

# MER3-506-58G3M/C-P(-AF)

## MERCURY3 Series 5MP CMOS 2.5GigE Area Scan Camera



The MER3-506-58G3M/C-P(-AF) camera is a monochrome/color GigE Vision camera with the Sony "Pregius S" CMOS sensor and high performance FPGA. The MER3-506-58G3M/C-P(-AF) camera is capable of 2.5Gbit/s maximum transfer data rate, and has opto-isolated I/Os that adapt to specific needs. Four-side mounting holes provide maximum installation flexibility for camera. Thanks to the extremely compact (29mm × 29mm), robust metal housings and locking screw connectors, the MERCURY3 cameras can secure the reliability of cameras deployed in harsh environments.

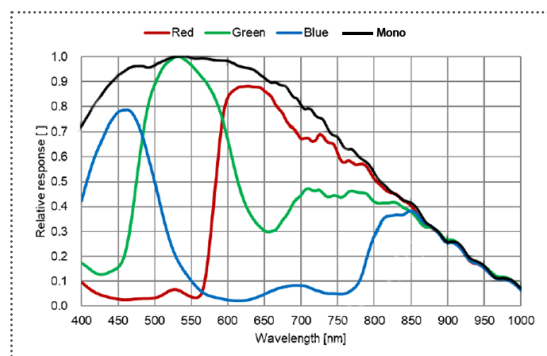
### Applications

Suitable for machine vision applications such as industrial inspection, rail traffic, scientific research, 3D reconstruction and so on.

### Features

- -AF model support autofocus
- The Sequencer Control supports multiple sets of parameters configuration
- Decimation, Gamma, Digital Shift and Black Level
- Burst Acquisition
- Timed exposure mode and TriggerWidth exposure mode
- Color models support Light source preset, Color Transformation Control and Saturation
- Timer, Counter, LUTs and User Set Control

