

➤ **GO-5100-PGE**  
5.1-megapixel CMOS global shutter



- **5.1-megapixel 2/3" CMOS imager (global shutter)**
- **Up to 22.7 fps at full resolution**
- **3.45  $\mu\text{m}$  square pixels**
- **Small size (29 x 29 x 41.5 mm, excluding lens mount)**
- **8/10-bit output in a choice of monochrome or raw Bayer color models**
- **Exposure control from 14  $\mu\text{s}$  to 8 seconds in 1  $\mu\text{s}$  steps**
- **2X binning for increased sensitivity (monochrome only)**
- **Single and multi-ROI modes 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**

[www.jai.com](http://www.jai.com)



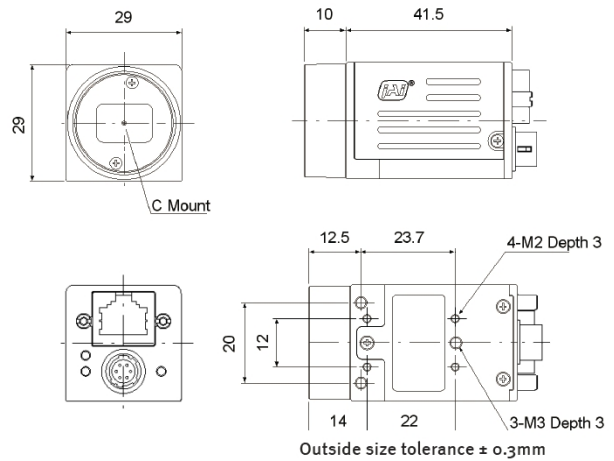
See the possibilities

# Specifications for GO-5100-PGE

# Go Series

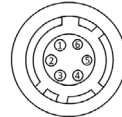
Specifications	GO-5100-PGE
Sensor	2/3" CMOS global shutter (IMX250)
System clock	74.25 MHz (for pulse generator)
Frame rate, full frame	22.7 frames/sec. @ 8-bit
Active area	8.5 mm (h) x 7.09 mm (v), 11.1 mm diagonal
Cell size	3.45 μm (h) x 3.45 μm (v)
Active pixels	2464 (h) x 2056 (v)
Read-out modes	Full: 2464 (h) x 2056 (v) up to 22.7 fps ROI (mono): H: 16 to 2464 pixels in 16 pixel steps V: 1 to 2056 lines in 1 line steps ROI (color): H: 16 to 2464 pixels in 16 pixel steps V: 2 to 2056 lines in 2 line steps Binning: 1x2, 2x1, 2x2 (monochrome only)
EMVA 1288 Parameters	At 12-bit output
Absolute sensitivity (mono)	3.48 p (λ = 525 nm)
Absolute sensitivity (color)	3.99 p (λ = 525 nm)
Maximum SNR (mono)	40.27 dB
Maximum SNR (color)	40.22 dB
Traditional SNR*	mono: >60 dB (0 dB gain) color: >60 dB (0 dB gain, green,)
Video signal output	mono: 8/10/12-bit monochrome † color: 8/10/12-bit raw Bayer †
Gain control	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
Synchronization	Internal
Video modes	Normal, Single ROI, Multi ROI, Sequencer (Trigger & Command), Delayed Readout
Trigger input	Opto In, Pulse Generator, Software, NAND Out (2), User Output (2), Action Commands (2)
Trigger modes	Timed/EPS, Trigger Width, Sequencer
Electronic shutter	Timed exposure: 14 μs to 8 sec. in 1 μs steps (8-bit) Auto shutter: 8 sec. to 1/10,000 sec.
Auto Level Control (ALC)	Shutter range from 8 sec. to 1/10,000, gain range from 0 dB to +24 dB Tracking speeds and max values adjustable.
Pre-processing functions	Blemish compensation (512 pixels), shading
Operating temperature	-5°C to +45°C
Storage temperature	-25°C to +60°C
Humidity	20 - 80% non-condensing
Vibration	10 G (20 Hz to 200 Hz XYZ)
Shock	80 G
Regulations	CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS, WEEE
Power	6-pin connector: 12V to 24V DC ± 10%, 3.3W typical @ 12V PoE: 36V to 57V DC, 3.99W typical @ 48V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 41.5 mm (excl. lens mount)
Weight	46 g

## Dimensions



## Connector pin-out

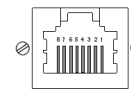
### DC In / Trigger



HIROSE HR-10A-7R-6PB(73)

Pin	Signal
1	+12V to +24V DC Input
2	Opto In 1
3	Opto Out 1
4	Opto Out 2
5	Opto Common
6	GND

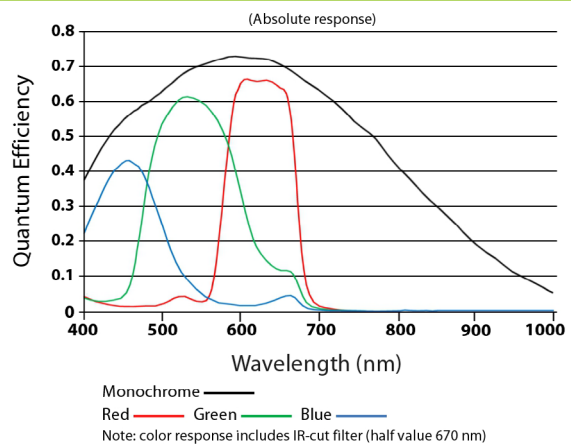
### GigE Vision Interface



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



## Ordering Information

GO-5100M-PGE	Monochrome camera with GigE Vision
GO-5100C-PGE	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. For a more complete description, see the manual.

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

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See the possibilities