

Mako G

G-192



- Teledyne e2v Sapphire CMOS sensor
- Switchable shutter modes
- Power over Ethernet
- 60 fps @ full resolution

Description

GigE Vision camera, Teledyne e2v CMOS sensor, 60 fps

The Mako G-192 is a 1.9 megapixel GigE machine vision camera that incorporates the high quality Type 1/1.8 (9 mm diagonal) Teledyne e2v Sapphire EV76C570 CMOS sensor. At full resolution, this camera runs 60 frames per second. With a smaller region of interest, higher frame rates are possible. Mako G-192 is offered in both monochrome (G-192B) and color (G-192C) 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), two 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

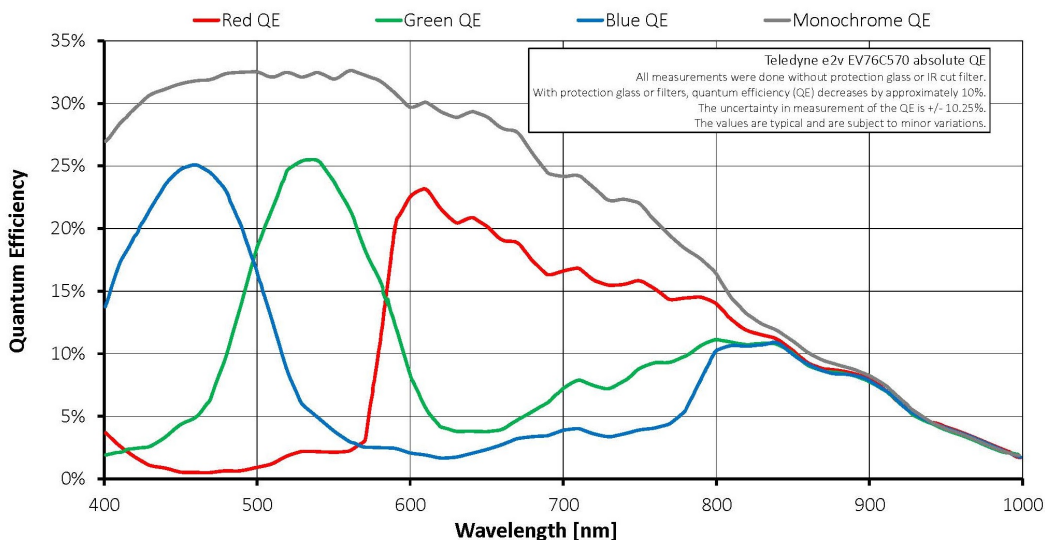
See the [Modular Concept](#) for lens mount, optical filter, and housing design options.

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

Specifications

Mako G	G-192
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	1600 (H) × 1200 (V)
Sensor	Teledyne e2v EV76C570
Sensor type	CMOS
Sensor size	Type 1/1.8

Mako G	G-192
Pixel size	4.5 μm \times 4.5 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	60 fps
ADC	10 bit
Image buffer (RAM)	64 MByte
Output	
Bit depth	8/10 bit
Monochrome pixel formats	Mono8, Mono10
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw pixel formats	BayerGB8, BayerGB10
General purpose inputs/outputs (GPIOs)	
Opto-isolated I/Os	1 input, 3 outputs
Operating conditions/dimensions	
Operating temperature	+5 $^{\circ}\text{C}$ to +45 $^{\circ}\text{C}$ housing temperature
Power requirements (DC)	12 to 24 VDC; PoE
Power consumption	2.1 W @ 12 VDC; 2.4 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

