

GO-2400M-PMCL

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.

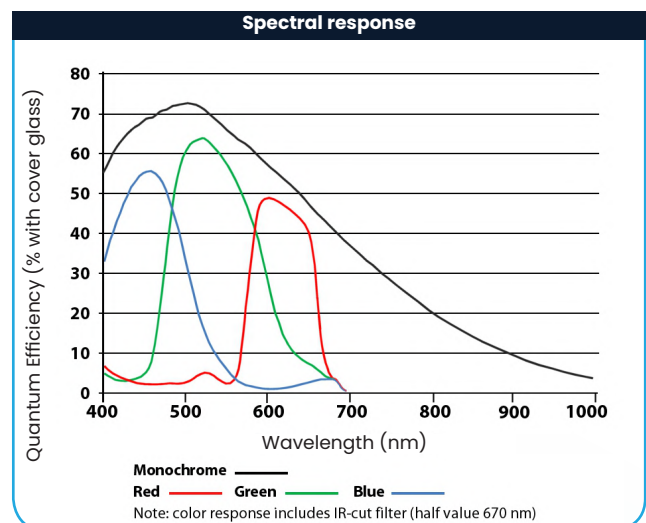
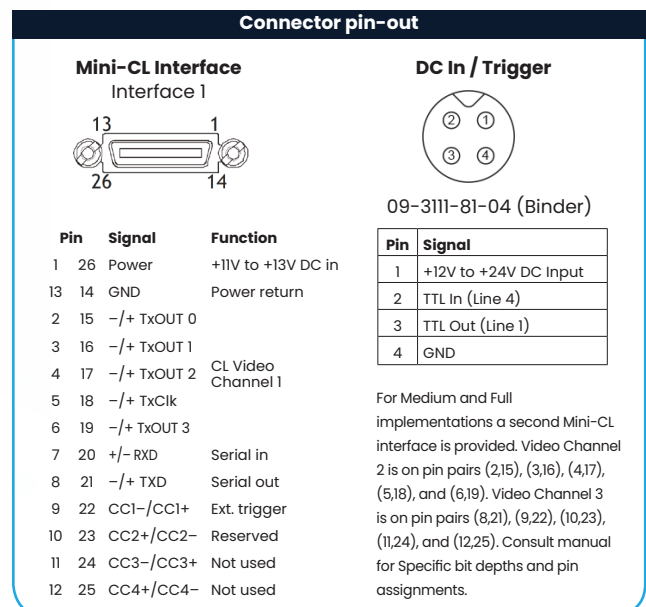
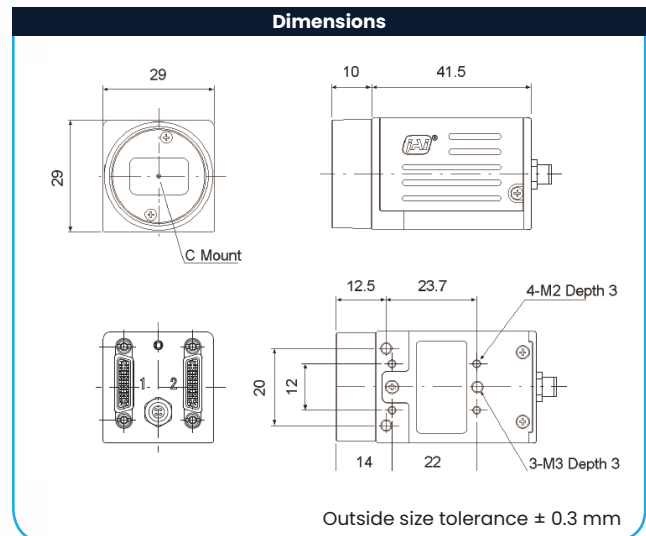
Specification Highlights

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

SHUTTER: Global Shutter
FRAME RATE: 165 fps
INTERFACE: Mini Camera Link (PoCL)
RESOLUTION MP: 2.4 MP
RESOLUTION WxH: 1936 x 1216 px

Specifications		GO-2400-PMCL
Sensor		1/1.2" CMOS global shutter (IMX174)
System clock		74.25 MHz (for pulse generator)
Frame rate (Full frame)		165.5 frames/sec (8-bit, continuous)
Active area		11.3 mm (h) x 7.13 mm (v) – 13.4mm (diagonal)
Cell size		5.86 µm (h) x 5.86 µm (v)
Active pixels		1936 (h) x 1216 (v)
Read-out modes		
Full ROI		1936 (h) x 1216 (v) up to 165.5 fps [‡] 2 lines to 1216 lines (1 or 2 line steps), 96 to 1936 pixels wide (16 pixel steps)
Binning		1x2, 2x2, 2x1 (monochrome only)
EMVA 1288 Parameters		At 12-bit output
Absolute sensitivity (mono)		9.45 p (λ = 525 nm)
Absolute sensitivity (color)		1 0.68 p (λ = 525 nm)
Maximum SNR (mono)		45.16 dB
Maximum SNR (color)		45.17 dB
Traditional SNR*	mono color	> 60dB @10-bit (0 dB gain, non-linear) > 60dB @10-bit (0 dB gain, green, non-linear)
Video signal output	mono color	8/10/12-bit monochrome** 8/10/12-bit raw Bayer** 8/10/12-bit RGB (24/30/36-bit output)**
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)
Trigger input		TTL, Camera Link (CC1), NAND (2), Pulse Generator, Software
Trigger modes		Timed (EPS), Trigger Width, Sequence
Electronic shutter	Min Max	15 µs (8-bit), 19 µs (10-bit), 20 µs (RGB) 8 s (Timed) or infinite (Trigger Width)
Auto Level Control (ALC)		Shutter range from 1/165 to 1/10000, gain range from 0 dB to +24 dB Tracking speeds and max values adjustable
Pre-processing functions		Shading correction, blemish comp. (256 pixels)
Lens control		P-Iris, video iris (optional configuration [†])
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 ± 10%. 2.76W typical @ 12V (12V ± 1V DC via PoCL)
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-PMCL		Monochrome camera with Mini Camera Link
GO-2400C-PMCL		Color camera with Mini Camera Link

*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.



[†]Uses 4-pin connector for P-Iris control. 4-pin cannot be used for power or TTL in/out in this configuration. Use ordering number GO-2400M-PMCL-AUX1 (monochrome only).

**Traditional 12-bit mono output/36-bit RGB available only in video process bypass mode. See manual for details.

[‡]Maximum frame rate for RGB output is 34.8 fps @ 24-bit.

Product Highlights

- 2.35-megapixel 1/1.2" CMOS imager (global shutter)
- Up to 165.5 fps at full resolution (RGB output up to 34.8 fps)
- 5.86 μm square pixels
- Small size (29 x 29 x 41.5 mm, excluding lens mount)
- 8/10/12-bit* output in choice of monochrome or color models
- Exposure control from 15 μs to 8 seconds in 1 μs steps
- 2X binning for increased sensitivity (monochrome only)
- Single and multi-ROI modes for increasing frame rate and use of smaller optics
- Automatic Level Control (ALC) for dynamic lighting conditions
- Accepts power over Camera Link interface or separate 4-pin connector
- C-mount lens mount

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

Additional Product Images



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