Mako
G-419

GiGE
VISION

Description

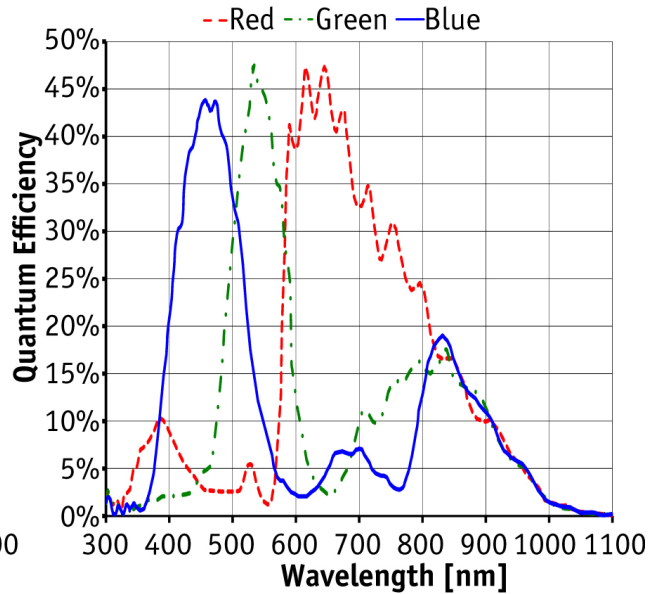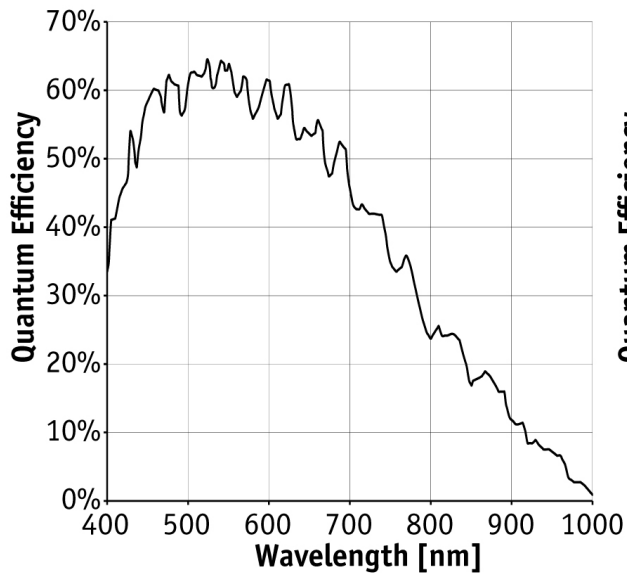### GigE camera with CMOSIS CMV4000 sensor, global shutter

The Mako G-419B/C is an industrial GigE camera with the CMOSIS CMV4000 sensor. Mako cameras have the same compact form factor and the same mounting positions as many analog cameras. All models include PoE, three optocoupled outputs, and a 64 MB image buffer. The image quality profits from the precisely aligned sensors.

- CMOSIS CMV4000 sensor (CMOS, type 1)
- 26.3 fps @ 124 MB/s
- 4 Megapixels, global shutter
- Trigger
  - External trigger event: rising/falling/any edge, level high/low
  - External trigger delay: 0 to 306 s in 1 µs increments
- Sync modes
  - Trigger ready, trigger input, exposing, readout, imaging, strobe, GPO
- Modular options
  - Various IR cut/pass filters, protection glass
  - White medical housing

Specifications

Mako	G-419
Interface	IEEE 802.3 1000baseT
Resolution	2048 x 2048
Sensor	CMOSIS CMV4000
Sensor type	CMOS Progressive
Sensor size	Type 1
Cell size	5.5 µm
Lens mount	C/CS-Mount
Max frame rate at full resolution	26.3 fps
A/D	12 bit
On-board FIFO	64 MB
Output	
Bit depth	8/12 bit
Mono modes	Mono8, Mono12, Mono12Packed
Color modes YUV	YUV411Packed, YUV422Packed, YUV444Packed
Color modes RGB	RGB8Packed, BGR8Packed, RGBA8Packed, BGRA8Packed
Raw modes	BayerGB8, BayerGB12, BayerGB12Packed
General purpose inputs/outputs (GPIOs)	
Opto-coupled I/Os	1 input, 3 outputs
Operating conditions/Dimensions	
Operating temperature	+5°C ... to +50°C (housing temperature)
Power requirements (DC)	PoE /12 V - 24 V
Power consumption (12 V)	2.7 W (PoE) / 2.3 W (non-PoE)
Mass	80 g
Body Dimensions (L x W x H in mm)	60.5 x 29 x 29 mm, incl. connectors
Regulations	CE, FCC Class B, RoHS

Download technical drawing (click here)

Smart features

- ROI (Region of Interest Readout)
- Camera temperature monitoring
- Exposure
  - Auto/one push/programmable
  - Exposure time 1 µs to 153 s
- White balance
  - Auto/one push/programmable
- On-board debayering
- Hue, saturation
- Gain
  - Auto/one push/programmable
  - Manual gain control: 0 to 24 dB (1 dB/step)
- Look-up table (LUT), gamma correction
- DSP subregion (selectable ROI for auto features)
- Stream hold
- StreamBytesPerSecond (easy bandwidth control)
- Event channel
- Chunk data
- 3 storable user sets

Applications

The Mako is an inexpensive industrial GigE camera with a compact form factor. It is suitable for all typical machine vision applications:

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