

# Mako G

## G-223



- Ultra-compact
- IEEE 1588 PTP
- Power over Ethernet
- Trigger over Ethernet

GigE Vision camera, CMOSIS/ams CMV2000 CMOS sensor, 49.5 fps

Mako G-223 is a 2.2 megapixel GigE machine vision camera that incorporates the high quality Type 2/3 (12.7 mm diagonal) CMOSIS/ams CMV2000 CMOS sensor. At full resolution, this camera runs 49.5 frames per second. With a smaller region of interest, higher frame rates are possible.

Mako G cameras have the same ultra-compact form factor and the same mounting positions as many analog cameras. All models include Power over Ethernet (PoE), three opto-isolated outputs, and a 64 MB image buffer. The image quality profits from the precisely aligned sensor. By default monochrome models ship with no optical filter and color models ship with IRC Hoya C-5000 IR cut filter.

Benefits and features:

- Monochrome (G-223B) and color (G-223C) models
- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- Comprehensive I/O functionality for simplified system integration
- IEEE 1588 Precision Time Protocol (PTP) allows for easy synchronization of multiple cameras and devices on network
- Trigger over Ethernet (ToE) Action Commands allow for a single cable solution to reduce system cost
- Popular C-Mount lens mount



- Easy camera mounting via standard M3 threads on top and bottom of housing or optional tripod adapter
- Easy software integration with Allied Vision's [Vimba SDK](#) and compatibility to the most popular [third party image-processing libraries](#).
- Defect pixel masking feature with the Defect Mask Loader tool that allows you to manage a user defined defective pixel list to match your application and optimize the life cycle of the camera.
- Available with protection glass, IR cut filter, or IR pass filter

See the [Modular Concept](#) for lens mount and optical filter options.

See the [Customization and OEM Solutions](#) webpage for additional options.

## 性能参数

Mako G	G-223
接口	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
分辨率	2048 (H) × 1088 (V)
传感器	CMOSIS/ams CMV2000
传感器类型	CMOS
Shutter mode	Global shutter
传感器尺寸	Type 2/3
像元尺寸	5.5 μm × 5.5 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
最大满帧帧率	49.5 fps
ADC	12 Bit
缓存 (RAM)	64 MByte
非易失性内存 (Flash)	1024 KByte (for selected models only)

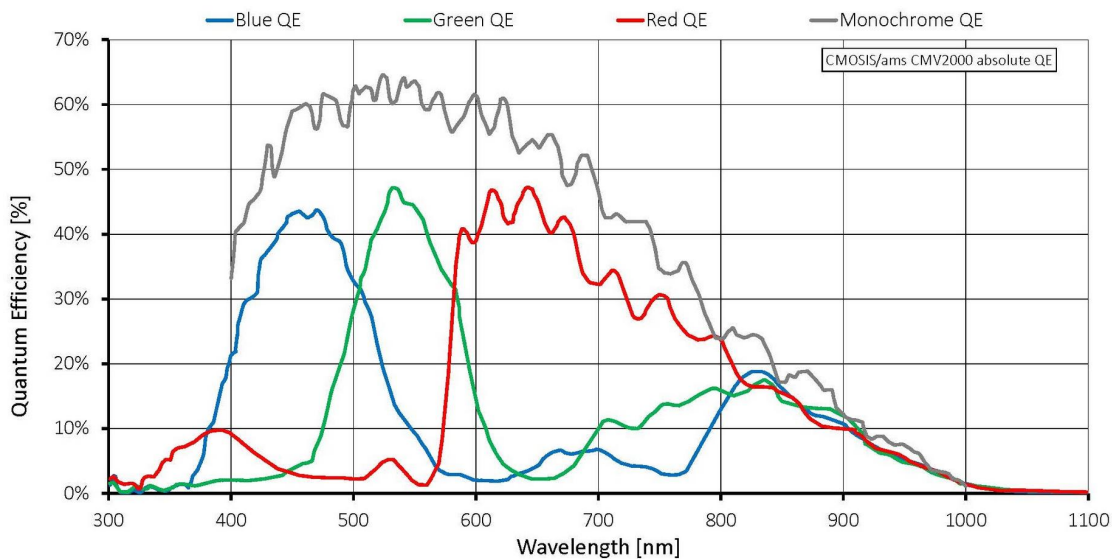
### 成像性能

成像性能数据是基于欧洲机器视觉协会 (EMVA) 1288发布的3.1版图像传感器和像机特征描述标准中的评估方法。测量值是在没有光学滤波片的全分辨率下，测量单色模型的典型值。请联系销售或工程师了解更多信息。

在波长为529nm下，量子转换效率	77 %
暗噪声	13.2 e <sup>-</sup>
饱和电子数	9800 e <sup>-</sup>
动态范围	57.1 dB
绝对灵敏度阈值	13.7 e <sup>-</sup>
输出	
Bit位数	8/12 Bit
黑白像素格式	Mono8, Mono12, Mono12Packed
YUV彩色像素格式	YUV411Packed, YUV422Packed, YUV444Packed

