

# MARS-3250-12U3M/C

MARS USB3.0 Series 32.5MP CMOS USB3.0 Area Scan Camera



The MARS-3250-12U3M/C camera is a monochrome/color GigE Vision camera with the ON XGS32000 CMOS sensor. Thanks to locking screw connectors, the MARS cameras can secure the reliability of cameras deployed in harsh environments. The MARS-3250-12U3M/C camera has opto-isolated I/Os. The GPIOs give MARS-U3 cameras maximum flexibility to adapt to specific needs.

## Applications

Suitable for machine vision applications such as industrial inspection, medical, scientific research, education and so on.

## Features

- Trigger mode: Frame Start /Frame Burst Start
- Two exposure time modes: Standard exposure time mode / UltraShort exposure time mode
- Support Timed exposure mode and TriggerWidth exposure mode
- Support Gamma, Binning, Decimation, Digital Shift, Black Level, Flat Field Correction and Static Defect Correction
- Color models support Light source preset, Color Transformation Control and Saturation
- Monochrome models support Sharpness and Noise Reduction
- Programmable LUTs and storable user sets
- Support Timer and Counter
- Support Remove Parameter Limit to expand the range of exposure, gain, white balance, and so on
- 16KB data storage area for saving algorithm coefficients and parameter configuration

## Specifications

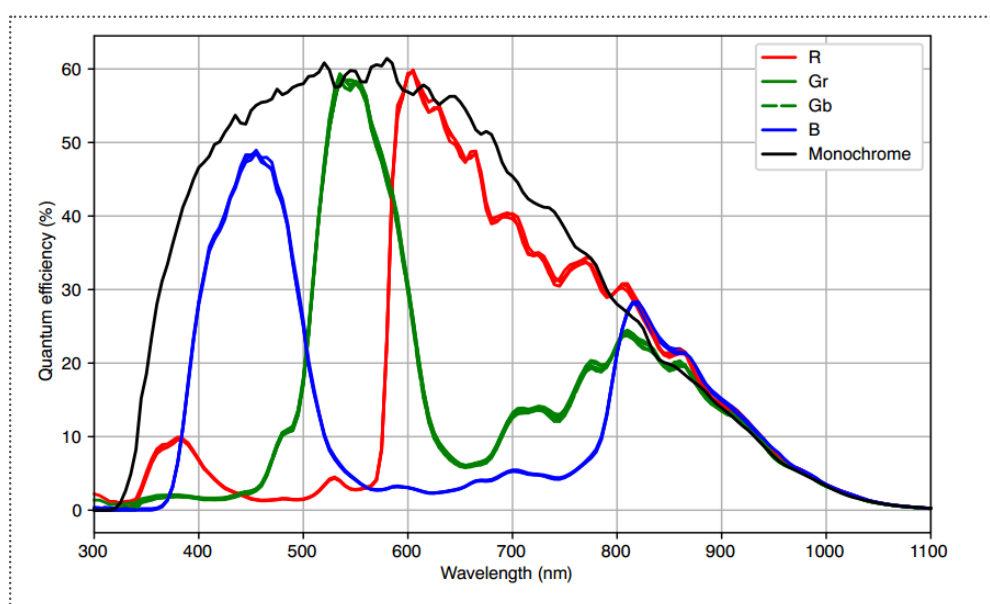
| Model              | MARS-3250-12U3C                                                                                                                                   | MARS-3250-12U3M |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Resolution         | 6576(H) × 4940(V)                                                                                                                                 |                 |
| Sensor             | ON XGS32000 Global shutter CMOS                                                                                                                   |                 |
| Sensor Format      | APS-C                                                                                                                                             |                 |
| Pixel Size         | 3.2μm × 3.2μm                                                                                                                                     |                 |
| Frame Rate         | 12.1 fps                                                                                                                                          |                 |
| ADC                | 12 bit                                                                                                                                            |                 |
| Pixel Bit Depth    | 8 bit, 12 bit                                                                                                                                     |                 |
| Mono/Color         | Color                                                                                                                                             | Mono            |
| Pixel Formats      | Bayer RG8 / Bayer RG12                                                                                                                            | Mono8 / Mono12  |
| SNR                | 39.56 dB                                                                                                                                          | 39.61 dB        |
| Exposure Time      | Standard: 162μs ~ 1s(RemoveParameterLimit to expand the shutter time to 15s), Actual Steps: 1 row period;<br>UltraShort: 92μs ~ 161μs, Steps: 1μs |                 |
