

❖ **GO-2400-PMCL**  
2.35-megapixel CMOS global shutter



- *2.35-megapixel 1/1.2" CMOS imager (global shutter)*
- *Up to 165.5 fps at full resolution*
- *5.86  $\mu\text{m}$  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 28.7  $\mu\text{s}$  to 8 seconds in 1  $\mu\text{s}$  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

# Specifications for GO-2400-PMCL

# Go Series

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: 1936 (h) x 1216 (v) up to 165.5 fps‡ ROI: 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		12-bit output format
Absolute sensitivity (mono)		7.33 p (λ = 525 nm)
Absolute sensitivity (color)		8.07 p λ = 525 nm)
Maximum SNR (mono)		44.75 dB
Maximum SNR (color)		44.76 dB
Traditional SNR*		mono: > 60dB @10-bit (0 dB gain, non-linear) color: > 60dB @10-bit (0 dB gain, green, non-linear)
Video signal output		mono: 8/10/12-bit monochrome** color: 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, 3 presets, 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
Exposure modes		Off, Timed(EPS), Trigger Width
Electronic shutter		Min: 28.7 μs (8-bit), 32.7 μs (10-bit), 33.7 μs (RGB) Max: 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		46g

## Ordering Information

GO-2400M-PMCL	Monochrome camera with Mini Camera Link
GO-2400C-PMCL	Color camera with Mini Camera Link

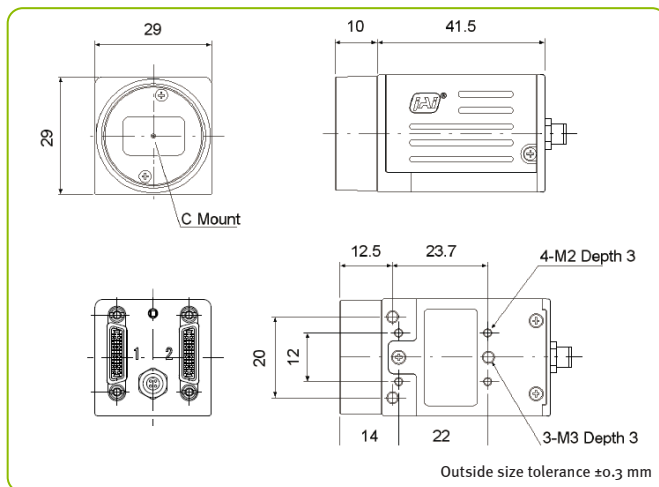
\* Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

† 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).

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

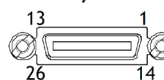
‡ Maximum frame rate for RGB output is 34.8 fps @ 24-bit.

## Dimensions



## Connector pin-out

### Mini-CL Interface Interface 1



Pin	Signal	Function	
1	26	Power	+11V to +13V DC in
13	14	GND	Power return
2	15	-/+ TxOUT 0	CL Video Channel 1
3	16	-/+ TxOUT 1	
4	17	-/+ TxOUT 2	
5	18	-/+ TxClk	
6	19	-/+ TxOUT 3	Serial in
7	20	+/- RXD	
8	21	-/+ TXD	Serial out
9	22	CC1-/CC1+	Ext. trigger
10	23	CC2-/CC2-	Reserved
11	24	CC3-/CC3+	Not used
12	25	CC4-/CC4-	Not used

For Medium and Full implementations a second Mini-CL interface is provided. Video Channel 2 is on pin pairs (2,15), (3,16), (4,17), (5,18), and (6,19). Video Channel 3 is on pin pairs (8,21), (9,22), (10,23), (11,24), and (12,25). Consult manual for Specific bit depths and pin assignments.

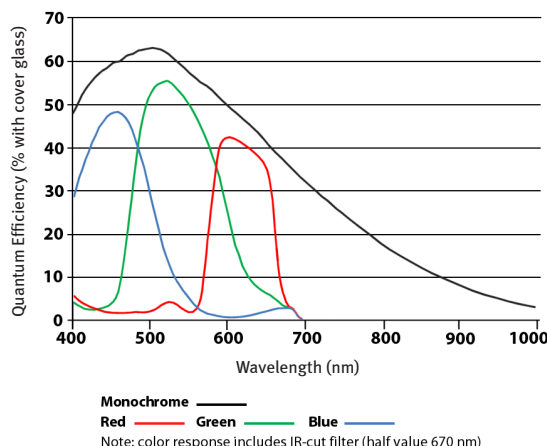
### DC In / Trigger



09-3111-81-04 (Binder)

Pin	Signal
1	+12V to +24V DC Input
2	TTL In (Line 4)
3	TTL Out (Line 1)
4	GND

## Spectral Response



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