

Mako

G-419B NIR



- NIR enhanced sensor
- Power over Ethernet
- IEEE 1588 PTP
- Trigger over Ethernet
- Compact design

Small and powerful

Ultra-compact GigE Vision cameras

Mako G-419B NIR with CMOSIS/ams CMV4000 NIR runs 26 frames per second at 4.2 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 X](#) 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

| | |
|------------------------------------|---|
| Interface | IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) |
| Resolution | 2048 (H) × 2048 (V) |
| Sensor | CMOSIS/ams CMV4000 NIR |
| Sensor type | CMOS |
| Shutter mode | GS (Global shutter) |
| Sensor size | Type 1 |
| Pixel size | 5.5 µm × 5.5 µm |
| Lens mounts (available) | C-Mount, CS-Mount |
| Max. frame rate at full resolution | 26 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 NIR models measured at full resolution without optical filter. Contact Sales or AE for more information.

| | |
|--------------------------------|---------------------|
| Quantum efficiency at 529 nm | 79 % |
| Quantum efficiency at 850 nm | 44 % |
| Temporal dark noise | 13.6 e ⁻ |
| Saturation capacity | 9500 e ⁻ |
| Dynamic range | 56.6 dB |
| Absolute sensitivity threshold | 14.1 e ⁻ |

Output

| | |
|--------------------------|-----------------------------|
| Bit depth | 8-bit or 12-bit |
| Monochrome pixel formats | Mono8, Mono12, Mono12Packed |

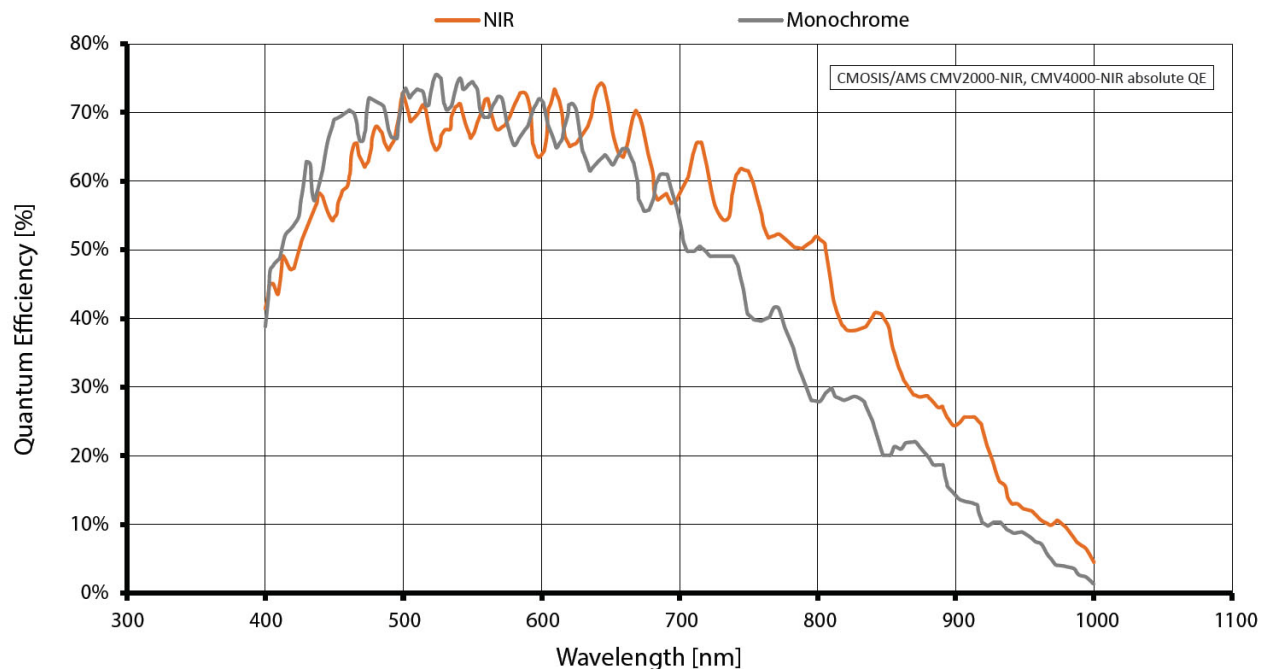
General purpose inputs/outputs (GPIOs)

| | |
|--------------------|--------------------|
| Opto-isolated I/Os | 1 input, 3 outputs |
|--------------------|--------------------|