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RGB彩色像素格式	RGB8Packed, BGR8Packed
原始像素格式	BayerGB8, BayerGB12, BayerGB12Packed
光耦 I/Os	通用输入输出(GPIOs) 1 input, 3 outputs
工作温度	工作条件/尺寸 +5 °C to +45 °C housing temperature
电源要求 (DC)	12 to 24 VDC AUX or 802.3at Type 1 PoE
功耗	2.4 W at 12 VDC; 2.8 W PoE
重量	80 g (with C-Mount)
尺寸 (L × W × H in mm)	60.5 × 29.2 × 29.2 (incl. connectors)
符合规范	CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class B; CAN ICES-003

## 量子转换效率



## 特性

### Image optimization features:

- Auto gain (manual gain control: 0 to 26 dB; 1 dB increments)
- Auto exposure (manual exposure control: 30  $\mu$ s to 153 s; 1  $\mu$ s increments)

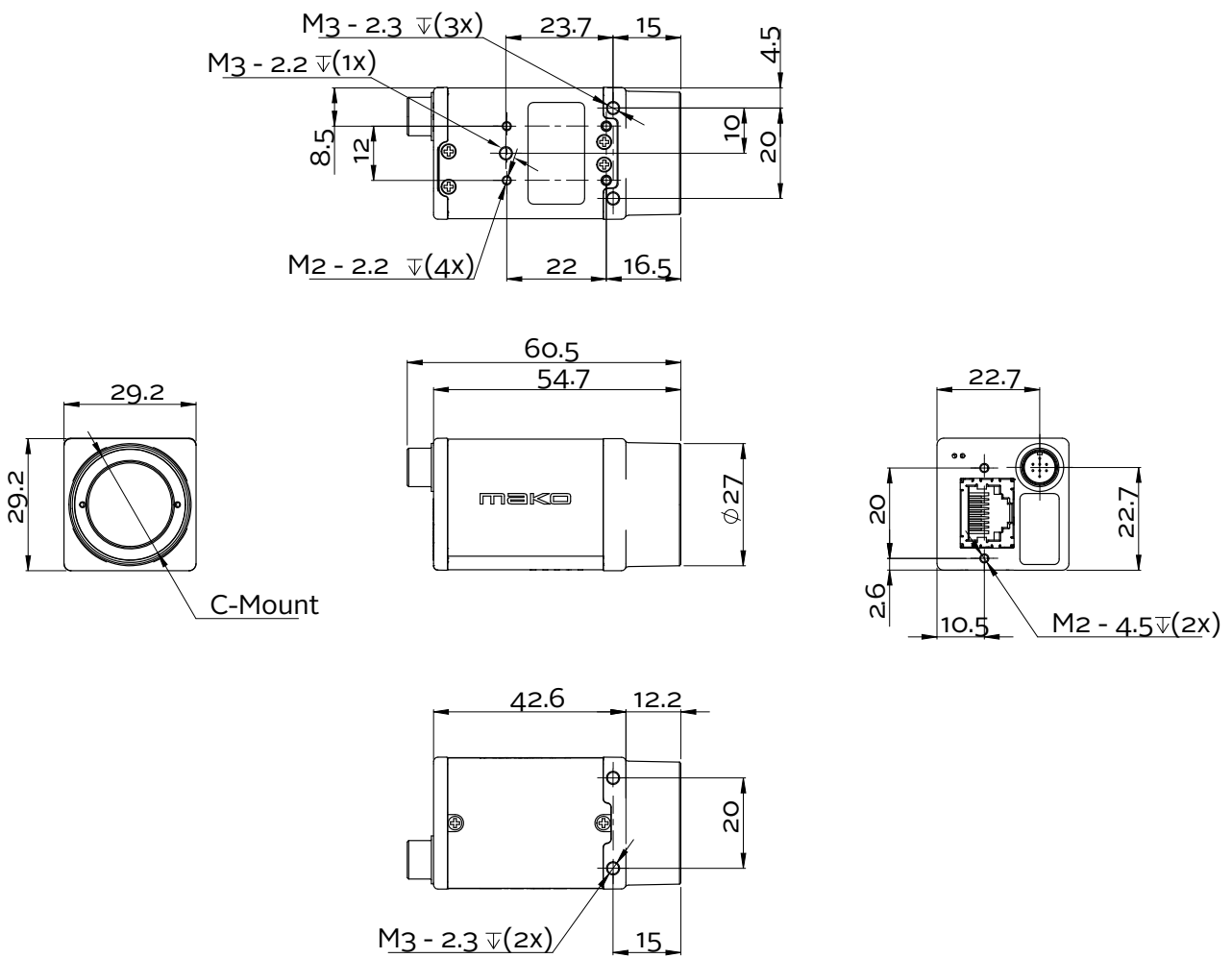


- Auto white balance (G-223C only)
- Color correction, hue, saturation (G-223C only)
- Column defect masking
- Gamma correction
- One look-up table (LUT)
- Piecewise Linear HDR mode
- Region of interest (ROI), separate ROI for auto features

#### Camera control features:

- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol (PTP)
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board only)
- Trigger over Ethernet (ToE) Action Commands
- Non-volatile memory 1024 KByte (for selected models only)

## 外形尺寸





## 应用场景

Mako G-223 is ideal for a wide range of applications including:

- Robotics
- Quality control
- Inspection, surveillance
- Industrial imaging
- Machine vision
- Logistics