

❖ GO-5100MP-PGE

5.1 megapixel polarization camera



- **5.1-megapixel camera featuring Sony IMX250MZR CMOS polarized sensor**
- **Four different polarizing filters (0°, 45°, 90°, 135°) applied to each 4-pixel block**
- **Outputs raw 5.1 MP mosaic image encompassing all 4 polarizing angles**
- **Built-in functions to calculate polarization angle (AoLP) and polarization percentage (DoLP)**
- **Supports ROI and binning modes**
- **8, 10, or 12-bit monochrome output***
- **Compact size and smart design**
- **Excellent shock and vibration resistance**
- **GigE Vision interface with support for PoE**
- **C-mount lens mount**

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

Specifications for GO-5100MP-PGE

Go Series

Specifications	GO-5100MP-PGE
Sensor	2/3" CMOS global shutter (IMX250MZR)
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 (single) 2464 (h) x 2056 (v) up to 74 fps H: 16 to 2464 pixels in 16 pixel steps V: 2 to 2056 lines in 2 line steps Binning 1x2, 2x1, 2x2
EMVA 1288 Parameters	12-bit output format
Absolute sensitivity	TBD p (λ = 525 nm)
Maximum SNR	SNR dB
Traditional SNR*	>60 dB (0 dB gain, 10-bit)
Video signal output	8/10/12-bit monochrome†
Video modes	Normal, Single ROI, Multi ROI, Delayed Readout
Gain	Manual/auto 0 dB to +24 dB
Shading correction	Flat shading
Blemish compensation	256 pixels
Trigger input	Opto In (1), Pulse Generator, Software, NAND Out (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 max. values adjustable.
Pre-processing functions	Polarization angle (AoLP) and polarization percentage (DoLP) calculated in-camera and provided in single, combined output stream.
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 (EN61000-6-2, EN61000-6-3) FCC Part 15 Class B, RoHS/WEEE
Power	6-pin PoE +12V to +24V DC ± 10%. 3.3 W typical @ +12 V +36V to +57V DC. 3.99 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	46 g

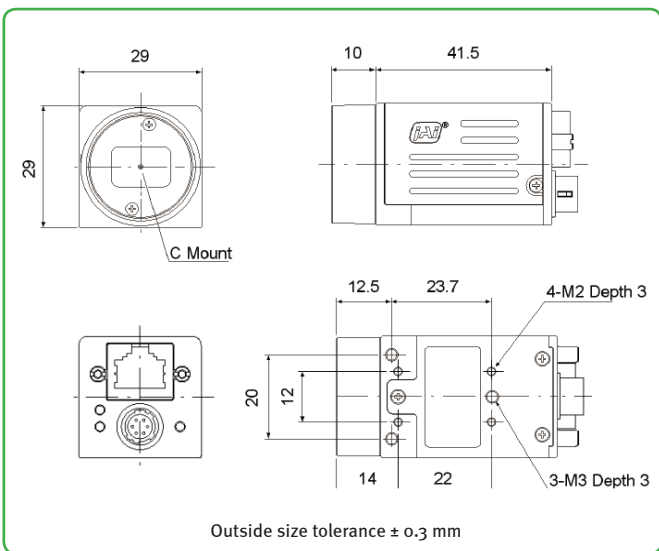
Ordering Information

GO-5100MP-PGE	Monochrome polarization camera with USB3 Vision
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*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



Connector pin-out

DC In / Trigger

HIROSE HR10A-7R-6PB(73)

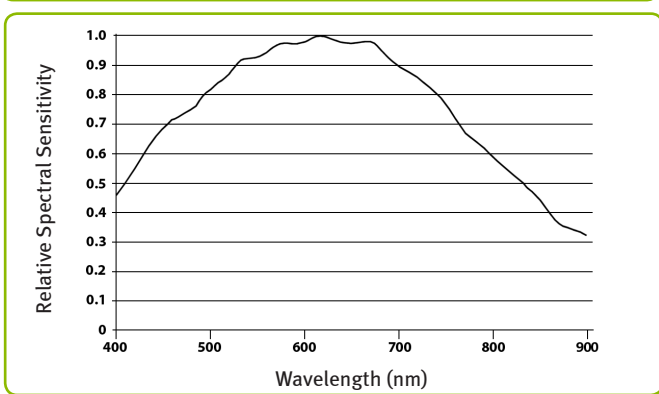
Pin	Signal
1	DC in +12V to +24V
2	Opto In 1
3	Opto Out 1
4	Opto Out 2
5	Opto Common
6	Ground

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)

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