| Gain               | 0dB ~ 24dB; Default: 0dB, Steps: 0.1dB                                                                                                            |                 |
| Binning            | 1×1, 1×2, 1×4, 2×1, 2×2, 2×4, 4×1, 4×2, 4×4                                                                                                       |                 |
| Decimation         | Sensor: 1×1, 1×2, 2×1, 2×2                                                                                                                        |                 |
| Synchronization    | Hardware trigger, software trigger                                                                                                                |                 |
| Acquisition Mode   | Single frame, Continuous, Software trigger, Hardware trigger                                                                                      |                 |
| Reverse X/Y        | Reverse X/Y                                                                                                                                       |                 |
| I/O Interface      | 1 input and 1 output with opto-isolated, 2 programmable GPIOs                                                                                     |                 |
| Data Interface     | USB3.0                                                                                                                                            |                 |
| Power Supply       | 12VDC-10% ~ 24VDC+10%                                                                                                                             |                 |
| Power Consumption  | < 5.6 W @ 24 VDC                                                                                                                                  |                 |
| Operating Temp.    | 0° C ~ +45° C                                                                                                                                     |                 |
| Storage Temp.      | -20° C ~ +70° C                                                                                                                                   |                 |
| Operating Humidity | 10% ~ 80%                                                                                                                                         |                 |
| Lens Mount         | M42 / F                                                                                                                                           |                 |
| Dimensions         | 62(W) × 62(H) × 53.77(L) mm (without lens adapter)                                                                                                |                 |
| Weight             | 308 g                                                                                                                                             |                 |
| Software           | 3rd-party software such as HALCON, MERLIC and LabVIEW                                                                                             |                 |
| OS                 | 32bit / 64bit Windows, Linux, Android, ARMv7, ARMv8                                                                                               |                 |
| Conformity         | CE, RoHS, FCC, ICES, UKCA, USB3 Vision®, GenICam®                                                                                                 |                 |

