VP-50MX

50 MEGAPIXEL THERMOELECTRIC PELTIER COOLED CAMERA



The VP–50MX, the latest member of the industrial proven VP series, is a 50 megapixel resolution CMOS camera with the CoaXPress interface. The VP–50MX uses the latest 50 megapixel CMOS image sensor (CMV50000) technology from AMS CMOSIS, and offers up to 30.9 frames per second at 7920 × 6004 resolution. This camera uses thermo–electric Peltier (TEC) cooling technology developed for, and used by, many demanding medical market customers. The TEC maintains the operating temperature of the CMOS image sensor at up to about 12 degrees below ambient temperature. This camera provides a stable operating condition or the ability to expose for a long period of time to increase camera sensitivity. Featured with the stable operating capability and high resolution, this camera is ideal for demanding applications such as FPD, PCB and semiconductor inspections.



Main Features

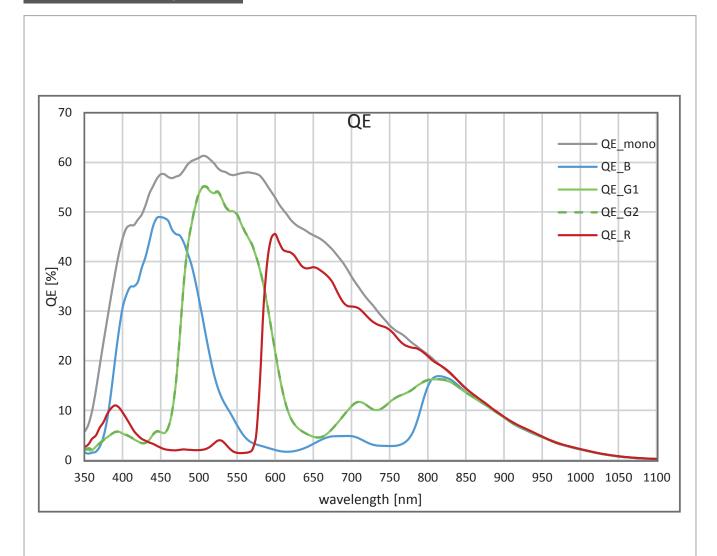
- * 50 Megapixel Resolution (AMS CMOSIS)
- * Thermoelectric Peltier Cooling
- about 12 degrees below ambient temperature
- * Minimizing the number of hot pixels with TEC
- * CoaXPress Interface up to 30 fps at 25 Gbps using 4 CH
- * Pixel Defect Correction
- * Flat Field Correction
- * DSNU and PRNU Correction

Applications

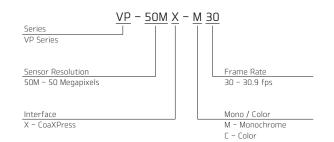
- * Flat Panel Display Inspection
- * PCB Inspection
- * Machine Vision Inspection
- * Microscopy and Metrology

Model		VP-50MX-M/C 30		
Resolution (H × V)		7920 × 6004		
Sensor		AMS CMOSIS CMV 50000		
Sensor Size (Optical	al Diagonal)	35 mm (45.72 mm)		
Sensor Type		High Speed CMOS Image Sensor		
Pixel Size		4.6 µm × 4.6 µm		
Interface		CoaXPress		
Max. Frame Rate		1CH: 7.7 fps @ 6.25 Gbps 2CH: 15.5 fps @ 6.25 Gbps 4CH: 30.9 fps @ 6.25 G	ibp	
Exposure Time (1 μs step)	1 μs - 60 s		
Partial Scan (Ma	x. Speed)	3968 fps at 4 Lines		
Divisi Data Farmant	Mono	Mono 8 / Mono 10 / Mono 12		
Pixel Data Format	Color	BG Bayer 8 / BG Bayer 10 / BG Bayer 12		
Electronic Shutter		Global Shutter		
Exposure N	Mode	Free-Run, Timed and Trigger Width		
Dynamic Range		64 dB		
Gain Cont	rol	1× ~ 30× (1/1024 step)		
Black Level C	ontrol	0 ~ 256 LSB at 12 bit (1 LSB step)		
Cooling Met	thod	Thermoelectric Peltier Cooling		
Cooling Perfor	rmance	12℃ below ambient temperature – Standard cooling with a fan		
Dimension / V	Veight	90 mm $ imes$ 90 mm $ imes$ 146 mm, 1,400 g		
Temperature		Operating: -5°C ~ 40°C, Storage: -40°C ~ 70°C		
Vibration / S	Shock	3G (20 ~ 200 Hz) XYZ / 10G 6 ms		
Lens Mount		F-mount, Custom mount available upon request		
Power	External	10 ~ 24 V DC, Typ. 24.0 W		
FOWE	PoCXP	Not supported		
Compliance		CE, FCC, KC		
API SDK		Vieworks Imaging Solution 7.X		

