

# MARS-2441-93X2M/C

## 24MP CMOS CXP2.0 Area Scan Camera



The MARS-2441-93X2M/C camera is equipped with global shutter sensor and uses CoaXPress2.0 interface for high-speed transmission of image data, featuring high quality images, extremely low power, small housing, and stable operating capability. The camera is capable of 12.5Gbit/s maximum transfer data rate, support PoCXP and can secure the reliability of cameras deployed in harsh industrial environments. The cameras are industrial cameras with high reliability, high transmission speed and high image quality.

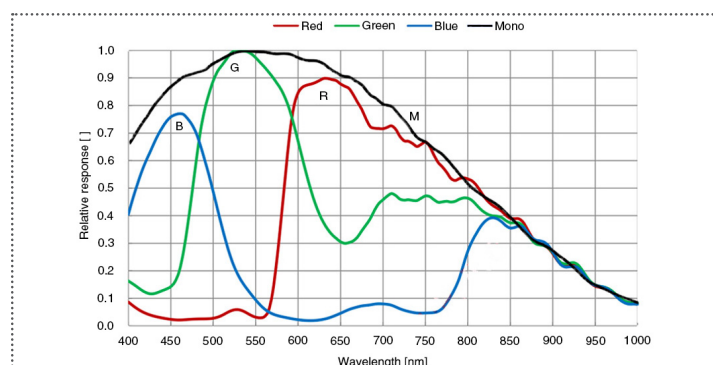
### Applications

Suitable for machine vision applications such as new energy inspection, PCB inspection, assembly verification, consumer electronics and so on.

### Features

- FFC
- The Sequencer Control supports multiple sets of parameters configuration
- Color models support Light Source Preset, Color Transformation Control, Saturation and Hue
- Brightness, Contrast, Gamma, Sharpness, Noise Reduction, Black Level, Timer, Counter, LUTs and User Set Control
- DAHENG IMAGING or third-party frame grabbers are available

