

# VP-144/216/288MX2 Series

144/216/288-Megapixel Thermoelectric Peltier Cooled Camera  
with CoaXPress 2.0 Interface



- VP-144MX2-M15 Image



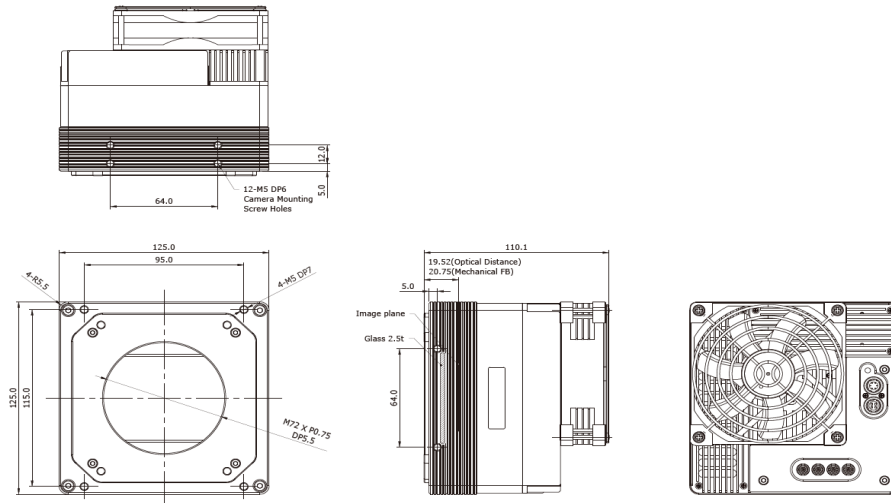
The VP-144/216/288MX2, the latest models of the industrial proven VP series, are new 144/216/288 Megapixel CoaXPress 2.0 cameras and adopt the cutting-edge High Speed CMOS Image Sensor. The VP-288MX2 camera offers up to 15 frames per second at 24,000 × 12,000 resolution. The cameras in this series use thermoelectric Peltier(TEC) cooling technology. The TEC maintains 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-144/216/288MX2 Series

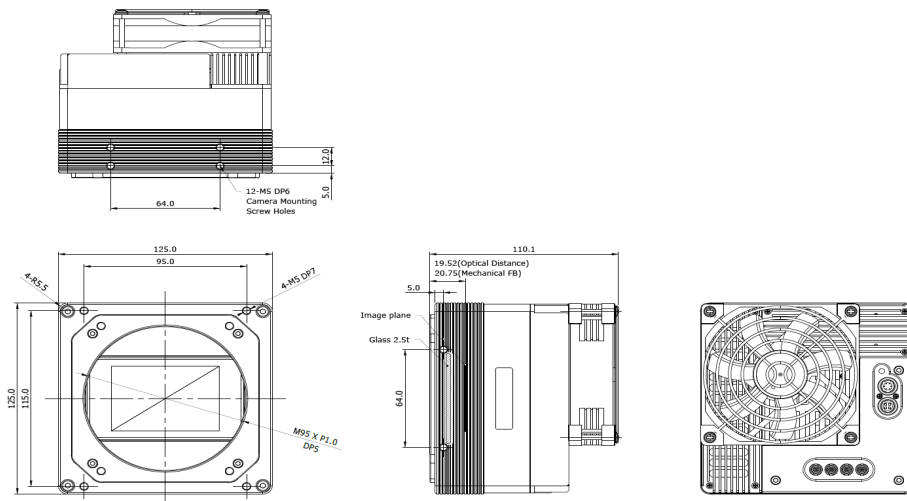
Ultra High Resolution CMOS Digital Camera

## Mechanical Dimensions

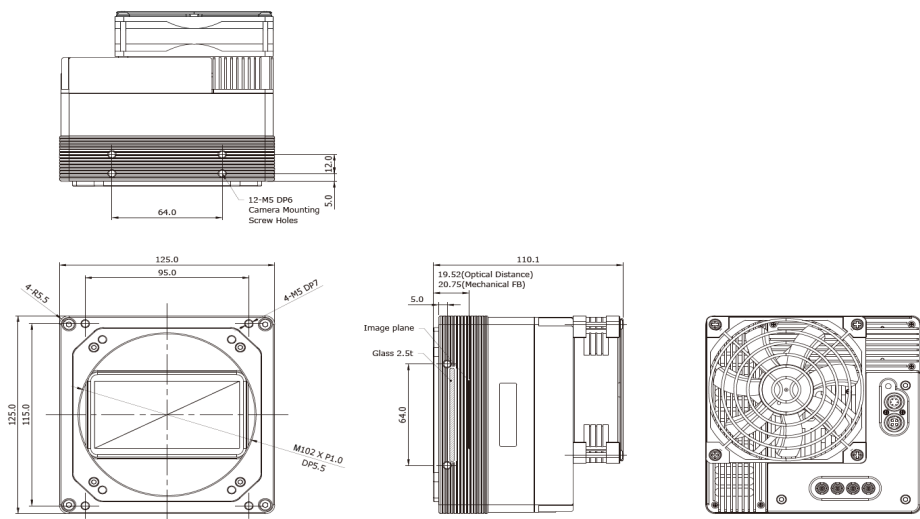
- VP-144MX2 (unit:mm)



