



Mako G

G-508B POL

- Sony IMX250MZR polarized CMOS sensor
- IEEE 1588 PTP
- Trigger over Ethernet
- Power over Ethernet

Polarization camera with GigE interface

The new Mako G-508B POL polarizer camera is equipped with a Sony PolarsensTM 5.0 MP IMX250MZR CMOS sensor that incorporates the latest four-directional polarization filter technology. The on-chip nanowire polarizing layer supports four orientations (0°, 45°, 90°, and 135°). Four pixels together build a calculation unit to determine for each pixel the intensity and angle of polarization, similar to the debayering of an RGB or color sensor. By using pseudo-color look-up tables for each angle of polarization defects and areas of stress can be easily visualized.

By default monochrome models ship with no optical filter.

Benefits and features:

- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- IEEE 1588 Precision Time Protocol (PTP) allows for easy synchronization of multiple cameras and devices on network
- Trigger over Ethernet (ToE) Action Commands allow for a single cable solution to reduce system costs
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- Comprehensive I/O functionality for simplified system integration
- 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](#).

Options:

- Available with CS-Mount or M12-Mount adapter
- Available with protection glass or various filters

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

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

Specifications

Mako G	G-508B POL
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	2464 (H) × 2056 (V)
Sensor	Sony IMX250MZR
Sensor type	CMOS
Sensor size	Type 2/3
Pixel size	3.45 μm × 3.45 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	23.7 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 and unpolarized light. Contact Sales or AE for more information.

Quantum efficiency at 529 nm	25 %
Temporal dark noise	2.1 e ⁻
Saturation capacity	10200 e ⁻
Dynamic range	71.4 dB
Absolute sensitivity threshold	2.8 e ⁻

Output

Bit depth	12 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed

General purpose inputs/outputs (GPIOs)

Opto-isolated I/Os	1 input, 3 outputs
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Operating conditions/dimensions

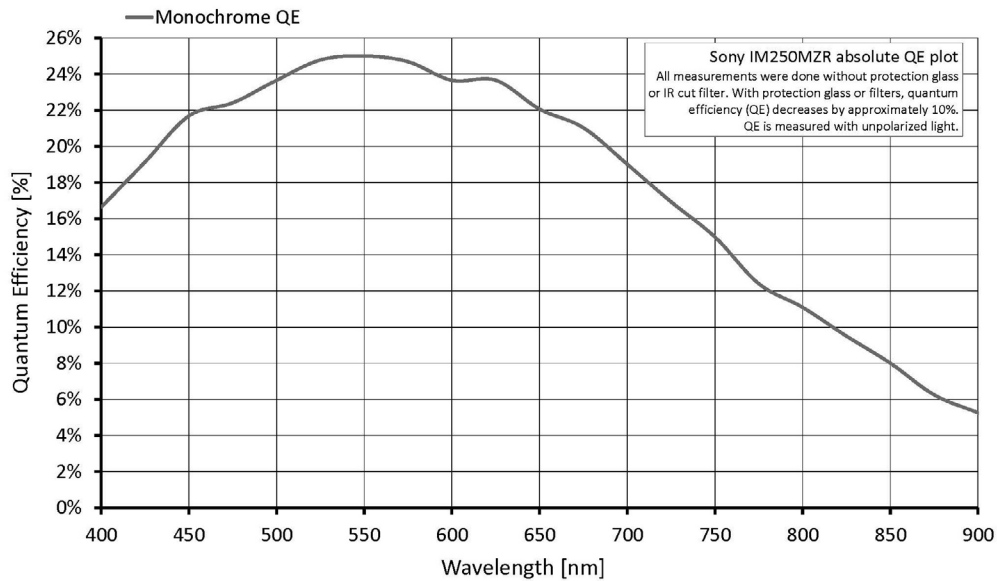
Operating temperature	+5 °C to +45 °C housing temperature
Power requirements (DC)	12 to 24 VDC AUX or 802.3at Type 1 PoE
Power consumption	2.4 W at 12 VDC; 2.4 W PoE
Mass	80 g
Body dimensions (L × W × H in mm)	60.5 × 29.2 × 29.2 (including connectors)

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Regulations

G-508B POL

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



Features

Image optimization features:

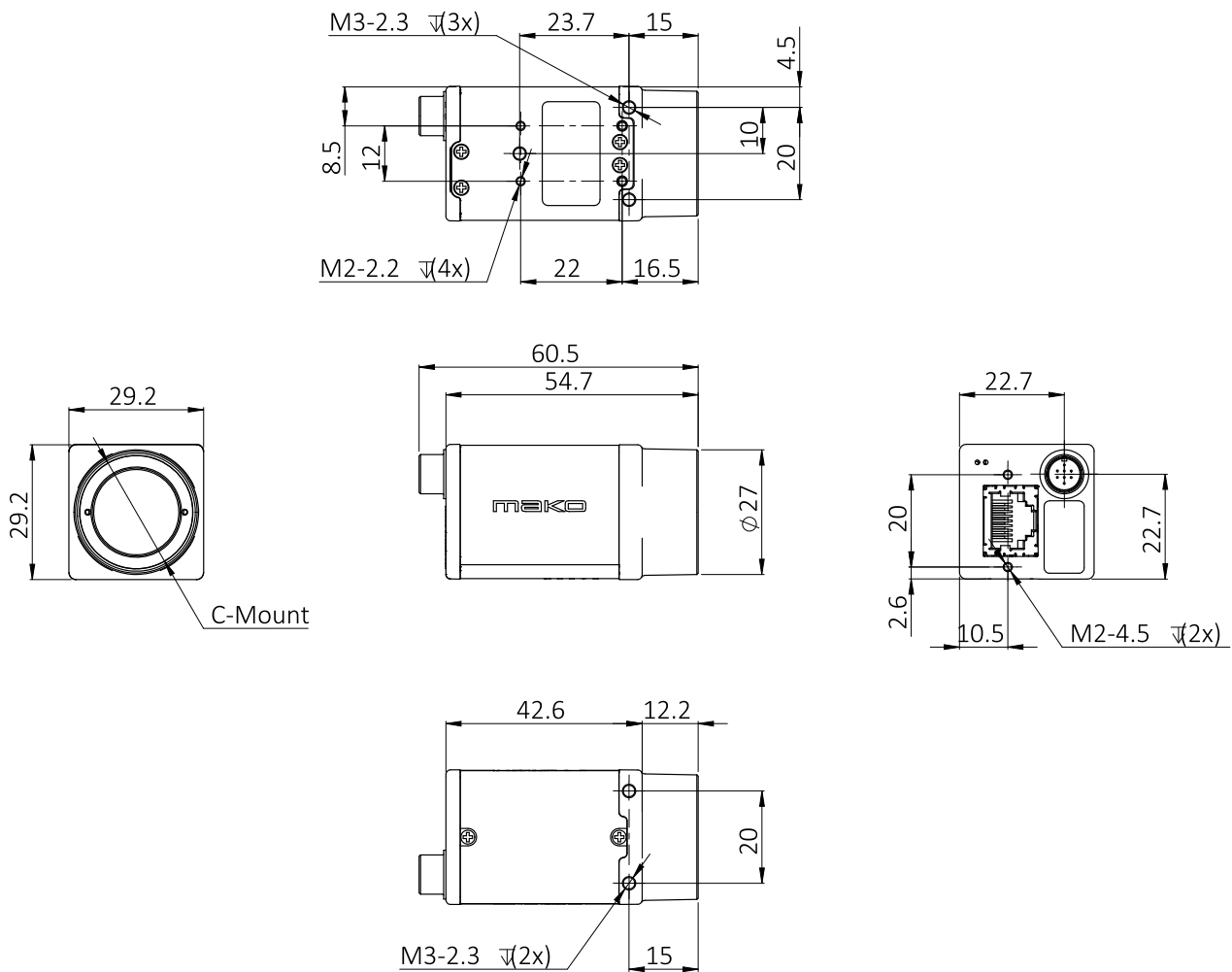
- Auto gain (manual gain control: 0 to 40 dB; 0.1 dB increments)
- Auto exposure (exposure time control varies by pixel format)
- Binning
- Decimation
- Gamma correction
- One look-up table (LUT)
- Region of interest (ROI), separate ROI for auto features

Camera control features:

- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol (PTP)
- Storable user sets
- StreamBytesPerSecond (bandwidth control)

- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board)
- Trigger over Ethernet (ToE) Action Commands

Technical drawing





Applications

Mako G-508B POL is suitable for a wide range of inspection tasks including:

- Surface inspection (for example damage, flatness, scratches)
- Low-contrast imaging (for example carbon fibre, tires, welding spots)
- Material stress detection
- Reflection reduced imaging