Allied Vision

Mako
G-030

- Trigger over Ethernet
- Piecewise Linear HDR feature
- IEEE 1588 PTP
- Ultra-compact design

Small and powerful

Ultra-compact GigE Vision cameras

Mako G-030 with CMOSIS/ams CMV300 runs 309 frames per second at 0.3 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	644 (H) × 484 (V)
Spectral range	300 to 1100 nm
Sensor	CMOSIS/ams CMV300
Sensor type	CMOS
Shutter mode	GS (Global shutter)
Sensor size	Type 1/3
Pixel size	7.4 µm × 7.4 µm
Lens mounts (available)	C-Mount, CS-Mount
Max. frame rate at full resolution	309 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. Contact Sales or AE for more information.

Quantum efficiency at 529 nm	55 %
Temporal dark noise	12.9 e⁻
Saturation capacity	9300 e⁻
Dynamic range	56.7 dB
Absolute sensitivity threshold	13.4 e⁻

Output

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Bit depth	8-bit or 12-bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw color pixel formats (Bayer)	BayerRG8, BayerRG12Packed, BayerRG12

General purpose inputs/outputs (GPIOs)

Opto-isolated I/Os	1 input, 3 outputs

Operating conditions/dimensions

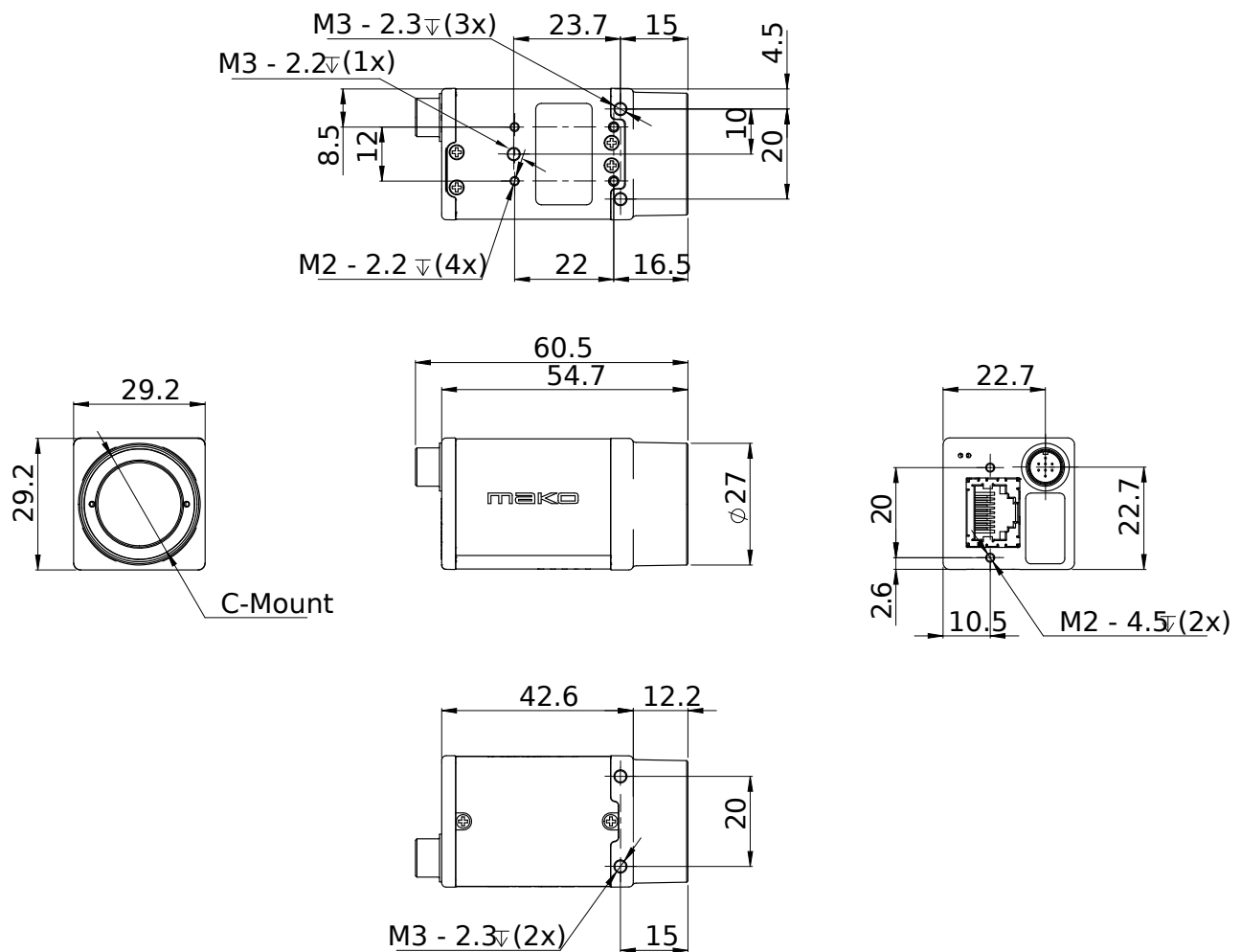|	
Operating temperature	+5 °C to +45 °C housing temperature
Power requirements (DC)	10.8 to 26.4 VDC AUX or 802.3at Type 1 PoE
Power consumption	2.1 W at 12 VDC; 2.3 W PoE
Mass	80 g (with C-Mount)
Body dimensions (L × W × H in mm)	60.5 × 29.2 × 29.2 (including connectors)

