

❖ **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**

# 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	2454 (h) x 2056 (v)
Read-out modes	2454 (h) x 2056 (v) up to 22.7 fps H: 16 to 2454 pixels in 16 pixel steps V: 1 to 2056 lines in 1 line steps
Full ROI (mono)	
ROI (color)	H: 16 to 2454 pixels in 16 pixel steps V: 2 to 2056 lines in 2 line steps
Binning	1x2, 2x1, 2x2 (monochrome only)
EMVA 1288 Parameters	At 10-bit output
Absolute sensitivity (mono)	TBD p (λ = 525 nm)
Absolute sensitivity (color)	TBD p (λ = 525 nm)
Maximum SNR (mono)	TBD dB
Maximum SNR (color)	TBD 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	0.45, 0.6, 1.0 or 256-point LUT
Synchronization	Internal
Video modes	Normal, Single ROI, Multi ROI, Sequence (Trigger & Command), Delayed Readout
Trigger input	Opto In, Pulse Generator, Software, NAND Out (2), User Output (2), Action Commands (2)
Trigger modes	EPS, Trigger Width, Timed RCT (with ALC), Sequence
Electronic shutter	Timed exposure 14 μs to 8 sec in 1 μs steps (8-bit) Auto shutter 1/22 to 1/10,000 sec.
Auto Level Control (ALC)	Shutter range from 1/22 to 1/10,000, gain range from 0 dB to +24 dB Tracking speeds and max values adjustable.
Pre-processing functions	Blemish compensation (256 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

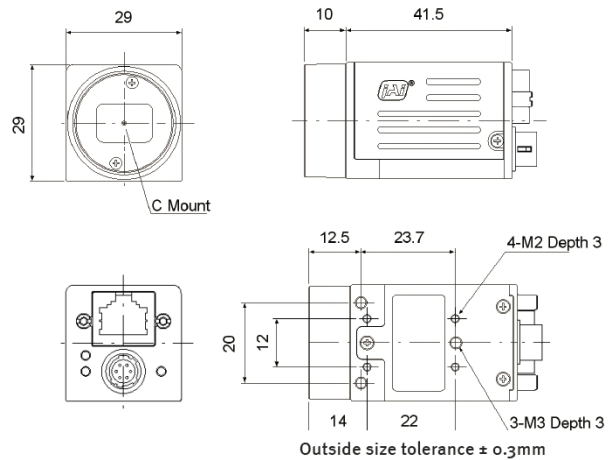
## Ordering Information

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.

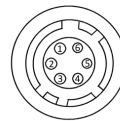
†12-bit output available in video processing bypass mode. See manual for details.

## Dimensions



## Connector pin-out

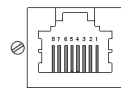
### DC In / Trigger



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

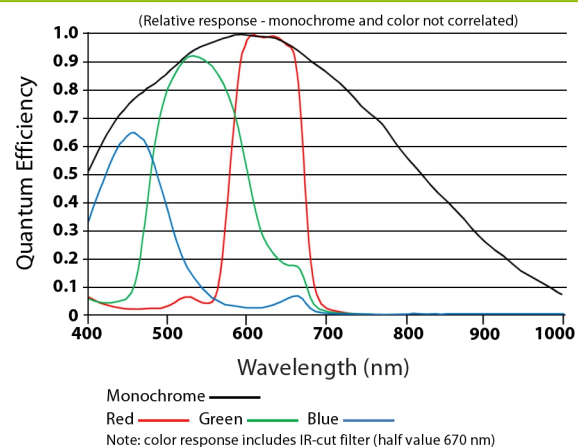
### GigE Vision Interface



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



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