

GO-5100MP-PGE

Technical Datasheet



See the possibilities

IMX250MZR



Apex Series



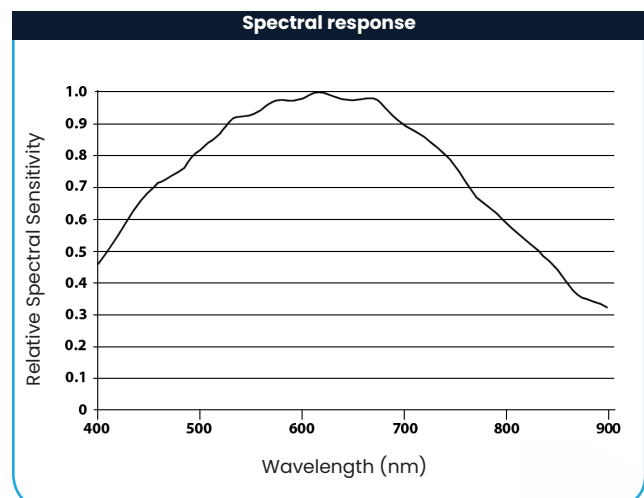
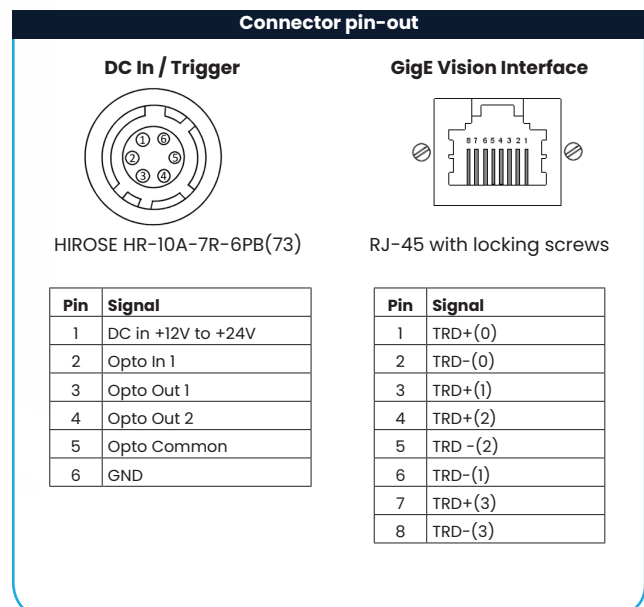
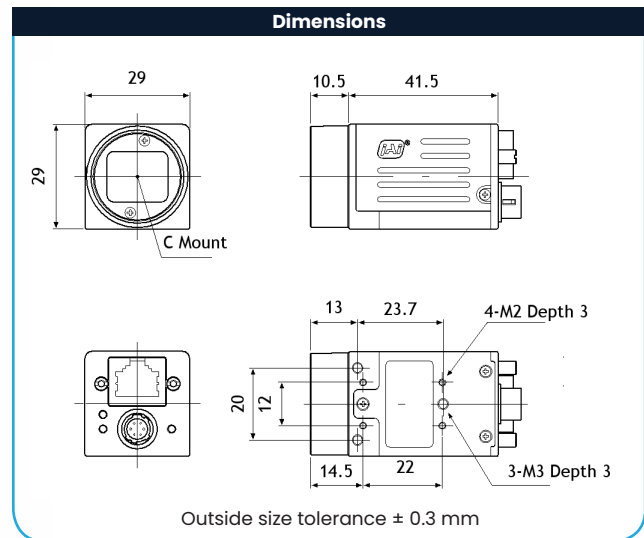
JAI's Go Series delivers an exceptional blend of small size, high versatility, and excellent performance, all at an entry-level price, making the cameras a perfect starting point for a wide range of machine vision applications.

CMOS technology, low-noise pixels, global shutters, sequencer functions, and other advanced features help ensure image quality and operational flexibility beyond entry-level expectations.

Specification Highlights

SENSOR:	IMX250MZR	SHUTTER:	Global Shutter
FORMAT:	2/3"	FRAME RATE:	22 fps
PIXEL SIZE:	3.45 x 3.45 μ m	INTERFACE:	GigE Vision 1-Cable (PoE)
LENS MOUNT:	C-Mount	RESOLUTION MP:	5.1 MP
SPECTRUM:	Monochrome Polarized (Visible)	RESOLUTION WxH:	2464 x 2056 px

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		10-bit output format
Absolute sensitivity		TBD p ($\lambda = 525 \text{ nm}$)
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 \pm 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



*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.

Product Highlights

- 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

Additional Product Images



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