

# Mako G

## G-125



- Ultra-compact design
- Affordable
- Power over Ethernet
- 30.3 fps @ full resolution

## Description

### GigE camera with Sony ICX445 CCD sensor, 30.3 fps

Mako G-125 is a 1.2 megapixel GigE machine vision camera that incorporates the high quality Type 1/3 (6.0 diagonal) Sony ICX445 CCD sensor with EXview HAD technology. At full resolution, this camera runs 30.3 frames per second. With a smaller region of interest, higher frame rates are possible. Mako G-125 is offered in both monochrome (G-125B) and color (G-125C) 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.

### Options:

- Various optical filter and lens mount options
- White medical housing

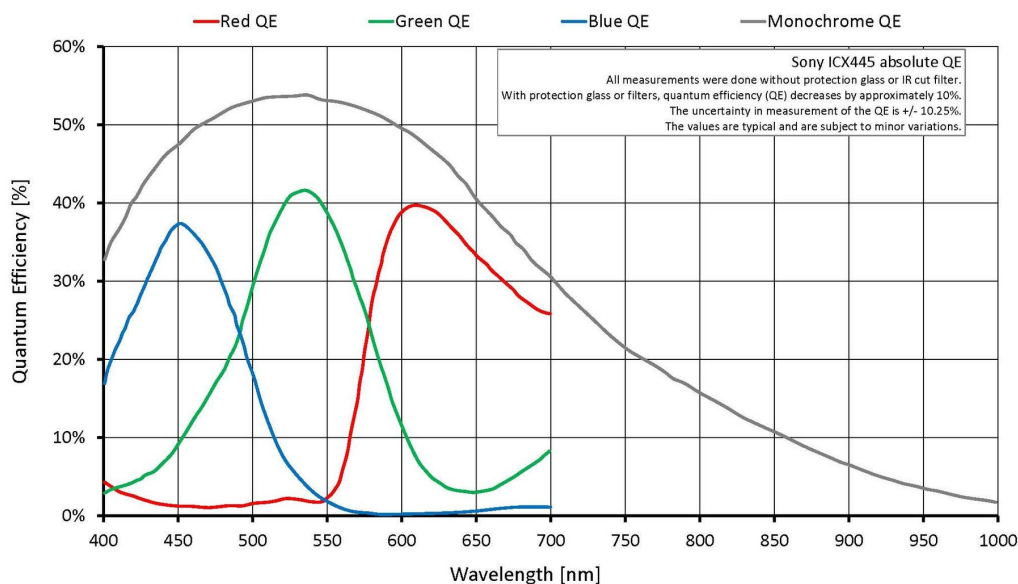
See the [Modular Concept](#) for lens mount, optical filter, and housing design options.

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

## Specifications

Mako G	G-125
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	1292 (H) × 964 (V)
Sensor	Sony ICX445
Sensor type	CCD Progressive
Sensor size	Type 1/3

<b>Mako G</b>	<b>G-125</b>
Pixel size	3.75 $\mu\text{m}$ $\times$ 3.75 $\mu\text{m}$
Lens mount (default)	C-Mount
Max. frame rate at full resolution	30.3 fps
ADC	14 bit
Image buffer (RAM)	64 MByte
<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; PoE
Power consumption	2.3 W @ 12 VDC; 2.7 W PoE
Mass	80 g
Body dimensions (L $\times$ W $\times$ H in mm)	60.5 $\times$ 29.2 $\times$ 29.2 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU (RoHS); FCC Class B; CAN ICES-003





## Features

### Image optimization features:

- Auto gain (manual gain control: 0 to 30 dB; 1 dB increments)
- Auto exposure (manual exposure control: 12  $\mu$ s to 84 s; 1  $\mu$ s increments)
- Auto white balance (G-125C only)
- Binning
- Color correction, hue, saturation (G-125C only)
- Gamma correction
- One look-up table (LUT)
- Region of interest (ROI), separate ROI 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)

## Technical drawing





## Applications

Mako G-125 is ideal for a wide range of applications including:

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