## I/O Interface

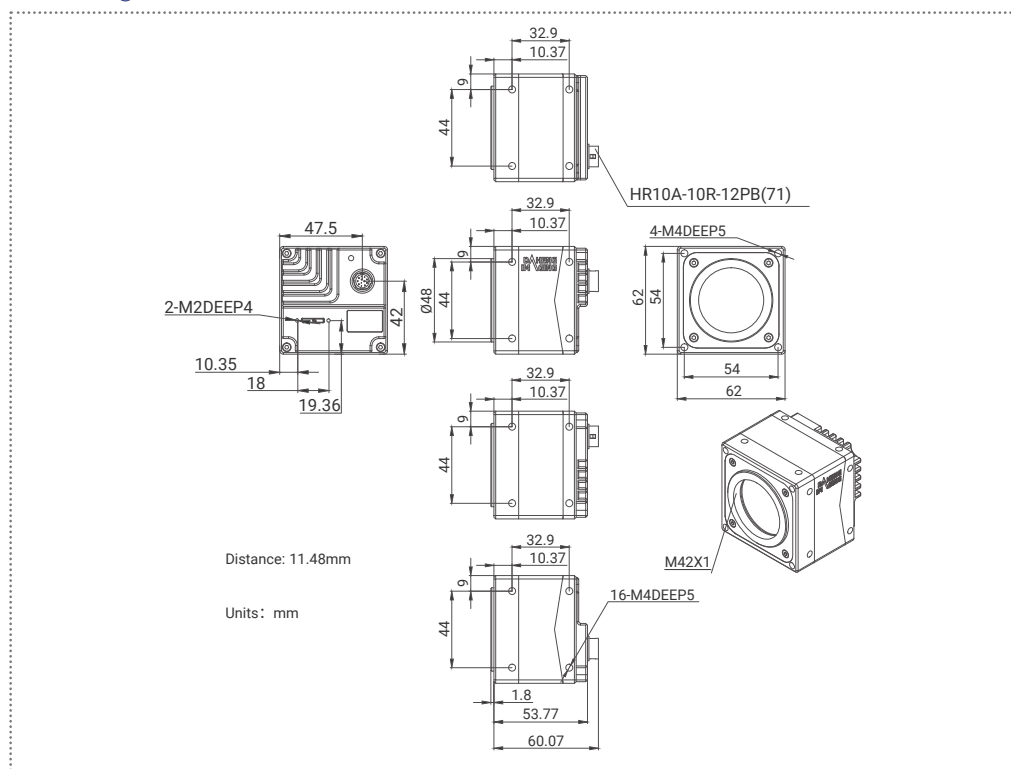


| Pin | Definition | Description                                           |
|-----|------------|-------------------------------------------------------|
| 1   | Line0+     | Opto-isolated input +                                 |
| 2   | GND        | PWR GND & GPIO GND                                    |
| 3   | Line0-     | Opto-isolated input -                                 |
| 4   | POWER_IN   | Camera external power,<br>+12V DC(-10%)~+24V DC(+10%) |
| 5   | Line 2     | GPIO input/output                                     |
| 6   | Line3      | GPIO input/output                                     |
| 7   | Line1-     | Opto-isolated output -                                |
| 8   | Line1+     | Opto-isolated output +                                |
| 9   | NC1        | Not connected, reserved                               |
| 10  | GND        | PWR GND & GPIO GND                                    |
| 11  | NC2        | Not connected, reserved                               |
| 12  | NC3        | Not connected, reserved                               |

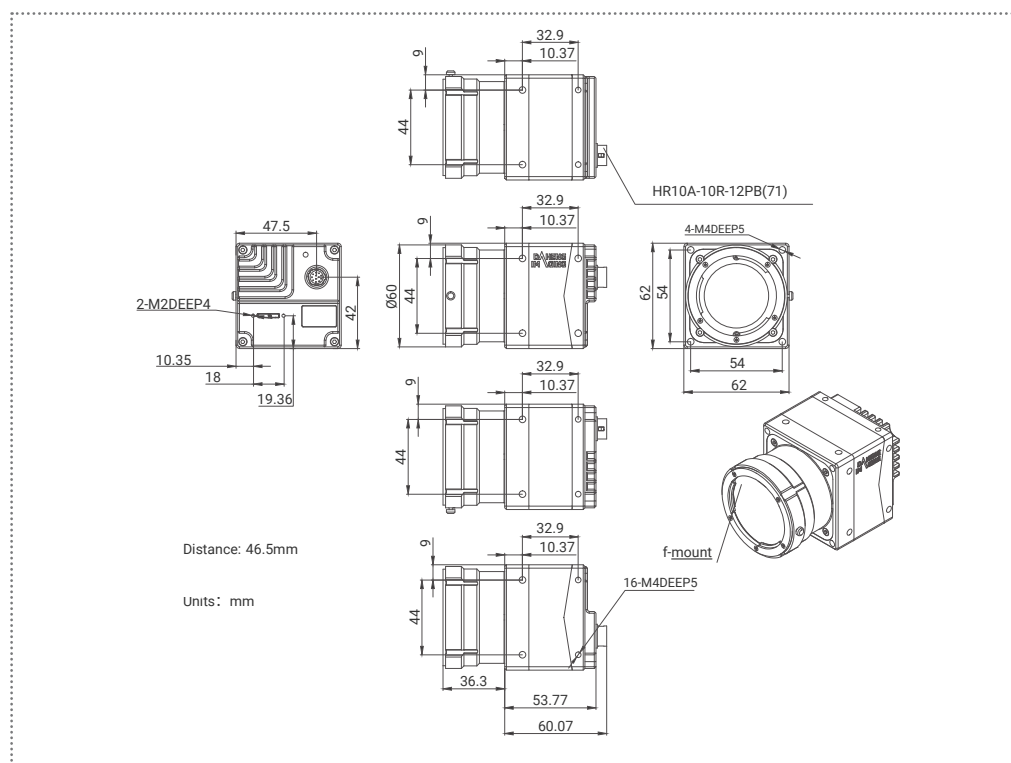
## Spectral Response



## Technical Drawing



MARS-3250-12U3M/C M42 Mount



MARS-3250-12U3M/C F Mount

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