Quantum Efficiency Curves



Ordering Scheme



Connector Specification

Power



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

Control



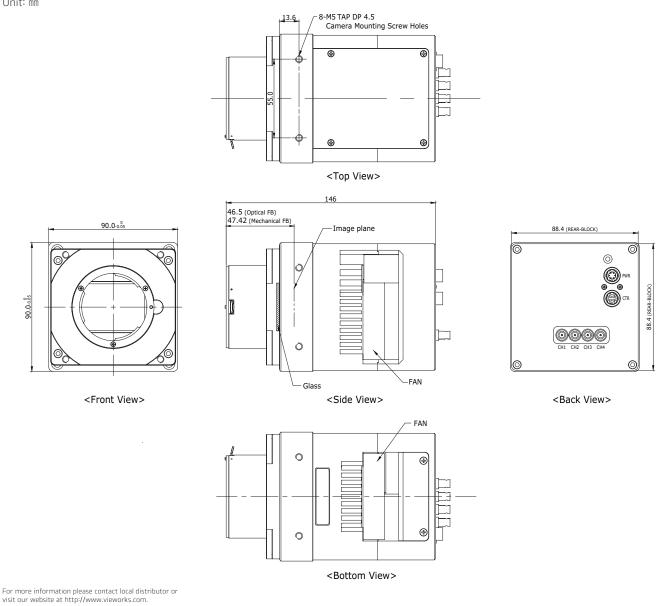
1: Trigger IN+, 2: Trigger IN-3: Strobe Out-(GND), 4: Strobe OUT+ (HR10A-7R-4S)

Data Transfer / Communications



CH1: Master Connection (75 Ω, DIN 1.0/2.3)





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D-17-715



VP-65MX-M/C 31 I

65 Megapixel Thermoelectric Peltier Cooled Camera



The VP-65MX-31 I, the latest model of the industrial proven VP series, is a new 65 megapixel CoaXPress camera featuring the latest CMOS image sensor technology (GMAX3265) from Gpixel. The VP-65MX-31 I offers up to 31.6 frames per second at 9344×7000 resolution. This camera uses thermo-electric Peltier (TEC) cooling technology developed for and used by many demanding medical market customers. The TEC maintains the operating temperature of the CMOS image sensor at up to 15 degrees below ambient temperature. This camera provides a stable operating condition and the ability to expose for a long period of time to increase camera sensitivity. Featured with the stable operating capability and high resolution, this camera is ideal for demanding applications such as FPD, PCB and semiconductor inspections.



Main Features

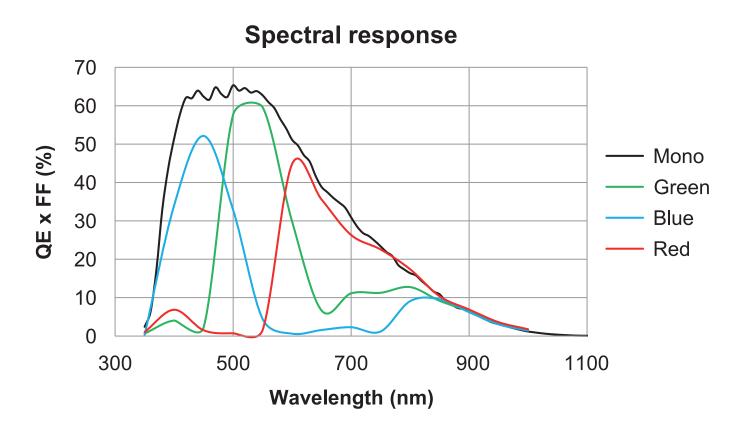
- Thermoelectric Peltier Cooled 15℃ below
- 65 Megapixel Resolution
- CoaXPress Interface up to 31.6 fps at 25 Gbps using 4 CH
- Global Shutter CMOS Technology
- DSNU and PRNU Correction
- Flat Field Correction
- Defective Pixel Correction
- GenlCam Compatible XML based Control

Applications

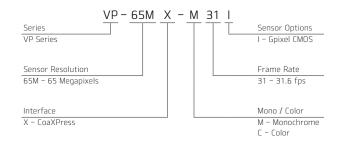
- Flat Panel Display Inspection
- Electronics Inspection
- Semiconductor Inspection
- Document / Film Scanning

