

# VC-12MX-M/C 180 VC-25MX-M/C 72 VC-25MX-M/C 81 D

High Speed & High Resolution CMOS Digital Camera  
with CoaXPress Interface



**CoaXPress**<sup>®</sup>

The VC-12MX-180, VC-25MX-72 and VC-25MX-81 D, the latest members of industrial proven VC series, are based on the latest CMOS global shutter imagers. The VC-12MX-180 features 12 megapixel resolution with frame rates of up to 181 fps, the VC-25MX-72 features 25 megapixel resolution with frame rates of up to 72 fps and the VC-25MX-81 D features 25 megapixel resolution with frame rates of up to 81 fps.

These combinations of resolution, frame rate, and global shutter set a new standard for Industrial, Scientific, and Surveillance digital imaging applications. Customers in the industrial market can take advantage of common coax cabling to transmit images at rates and distance above and beyond previous standards. With these cameras, image data can be transmitted at up to 6.25 Gbps using a single coaxial cable and up to 25 Gbps using four cables. These high speed and high resolution models are ideal for wide range of demanding applications including PCB and semiconductor inspections.

**VIEWORKS**

[vision.vieworks.com](http://vision.vieworks.com)

# VC-12MX-180 / VC-25MX-72 / VC-25MX-81 D

High Speed & High Resolution CMOS Digital Camera with CoaXPress Interface

## Main Features

- 12 & 25 Megapixel Resolutions
- High-Speed Progressive Scan CMOS Imager
- Global Shutter CMOS Technology
- CoaXPress Interface up to 181 fps at 25 Gbps using 4 CH (VC-12MX-180)
- Flat Field Correction
- DSNU and PRNU Correction (VC-25MX-72/VC-25MX-81 D)
- Low Noise with Optimized Heat Treatment

## Applications

- PCB Inspection
- Semiconductor Inspection
- 3D Inspection
- High-end Surveillance

## Specifications

| Model                      | VC-12MX-M/C 180                               | VC-25MX-M/C 72                                 | VC-25MX-M/C 81 D                           |                         |
|----------------------------|---|--|--|-------------------------|
| Resolution (H × V)         | 4096 × 3072                                   | 5120 × 5120                                    | 5120 × 5120                                |                         |
| Sensor                     | CMOSIS CMV 12000                              | On Semi. VITA-25K                              | On Semi. PYTHON-25K                        |                         |
| Sensor Size                | 22.5 mm × 16.9 mm<br>(Diagonal: 28.1 mm)      | 23.04 mm × 23.04 mm<br>(Optical Format: 35 mm) | 23.04 mm × 23.04 mm<br>(Diagonal: 32.6 mm) |                         |
| Sensor Type                | High Speed CMOS Image Sensor                  |  |  |                         |
| Pixel Size                 | 5.5 μm × 5.5 μm                               | 4.5 μm × 4.5 μm                                | 4.5 μm × 4.5 μm                            |                         |
| Interface                  | CoaXPress                                     |  |  |                         |
| Max. Frame Rate            | 1 CH: 46 fps @ 6.25 Gbps                      | 1 CH: N/A                                      | 1 CH: N/A                                  |                         |
|                            | 2 CH: 92 fps @ 6.25 Gbps                      | 2 CH: 46 fps @ 6.25 Gbps                       | 2 CH: 44 fps @ 6.25 Gbps                   |                         |
|                            | 4 CH: 181 fps @ 6.25 Gbps                     | 4 CH: 72 fps @ 6.25 Gbps                       | 4 CH: 81 fps @ 6.25 Gbps                   |                         |
| Exposure Time† (1 μs step) | 43 μs – 60 s                                  | 1 μs – 60 s                                    |  |                         |
| Partial Scan (Max. Speed)  | 15151 fps at 4 Lines                          | 7692 fps at 4 Lines (H: 256)                   | 10989 fps at 4 Lines (H: 256)              |                         |
| Pixel Data Format          | 8 bit   | 8 bit, 10 bit                                  | 8 bit                                      |                         |
| Electronic Shutter         | Global Shutter                                |  |  |                         |
| Gain Control               | 1× ~ 4×                                       |  |  |                         |
| Black Level Control        | 0 – 16 LSB at 8 bit                           | 0 – 16 LSB at 8 bit<br>0 – 64 LSB at 10 bit    | 0 – 16 LSB at 8 bit                        |                         |
| Trigger Synchronization    | Free-Run, Timed, Trigger Width                |  |  |                         |
| Dynamic Range              | 54 dB   |  |  |                         |
| Dimension / Weight         | 80 mm × 80 mm × 102 mm, 620 g (F-mount)       |  |  |                         |
| Temperature                | Operating: -5°C ~ 40°C, Storage: -40°C ~ 70°C |  |  |                         |
| Lens Mount                 | F-mount                                       |  |  |                         |
| Power                      | External                                      | 10 ~ 38 V DC, Typ. 12 W                        | 10 ~ 38 V DC, Typ. 10.5 W                  | 10 ~ 38 V DC, Typ. 12 W |
|                            | PoCXP   | 24 V DC, Minimum of two PoCXP cables required  |  |                         |
| Compliance                 | CE, FCC, KC                                   |  |  |                         |
| API SDK                    | Viewworks Imaging Solution 7.X                |  |  |                         |

