Allied Vision

GiGE VISION

Mako
G-223B NIR

- Ultra-compact design
- IEEE 1588 PTP
- Power over Ethernet
- CMOSIS/ams CMV2000 NIR enhanced sensor

Small and powerful

Ultra-compact GigE Vision cameras

Mako G-223B NIR with CMOSIS/ams CMV2000 NIR runs 49 frames per second at 2.2 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 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) × 1088 (V)
Sensor	CMOSIS/ams CMV2000 NIR
Sensor type	CMOS
Shutter mode	GS (Global shutter)
Sensor size	Type 2/3
Pixel size	5.5 µm × 5.5 µm
Lens mounts (available)	C-Mount, CS-Mount
Max. frame rate at full resolution	49 fps
ADC	12 Bit
Image buffer (RAM)	64 MByte

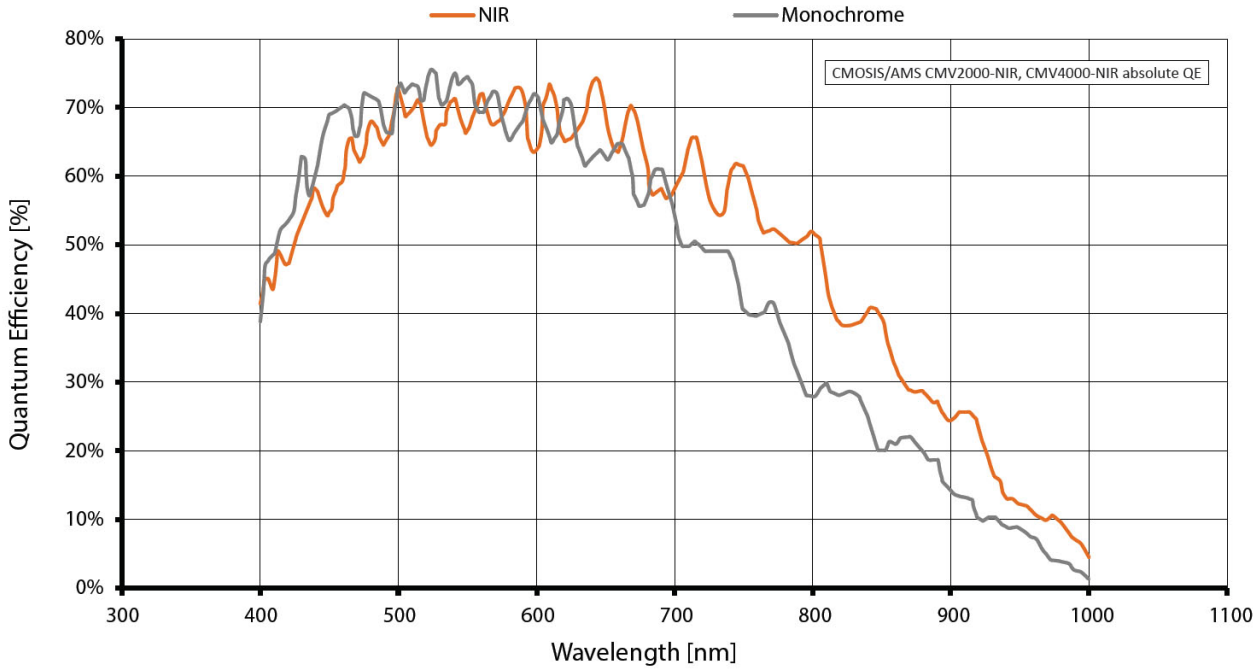
Imaging performance	
Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for NIR models measured at full resolution without optical filter. Contact Sales or AE for more information.	
Quantum efficiency at 529 nm	78 %
Quantum efficiency at 850 nm	42 %
Temporal dark noise	12.9 e^-
Saturation capacity	9300 e^-
Dynamic range	56.8 dB
Absolute sensitivity threshold	13.4 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	2.4 W at 12 VDC; 2.8 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