Operating conditions/dimensions

| | |
|-----------------------------------|--|
| Operating temperature | +5 °C to +45 °C housing temperature |
| Power requirements (DC) | 10.8 to 26.4 VDC AUX or 802.3at Type 1 PoE |
| Power consumption | 2.3 W at 12 VDC; 2.7 W PoE |
| Mass | 80 g (with C-Mount) |
| Body dimensions (L × W × H in mm) | 60.5 × 29.2 × 29.2 (including connectors) |

Quantum efficiency



Features

Image control: Auto

- Auto exposure
- Auto gain

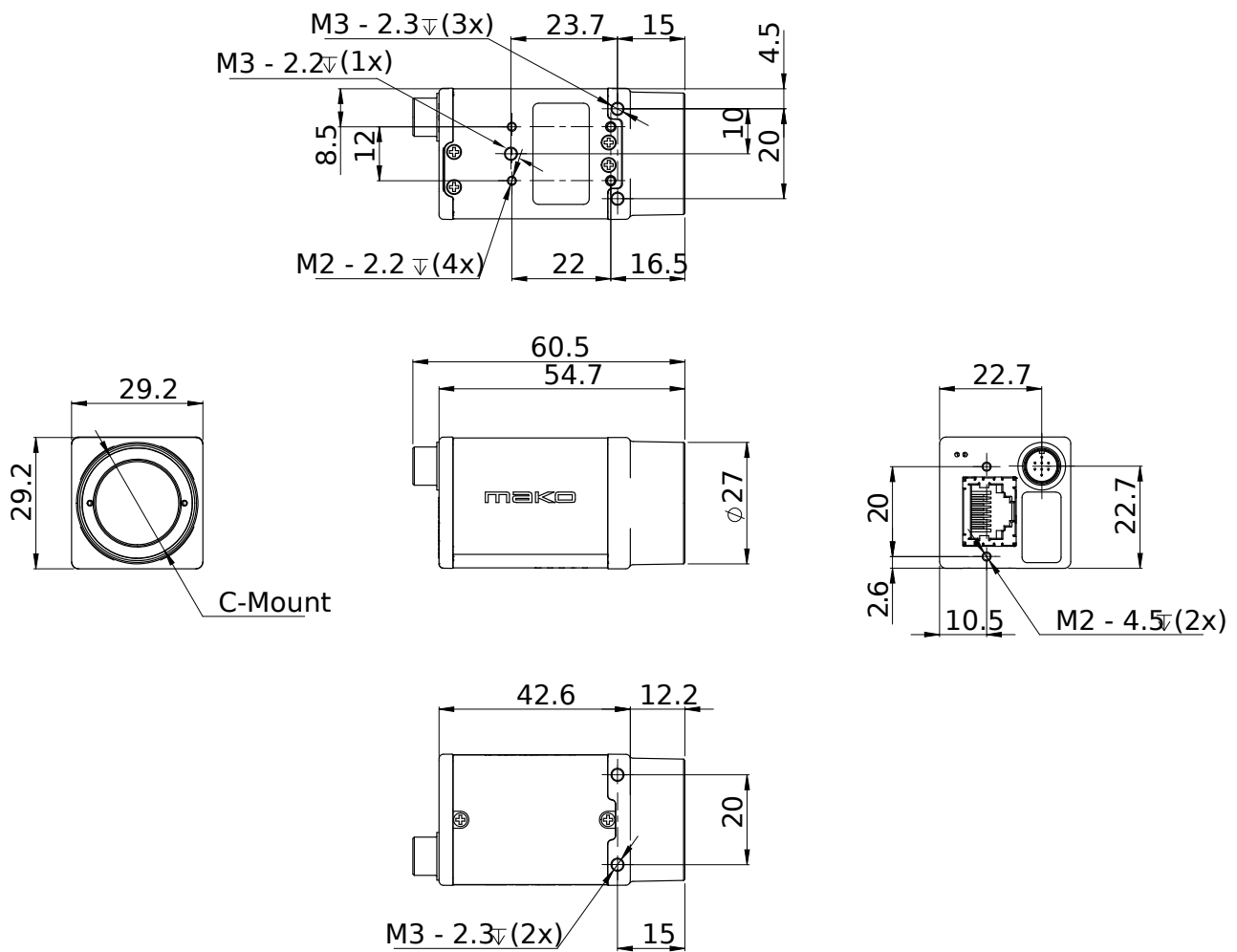
Image control: Other

- Black level
- DPC (defect pixel correction)
- Gamma
- HDR mode
- LUT (look-up table)
- 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
- PTP (IEEE 1588 Precision Time Protocol)
- 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