

# Mako G

## G-032



- Ultra-compact design
- Affordable
- Power over Ethernet
- High frame rate

## GigE camera with Sony ICX424 CCD sensor, 102.3 fps

Mako G-032 is a 0.3 megapixel GigE machine vision camera that incorporates the high quality Type 1/3 (6.0 mm diagonal) Sony ICX424 CCD sensor with HAD technology. At full resolution, this camera runs 102.3 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, 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 a Type Hoya C-5000 IR cut filter.

### Benefits and features:

- Monochrome (G-032B) and color (G-032C) 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-6 recommended)
- 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 Suite](#) and compatibility to the most popular [third party image-processing libraries](#).
- Select between B 270 ASG protection glass and filter types: Jenofilt 217 IR cut filter, Hoya C-5000 IR cut filter, RG715 IR pass filter, or RG830 IR pass filter

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

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

## Specifications

<b>Mako G</b>	<b>G-032</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	658 (H) × 492 (V)
Sensor	Sony ICX424
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 1/3
Pixel size	7.4 μm × 7.4 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
Max. frame rate at full resolution	102.3 fps
ADC	14 Bit
Image buffer (RAM)	64 MByte
<b>Imaging performance</b>	
Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured at full resolution without optical filter. Contact Sales or AE for more information.	
Quantum efficiency at 529 nm	50 %
Temporal dark noise	14.7 e <sup>-</sup>
Saturation capacity	17800 e <sup>-</sup>
Dynamic range	61.4 dB
Absolute sensitivity threshold	15.2 e <sup>-</sup>
<b>Output</b>	
Bit depth	8/12 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw pixel formats	BayerRG8, BayerRG12, BayerRG12Packed
<b>General purpose inputs/outputs (GPIOs)</b>	
Opto-isolated I/Os	1 input, 3 outputs
<b>Operating conditions/dimensions</b>	
Operating temperature	+5 °C to +45 °C housing temperature
Power requirements (DC)	12 to 24 VDC AUX or 802.3at Type 1 PoE
Power consumption	2.4 W at 12 VDC; 2.8 W PoE
Mass	80 g (with C-Mount)
Body dimensions (L × W × H in mm)	60.5 × 29.2 × 29.2 (including connectors)

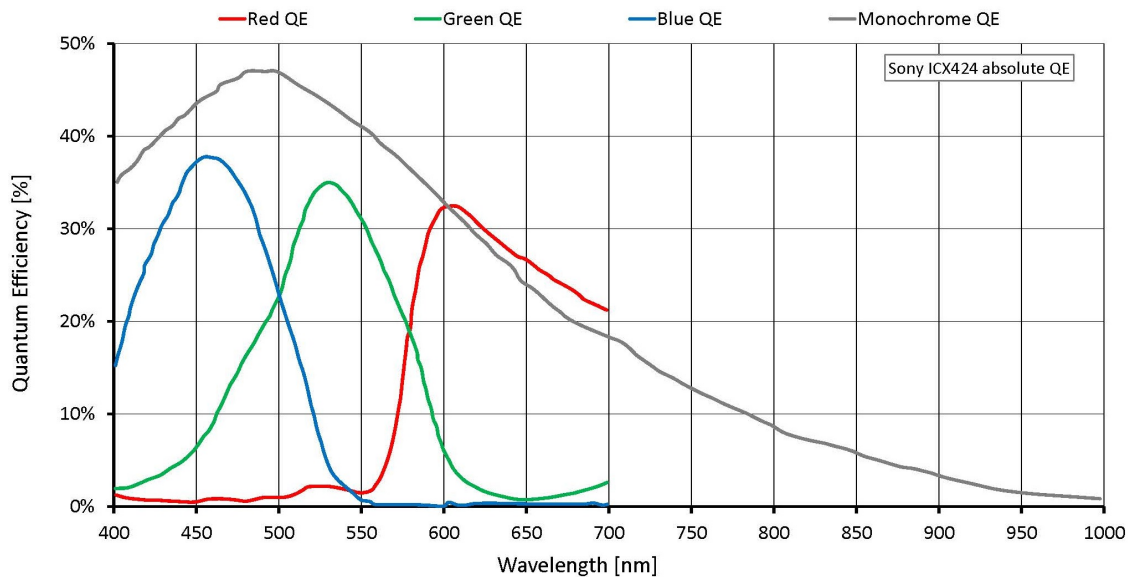
## Mako G

Regulations

## G-032

CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class B; CAN ICES-003

## Quantum efficiency



## Features

### Image optimization features:

- Auto gain (manual gain control: 0 to 30 dB; 1 dB increments)
- Auto exposure (manual exposure control: 10  $\mu$ s to 93 s; 1  $\mu$ s increments)
- Auto white balance (G-032C only)
- Binning
- Color correction, hue, saturation (G-032C only)
- Gamma correction
- One look-up table
- Region of interest, separate region for auto features

### Camera control features:

- Event channel
- Image chunk data
- Storable user sets



- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board only)





## Applications

Mako G-032 is ideal for a wide range of applications including:

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