



- Power over Ethernet
- GRS, RS shutter modes
- Compact design

Small and powerful

Ultra-compact GigE Vision cameras

Mako G-503 with ON Semi MT9P031 / MT9P006 runs 14.0 frames per second at 5.0 MP resolution.

Mako is an attractively priced GigE Vision-compliant camera in a compact rugged industrial housing. Many models include advanced functionalities such as Precision Time Protocol (PTP), Trigger over Ethernet (ToE) Action Commands, and Power over Ethernet (PoE). Screw mount RJ45 connector and multiple I/Os facilitate your straightforward system integration. Mako cameras are also available as Near Infrared (NIR) and polarizer variants.

Easy software integration with Allied Vision's [Vimba Suite](#) and compatibility to the most popular [third party image-processing libraries](#).

See the [Modular Concept](#) for lens mount, housing variants, optical filters, case design, and other modular options. See the [Customization and OEM Solutions](#) webpage for additional options.

Specifications

Mako G-503	
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	2592 (H) × 1944 (V)
Sensor	ON Semi MT9P031 / MT9P006
Sensor type	CMOS
Shutter mode	Global reset and Rolling shutter
Sensor size	Type 1/2.5
Pixel size	2.2 μm × 2.2 μm
Lens mounts (available)	C-Mount, CS-Mount

Mako G-503

Max. frame rate at full resolution 14 fps

ADC 12 Bit

Image buffer (RAM) 64 MByte

Imaging performance

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 55 %

Temporal dark noise 7.5 e⁻

Saturation capacity 6000 e⁻

Dynamic range 57.6 dB

Absolute sensitivity threshold 8.0 e⁻

Output

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 BayerGR8, BayerGR12Packed, BayerGR12

General purpose inputs/outputs (GPIOs)

Opto-isolated I/Os 1 input, 3 outputs

Operating conditions/dimensions

Operating temperature +5 °C to +45 °C housing temperature

Power requirements (DC) 10.8 to 26.4 VDC AUX or 802.3at Type 1 PoE

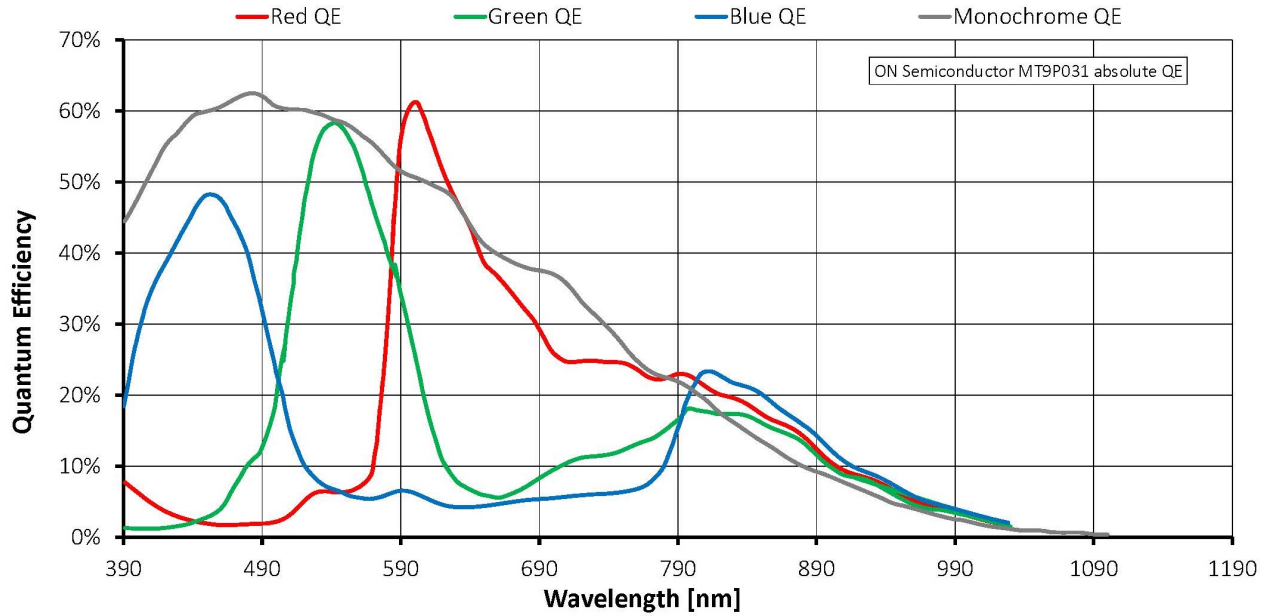
Power consumption 2.0 W at 12 VDC; 2.2 W PoE

Mass 80 g (with C-Mount)