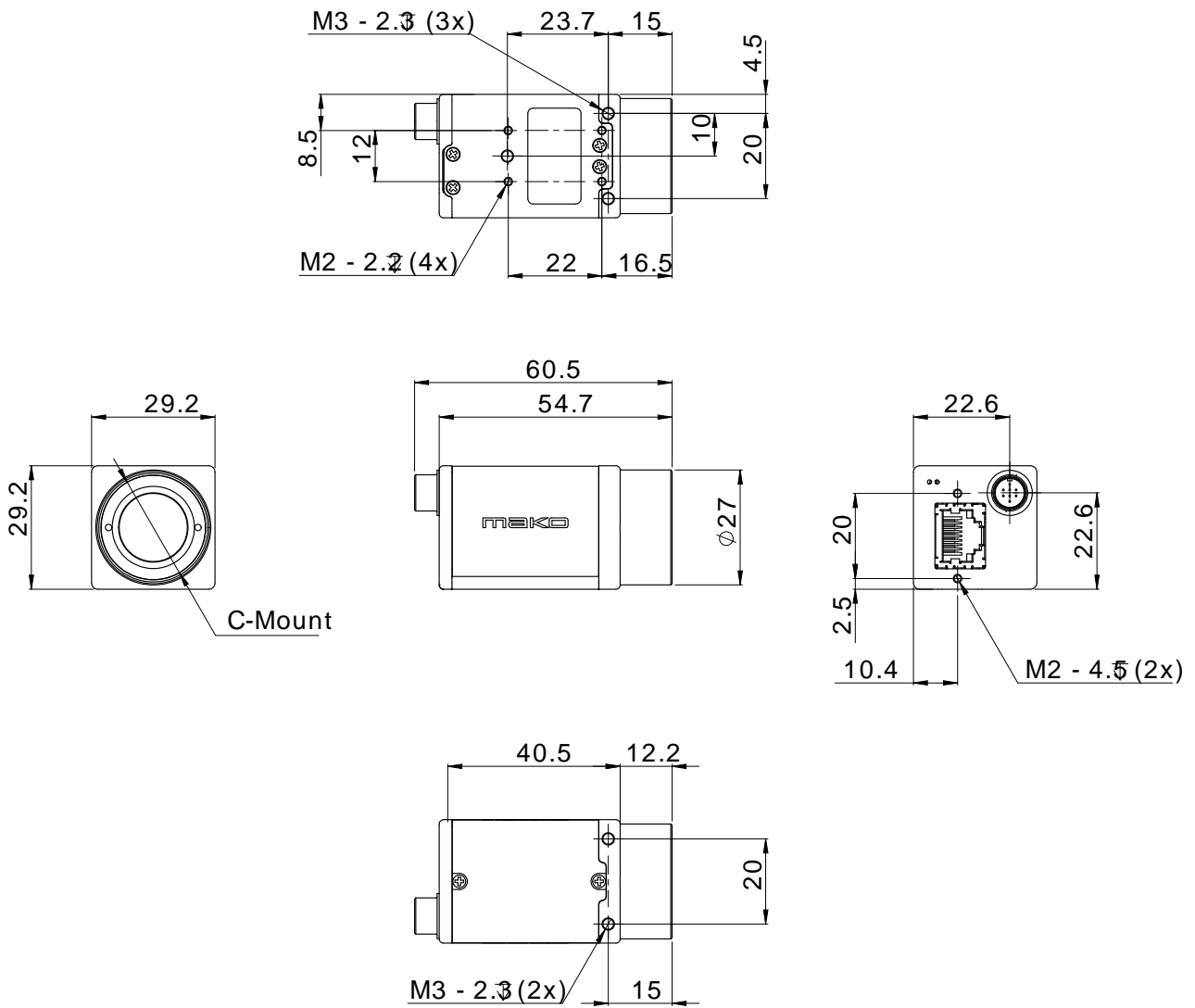
Image optimization features:

- Auto gain (manual gain control: 0 to 24 dB; 1 dB increments)
- Auto exposure (exposure time control varies by pixel format)
- Auto white balance (G-192C only)
- Binning (1x1 and 2x2 binning)
- Color correction, hue, saturation (G-192C only)
- Decimation
- Gamma correction
- One look-up table (LUT)
- Pixel defect masking
- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

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
- Switchable Rolling / Global / GlobalReset shutter modes
- Temperature monitoring (main board only)

Technical drawing





Applications

Mako G-192 is ideal for a wide range of applications including:

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