

GO-2400M-PGE

Technical Datasheet

IMX174*See the possibilities*

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.

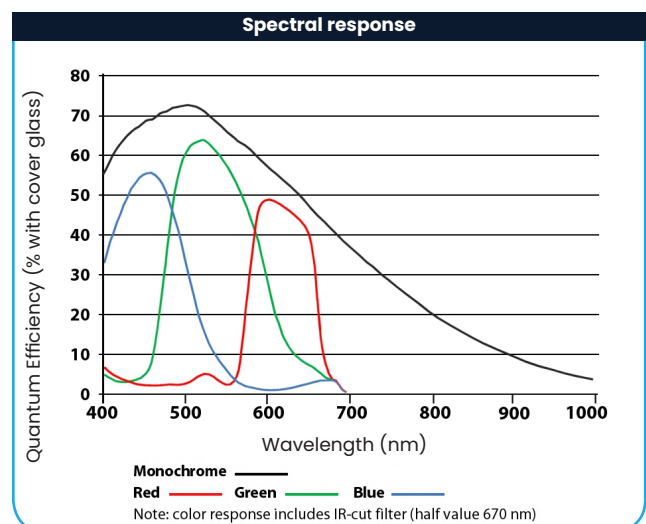
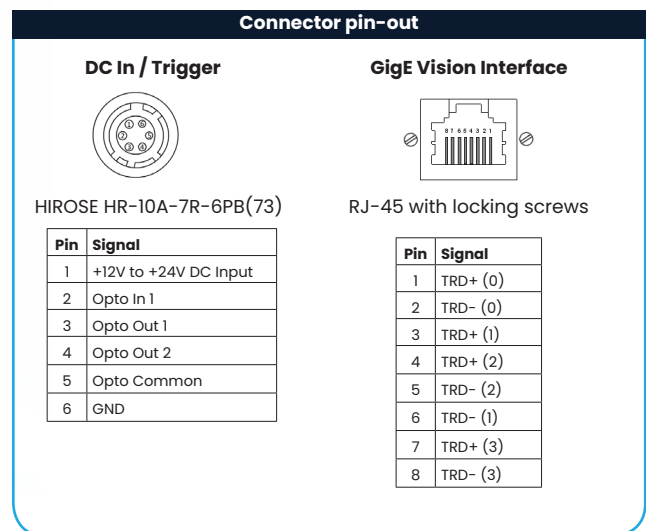
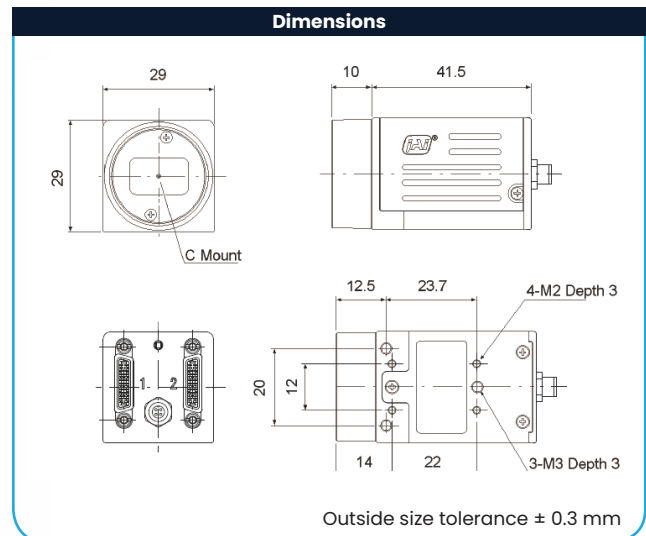
Specification Highlights

SENSOR: IMX174
FORMAT: 1/1.2"
PIXEL SIZE: 5.86 x 5.86 μ m
LENS MOUNT: C-Mount
SPECTRUM: Monochrome
(Visible + NIR)

SHUTTER: Global Shutter
FRAME RATE: 48 fps
INTERFACE: GigE Vision 1-Cable (PoE)
RESOLUTION MP: 2.4 MP
RESOLUTION WxH: 1936 x 1216 px

Specifications		GO-2400-PGE
Sensor		1/1.2" CMOS global shutter (IMX174)
System clock		74.25 MHz (for pulse generator)
Frame rate, full frame		48.8 frames/sec. @ 8-bit
Active area		11.3 mm (h) x 7.13 mm (v), 13.4 mm diagonal
Cell size		5.86 μm (h) x 5.86 μm (v)
Active pixels		1936 (h) x 1216 (v)
Read-out modes		
Full ROI (mono)		1936 (h) x 1216 (v) up to 48.8 fps H: 16 to 1920 pixels in 16 pixel steps V: 1 to 1215 lines in 1 line steps
ROI (color)		H: 16 to 1920 pixels in 16 pixel steps V: 2 to 1214 lines in 2 line steps
Binning		1x2, 2x1, 2x2 (monochrome only)
EMVA 1288 Parameters		12-bit output format
Absolute sensitivity (mono)		9.35 p ($\lambda = 525 \text{ nm}$)
Absolute sensitivity (color)		10.76 p ($\lambda = 525 \text{ nm}$)
Maximum SNR (mono)		45.13 dB
Maximum SNR (color)		45.10 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-2400C)		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, Sequence
Electronic shutter		
Timed exposure		14.7 μs to 8 sec in 1 μs steps
Auto shutter		1/48 to 1/68027 sec.
Auto level control (ALC)		Shutter range from 1/48 to 1/68027, 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		10G (20 Hz to 200 Hz XYZ)
Shock		80 G
Regulations		CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class B, RoHS/WEEE
Power		12V to 24V DC $\pm 10\%$ 2.64W typical @ 12V
6-pin connector PoE		36V to 57V DC. 3.02W 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-2400M-PGE		Monochrome camera with GigE Vision
GO-2400C-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 IP Bypass mode. See manual for details.

Product Highlights

- 22.35-megapixel 1/1.2" CMOS imager (global shutter)
- Up to 48.8 fps at full resolution
- 5.86 μm square pixels
- Small size (29 x 29 x 41.5 mm, excluding lens mount)
- 8/10-bit output in 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)
- 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

Additional Product Images



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