Model		VP-65MX-M/C 31 I	
Resolution (H $ imes$ V)		9344 × 7000	
Sensor		Gpixel GMAX3265 – Normal Speed	
Sensor Size (Dia	agonal)	29.9 mm $ imes$ 22.4 mm (37.4 mm)	
Pixel Size	2	3.2 μ m $ imes$ 3.2 μ m	
Interface	9	CoaXPress	
		4 CH: 31.6 fps @ 8 bit	
Max. Frame	Dato	4 CH: 27.3 fps @ 10 bit	
Iviax. I fairle	nate	4 CH: 24.1 fps @ 12 bit	
		4 CH: 31.6 fps @ 8 bit 2 $ imes$ 2 Binning	
Exposure Time (1 μ s step)		14 μs - 60 s	
Partial Scan (Max	k. Speed)	6349.2 fps at 4 Lines	
Binning		2 × 2 Binning	
Divol Data Format	Mono	Mono 8 / Mono 10 / Mono 12	
Pixel Data Format	Color	GB Bayer 8 / GB Bayer 10 / GB Bayer 12	
Electronic Shutter		Global Shutter	
Trigger Synchronization		Free-Run, Hardware Trigger, Software Trigger or CXP	
External Trigger		3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated	
Software Tri	gger	Asynchronous, Programmable via Camera API	
Dynamic Ra	nge	66 dB @ 12 bit	
Gain Contr	rol	1× ~ 32×	
Black Level Co	ontrol	0 ~ 255 LSB at 12 bit	
Cooling Met	hod	Thermoelectric Peltier Cooling	
Cooling Performance		15℃ below ambient temperature – Standard cooling with a fan	
Dimension / W	Veight	90 mm $ imes$ 90 mm $ imes$ 145 mm, 1,500 g (with F-mount)	
Temperature		Operating: 0°C ~ 40°C, Storage: −40°C ~ 70°C	
Lens Mount		F-mount, Custom mount available upon request	
Davision	External	11 ~ 24 V DC	
Power	Dissipation	Typ. 26.0 W	
Compliand	ce	CE, FCC, KC (in preparation)	
API SDK		Vieworks Imaging Solution 7.X	

Spectral Response



Ordering Scheme



Connector Specification



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

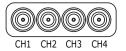
Control



1: Trigger IN+ 2: Trigger IN-3: Strobe Out-(GND) 4: Strobe Out+

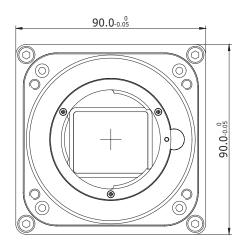
(HR10A-7R-4S)

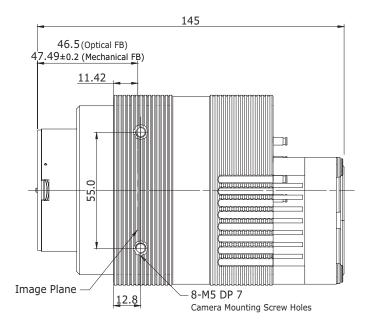
Data Transfer / Communications

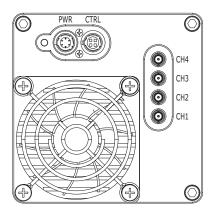


CH1: Master Connection 75 Ω , DIN 1.0/2.3

Unit: mm







VP-71MC-M/C 4

71 MEGAPIXEL RESOLUTION CMOS CAMERA WITH TEC INTEGRATED





The VP-71MC, the latest member of the industrial proven VP series, is a new 71 megapixel resolution CMOS camera with Camera Link interface. The VP-71MC uses the latest 71 megapixel CMOS imaging sensor (CHR 70M) technology from CMOSIS, and offers a frame rate of 4 fps at full resolution.

This camera uses thermo–electric Peltier (TEC) cooling technology developed for, and used by, many demanding medical market customers. The TEC maintains the operating temperature of the CMOS imaging sensor at up to 20 degrees below ambient temperature. This camera provide a stable operating condition or the ability to expose for a long period of time to increase camera sensitivity. Featured with the stable operating capability and high resolution, this camera is ideal for demanding applications such as FPD, PCB, and semiconductor inspections.