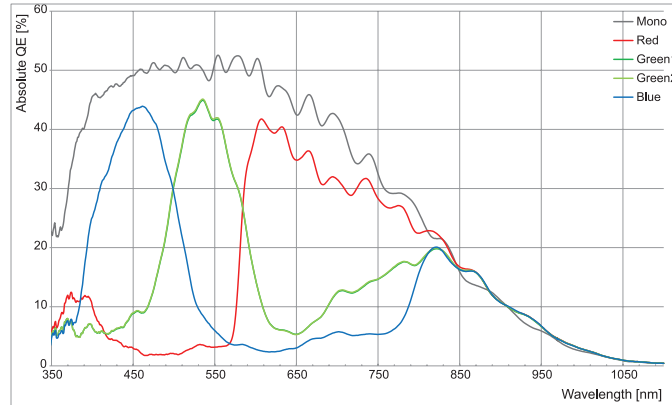
† The minimum actual exposure time varies depending on the camera model.

# VC-12MX-180 / VC-25MX-72 / VC-25MX-81 D

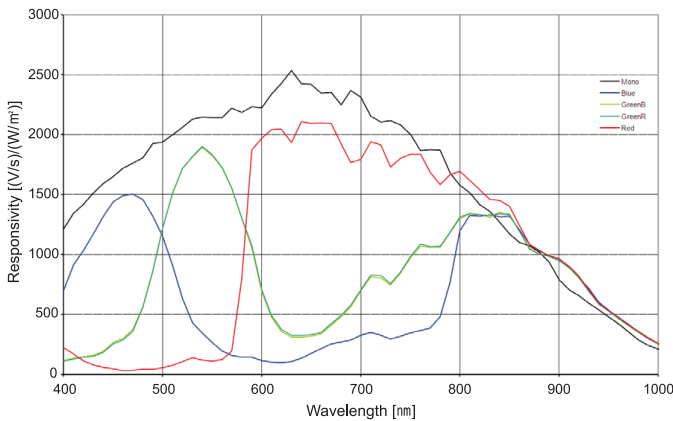
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## Spectral Response