- VP-216MX2 (unit:mm)



- VP-288MX2 (unit:mm)



# VP-144/216/288MX2 Series

Ultra High Resolution CMOS Digital Camera

## Main Features

- Thermoelectric Peltier Cooled – 10°C below
- 144/216/288–Megapixel Resolution
- CoaXPress 2.0 Interface up to 15 fps at 50Gbps using 4 Channels
- Global Shutter CMOS Technology
- DSNU and PRNU Correction
- Pixel by Pixel PRNU Correction
- Flat Field Correction with Sequencer Control
- Defective Pixel Correction

## Applications

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

## Specifications

| Model   | VP-144MX2-M15  | VP-216MX2-M/C15K                            | VP-288MX2-M15                 |
|---|--|---|-------------------------------|
| Resolution (H × V)                                  | 12000 × 12000  | 17984 × 12000                               | 24000 × 12000                 |
| Sensor  | Vieworks Sensor<br>(SCG 144M)  | Vieworks Sensor<br>(SCG 216M-M/C)           | Vieworks Sensor<br>(SCG 288M) |
| Sensor Size (Diagonal)                              | 42.0mm × 42.0mm(59.39mm)   | 63.0mm × 42.0mm(75.71mm)                    | 84.0mm × 42.0mm(93.91mm)      |
| Pixel Size  | 3.5 μm × 3.5 μm  |   |                               |
| Interface   | CoaXPress 2.0 (CXP-6/10/12)  |   |                               |
| Max. Frame Rate                                     | 15 fps at 8 bit  |   |                               |
| Exposure Time (1 μs step)                           | 100 μs – 7 s (1 μs step)   |   |                               |
| Binning   | Sensor   | Horizontal and Vertical Dependent: ×1       |                               |
|   | Logic  | Horizontal and Vertical Independent: ×1, ×2 |                               |
| Pixel Data Format                                   | Mono: 8 bit, 10 bit, 12 bit<br>Color (VP-216MX2-C15K only): RG Bayer 8bit, 10bit, 12bit  |   |                               |
| Electronic Shutter                                  | Global Shutter   |   |                               |
| Exposure Mode                                       | Free-Run, Timed, Trigger Width   |   |                               |
| Dynamic Range                                       | 62 dB at 12 bit  |   |                               |
| Gain Control  | Analog   | 1 × ~ 4 ×                                   |                               |
|   | Digital  | 1 × ~ 32 ×                                  |                               |
| Black Level Control                                 | 0 ~ 255 LSB at 12 bit  |   |                               |
| Dimension / Weight                                  | 125 mm × 125 mm × 106 mm, 2.1 kg   |   |                               |
| Cooling Performance                                 | 10±2°C below ambient temperature (Standard cooling with a fan)                           |   |                               |
| Temperature   | Operating: 0°C ~ 40°C, Storage: -40°C ~ 70°C   |   |                               |
| Trigger Synchronization                             | Free-Run, Hardware Trigger, Software Trigger, UserOutput0, CXP, Timer                    |   |                               |
| External Trigger                                    | 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated<br>CoaXPress Control Port |   |                               |
| Software Trigger                                    | Asynchronous, Programmable via Camera API  |   |                               |
| Lens Mount<br>(Custom mount available upon request) | M72-mount  | M95-mount                                   | M102-mount                    |
| Power   | External   | 12 ~ 24 VDC                                 |                               |
|   | Dissipation  | Typ. 38 W                                   | Typ. 40 W                     |
| API SDK   | Vieworks Imaging Solution 7.3x   |   |                               |