Main Features

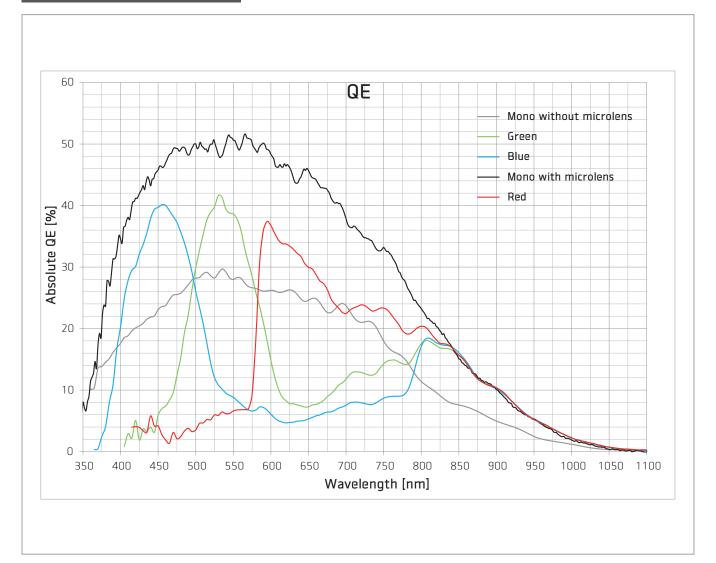
- * Thermoelectric Peltier Cooled 20°C below ambient temperature
- * 71 Megapixel Resolution CMOS Imaging Sensor
- * Camera Link Medium Interface up to 4.2 fps
- * Minimizing the Number of Hot Pixels with TEC (up to 99%)
- * Flat Field Correction
- * Pixel Defect Correction
- * Non-uniformity Correction (DSNU and PRNU)
- * Field Upgradable Firmware

Applications

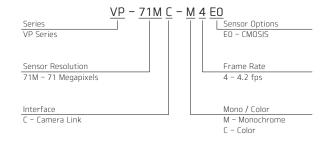
- * FPD, Electronics and Semiconductor Inspection
- * Research and Scientific Imaging
- * Document / Film Scanning

Model			VP-71MC-M/C 4	
Resolution (H × V)		× V)	10000 × 7096	
	Sensor	-,	CMOSIS CHR70M	
Sensor Size	e (Optica	al Format)	31.00 mm × 24.11 mm (38 mm)	
	nsor Typ		High Resolution CMOS Imaging Sensor	
	ixel Size		3.1 µm × 3.1 µm	
	2 Tap		Camera Link Base	
	4 Tap – Normal			
	4 Tap -		Camera Link Medium	
	r rup riigii		2.1 fps (CL Base)	
Max.	Frame I	Rate	2.9 fps (CL Medium)	
			4.2 fps (CL Medium / Overclocked)	
			476 ms (CL Base)	
Trar	nsfer Tii	me	335 ms (CL Medium)	
			238 ms (CL Medium / Overclocked)	
Expo	osure Ti	me	66 μs ~ 7 s (1 line step)	
Pixel (Data Fo	rmat	8 / 10 / 12 bit	
Electro	onic Shi	utter	Rolling Shutter	
Data Outp	put	2 Тар	85 MHz	
Pixel Clock S	Speed	4 Тар	Normal: 60 м₁ / High: 85 м₁	
Trig	Trigger Mode		Free-Run, External Trigger Programmable Exposure Time and Trigger Polarity	
Dyna	amic Ra	nge	63 dB	
Cooli	Cooling Method		Thermoelectric Peltier Cooling	
Cooling	Cooling Performance		About 20 below ambient temperature – Standard Cooling with a Fan	
Dimension / Weight		/eight	90 mm $ imes$ 90 mm $ imes$ 137 mm, 1500 g (F-mount)	
Ten	Temperature		Operating: 0°C ~ 40°C, Storage: −40°C ~ 70°C	
Lei	Lens Mount		F-mount, Custom mount available upon request	
	Power		10 ~ 24 V DC, Typ. 20.0 W	
Со	mplianc	е	CE, FCC, KC	
Configur	ation So	oftware	Configurator	

Quantum Efficiency Curves



Ordering Scheme



Connector Specification

Power



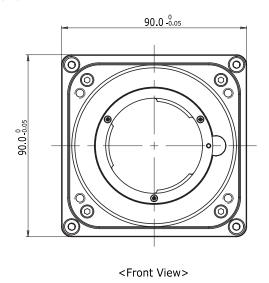
1 2 3: +12V DC, 4 5 6: GND (HR10A-7R-6PB)

