

GO-5101M-PMCL

Technical Datasheet

IMX264*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.

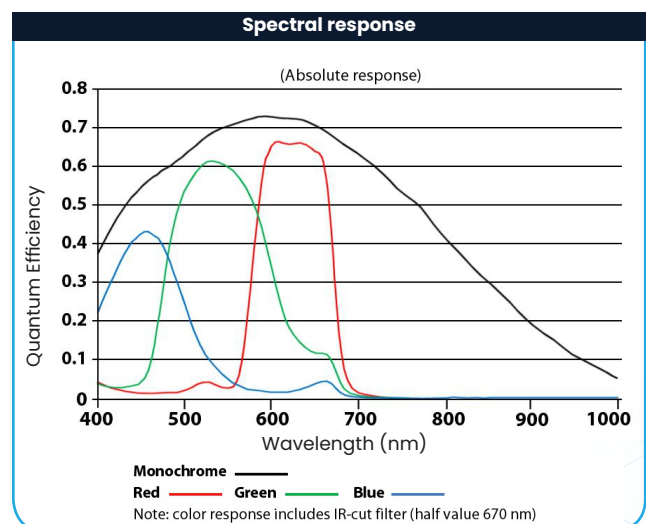
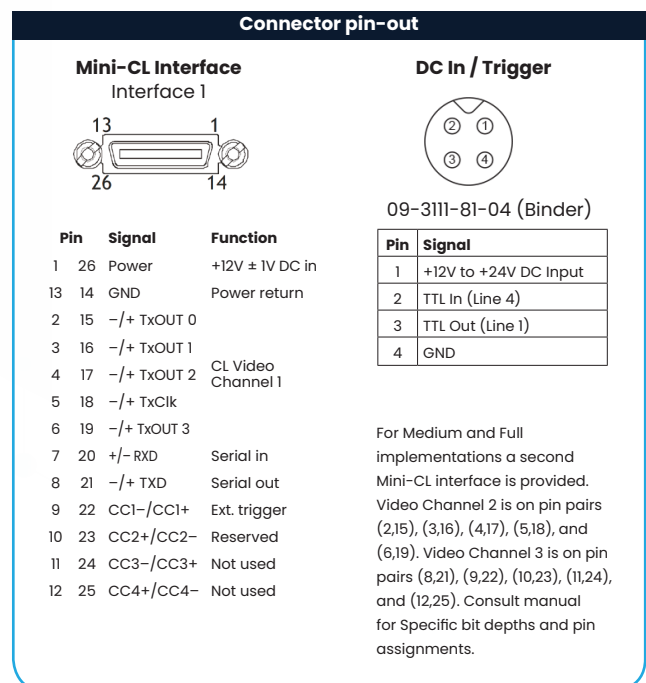
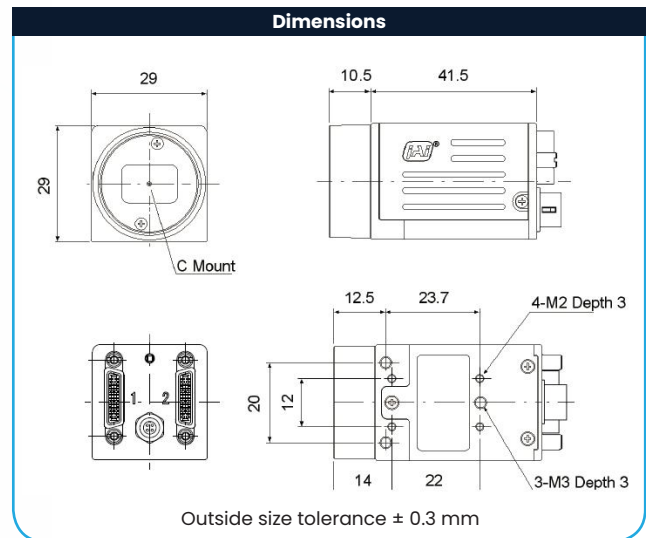
Specification Highlights

SENSOR: IMX264
FORMAT: 2/3"
PIXEL SIZE: 3.45 x 3.45 μ m
LENS MOUNT: C-Mount
SPECTRUM: Monochrome
(Visible + NIR)

SHUTTER: Global Shutter
FRAME RATE: 35 fps
INTERFACE: Mini Camera Link (PoCL)
RESOLUTION MP: 5.1 MP
RESOLUTION WxH: 2464 x 2056 px

Specifications		GO-5101-PMCL
Sensor		2/3" CMOS global shutter (IMX264)
Pixel clock		74.25 MHz (for pulse generator)
Frame rate (Full frame)		35.6 frames/sec. @ 8-bit (continuous)
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		2464 (h) x 2056 (v)
Read-out modes		
Full ROI		2464 (h) x 2056 (v) up to 35.6 fps 2 lines to 2056 lines in 2 -line steps, 96 to 2464 pixels wide in 16-pixel steps
Binning		1x2, 2x2, 2x1 (monochrome only)
EMVA 1288 Parameters		12-bit output format
Absolute sensitivity (mono)		3.54 p (λ = 525 nm)
Absolute sensitivity (color)		3.94 p (λ = 525 nm)
Maximum SNR (mono)		40.26 dB
Maximum SNR (color)		40.26 dB
Traditional SNR*	mono color	> 60 dB @ 10-bit (0 dB gain, non-linear) > 60 dB @ 10-bit (0 dB gain, green, non-linear)
Video signal output	mono color	8/10-bit monochrome 8/10-bit raw Bayer (12-bit available in Video Process Bypass mode)
Gain control		Manual/auto 0 dB to +24 dB
White balance (GO-5101C)		Manual, one-push auto, or continuous (3000K to 9000K)
Gamma		0.45, 0.6, 1.0 or 256-point LUT
Synchronization		Internal
Trigger input		TTL, Camera Link (CC1), NAND (2), Software, Pulse Generator, User Output (2)
Trigger modes		Timed (EPS), Trigger Width, Sequencer
Electronic shutter		Timed: 14 µs to 8 sec (1 µs/step) Auto: 100 µs to 8 sec
Auto Level Control (ALC)		Shutter range from 100 µs to 8 sec. gain range from 0 dB to +24 dB Tracking speeds and max values adjustable
Pre-processing functions		Flat shading/color shading correction, blemish compensation (512 pixels)
Operating temperature		-5°C to +45°C
Storage temperature		-25°C to +60°C
Humidity		20 - 80% non-condensing
Vibration		10 G (20Hz to 200Hz XYZ, 20 mins.)
Shock		80 G
Regulations		CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS/WEEE
Power		12V to 24V DC ± 10%. 2.88W 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-5101M-PMCL		Monochrome camera with Mini Camera Link
GO-5101C-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.



Product Highlights

- 5.1-megapixel 2/3" CMOS imager (global shutter)
- Up to 35.6 fps at full resolution
- 3.45 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 models
- Exposure control from 14 μs to 8 seconds in 1 μs steps
- 2X binning for increased sensitivity (monochrome only)
- ROI mode 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

Additional Product Images



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