GO-5101-PGE-1

5.1-megapixel CMOS global shutter

GiGE VISION

- *5.1-megapixel 2/3" CMOS imager (global shutter)*
- *Up to 22.7 fps at full resolution*
- *3.45 µm square pixels*
- *Small size (29 x 29 x 41.5 mm, excluding lens mount)*
- *8/10/12-bit output* in a choice of monochrome or raw Bayer color models*
- *Exposure control from 14.7 µs to 8 seconds in 1 µs steps*
- *2X binning for increased sensitivity (monochrome only)*
- *ROI mode for flexible windowing and use of smaller optics*
- *Automatic Level Control (ALC) for dynamic lighting conditions*
- *Accepts power over GigE Vision interface or separate 6-pin connector*
- *C-mount lens mount*

* Some video processing functions not available with 12-bit output

Specifications for GO-5101-PGE-1

Specifications

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Sensor	2/3" CMOS global shutter (IMX264)
Active pixels	2464 (h) x 2056 (v)
Frame rate, full frame	22.7 frames/sec. @ 8-bit
Active area	8.5 mm (h) x 7.09 mm (v) - 11.1 mm diagonal
Pixel size	3.45 µm x 3.45 µm
System clock	74.25 MHz (for pulse generator)
Read-out modes Full ROI (mono) ROI (color) Binning	2464 (h) x 2056 (v) up to 22.7 fps H: 16 to 2464 pixels in 16 pixel steps V: 1 to 2056 lines in 1 line steps H: 16 to 2464 pixels in 16 pixel steps V: 2 to 2056 lines in 2 line steps 1x2, 2x1, 2x2 (monochrome 8/10-bit only)
EMVA 1288 Parameters Absolute sensitivity Maximum SNR	12-bit output format Mono: 3.03 p Color: 3.37 p (λ = 527 nm) Mono: 39.6 dB Color: 39.79 dB
Traditional SNR* mono color	>60 dB (0 dB gain, 10-bit) >60 (0 dB gain, 10-bit, green)
Video signal output mono color	8/10/12-bit monochrome† 8/10/12-bit raw Bayer†
Video modes	Normal, Single ROI, Sequencer (Trigger & Command), Delayed Readout
Gain	Manual/auto 0 dB to +24 dB
White balance (GO-5100C)	Manual, one-push auto, or continuous (3000K to 9000K)
Gamma/LUT	0.45, 0.6, 1.0 or 256-point LUT
Trigger input	Opto In (1), Pulse Generator, Software, NAND Out (2), User Output (2), Action (2)
Exposure modes	Timed/EPS, Trigger Width, Auto
Electronic shutter	Timed: 14.7 µs to 8 sec. in 1 µs steps Trigger Width: 14.7 µs to ∞ sec. in 1 µs steps
Auto Level Control (ALC)	Shutter range from 100 µs to 44.053 ms, gain range from 0 dB to +24 dB. Tracking speeds and min/max values adjustable
Pre-processing functions	Shading correction, blemish compensation (256 pixels)
Operating temp. (ambient)	-5°C to +45°C (20 to 80% non-condensing)
Storage temp. (ambient)	-25°C to +60°C (20 to 80% non condensing)
Vibration	10G (20 Hz to 200 Hz, XYZ directions)
Shock	80G
Regulations	CE (EN55032: 2015, EN55035: 2017) FCC Part 15 Class A, RoHS/WEEE
Power 6-pin PoE	+12V to +24V DC ± 10%. 3.2 W typical @ +12 V +36V to +57V DC. 4.6 W typical @ +48 V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 41.5 mm (excl. lens mount)
Weight	65 g

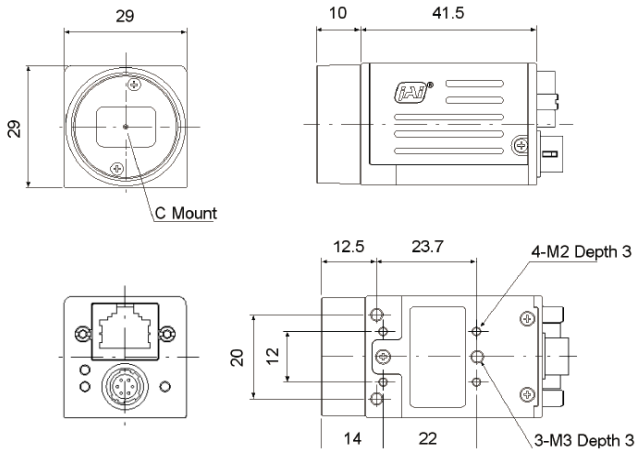
Ordering Information

GO-5101M-PGE-1	Monochrome camera with GigE Vision
GO-5101C-PGE-1	Color camera with GigE Vision

*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time.

†12-bit output available in video processing bypass mode. See manual for details.

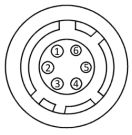
Dimensions



Outside size tolerance ± 0.3 mm

Connector pin-out

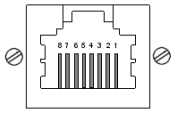
DC In / Trigger



HIROSE HR10A-7R-6PB(73)

Pin		
	1	DC in +12V to +24V
	2	Opto In 1
	3	Opto Out 1
	4	Opto Out 2
	5	Opto Common
	6	Ground

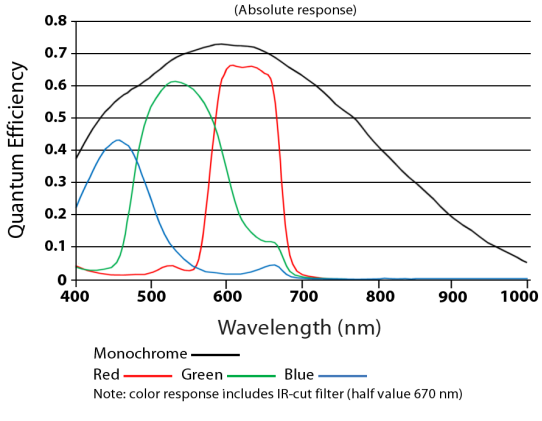
GigE Vision Interface



RJ-45 with locking screws

Pin	Signal
1	TRD+ (0)
2	TRD- (0)
3	TRD+ (1)
4	TRD+ (2)
5	TRD- (2)
6	TRD- (1)
7	TRD+ (3)
8	TRD- (3)

Spectral Response



Note: color response includes IR-cut filter (half value 670 nm)

Europe, Middle East & Africa
Phone +45 4457 8888
Fax +45 4491 8880

Asia Pacific
Phone +81 45 440 0154
Fax +81 45 440 0166

Americas
Phone (Toll-Free) 1 800 445 5444
Phone +1 408 383 0300

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