

# Mako G

## G-234



- IEEE 1588 PTP
- Trigger over Ethernet
- 10-bit or 12-bit sensor readout
- Power over Ethernet

## 2.35 Megapixel machine vision camera with Sony IMX CMOS sensor

Mako G-234 is a 2.35 megapixel GigE machine vision camera that incorporates the high quality Type 1/1.2 (13.4 mm diagonal) Sony IMX249 CMOS sensor. At full resolution, this camera runs 41.5 frames per second (10-bit sensor readout). With a smaller region of interest, higher frame rates are possible. The Mako G-234 is an ideal replacement for legacy CCD models.

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 MByte 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-234B) and color (G-234C) models
- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- 电器与电子工程师协会 (IEEE) 1588精确时间协议(PTP)允许网络上多个相机和设备的简单同步
- 通过以太网触发 (ToE) 操作命令允许单个电缆解决方案, 以降低系统成本
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- Comprehensive I/O functionality for simplified system integration
- 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](#).
- Available with protection glass, IR cut filter, or IR pass filter

See the [Modular Concept](#) for lens mount, optical filter, and housing design options.  
See the [Customization and OEM Solutions](#) page for additional options.

## 性能参数

Mako G	G-234
接口	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
分辨率	1936 (H) × 1216 (V)
传感器	Sony IMX249
传感器类型	CMOS
Shutter mode	Global shutter
传感器尺寸	Type 1/1.2
像元尺寸	5.86 μm × 5.86 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
最大满帧帧率	41.5 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	71 %
暗噪声	5.9 e <sup>-</sup>
饱和电子数	33200 e <sup>-</sup>
动态范围	73.6 dB
绝对灵敏度阈值	6.9 e <sup>-</sup>

### 输出

Bit位数	10/12 Bit
黑白像素格式	Mono8, Mono12, Mono12Packed
YUV彩色像素格式	YUV411Packed, YUV422Packed, YUV444Packed
RGB彩色像素格式	RGB8Packed, BGR8Packed
原始像素格式	BayerRG8, BayerRG12, BayerRG12Packed

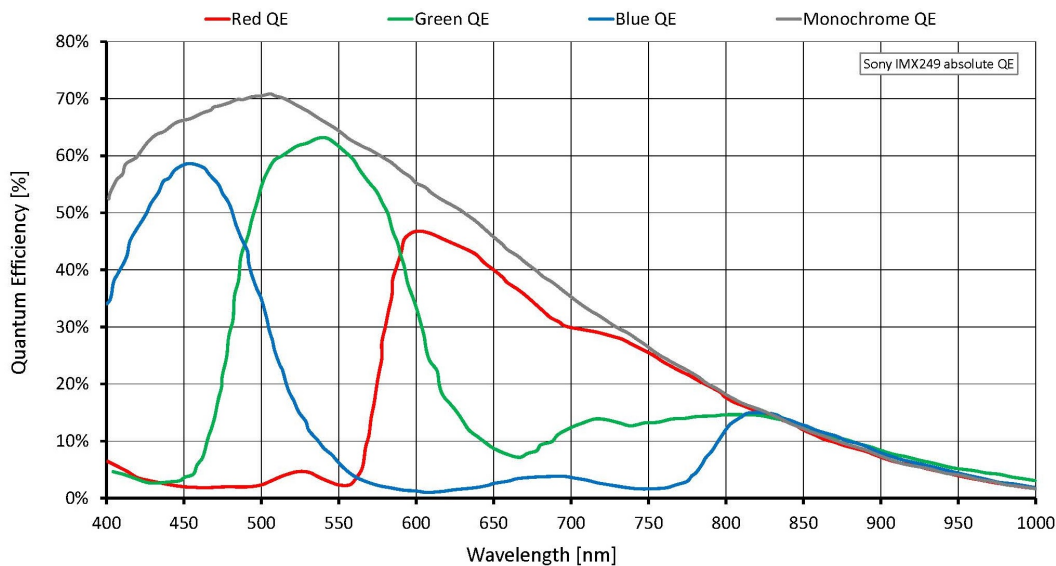
### 通用输入输出(GPIOs)

光耦 I/Os	1 input, 3 outputs
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### 工作条件/尺寸

Mako G	G-234
工作温度	+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 (including 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 40 dB; 0.1 dB increments)
- Auto exposure (exposure time control varies by pixel format)
- Auto white balance (G-234C only)
- Binning
- Color correction, hue, saturation (G-234C only)
- Decimation
- Gamma correction
- One look-up table (LUT)

