VP-144/288MX2 Series

144/288-Megapixel Thermoelectric Peltier Cooled Camera
with CoaXPress 2.0 Interface

The VP-144/288MX2, the latest models of the industrial proven VP series, are new 144/288-Megapixel CoaXPress 2.0 cameras and adopt the cutting-edge High Speed CMOS Image Sensor. The VP-288MX2 camera offers up to 15 frames per second at 24,000 × 12,000 resolution. The cameras in this series use thermoelectric Peltier (TEC) cooling technology developed for and used by many demanding medical market customers.

The TEC maintains the operating temperature of the image sensor at up to 10 degrees below ambient temperature. The camera provides a stable operating condition and the ability to expose for a long period of time to increase camera sensitivity. Featuring the stable operating capability and high resolution, this camera is ideal for demanding applications such as FPD, PCB and semiconductor inspections.

VP-144/288MX2 Series
Ultra High Resolution CMOS Digital Camera

Main Features

- Thermoelectric Peltier Cooled – 10℃ below
- 144/288-Megapixel Resolution
- CoaXPress 2.0 Interface up to 15 fps
  at 50 Gbps using 4 Channels
- Global Shutter CMOS Technology
- DSNU and PRNU Correction
- Pixel by Pixel PRNU Correction
- Flat Field Correction with Sequencer Control
- Hot Pixel Correction
- Defective Pixel Correction

Applications

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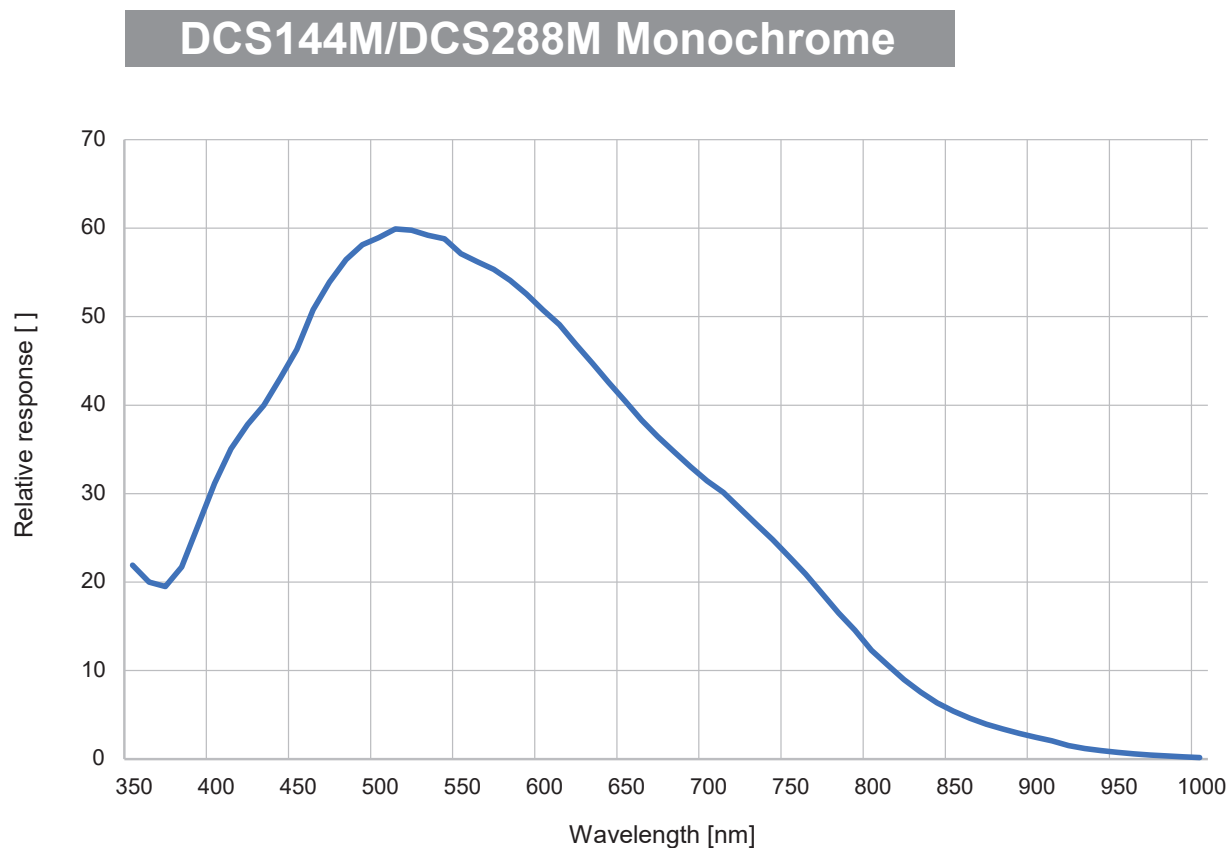- Document / Film Scanning

