

❖ **GO-5000M-PMCL-1**  
5-megapixel CMOS global shutter



(GO-5000M-PMCL-EP-1 model shown)

- **Large format 5 MP CMOS imager (global shutter)**
- **Up to 107 fps at full resolution**
- **5.0  $\mu\text{m}$  square pixels**
- **Small size (29 x 29 x 41.5 mm, excluding lens mount)**
- **8/10/12-bit monochrome output**
- **60 dB linear dynamic range with built-in HDR modes up to 100 dB**
- **Analog and digital gain control for less quantized noise in low-light situations**
- **Exposure control from 10  $\mu\text{s}$  (1/100,000) to 8 seconds in 1  $\mu\text{s}$  steps**
- **2X and 4X binning for increased sensitivity**
- **Single and multi-ROI modes for flexible windowing and use of 2/3" or smaller optics**
- **Automatic Level Control (ALC) for dynamic lighting conditions**
- **Accepts power over Mini Camera Link connectors**
- **Also available with 4-pin connector for external power supplies (GO-5000M-PMCL-EP-1)**
- **C-mount lens mount**

# Specifications for GO-5000M-PMCL-1

# Go Series

Specifications		GO-5000M-PMCL-1
Sensor		1" CMOS global shutter (Lince 5M)
Pixel clock		36/28.8/24 MHz
Frame rate, full frame		107 frames/sec. (8-bit, 8-tap, full CL)
Active area		12.8 mm (h) x 10.24 mm (v), 16.39 mm diagonal
Cell size		5.0 μm (h) x 5.0 μm (v)
Active pixels		2560 (h) x 2048 (v)
Read-out modes	Full ROI	2560 (h) x 2048 (v) up to 105 fps Any start line, any height in 1 line steps, with X offset and width in 8 pixel steps
	Binning	1x2, 2x1, 2x2, 2x4, 4x2, 4x4
EMVA 1288 Parameters		12-bit output format
Absolute sensitivity		39.11 p (λ = 525 nm)
Maximum SNR		41.89 dB
Traditional SNR*		>55 dB (0 dB gain, non-linear)
Video signal output		8/10/12-bit monochrome
Gain (digital)		Manual/automatic 0 dB to +24 dB
Gain (analog)		0 dB, +6 dB, +12 dB
Gamma		0.45, 0.6, 1.0 or 32-point LUT
Synchronization		Internal
Trigger input		TTL, CL, Pulse Generator, Software, NAND0, NAND1
Trigger modes		EPS, Trigger Width, Timed RCT (with ALC)
Electronic shutter	Timed exposure Auto shutter	10 μs to 8 sec in 1 μs steps 1/107 to 1/10,000 sec.
Auto Level Control (ALC)		Shutter range from 1/107 to 1/10,000, gain range from 0 dB to +24 dB Tracking speeds and max values adjustable.
Pre-processing functions		Flat field correction, blemish compensation (512 pixels)
High Dynamic Range mode (HDR)		4 user-selectable knee slopes – 70/80/90/100 dB
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 (EN55032: 2015, EN55035: 2017), FCC Part 15 class A, RoHS/WEEE
Power	4-pin PoCL	+12V to +24V DC ± 10%. 3.24 W typical @ +12 V +10V to +13 V DC. 3.24 W typical @ +12 V
Lens mount		C-mount
Dimensions (H x W x L)		29 mm x 29 mm x 41.5 mm (excluding lens mount)
Weight		60 g

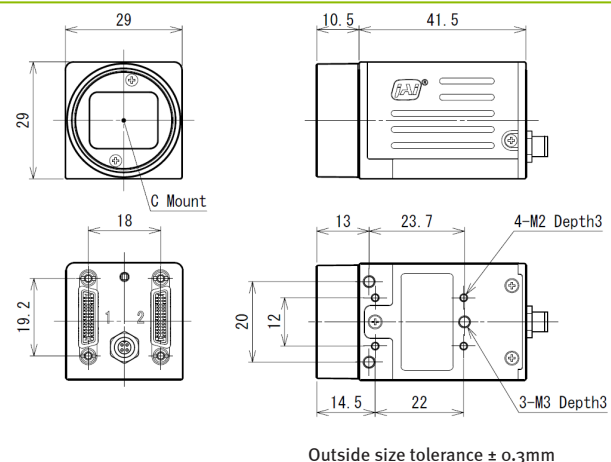
## Ordering Information

GO-5000M-PMCL-1	Monochrome camera with Mini Camera Link
GO-5000M-PMCL-EP-1	Same as above, with 4-pin external power connector

Also available with:  
GigE Vision (PoE) – 22 fps max. @ 8-bit  
USB3 Vision – 62 fps max. @ 8-bit

\*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.

## Dimensions (showing GO-5000M-PMCL-EP-1 with 4-pin power connector)



## Connector pin-out

### Mini-CL interface

Interface 1

Pin	Signal	Function
1	26	Power
13	14	GND
2	15	-/+ TxOUT 0
3	16	-/+ TxOUT 1
4	17	-/+ TxOUT 2
5	18	-/+ TxClk
6	19	-/+ TxOUT 3
7	20	+/- RXD
8	21	-/+ TXD
9	22	CC1-/CC1+
10	23	CC2-/CC2+
11	24	CC3-/CC3+
12	25	CC4-/CC4+

### DC In / 4-pin

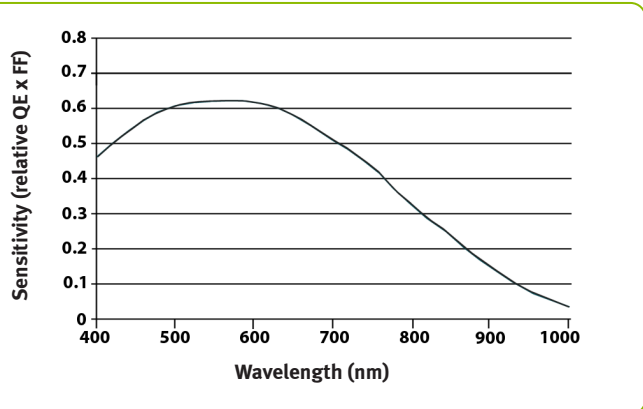
(GO-5000M-PMCL-EP-1 model)

09-3111-81-04 (Binder)

Pin	Signal
1	+12V to +24V DC Input
2	NC
3	NC
4	GND

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.

## Spectral Response



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