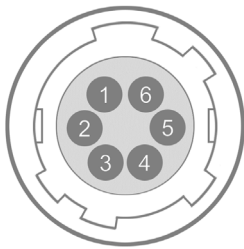
### Spectral Response



## Specifications

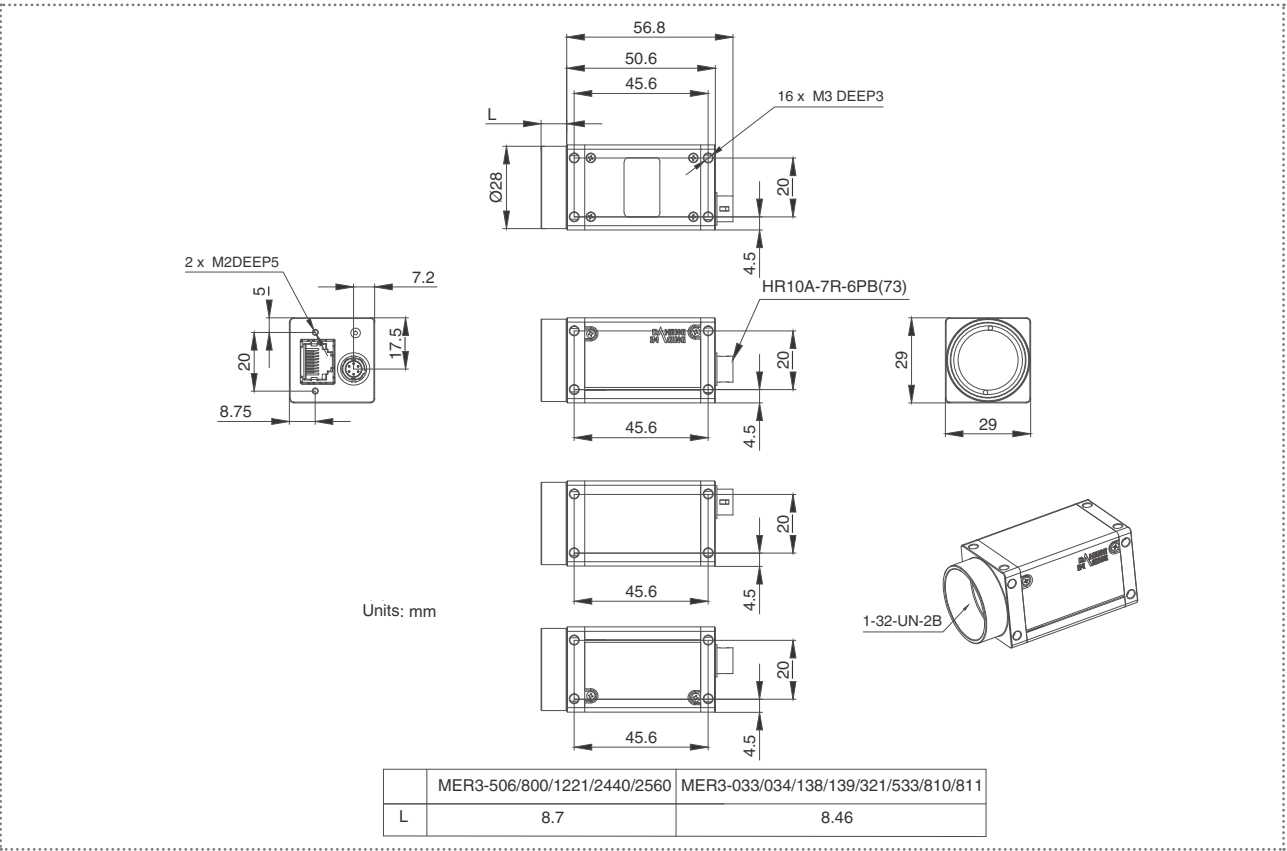
| Model              | MER3-506-58G3C-P                                                                                                                                                                                  | MER3-506-58G3C-P-AF | MER3-506-58G3M-P | MER3-506-58G3M-P-AF |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| Resolution         | 2448(H) × 2048(V)                                                                                                                                                                                 |                     |                  |                     |
| Sensor             | Sony IMX547 Global shutter CMOS                                                                                                                                                                   |                     |                  |                     |
| Sensor Format      | 1/1.8"                                                                                                                                                                                            |                     |                  |                     |
| Pixel Size         | 2.74μm × 2.74μm                                                                                                                                                                                   |                     |                  |                     |
| Frame Rate         | 56.04fps @ 2448 × 2048<br>Adjust the packet size to 8164 and reserved bandwidth to 5, frame rate up to 58.60fps<br>Under acquisition burst high speed mode, acquisition frame rate up to 82.05fps |                     |                  |                     |
| ADC                | 12 bit                                                                                                                                                                                            |                     |                  |                     |
| Pixel Bit Depth    | 8 bit, 12 bit                                                                                                                                                                                     |                     |                  |                     |
| Mono/Color         | Color                                                                                                                                                                                             |                     | Mono             |                     |
| Pixel Formats      | Bayer RG8 / Bayer RG12 / RGB8 / BGR8 / Mono8                                                                                                                                                      |                     | Mono8 / Mono12   |                     |
| SNR                | 39.85 dB                                                                                                                                                                                          |                     | 39.82 dB         |                     |
| Exposure Time      | UltraShort: 1μs~2.4μs, Actual Steps: 0.1μs<br>Standard: 3μs~20μs, Actual Steps: 1μs; 21μs~1s, Actual Steps: 1 row period                                                                          |                     |                  |                     |
| Gain               | 0dB ~ 16dB, Default: 0dB, Steps: 0.1dB                                                                                                                                                            |                     |                  |                     |
| Binning            | -                                                                                                                                                                                                 |                     | Sensor: 1×1, 2×2 |                     |
| Decimation         | Sensor: 1×1, 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 with opto-isolated, 2 programmable GPIOs                                                                                                                                                  |                     |                  |                     |
| Data Interface     | 2.5GigE                                                                                                                                                                                           |                     |                  |                     |
| Power Supply       | PoE (Power over Ethernet, IEEE802.3af compliant) or 12VDC-10% ~ 24VDC+10%                                                                                                                         |                     |                  |                     |
| Power Consumption  | < 5.5 W @ 12V / PoE                                                                                                                                                                               |                     |                  |                     |
| Operating Temp.    | 0°C ~ +50°C                                                                                                                                                                                       |                     |                  |                     |
| Storage Temp.      | -20°C ~ +70°C                                                                                                                                                                                     |                     |                  |                     |
| Operating Humidity | 10% ~ 80%                                                                                                                                                                                         |                     |                  |                     |
| Lens Mount         | C                                                                                                                                                                                                 |                     |                  |                     |
| Dimensions         | 29(W) × 29(H) × 50.6(L) mm (without lens adapter or connectors)                                                                                                                                   |                     |                  |                     |
| Weight             | 69 g                                                                                                                                                                                              |                     |                  |                     |
| Software           | 3rd-party software such as HALCON, VisionPro and LabVIEW                                                                                                                                          |                     |                  |                     |
| OS                 | 32bit / 64bit Windows, Linux, Mac OS                                                                                                                                                              |                     |                  |                     |
| Conformity         | CE, RoHS, FCC, ICES, UKCA, GigE Vision®, GenICam®                                                                                                                                                 |                     |                  |                     |

I/O Interface



| Pin | Definition | Description                            |
|-----|------------|----------------------------------------|
| 1   | POWER_IN   | Camera external power, +12V DC~+24V DC |
| 2   | Line0+     | Opto-isolated input +                  |
| 3   | Line2      | GPIO0 input/output                     |
| 4   | Line3      | GPIO1 input/output                     |
| 5   | Line0-     | Opto-isolated input -                  |
| 6   | GND        | PWR GND & GPIO GND                     |

Technical Drawing



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