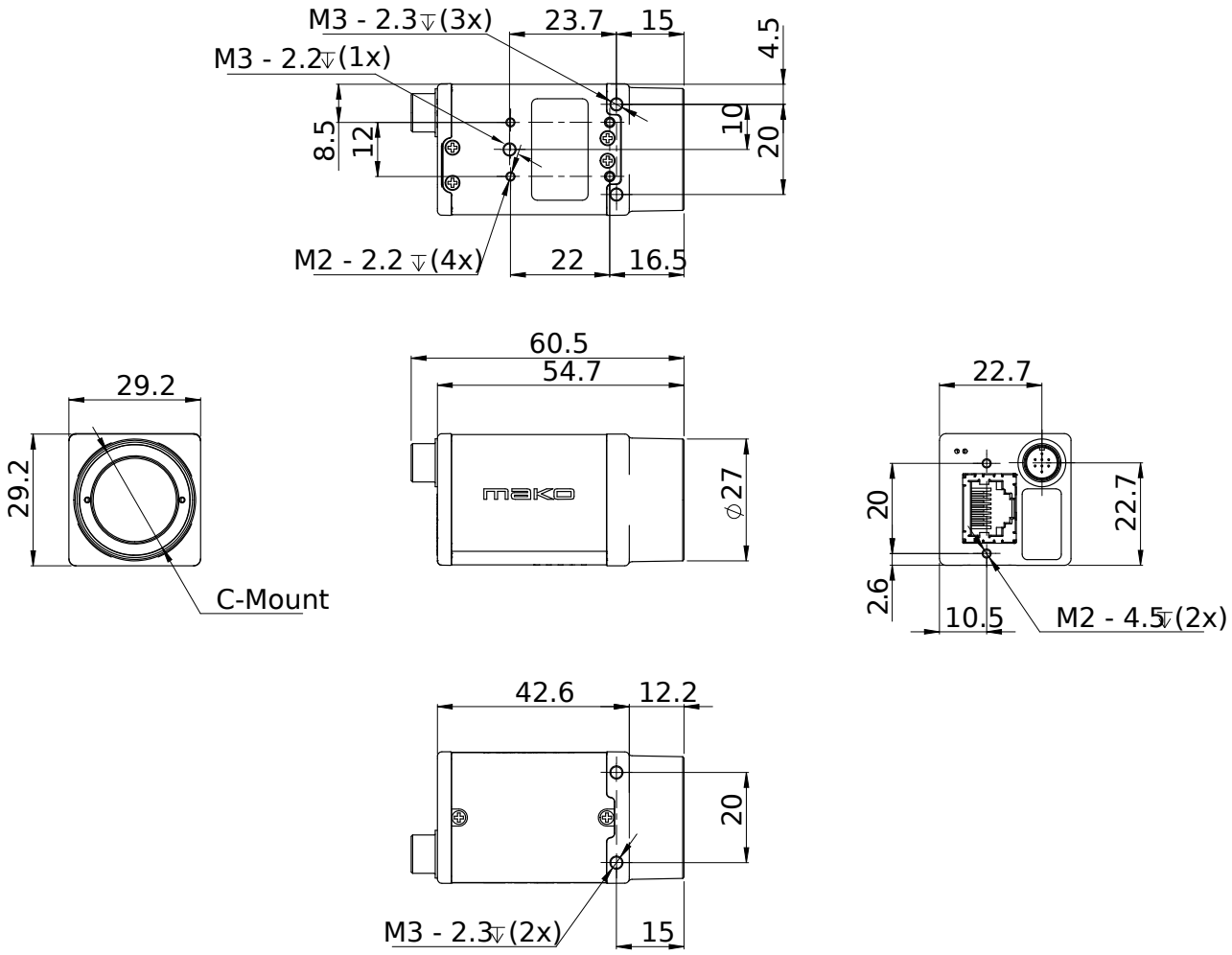
Image optimization features:

- Auto gain (manual gain control: 0 to 26 dB; 1 dB increments)
- Auto exposure (manual exposure control: 30 µs to 153 s; 1 µs increments)
- Defect pixel masking (user defined with Defect Mask Loader tool)
- Gamma correction
- One look-up table
- Piecewise Linear HDR mode
- 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 only)
- Trigger over Ethernet Action Commands

Technical drawing



Applications

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

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