scan type high-resolution industrial Area Scan camera. All functions can be programmed and updated in the field without any disassembling process. The variety of resolutions from VGA to 5 megapixels provide flexibility and makes the VH series suitable for a wide range of applications such as Machine Vision, Research, Scientific and Remote Sensing applications.

## Main Features

- \*Camera Link Interface
- \*Kodak & Sony Progressive Scan IT CCD Imager
- \*8/10/12 bit Data Output, User Defined LUT
- \*Flat Field Correction
- \*Field Upgradeable Firmware
- \*Defective Pixel Compensation
- \*Available in Color or Monochrome

## Applications

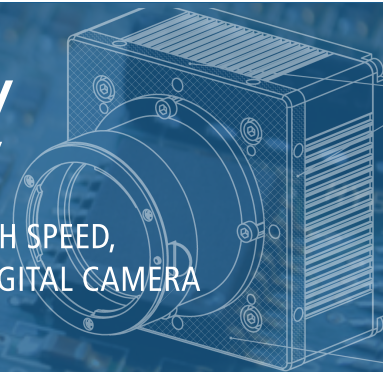
- \*Flat Panel Display Inspection
- \*Research and Scientific Imaging
- \*Machine Vision Inspections
- \*Microscopy and Metrology
- \*Remote Sensing and Scanning

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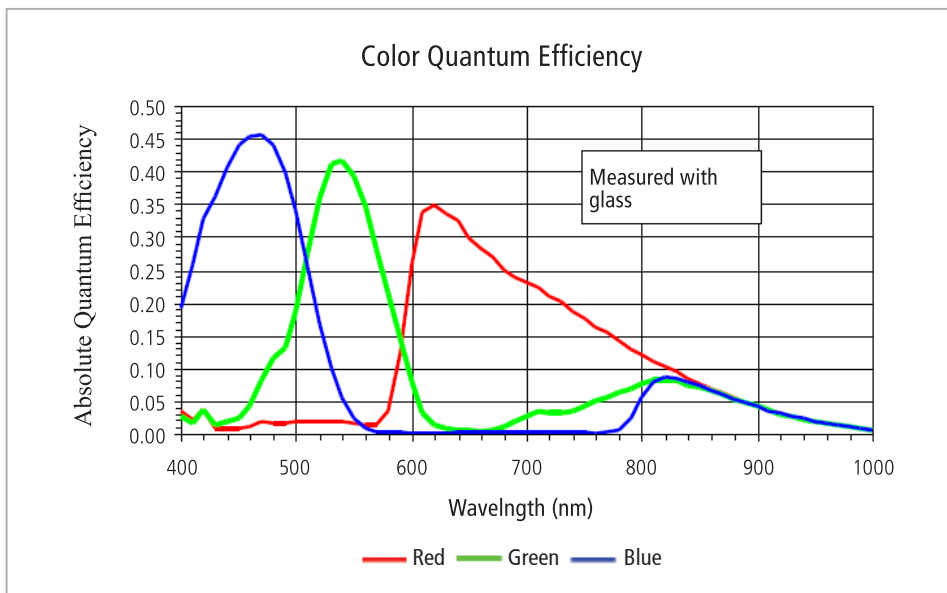
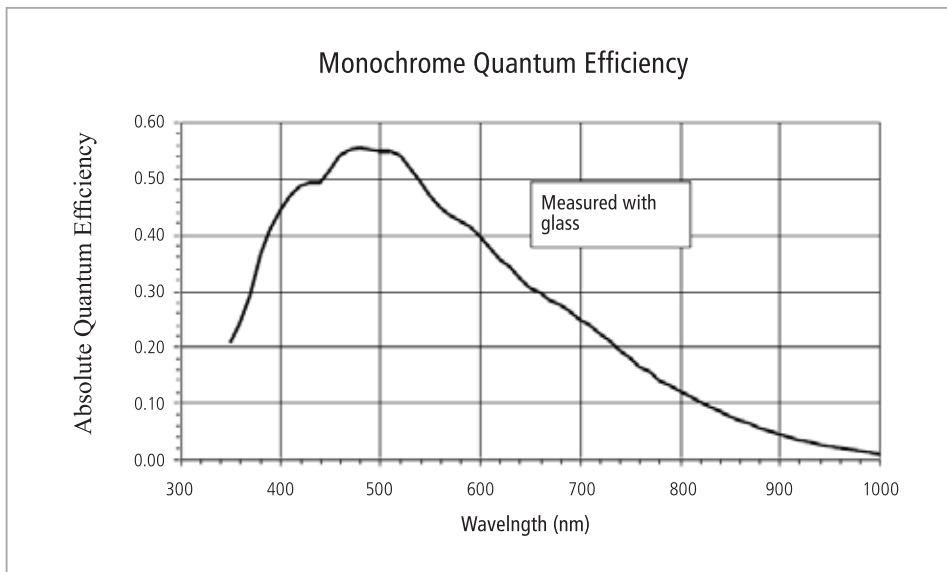
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## Specifications