### Spectral Response



## Specifications

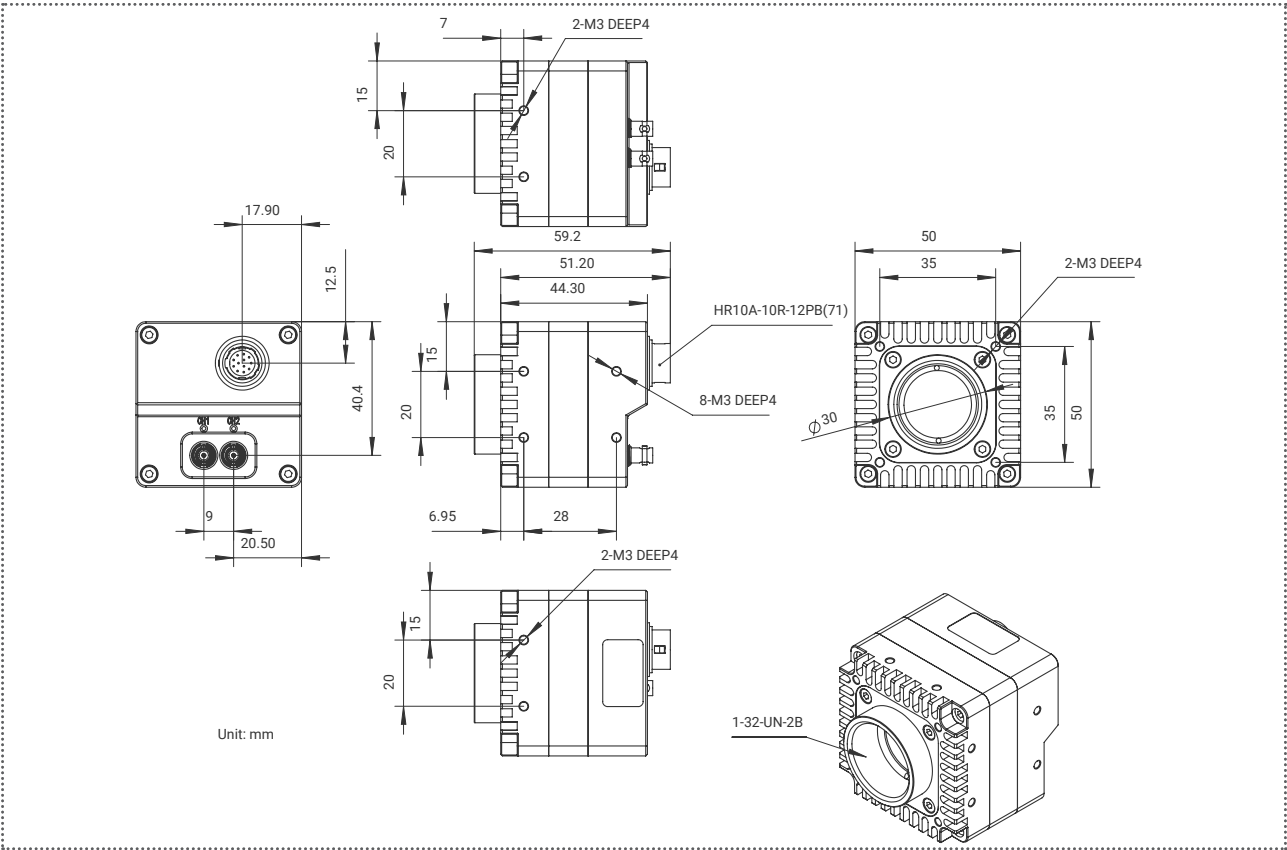
| Model              | MARS-2441-93X2C                                                                                                 | MARS-2441-93X2M         |
|--------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------|
| Resolution         | 5312(H) × 4608(V)                                                                                               |                         |
| Sensor             | IMX530 Global shutter CMOS                                                                                      |                         |
| Sensor Format      | Diagonal 19.3 mm (Type 1.2)                                                                                     |                         |
| Pixel Size         | 2.74μm × 2.74μm                                                                                                 |                         |
| Frame Rate         | 93.87fps                                                                                                        |                         |
| ADC                | 10 bit, 12 bit                                                                                                  |                         |
| Pixel Bit Depth    | 8 bit, 10 bit, 12 bit                                                                                           |                         |
| Mono/Color         | Color                                                                                                           | Mono                    |
| Pixel Formats      | Bayer RG8 / Bayer RG10 / Bayer RG12                                                                             | Mono8 / Mono10 / Mono12 |
| SNR                | 41.05 dB                                                                                                        | 41.16 dB                |
| Exposure Time      | UltraShort: 1μs ~ 2.4μs, Actual Steps: 0.1 μs<br>Standard: 3μs ~ 1s, Actual Steps: linetime                     |                         |
| Gain               | Digital gain: 0dB~16dB, Default: 0dB, Steps: 0.1dB<br>Analog digital: 10bit:1×, 12bit: 1× ~ 12.19×, Default: 1× |                         |
| Binning            | -                                                                                                               | 2×2                     |
| Decimation         | 2×2                                                                                                             |                         |
| Synchronization    | Hardware trigger, software trigger                                                                              |                         |
| Acquisition Mode   | Single frame, Continuous, Software trigger, Hardware trigger, CXP trigger                                       |                         |
| Reverse X/Y        | Reverse X/Y                                                                                                     |                         |
| I/O Interface      | 1 input and 1 output with opto-isolated, 1 bidirectional GPIO, 1 RS232                                          |                         |
| Data Interface     | CXP-12 × 2(HD-BNC)                                                                                              |                         |
| Power Supply       | PoCXP                                                                                                           |                         |
| Power Consumption  | 5.963W @ PoCXP                                                                                                  | 6.094W @ PoCXP          |
| Operating Temp.    | 0°C ~ +45°C                                                                                                     |                         |
| Storage Temp.      | -20°C ~ +70°C                                                                                                   |                         |
| Operating Humidity | 10% ~ 80%                                                                                                       |                         |
| Cooling            | Passive Cooling, optional: Heat Dissipation Fins                                                                |                         |
| Lens Mount         | C                                                                                                               |                         |
| Dimensions         | 50mm × 50mm × 59.2mm                                                                                            |                         |
| Weight             | 183 g                                                                                                           |                         |
| Software           | DAHENG IMAGING or third-party frame grabbers supporting software                                                |                         |
| OS                 | Win7 / Win8 / Win10 / Win11                                                                                     |                         |
| Conformity         | CE, RoHS, FCC, ICES, UKCA, CoaXPress2.0, GenICam                                                                |                         |

I/O Interface



| PIN | Definition | Description            |
|-----|------------|------------------------|
| 1   | Line 0+    | Opto-isolated input +  |
| 2   | GND        | GPIO GND               |
| 3   | Line 0-    | Opto-isolated input -  |
| 4   | POWER_IN   | -                      |
| 5   | Line 2     | GPIO input/output      |
| 6   | RS232 Rx   | RS232 receive          |
| 7   | Line 1-    | Opto-isolated output - |
| 8   | Line 1+    | Opto-isolated output + |
| 9   | GND        | GPIO GND               |
| 10  | GND        | GPIO GND               |
| 11  | POWER_IN   | -                      |
| 12  | RS232 Tx   | RS232 transmit         |

Technical Drawing



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