

# MERCURY2 FAMILY

## MER2-502-79U3M/C



- 5.0 Megapixels
- 2/3" global shutter CMOS sensor
- Ultra small, light and robust
- Compatible with GenICam™ and USB3 Vision®
- USB3.0 interface
- 2 programmable GPIOs

The MERCURY2 USB3.0 series (MER2-U3) camera is DAHENG IMAGING's new generation area scan industrial digital camera, featuring outstanding performance, compact design and extremely low noise.

The MER2-502-79U3M/C camera is a monochrome/color USB3 Vision camera with the Sony IMX250 CMOS sensor. Thanks to the compact design (29mm × 29mm × 29mm), robust metal housings and locking screw connectors, the MERCURY2 cameras can secure the reliability of cameras deployed in harsh environments. The MER2-502-79U3M/C camera has opto-isolated I/Os. The GPIOs give MER2-U3 cameras maximum flexibility to adapt to specific needs.

The MERCURY2 family cameras are especially suitable for machine vision applications such as industrial inspection, medical, scientific research, education, security and so on.

### Features

- Programmable ROI, increased frame rate with partial scan
- Gain, exposure and white balance programmable (white balance only for color models)
- Support auto gain, auto exposure and auto white balance (auto white balance only for color models)
- Four acquisition controls: Single frame acquisition / Continuous acquisition / Software trigger acquisition / External trigger acquisition
- Trigger mode: Frame Start /Frame Burst Start
- Support Timed exposure mode and TriggerWidth exposure mode
- Two exposure time modes: standard exposure time mode / minimal exposure time mode
- Support LUTs, storable user sets, Timer and Counter
- Support Decimation, Binning, Reverse X/Y, Digital Shift and Black Level
- Adjustable Gamma for optimizing the brightness of images
- Color models support Light source preset, Color Transformation Control and Saturation
- Monochrome models support Noise Reduction and Sharpness
- 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
- Compatible with GenICam™ and USB3 Vision®, support 3rd-party software such as HALCON, MERLIC and LabVIEW
- Optimized software package for 32/64bit Windows, and support Linux, Android, ARMv7 and ARMv8
- Multiple samples and easy-to-integrate SDKs for various programming tools
- Regulations: CE, RoHS, FCC, GenICam, USB3 Vision

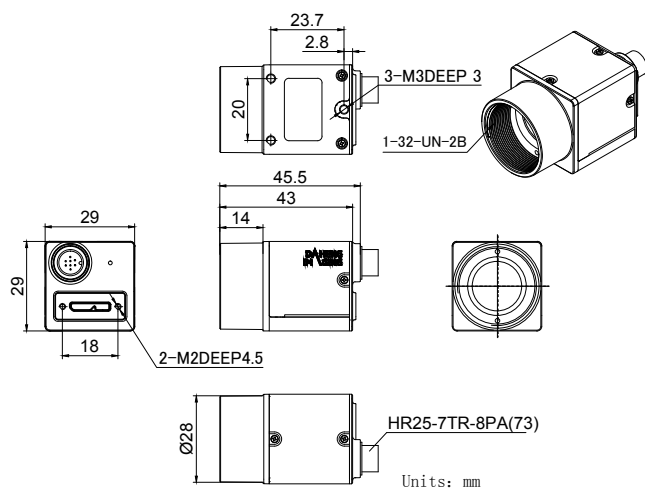
## Performance Specifications

|                       |  |
|-----------------------|--|
| Model                 | MER2-502-79U3M/C                         |
| Interface             | USB3.0                                   |
| Resolution            | 2448(H) × 2048(V)                        |
| Frame rate            | 79.1 fps @ 2448 × 2048                   |
| Sensor                | 2/3", Sony IMX250<br>Global shutter CMOS |
| Pixel size            | 3.45 μm × 3.45 μm                        |
| Pixel Bit Depth       | 8bit, 10bit                              |
| Spectrum              | Monochrome / Color                       |
| Exposure time         | 20μs ~ 1s                                |
| Minimal exposure time | 1μs~100μs                                |

## Optical Specifications

|            |   |
|------------|---|
| Lens mount | C-Mount (standard), CS-Mount (optional) |
|------------|---|

## Technical Drawing



## Electrical Specifications

|                   |                              |
|-------------------|------------------------------|
| Power requirement | 5 VDC via USB cable          |
| I/Os              | 1 input / 1 output , 2 GPIOs |
| Data interface    | Micro B with locked          |
| Power consumption | <2.7W @5VDC                  |

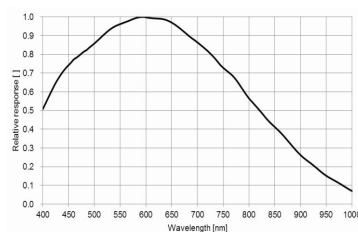
## Environmental Specifications

|                    |               |
|--------------------|---------------|
| Operating temp.    | 0°C ~ +45°C   |
| Storage temp.      | -20°C ~ +70°C |
| Operating humidity | 10% ~ 80%     |

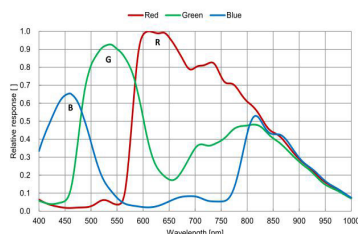
## Mechanical Specifications

|            |                                     |
|------------|-------------------------------------|
| Weight     | 65g                                 |
| Dimensions | 29(W)×29(H)×29(L)mm, w/o connectors |

## Spectral Response



MER2-502-79U3M



MER2-502-79U3C

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Specifications are subject to change without prior notice.

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