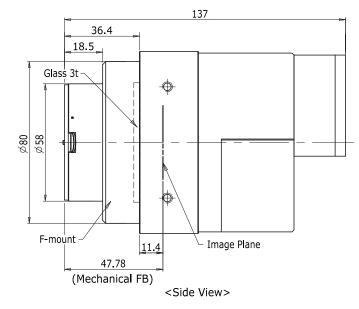
Control

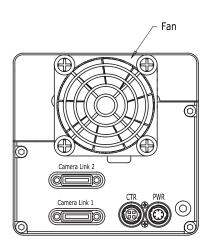


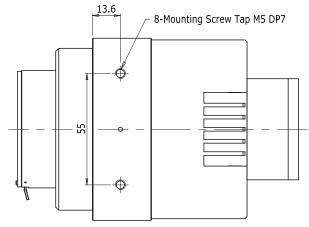
1: Trigger IN+, 2: Trigger IN-3: DC Ground, 4: Strobe OUT+ (HR10A-7R-4S)

Unit: mm









<Back View>

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VW40-162-004



VP-101MC-M/C 8 H VP-151MC-M/C 5 H

High Resolution Thermoelectric Peltier Cooled Camera



The VP-101MC and VP-151MC, the latest models of the industrial proven VP series, are 101 and 151 megapixel resolution CMOS cameras available with the Camera Link interface. These cameras are based on the latest CMOS image sensor technology (IMX461 and IMX411) from Sony Semiconductor Solutions Corporation. The VP-101MC-8 offers up to 8.1 frames per second at 11648×8742 resolution. For even higher resolution applications, the VP-151MC-5 offers up to 5.5 frames per second at 14192×10640 resolution. These cameras use thermo-electric Peltier (TEC) cooling technology developed for and used by many demanding medical market customers. The TEC maintains the operating temperature of the CMOS image sensor at up to 15 degrees below ambient temperature. These cameras provide a stable operating condition and the ability to expose for a long period of time to increase camera sensitivity. Featured with the stable operating capability and high resolution, these cameras are ideal for demanding applications such as FPD, PCB and semiconductor inspections.

VP-101MC-8 H / VP-151MC-5 H

High Resolution Thermoelectric Peltier Cooled Camera

Main Features

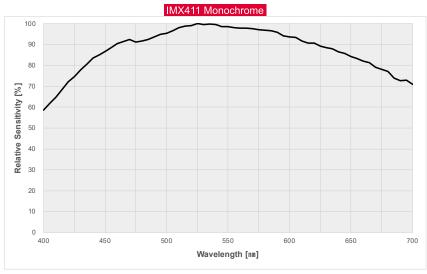
- Thermoelectric Peltier Cooled 15℃ below
- 101 or 151 Megapixel Resolution
- Camera Link Full Interface
- Electronic Rolling Shutter
- DSNU and PRNU Correction
- Flat Field Correction with Sequencer Control
- Hot Pixel Correction
- Dynamic Defective Pixel Correction
- 4 Gb Frame Buffer for Burst Readout Mode

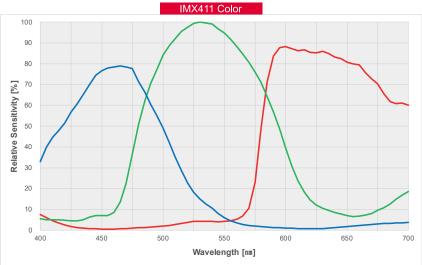
Applications

- Flat Panel Display Inspection
- Electronics Inspection
- Semiconductor Inspection
- Document / Film Scanning

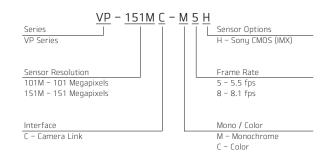
Model		VP-101MC-M/C 8 H	VP-151MC-M/C 5 H
Resolution (H $ imes$ V)		11648 × 8742	14192 × 10640
Sensor		SONY IMX461	SONY IMX411
Sensor Sizo	e (Diagonal)	43.80 mm $ imes$ 32.87 mm (55 mm)	53.36 mm $ imes$ 40.01 mm (66.7 mm)
Pixe	Size	$3.76~\mu\mathrm{m}~ imes~3.76~\mu\mathrm{m}$	$3.76~\mu\mathrm{m}~ imes~3.76~\mu\mathrm{m}$
Inte	face	Camera Link Base / Medium / Full / 10 Tap, 26-pin SDR Connector	
Max. Fra	ime Rate	8.1 fps (with Overlapped Acquisition)	5.5 fps (with Overlapped Acquisition)
Camera Ima	age Memory	4 Gb	
Exposure Tin	ne (1 µs step)	1 μs - 60 s	
Pixel Dat	a Format	8 / 10 / 12 bit	
Data Output Pi	xel Clock Speed	85 MHz / 65 MHz	
Electroni	c Shutter	Rolling Shutter	
Trigger	Overlapped Acquisition	Free-Run	
Synchronization	Non-overlapped Acquisition	Hardware Trigger or CC1	
Dynami	c Range	78 dB	
Gain C	ontrol	1× ~ 32×	
Black Lev	el Control	0 ~ 255 LSB at 12 bit	
Cooling	Method	Thermoelectric Peltier Cooling	
Cooling Pe	rformance	15 below ambient temperature – Standard cooling with a fan	
Dimension / Weight		100 mm × 100 mm × 88 mm, 1.1 kg (with M-72 mount)	110 mm $ imes$ 110 mm $ imes$ 88 mm, 1.4 kg (with M-72 mount)
Tempe	erature	Operating: 0°C ~ 40°C,	Storage: -40℃ ~ 70℃
Lens	Mount	M72-mount, Custom mount available upon request	
_	External	11 ~ 24 V DC	
Power	Dissipation	Typ. 26.0 W	
Compliance		CE, FCC, KC	
API SDK		Vieworks Imaging Solution 7.X	

