

Preliminary

BVC3220/3221LM 2 SWIR Sensors Line Scan Camera



BVC3220/3221LM are SWIR line scan cameras which have own designed optical prism, 2 InGaAs line sensors inside and two different bandwidth of SWIR image output port. This 2 image output data bench mark is very much beneficial for contaminant inspection in the objects as it has obvious output difference by different SWIR wavelength lighting such as reflection, transmission and absorption. It is known that each material ingredient has its unique spectroscopic response for light absorption by some specific wavelength of light beam within SWIR bandwidth. By using that response, BVC3220/3221LM are able to provide perfect solutions for defect inspection and contaminant inspection that is hard to be realized by using standard visible wavelength of camera system. It has Camera Link interface (Base Configuration), and M52 lens mount as standard model. BlueVision also has our own designed SWIR lens fitted with prism base camera series. 6 different focal length models are available (20mm、24mm、28mm、35mm、50mm and 105mm) .

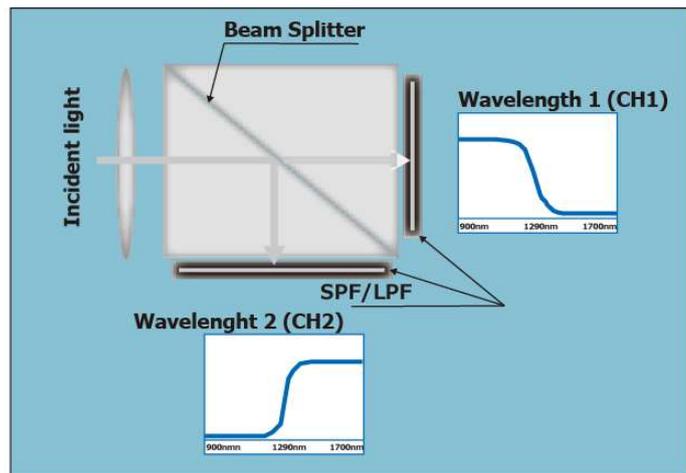


Image by visible light

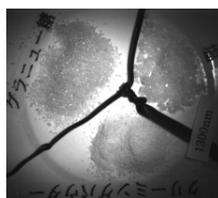


Image by SWIR
(900nm ~ 1290nm)

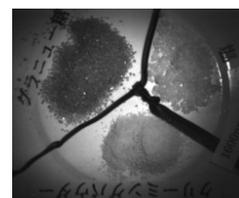


Image by SWIR
(1290nm ~ 1600nm)

BVC3220LM uses 1024 pixels InGaAs sensors, and BVC3221LM uses highly sensitive 512 pixels InGaAs sensors. We also produce, as build-to-order products, spectroscopic SWIR cameras which split SWIR bandwidth in two specific wavelengths.

Specifications

	BVC3220LM	BVC3221LM
Optical system	F2.8 Prism optics	
Image sensor (Line sensor ×2)	Effective pixels : 1024 pixels Pixel size : 12.5μm × 12.5μm Image effective line length : 12.8mm	Effective pixels : 512 pixels Pixel size : 25μm × 25μm Image effective line length : 12.8mm
Camera Link pixel clock frequency	60MHz / 30MHz selectable	
Bandwidth (Standard characteristics)	Ch 1 : 900nm ~ 1290nm Ch 2 : 1290nm ~ 1600nm	
Line frequency	0.1kHz~40kHz (at 60MHz), 0.1kHz~20kHz (at 30MHz)	
Standard illumination	TBD	
Sensor bonding accuracy	Center ±0.1 pixel	
Conversion efficiency	4 steps selectable	
Synchronization	Internal / External trigger	
S/N	58dB (Gain=0dB, 0.13μV/e)	
Output pixels / Image output	Standard : 1024 pixels Camera Link Base Configuration 8bit/10bit/12bit, Camera Link Medium Configuration 8bit/10bit/12bit	Standard : 512 pixels Camera Link Base Configuration 8bit/10bit/12bit, Camera Link Medium Configuration 8bit/10bit/12bit
Electronic shutter	20μs ~ 10ms	
Gain	-6 dB ~ 12 dB (each channel)	
Black level	±32LSB (8bit)	
Trigger input	Camera Link (CC1): LVDS	
Electronic shutter mode	1. No Shutter mode (Internal/External trigger) 2. Shutter Select mode (Internal/External trigger) 3. Pulse Width Control (External trigger)	
Compensation	DSNU, Flat shading compensation, Lens aberration compensation (ON/OFF)	
Communication interface	Camera Link : EIA644, 115200bps	
Input voltage/current consumption	DC 12V~24V, Standard 0.39A /Max 0.45A (at DC12V input)	DC 12V~24V, Standard 0.34A /Max 0.40A (at DC12V input)
Lens mount	M52 mount	
Flange back	46.5mm Tolerance : 0 ~ -0.05mm	
Operating temperature/humidity	-5°C ~ +45°C / 20% ~ 80% (No condensing)	
Storage temperature/humidity	-25°C ~ +60°C / 20% ~ 80% (No condensing)	
Dimensions (W×H×D)	95mm × 95mm × 95 mm (excluding protrusion and lens mount)	
Weight	810g	

- This product is in the scope of Export Trade Control Order and requires export license.
- Specifications are subject to change without prior notice.

Associated Equipment

Variable Wavelength Lighting BV-M1020/M1021



Main light source: Halogen light
Wavelength range:
1250nm~2500nm (BV-M1020)
900nm~1800nm (BV-M1021)
Fiber length: 1m
Weight: 4.2kg

Spectral Response



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