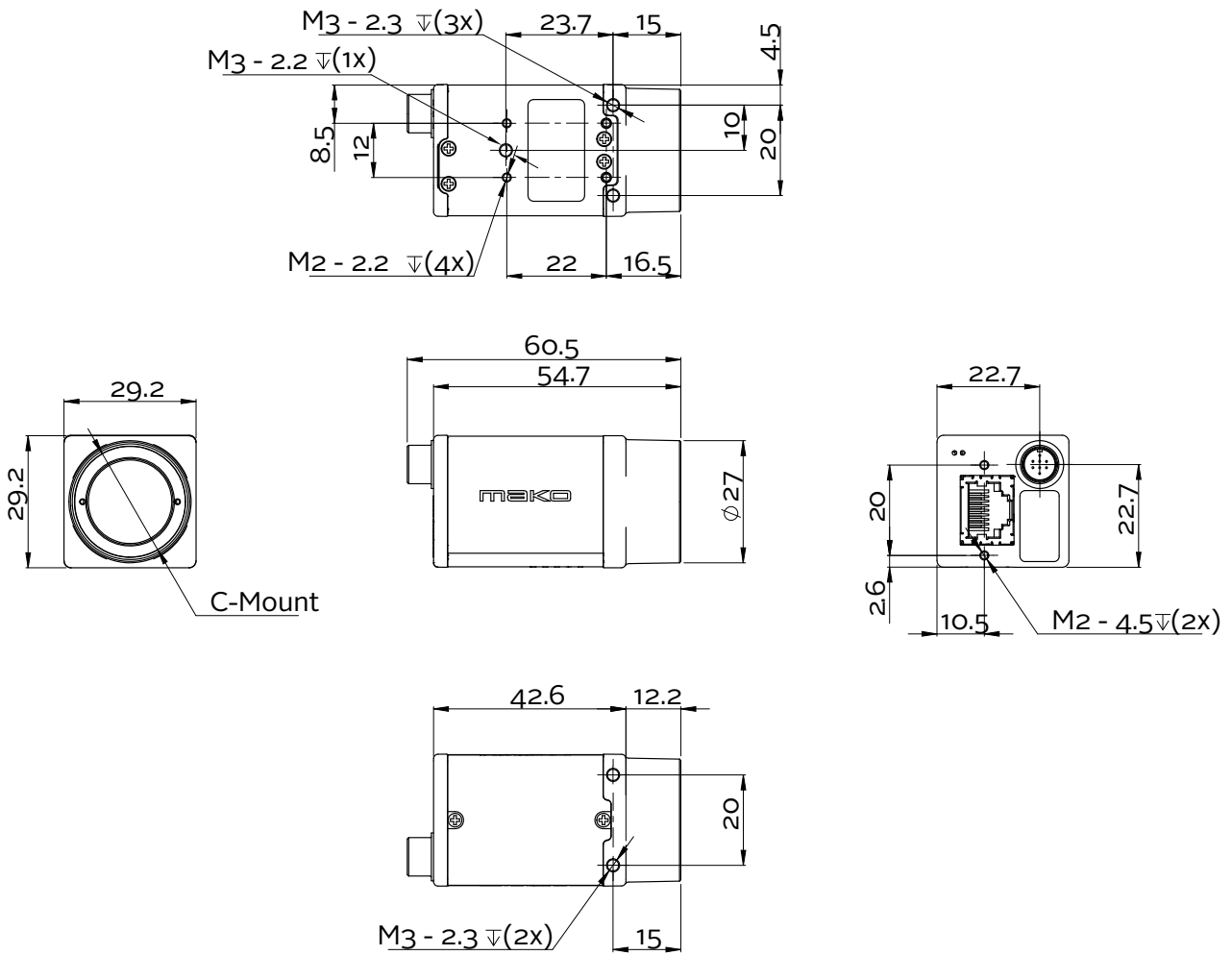


- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

#### Camera control features:

- 10-bit or 12-bit sensor readout mode
- Event channel
- Image chunk data
- IEEE1588精确时间协议
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board only)
- 通过以太网触发 ( ToE ) 操作命令
- Non-volatile memory 1024 KByte (for selected models only)

## 外形尺寸





## 应用场景

Mako G-234 is ideal for a wide range of applications including:

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