
VNP-29MC

INTEGRATING THERMOELECTRIC PELTIER COOLED INTO
NANO STAGE PIXEL SHIFTING CAMERA



VNP Series, pixel shifting camera equipped with thermo-electric Peltier (TEC) cooled, is designed not only for applications where extremely high resolution is required but also where high quality image is essential. The TEC maintains the operating temperature of the CCD at up to 15 degrees below ambient temperature to reduce noise significantly. Pixel shifting technology based on a precise piezoelectric stage allows image captures as high as 260 million pixels using the VNP-29MC cameras.

These cameras are ideal for applications such as FPD inspection, document/film scanning, research and scientific imaging.

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Main Features

- * Nano Stage Pixel Shifting Mechanism
- * Thermoelectric Peltier Cooled
- * Extended Resolutions up to 260 Megapixels
- * True Color Full Image Resolution
- * Improved Fill Factor
- * Progressive Scan Interline Transfer CCD Imager
- * Flat Field Correction
- * Pixel Defect Correction

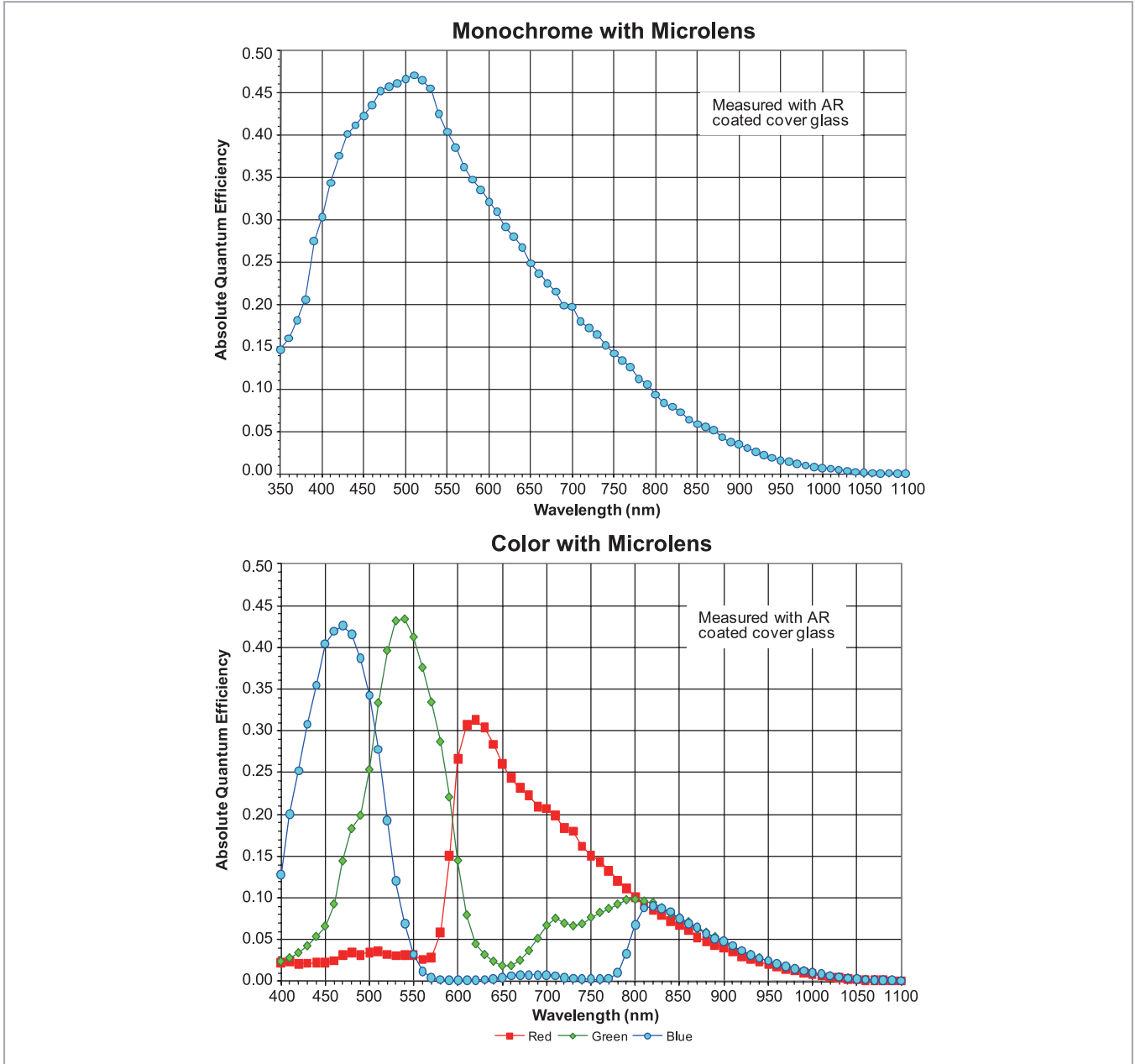
Applications

- * Flat Panel Display Inspection
- * Electronics and Semiconductor Inspection
- * Digitizing and Scanning
- * Scientific Imaging