Quantum efficiency
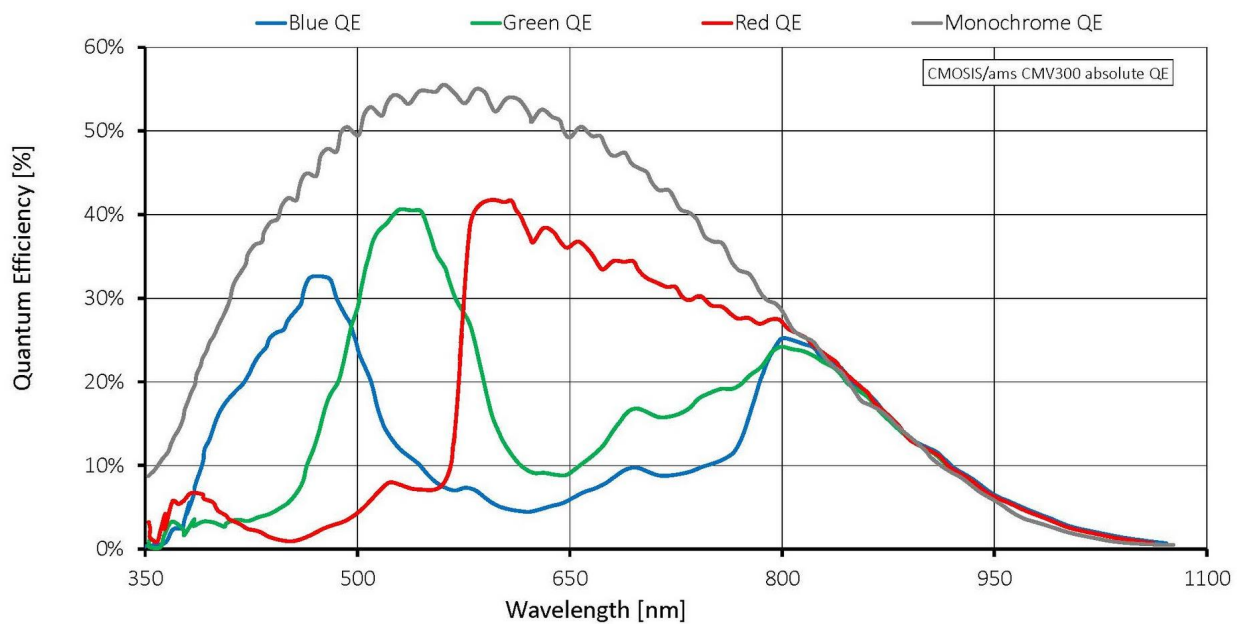
Image optimization features:

- Auto gain (manual gain control: 0 to 26 dB; 1 dB increments)
- Auto exposure (manual exposure control: 83 µs to 2 s; 1 µs increments)
- Auto white balance (G-030C only)
- Color correction, hue, saturation (G-030C only)
- Decimation
- 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
- Reverse X/Y

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

M3 - 2.3 (3x)
M3 - 2.2 (1x)
M2 - 2.2 (4x)
23.7   15
4.5
8.5   12
10   20
22   16.5

60.5
54.7
ø 27
C-Mount
29.2
29.2

22.7
20
2.6
22.7
10.5   M2 - 4.5 (2x)

42.6   12.2
20
M3 - 2.3 (2x)   15

Applications

Mako G-030 is ideal for a wide range of applications including:

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