Body dimensions (L × W × H in mm) 60.5 × 29.2 × 29.2 (including connectors)

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

Quantum efficiency



Features

Image control

Auto control

- Auto exposure
- Auto gain
- Auto white balance (color models)

Other image controls

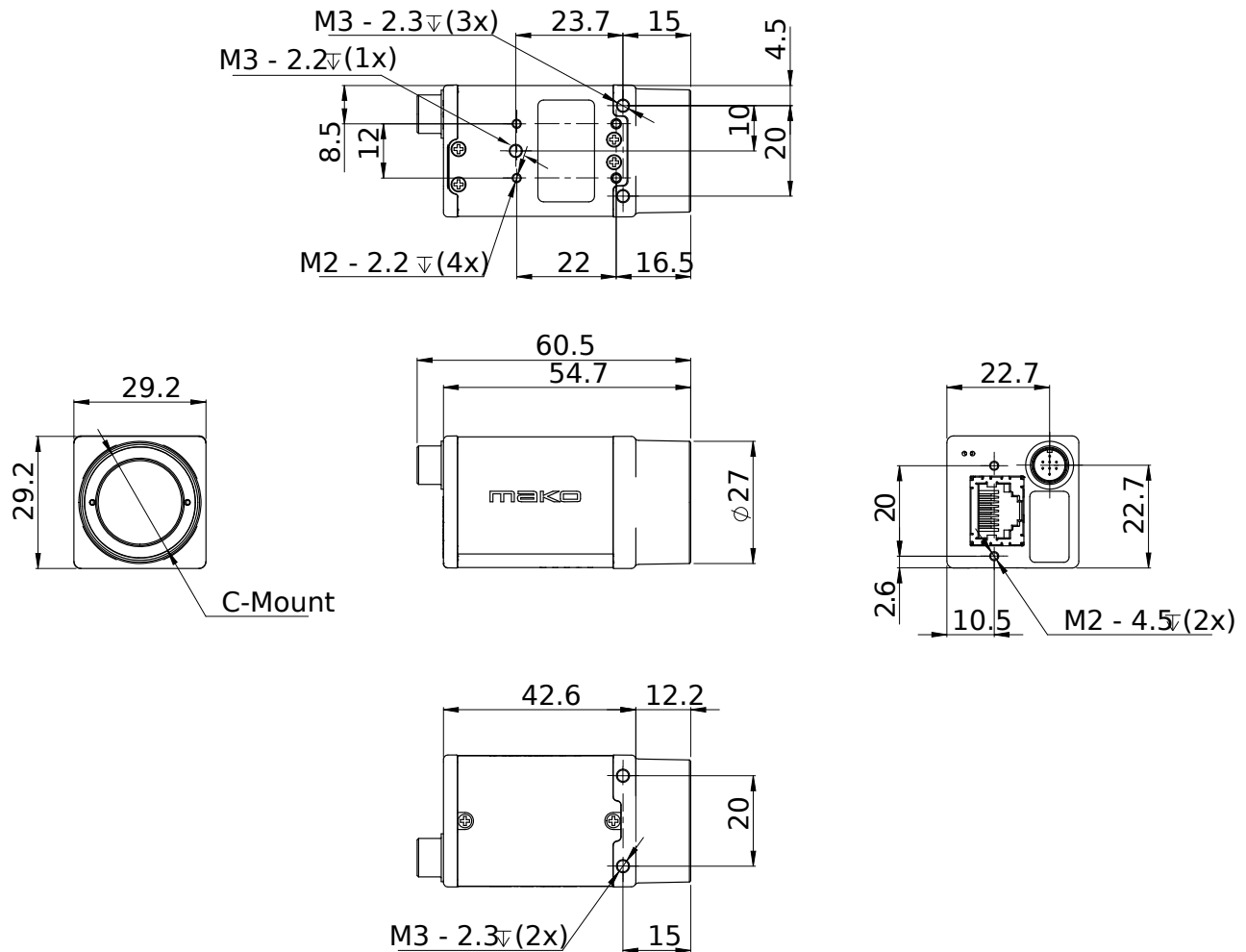
- Binning
- Black level
- Color transformation (incl. hue, saturation; color models)
- Decimation
- DPC (defect pixel correction)
- Gamma

- LUT (look up table)
- Reverse X/Y
- ROI (region of interest)

Camera control

- Acquisition frame rate
- Bandwidth control
- Event channel
- Firmware update in the field
- I/O and trigger control
- Image chunk data
- Stream hold
- Temperature monitoring
- ToE (trigger over Ethernet, action commands)
- User sets

Technical drawing



Applications

Mako G is suitable for all typical applications in machine vision:

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