Specifications

Model	VNP-29MC-M/C 5	
Resolution (H × V)	× 1 Mode	6576 × 4384, 28.8M
	× 4 Mode	13152 × 8768, 115.3M
	× 9 Mode	19728 × 13152, 259.5M
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)	× 1 Mode	4.8 fps
	× 4 Mode	1.2 fps
	× 9 Mode	0.5 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	
Shift Range	0 ~ 15 μm, 1 nm step	
Shift Resolution	0.001 μm	
Shift Control	Manual Mode or Sequence Mode (4/9 Shot Mono, 4/16/36 Shot Color)	
Shift Latency	< 8 ms	
Cooling Method	Thermoelectric Peltier Cooling	
Cooling Performance	15°C below ambient temperature – Standard cooling with a fan	
Dimension / Weight	94 mm × 120 mm × 183.9 mm, 2.3 kg	
Temperature	Operating: 10°C ~ 40°C, Storage: -40°C ~ 70°C	
Lens Mount	F-mount, Custom mount available upon request	
Power	10~14 V DC, Typ. 26.5 W	
Compliance	CE, FCC, KC	
Configuration Software	Configurator	

Quantum Efficiency Curves

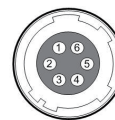


Ordering Scheme

VNP - 29M C - M 5 A0	
Series VNP Series	Sensor Options A0 - ON Semiconductor
Sensor Resolution 29M - 29 Megapixels	Frame Rate 5 - 4.8 fps
Interface C - Camera Link	Mono / Color M - Monochrome C - Color

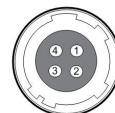
Connector Specification

Power



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

Control



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

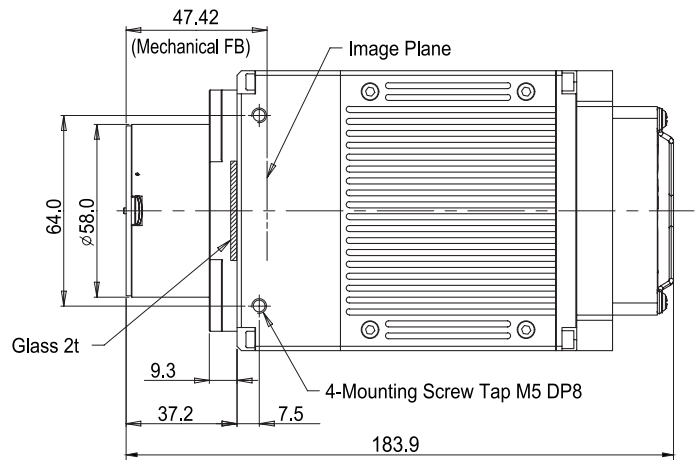
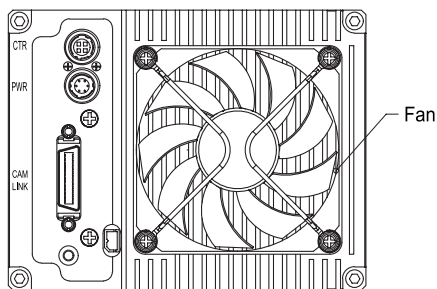
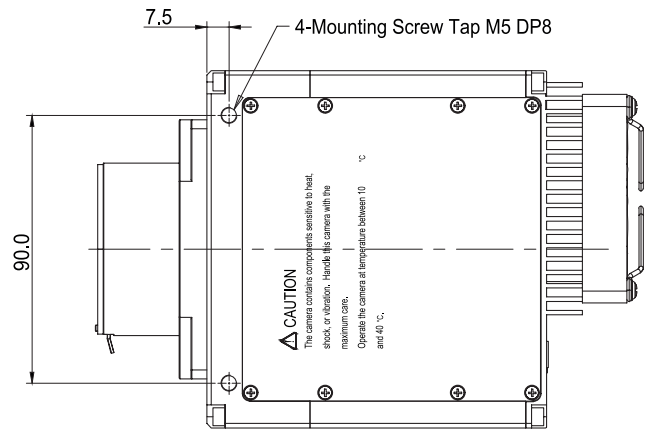
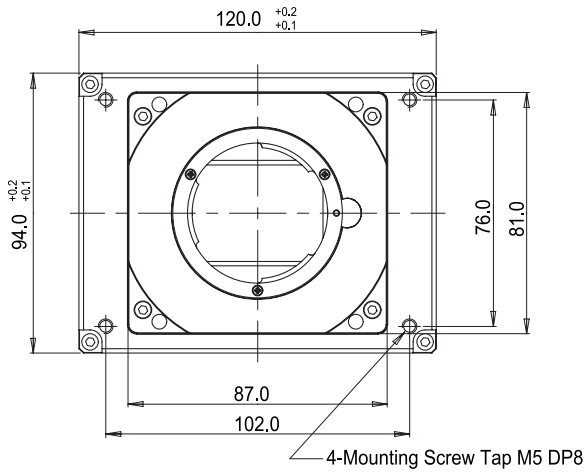
Connectors on camera body

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Mechanical Dimensions

Unit: mm



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