Relative Sensitivity Curves





Ordering Scheme



Connector Specification

Power



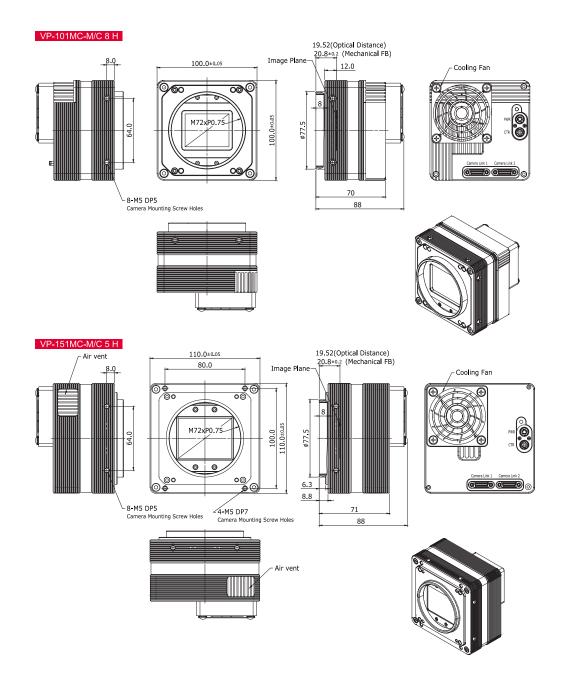
1 2 3: +12V DC, 4 5 6: GND (HR10A-7R-6PB)

Control



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

Unit: mm



VP-101MX-M/C 9 H VP-151MX-M/C 6 H

High Resolution Thermoelectric Peltier Cooled Camera



Coay Press

The VP-101MX and VP-151MX, the latest models of the industrial proven VP series, are equipped with the CoaXPress interface and based on the latest CMOS image sensor technology (IMX461 and IMX411) from Sony Semiconductor Solutions Corporation. The VP-101MX-9 offers up to 8.7 frames per second at 11648×8742 resolution. For even higher resolution applications, the VP-151MX-6 offers up to 6.2 frames per second at 14192×10640 resolution. These cameras use thermo-electric Peltier (TEC) cooling technology developed for and used by many demanding medical market customers. The TEC maintains the operating temperature of the CMOS image sensor at up to 15 degrees below ambient temperature. These cameras provide a stable operating condition and the ability to expose for a long period of time to increase camera sensitivity. Featured with the stable operating capability and high resolution, these cameras are ideal for demanding applications such as FPD, PCB and semiconductor inspections.



VP-101MX-9 H / VP-151MX-6 H

High Resolution Thermoelectric Peltier Cooled Camera

Main Features

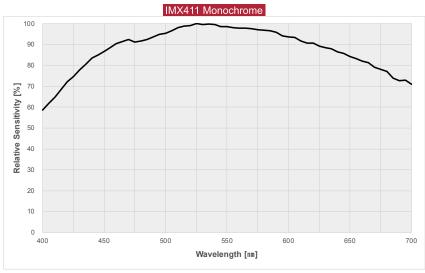
- Thermoelectric Peltier Cooled 15°C below
- 101 or 151 Megapixel Resolution
- CoaXPress Interface
- Electronic Rolling Shutter
- DSNU and PRNU Correction
- Flat Field Correction with Sequencer Control
- Hot Pixel Correction
- Dynamic Defective Pixel Correction

