Allied Vision

# 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 Polarsens™ 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 allows for easy synchronization of multiple cameras and devices on network
- Trigger over Ethernet Action Commands allow for a single cable solution to reduce system costs
- Supports cable lengths up to 100 meters (CAT-6 recommended)
- 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 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.

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# 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 |
| Shutter mode | Global shutter |
| Sensor size | Type 2/3 |
| Pixel size | 3.45 µm × 3.45 µm |
| Lens mounts (available) | C-Mount, CS-Mount, S-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 |
| **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 (with C-Mount) |
| Body dimensions (L × W × H in mm) | 60.5 × 29.2 × 29.2 (including connectors) |

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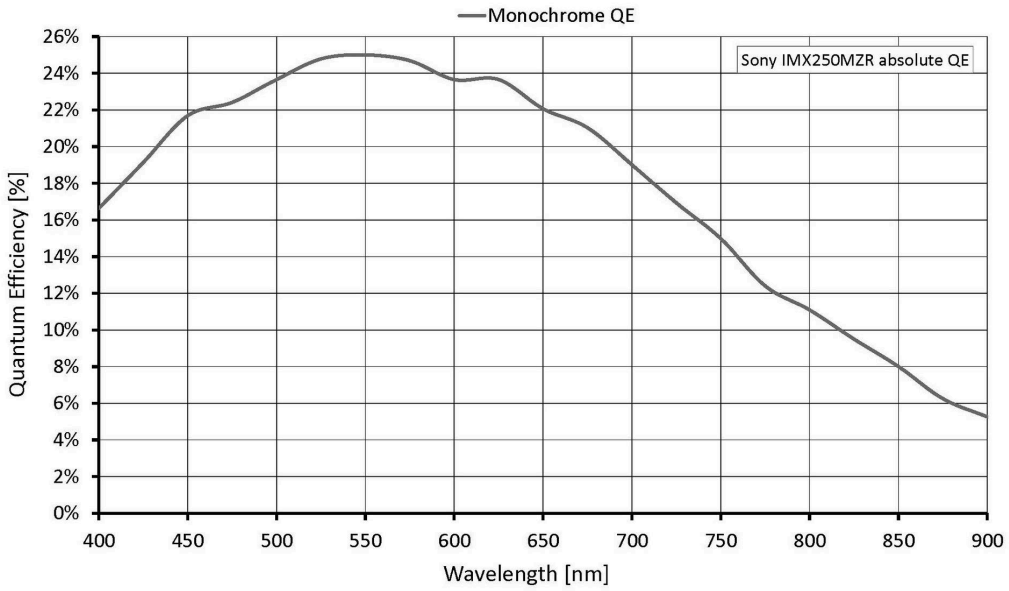
| Regulations | CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS)); FCC Class B; CAN ICES-003 |

# Quantum efficiency




# Features

## Image 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
- Region of interest, separate region for auto features

## Camera control features:

- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol
- 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 Action Commands

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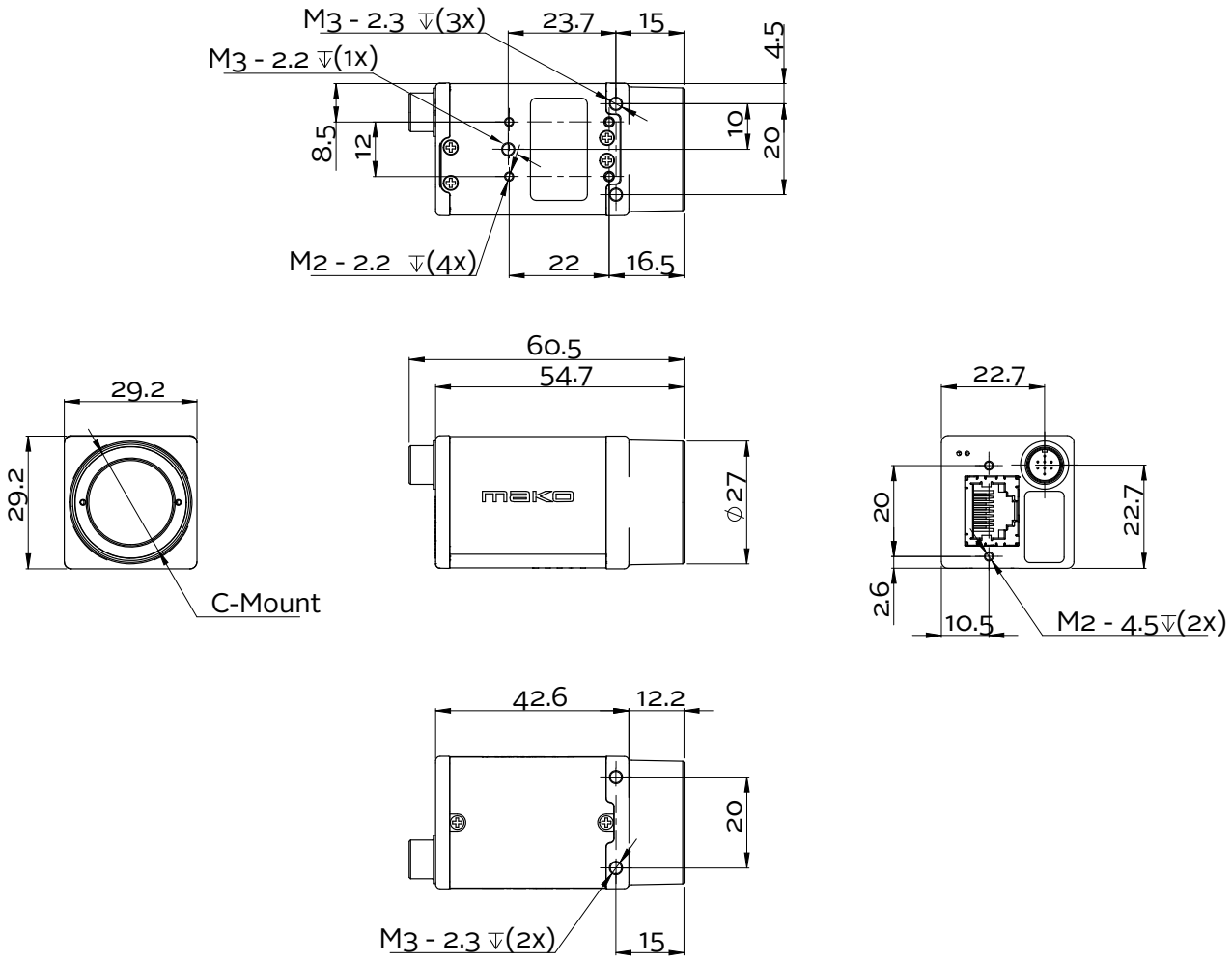
# Technical drawing



# 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