







- · 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 26.0 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 avilable 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.



Spec	cifica	tions

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 Global shutter

Sensor size Type 1

Pixel size 5.5 μ m × 5.5 μ m

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 8/12 Bit

Monochrome pixel formats Mono8, Mono12, Mono12Packed

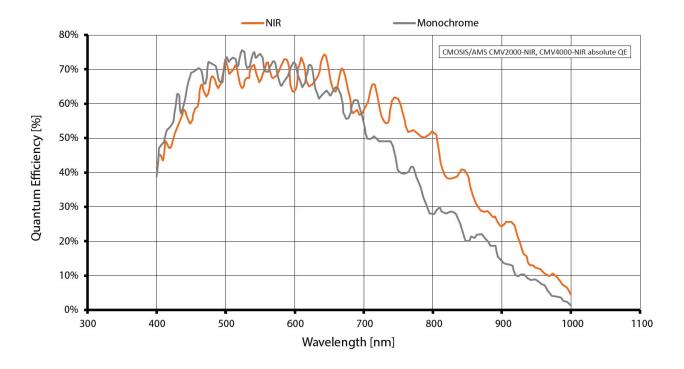
General purpose inputs/outputs (GPIOs)

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)	
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

- Auto exposure
- Auto gain

Image control: Other

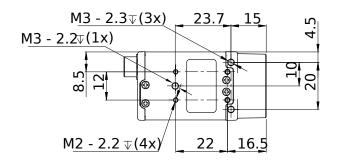
- Black level
- DPC (defect pixel correction)
- Gamma
- HDR mode
- LUT (look-up table)
- ROI (region of interest)

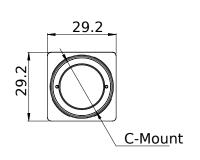
Camera control

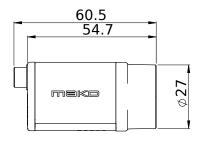
- Acquisition frame rate
- Bandwidth control
- Event channel
- Firmware update in the field
- I/O and trigger control
- Image chunk data
- PTP (IEEE 1588 Precision Time Protocol)
- Stream hold
- · Temperature monitoring
- ToE (trigger over Ethernet, action commands)
- User sets

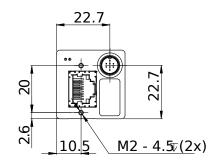


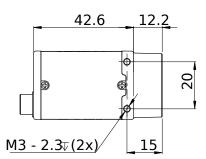
Technical drawing











Applications

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

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