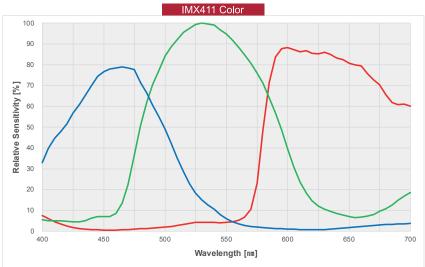
Applications

- Flat Panel Display Inspection
- Electronics Inspection
- Semiconductor Inspection
- Document / Film Scanning

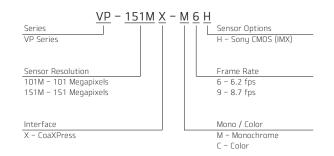
Model		VP-101MX-M/C 9 H	VP-151MX-M/C 6 H
Resolution (H $ imes$ V)		11648 × 8742	14192 × 10640
Ser	nsor	SONY IMX461	SONY IMX411
Sensor Size	e (Diagonal)	43.80 mm $ imes$ 32.87 mm (55 mm)	53.36 mm \times 40.01 mm (66.7 mm)
Pixe	l Size	$3.76~\mu\mathrm{m}~ imes~3.76~\mu\mathrm{m}$	$3.76~\mu\mathrm{m}~ imes~3.76~\mu\mathrm{m}$
Inte	rface	CoaXPress	
Max. Fra	ame Rate	8.7 fps (with Overlapped Acquisition)	6.2 fps (with Overlapped Acquisition)
Exposure Tir	ne (1 μs step)	1 μs - 60 s	1 μs - 60 s
Pixel Dat	a Format	8 / 10 / 12 bit	
Electroni	c Shutter	Rolling Shutter	
Trigger	Overlapped Acquisition	Free-Run	
Synchronization	Non-overlapped Acquisition	Hardware Trigger, Software Trigger or CXP	
Dynami	ic Range	78 dB	
Gain (Control	1×~32×	
Black Lev	el Control	0 ~ 255 LSB at 12 bit	
Cooling	Method	Thermoelectric Peltier Cooling	
Cooling Pe	erformance	15 below ambient temperature – Standard cooling with a fan	
Dimension / Weight		100 mm \times 100 mm \times 88 mm, 1.1 kg (with M-72 mount)	110 mm \times 110 mm \times 85 mm, 1.4 kg (with M-72 mount)
Tempe	erature	Operating: 0°C ~ 40°C, Storage: −40°C ~ 70°C	
Softwar	e Trigger	Asynchronous, Programmable via Camera API	
Lens	Mount	M72-mount, Custom mount available upon request	
	External	11 ~ 24 V DC	
Power	Dissipation	Typ. 26.0 W	
Compliance		CE, FCC, KC	
API SDK		Vieworks Imaging Solution 7.X	

Relative Sensitivity Curves





Ordering Scheme



Connector Specification

Power



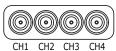
1 2 3: +12V DC, 4 5 6: GND (HR10A-7R-6PB)

Control



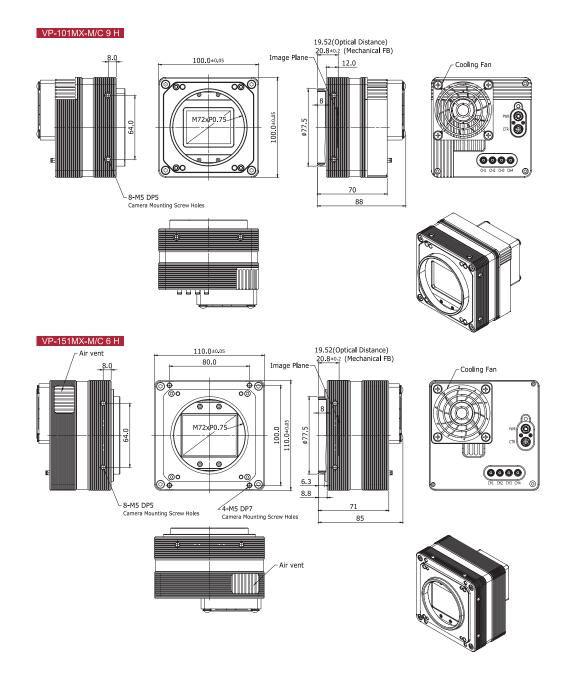
1: Trigger IN+, 2: Trigger IN-3: Strobe Out-(GND), 4: Strobe OUT+ (HR10A-7R-4S)

Data Transfer / Communications



CH1: Master Connection (75 Ω , DIN 1.0/2.3)

Unit: mm



VP-29MC-M/C 5

Thermoelectric Peltier Cooled High Speed Programmable Digital Camera





VP Series cameras are thermo—electric Peltier (TEC) cooled high performance digital cameras. These cameras use cooling technology developed for and used by many demanding medical market customers. The TEC maintains the operating temperature of the CCD at up to 20 degrees below ambient temperature. These cameras provide a stable operating condition and the ability to expose for a long period of time to increase camera sensitivity. These cameras are ideal for industrial applications such as FPD inspection and microscopy.