Specifications

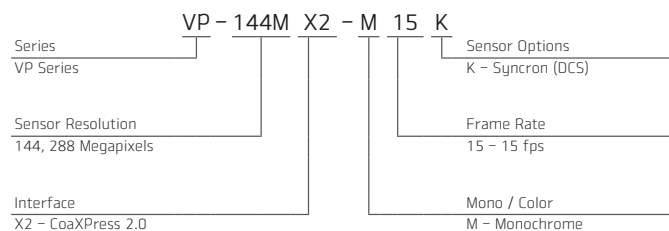| Model		VP-144MX2-M15K	VP-288MX2-M15K
Resolution (H × V)		12000 × 12000	24000 × 12000
Sensor		DCS144M	DCS288M
Sensor Size (Diagonal)		42.0 ㎜ × 42.0 ㎜	84.0 ㎜ × 42.0 ㎜
Pixel Size		3.5 ㎛ × 3.5 ㎛	
Interface		CoaXPress 2.0 (CXP-6/10/12)	
Max. Frame Rate		15 fps	
Exposure Time (1 ㎲ step)		1 ㎲ – 60 s	
Binning	Sensor	Horizontal and Vertical Dependent: ×1	
	Logic	Horizontal and Vertical Independent: ×1, ×2	
Pixel Data Format		Mono 8/10/12 bit	
Electronic Shutter		Global Shutter	
Exposure Mode		Timed, Trigger Width	
Dynamic Range		60 dB at 12 bit	
Gain Control	Analog	1× ~ 4×	
	Digital	1× ~ 32×	
Black Level Control		0 ~ 255 LSB at 12 bit	
Dimension / Weight		125 ㎜ × 125 ㎜ × 106 ㎜, 2 ㎏ (with the mount)	
Cooling Performance		10±2℃ below ambient temperature – Standard cooling with a fan	
Temperature		Operating: 0℃ ~ 40℃, Storage: –40℃ ~ 70℃	
Trigger Synchronization		Free-Run, Hardware Trigger, Software Trigger, UserOutput0, CXP, Timer	
External Trigger		3.3 V ~ 24.0 V, 10 ㎃, Logical Level Input, Optically Isolated	
Software Trigger		Asynchronous, Programmable via Camera API	
Lens Mount		M72-mount, Custom mount available upon request	M102-mount, Custom mount available upon request
Power	External	11 ~ 24 VDC	
	Dissipation	Typ. 36 W	
API SDK		Vieworks Imaging Solution 7.X	

Relative Sensitivity Curves

* The sensitivity data may not match the measurement on the finished product necessarily because it is measured based on the wafer.
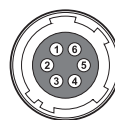
DCS144M/DCS288M Monochrome

Ordering Scheme

```
VP – 144M X2 – M 15 K
```

Series
VP Series

Sensor Resolution
144, 288 Megapixels

Interface
X2 – CoaXPress 2.0

Sensor Options
K – Syncron (DCS)

Frame Rate
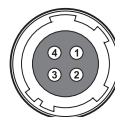15 – 15 fps

Mono / Color
M – Monochrome

Connector Specification

Power

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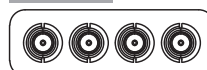
Control

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

Data Transfer / Communications

Micro-BNC

CH1: Master Connection
75 Ω , Micro-BNC (HD-BNC)

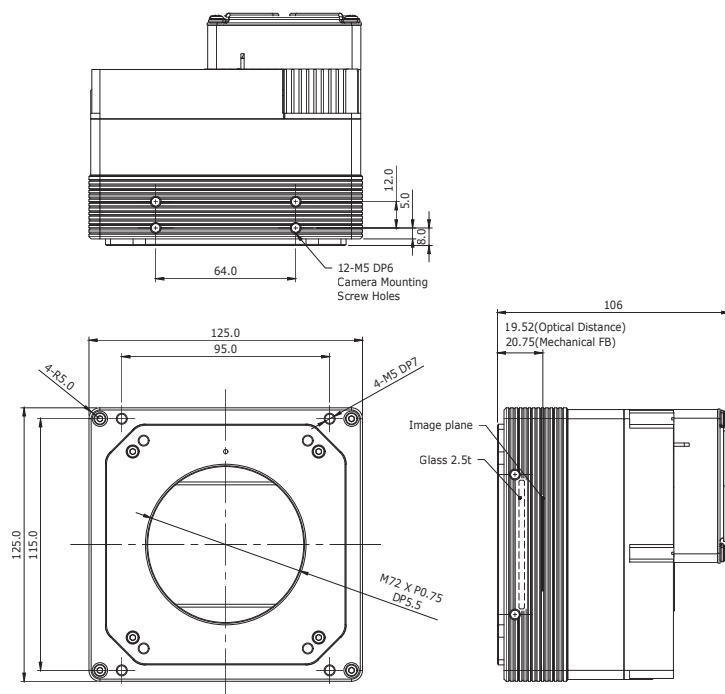CH1 CH2 CH3 CH4

Connectors on camera body

Mechanical Dimensions

Unit: ㎜

VP-144MX2

12.0
5.0
8.0
64.0
12-M5 DP6
Camera Mounting
Screw Holes

125.0
95.0
4-R5.0
4-M5 DP7
125.0
115.0
M72 X P0.75
DP5.5

106
19.52(Optical Distance)
20.75(Mechanical FB)
Image plane
Glass 2.5t

Unit: ㎜

VP-288MX2

12.0
5.0
8.0
64.0
12-M5 DP6
Camera Mounting
Screw Holes

125.0
95.0
4-R5.0
4-M5 DP7
125.0
115.0
M102 X P1.0
DP5.5

106
19.52(Optical Distance)
20.75(Mechanical FB)
Image plane
Glass 2.5t

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