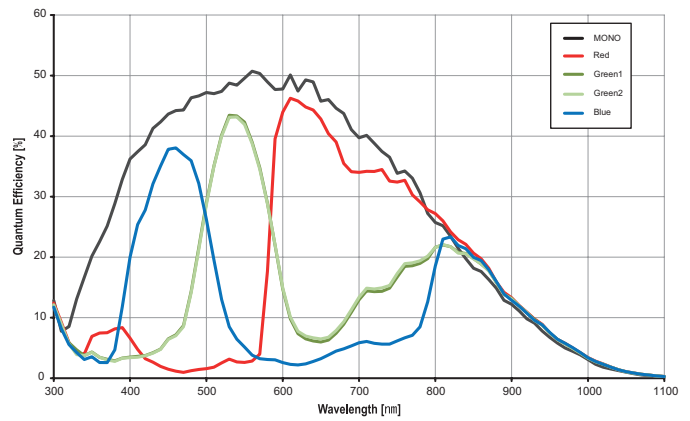
VC-12MX-M/C 180



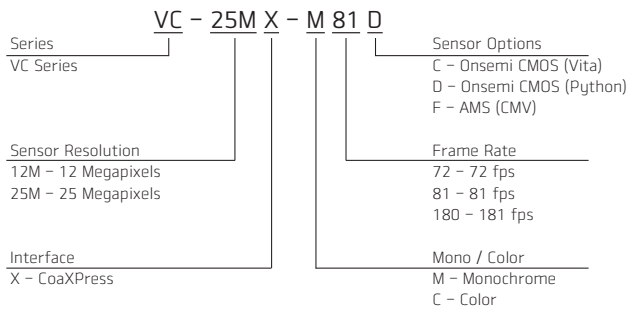
VC-25MX-M/C 72



VC-25MX-M/C 81 D

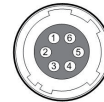


## Ordering Scheme



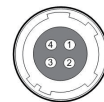
## Connector Specification

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)

Data Transfer/Communications

**BNC**



CH1



CH2



CH3



CH4

**DIN**



CH1 CH2 CH3 CH4

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

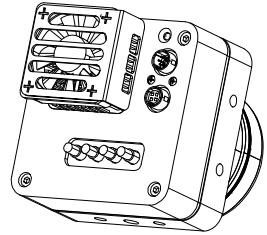
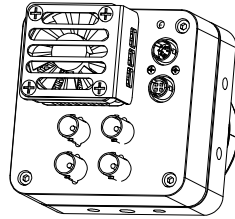
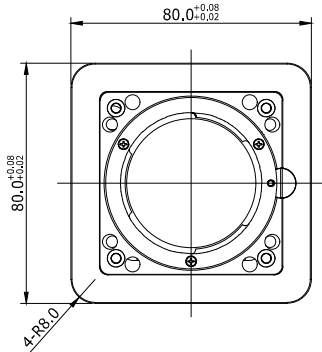
Connectors on camera body

# VC-12MX-180 / VC-25MX-72 / VC-25MX-81 D

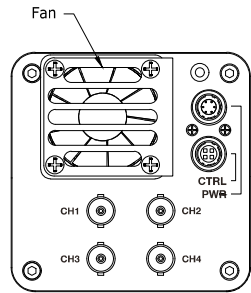
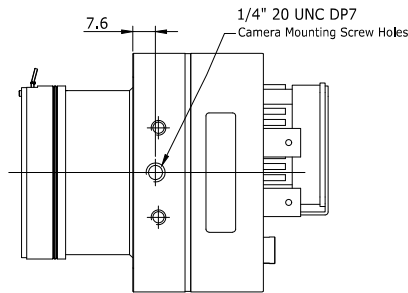
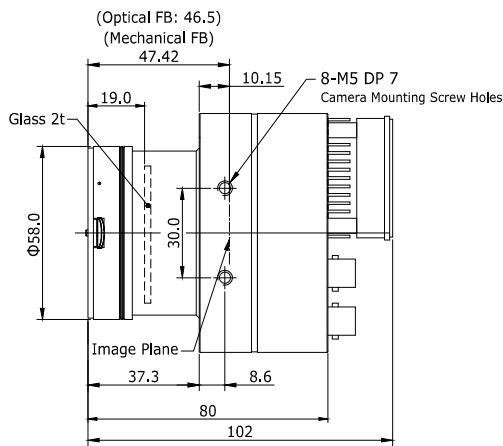
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## Mechanical Dimensions

Unit: mm



### BNC-Type



### DIN-Type