Main Features

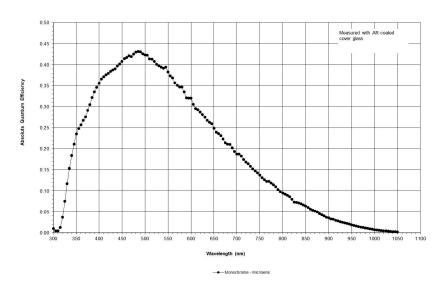
- Thermoelectric Peltier Cooled
- 20 degrees below ambient temperature
- Progressive Scan Interline Transfer CCD Imager
- Flat Field Correction
- Pixel Defect Correction
- Field Upgradable Firmware

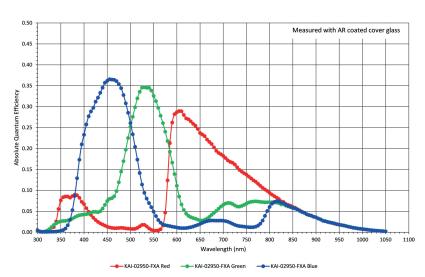
Applications

- Flat Panel Display Inspection
- Research and Scientific Imaging
- Machine Vision Inspection
- Microscopy and Metrology

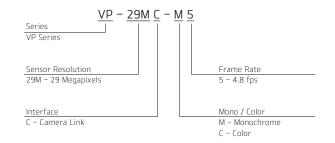
Model	VP-29MC-M/C 5	
Resolution (H $ imes$ V)	6576 × 4384	
Sensor (ON Semiconductor)	KAI-29050	
Sensor Size (Optical Format)	35 mm	
Sensor Type	Progressive Scan Interline Transfer CCD	
Pixel Size	5.5 μm × 5.5 μm	
Interface	Camera Link	
Max. Frame Rate (40 MHz)	4.8 fps	
Exposure Time (10 µs step)	1/100000 s - 7 s	
Partial Scan (Max. Speed)	15.2 fps at 1000 Lines	
Pixel Data Format	8 / 10 / 12 bit	
Electronic Shutter	Global Shutter	
Data Output Pixel Clock	40/80 MHz	
Trigger Mode	Free-Run, Overlap, Fast, Double - Programmable Exposure Time and Trigger Polarity	
Dynamic Range	62 dB	
Cooling Method	Thermoelectric Peltier Cooling	
Cooling Performance	20℃ below ambient temperature Standard cooling with a fan	
Dimension / Weight	90 mm $ imes$ 90 mm $ imes$ 142 mm, 1550 g (with F-mount)	
Temperature	Operating: −5°C ~ 40°C Storage: −40°C ~ 70°C	
Lens Mount	No mount or F-mount, Custom mount available upon request	
Power	10~14 V DC, Typ. 26 / Max. 30 W	
Compliance	CE, FCC, KC	
Configuration Software	Configurator	

Quantum Efficiency Curves





Ordering Scheme



Connector Specification



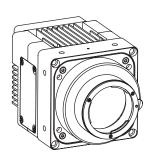
Control

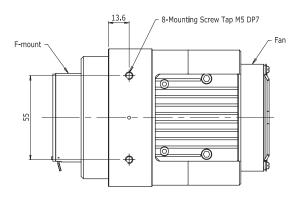
1, 2, 3: +12V DC 4, 5, 6: GND (HR10A-7R-6PB)



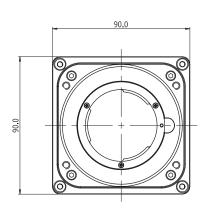
1: Trigger IN+ 2: Trigger IN-3: Strobe OUT-(GND) 4: Strobe OUT+ (HR10A-7R-4S)

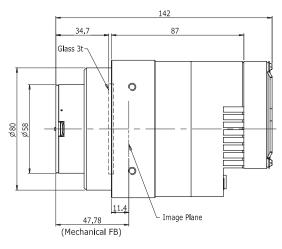
Unit: mm

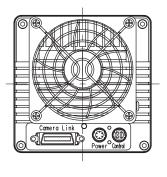












<Front View> <Side View> <Back Vlew> <Back Vlew>