Model	VH-310C	VH-2MC	VH-4MC	VH-5MC
Active Image	640(H) × 480(V) VGA	1600(H) × 1200(V)	2048(H) × 2048(V)	2448(H) × 2056(V)
Pixel Clock	50 MHz			60 MHz
Pixel size	7.4 μm × 7.4 μm			3.45 μm × 3.45 μm
Video Output	8/10/12 bits, 1 or 2 Tap			8/10/12 bits, 2 Tap
Camera Interface	Camera Link			
Electronic Shutter	Global Shutter			
Max. Frame Rate	264 fps (dual) / 140 fps (single)	42 fps (dual) / 23 fps (single)	20 fps (dual) / 11 fps (single)	16 fps (dual)
Exposure Time	1/40000 sec ~7 sec (10 us step)	1/20000 sec ~7 sec (10 us step)	1/14000 sec ~7 sec (10 us step)	1/14000 sec ~7 sec (10 us step)
Partial Scan	1290 fps at 60 Lines (max. speed)	136 fps at 150 Lines (max. speed)	73 fps at 256 Lines (max. speed)	52 fps at 256 Lines (max. speed)
Gamma Correction	User defined LUT (Look Up Table)			
Black Offset	Adjustable (0~127 LSB at 12 bit , 256 step)			
Video Gain	Analog: 0 ~ 32 dB, 900 step			
Trigger Mode	Mode( free run , standard, fast, double, overlap ) Programmable exposure time, Programmable trigger polarity			
External Trigger	External, 3.3V - 5.0V, 10mA, optically isolated			
Software Trigger	CC1, programmable expose			
Dynamic Range	> 60 dB	> 62 dB		>54 dB
Lens Mount	C-mount	C-mount, F-mount optional		
Power	10~14V DC , MAX. 6W			
Environmental	-5°C~+40°C, storage : -30°C~65°C			
Mechanical	49mmX49mmx52.8mm, 190g (w/ C-mount adaptor)	68mmX68mmx54.0mm, 420g (w/ C-mount adaptor) 68mmX68mmx83.0mm, 460g (w/ F-mount adaptor)		



## Quantum Efficiency Curves



## Ordering Scheme

VH - 5MC - M16B0	
<b>Series</b> VH series	<b>Sensor Option</b> A0 - Kodak B0 - Sony
<b>Sensor Resolution</b> 310 - VGA 2M - 2 megapixels 4M - 4 megapixels 5M - 5 megapixels	<b>Frame Rate</b> 16 - 16 fps 20 - 20 fps 42 - 42 fps 264 - 264 fps
<b>Interface</b> C - Camera Link	<b>Mono / Color</b> M - Monochrome C - Color

## Connector Specifications

<b>Power</b>		1 2 3 : +12V DC, 4 5 6 : GND (HR10A-7R-6PB)
<b>Control</b>		1 : Trigger IN+, 2 : Trigger IN- 3 : Strobe OUT- (GND), 4 : Strobe OUT+ (HR10A-7R-4SB)

Connectors on camera body

