

// ESSENTIAL

Mako – Small and Robust



The Mako is an attractively priced camera in a compact and rugged industrial housing. As it has the same form factor and mounting points as many conventional analog cameras, it permits plug-and-play upgrading. The Mako is available in two interface versions: GigE Vision and USB3 Vision. All models offer power supply over the interface, and an image buffer for reliably controlled data transfer. Mako cameras are fitted with the latest high-quality CCD and CMOS sensors.

Key facts

- // VGA to 5 Megapixels
- // Sony CCD as well as CMOSIS, e2v, OnSemi, and Sony CMOS sensors
- // Up to 550 fps



Benefits and features

- // Small, lightweight, robust metal housing
- // Power supply via the interface
- // Various filter and mount options
- // Region of Interest
- // Defect pixel correction
- // Storable user sets
- // NIR-optimized variants*
- // Look-up table, debayering, color correction*
- // Binning/decimation*

* only Mako G

// SPECIFICATIONS – OUR CAMERAS AT A GLANCE

Mako



Family-specific:	Mako G	Mako U
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)	USB3 Vision compliant highspeed interface
Power requirements	DC 12 V to 24 V via Hirose or PoE	Powered over USB interface
Power consumption	typ. < 2.9 W @ 12 V DC	typ. < 2.7 W @ 5 V DC
I/Os	1 input, 3 output, opto-coupled	1 opto-isolated input, 1 opto-isolated output, 2 programmable GPIOs
Dimensions (L x W x H)	61 x 29 x 29 mm incl. connectors	49.5 x 29 x 29 mm incl. connectors
Operating temperature	+5 °C to +45 °C (housing)	+5 °C to +45 °C (housing)
Regulations	CE, FCC Class B, RoHS (2011/65/EU)	CE, FCC Class B, RoHS (2011/65/EU)

Mako G



Model-specific:	G-030	G-032	G-125
Sensor	CMOSIS CMV300	Sony ICX424	Sony ICX445
Resolution	644 x 484	656 x 492	1292 x 964
Megapixels	0.3	0.3	1.2
Sensor type	1/3 CMOS	1/3 CCD	1/3 CCD
Max. frame rate	309 fps	102 fps	30 fps
Cell size	7.4 µm	7.4 µm	3.75 µm
Standard mount	C-Mount	C-Mount	C-Mount
Mono/color/NIR variant	yes/yes/no	yes/yes/no	yes/yes/no

Model-specific:	G-131	G-192	G-223	G-234
Sensor	e2v EV 76C560	e2v EV 76C570	CMOSIS CMV2000	Sony IMX249
Resolution	1280 x 1024	1600 x 1200	2048 x 1088	1936 x 1216
Megapixels	1.3	1.9	2	2.35
Sensor type	1/1.8 CMOS	1/1.8 CMOS	2/3 CMOS	1/1.2 CMOS
Max. frame rate	62 fps	60 fps	49 fps	40 fps
Cell size	5.3 µm	4.5 µm	5.5 µm	5.86 µm
Standard mount	C-Mount	C-Mount	C-Mount	C-Mount
Mono/color/NIR variant	yes/yes/no	yes/yes/no	yes/yes/yes	yes/yes/no

Mako G



Model-specific:	G-234	G-319	G-419	G-503	G-507
Sensor	Sony IMX249	Sony IMX265	CMOSIS CMV4000	OnSemi MT9P031 / MT9P006	Sony IMX264
Resolution	1936 x 1216	2064 X 1544	2048 x 1088	2592 x 1944	2464 X 2056
Megapixels	2.35	3.1	4	5.0	5.0
Sensor type	1/1.2 CMOS	1/1.8 CMOS	1/1 CMOS	1/2.5 CMOS Progressive	2/3 CMOS
Max. frame rate	40 fps	37.6 fps	26 fps	14 fps	23.7 fps
Cell size	5.86 µm	3.45 µm	5.5 µm	2.2 µm	3.45 µm
Standard mount	C-Mount	C-Mount	C-Mount	C/CS-Mount	C-Mount
Mono/color/NIR variant	yes/yes/no	yes/yes/no	yes/yes/yes	yes/yes/no	yes/yes/no

Mako U



Model-specific:	U-029	U-051	U-130	U-503
Sensor	OnSemi PYTHON 300	OnSemi PYTHON 500	OnSemi PYTHON 1300	OnSemi MT9P031
Resolution	640 x 480	800 x 600	1280 x 1024	2588 x 1940
Megapixels	0.3	0.5	1.3	5.0
Sensor type	1/4 CMOS global shutter	1/3.6 global shutter	1/2 CMOS global shutter	1/2.5 CMOS rolling shutter
Max. frame rate	550 fps	391 fps	168 fps	14 fps
Cell size	4.8	4.8	4.8	2.2 µm
Standard mount	C-Mount	C-Mount	C-Mount	C-Mount
Mono/color/NIR variant	yes/no/no	yes/no/no	yes/no/no	yes/no/no

Options for Mako G and Mako U:

Modular concept

- // Various IR cut/pass filters
- // CS-/M12-Mount
- // White medical housing