

❖ **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-bit output in choice of monochrome or raw Bayer color models*
- *Exposure control from 15  $\mu\text{s}$  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*

# 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 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	10-bit output format
Absolute sensitivity (mono)	6.82 p (λ = 525 nm)
Absolute sensitivity (color)	6.94 p (λ = 525 nm)
Maximum SNR (mono)	45.29 dB
Maximum SNR (color)	45.15 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-bit monochrome color: 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-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	Timed: 15 μs to 8 sec (1 μs/step) Auto: 1/165 to 1/10000
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 (via PoCL or 4-pin connector)
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 41.5 mm (excl. lens mount)
Weight	46g

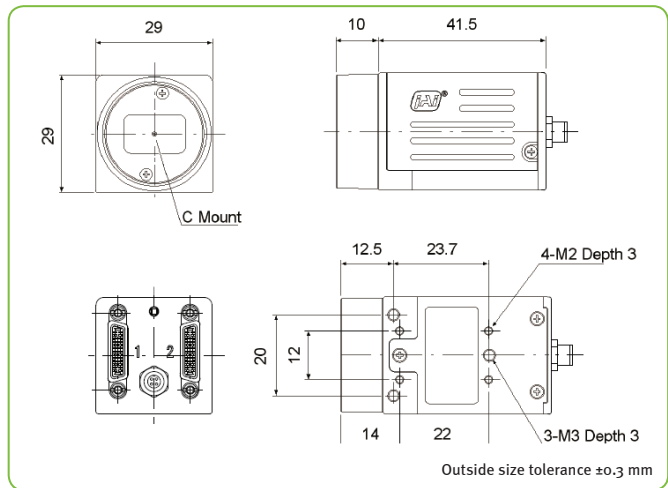
## Ordering Information

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.

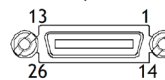
† Uses 4-pin connector for P-iris control. 4-pin cannot be used for power or TTL in/out in this configuration. Use ordering number GO-2400M-PMCL-AUX1 (monochrome only).

## Dimensions



## Connector pin-out

### Mini-CL Interface Interface 1



Pin	Signal	Function
1	26	Power +12V to +24V DC in
13	14	GND Power return
2	15	-/+ TxOUT 0
3	16	-/+ TxOUT 1
4	17	-/+ TxOUT 2
5	18	-/+ TxClk
6	19	-/+ TxOUT 3
7	20	+/- RXD Serial in
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.

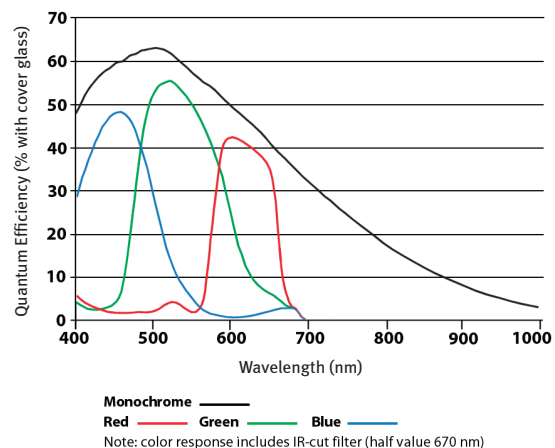
### DC In / Trigger



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



Monochrome — Red — Green — Blue —  
Note: color response includes IR-cut filter (half value 670 nm)

Authorized Distributor:

Europe, Middle East & Africa  
Phone +45 4457 8888  
Fax +45 4491 3252

Asia Pacific  
Phone +81 45 440 0154  
Fax +81 45 440 0166



Your single source for Imaging Solutions  
Ph. 510.657.4000  
info@uniforcesales.com  
www.uniforcesales.com



See the possibilities

Visit our web site on [www.jai.com](http://www.jai.com)