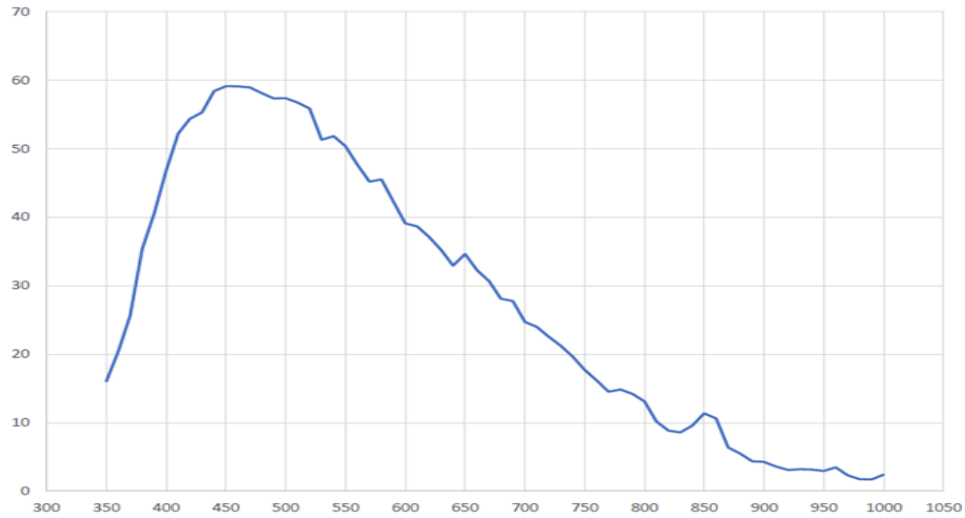
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Ultra High Resolution CMOS Digital Camera

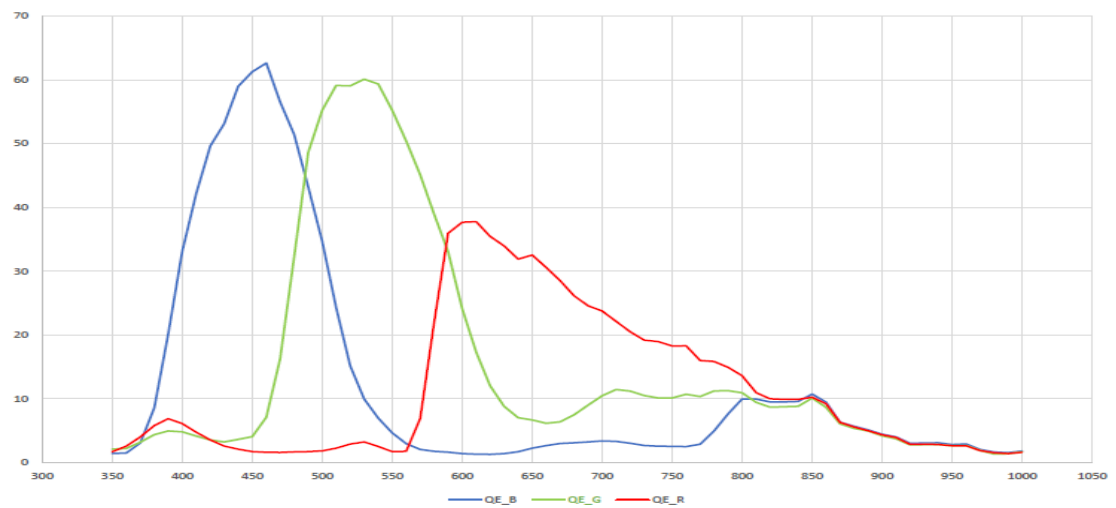
## Relative Sensitivity Curves

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

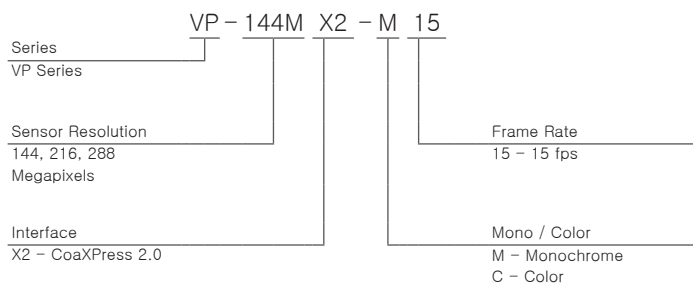
- Mono



- Color (VP-216MX2-C15K only)

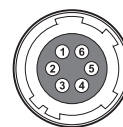


## Ordering Scheme



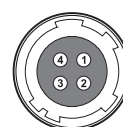
## Connector Specification

### Power



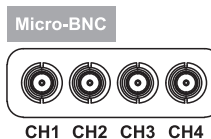
1, 2, 3: +24 VDC  
4, 5, 6: GND  
(HR10A-7R-6PB)

### Control



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

### Data Transfer / Communications



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

Connectors on camera body