

■ 4128 x 3008

■ 9 fps

Go-X Series 

**GIG**  
VISION

➤ **GOX-12405-PGE**  
12.4-megapixel CMOS global shutter



- **High performance camera with 12.4-megapixel resolution**
- **1/1.1" CMOS imager (global shutter) features backside illuminated pixel technology**
- **2.74  $\mu\text{m}$  square pixels**
- **Up to 9 fps standard output at full resolution (4128 x 3008). Burst mode also available.**
- **Lossless compression function (Xpress) compresses image data to support higher frame rates**
- **8/10/12-bit output in choice of monochrome or raw Bayer color models**
- **Color model includes a 5 x 5 debayering capability for RGB output**
- **Flexible ROI & rescaling function (Xscale) for sub-pixel color/mono binning and resolution matching**
- **Traditional 1x2, 2x1, or 2x2 binning also included on monochrome model**
- **Horizontal/vertical image flip function, plus blemish compensation and shading correction**
- **Includes Sequencer function and Automatic Level Control (ALC) for dynamic lighting conditions**
- **Compact size with excellent shock and vibration resistance**
- **Accepts power over GigE Vision interface or via separate 6-pin connector**
- **C-mount lens mount**

**jai**<sup>®</sup>

# Specifications for GOX-12405-PGE

# Go-X Series

Specifications	GOX-12405-PGE
Sensor	1/1.1" CMOS global shutter (IMX545)
Active pixels	4128 (h) x 3008 (v)
Frame rate, full frame	9 frames/sec. @ 8-bit mono/Bayer Supports higher fps via lossless compression (Xpress mode)
Active area	11.3 mm (h) x 8.2 mm (v) - 14.0 mm diagonal
Pixel size	2.74 μm x 2.74 μm
Read-out modes	Full ROI (single) 4128 (h) x 3008 (v) up to 9 fps H: 96 to 4128 pixels in 8 pixel steps V: 8 to 3008 lines in 2 line steps ROI (multi) Up to 64 scanning areas - no overlap Binning (mono and color) 1x, 2x, 4x in H, V, or H+V directions
Image scaling (Xscale)	Supports independent, sub-pixel rescaling of H and/or V resolution (1/16 max.)
EMVA 1288 Parameters	12-bit output format Mono: TBD p Color: TBD p (λ = 527 nm) Mono: TBD dB Color: TBD dB
Traditional SNR (Dark)*	>60 dB mono, >60 dB color (0 dB gain, 10-bit)
Video signal output	Monochrome: 8/10/12-bits Color: 8/10/12-bit Bayer or 24/30/36-bit RGB
Gain	Manual/auto 0 dB to +42 dB
White balance	Off, presets, or one-push/continuous AWB
Gamma/LUT	0.45 to 1.0 (9 steps) or 257-point programmable LUT
Time synchronization	Support for Precision Time Protocol (IEEE 1588)
Trigger input	Opto In, Pulse Generators (4), Software, NAND Out (2), User Output (4), Actions (ToE)
Exposure modes	Timed/EPs, RCT, Trigger Width, Auto
Electronic shutter	Timed: 3.5 μs to 8 sec. in 1 μs steps Auto: 100 μs to 111 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 μs to 111 ms, gain range from 0 dB to +42 dB. Tracking speeds and min/max values adjustable.
Shading correction	Flat shading, color shading (color model)
Video processing functions	H & V flip (mirroring), blemish compensation, gradation compression, color enhancement & color conversion (color model)
Operating temp. (ambient)	-5°C to +45°C (20 to 80% non-condensing)
Storage temp. (ambient)	-25°C to +60°C (20 to 80% non condensing)
Vibration	10G (20 Hz to 200 Hz, XYZ directions)
Shock	80G
Regulations	CE(EN 55032:2015(CISPR32:2015), EN 55035:2017(CISPR35:2016)), FCC Part 15 Class A, RoHS/WEEE, KC
Power	6-pin PoE +10V to +25V DC. 4.1 W typical @ +12 V +36V to +57 V DC. 4.1 W typical @ +48 V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 55 mm
Weight	65 g

## Ordering Information

GOX-12405M-PGE	Monochrome camera with GigE Vision interface
GOX-12405C-PGE	Color camera with GigE Vision interface

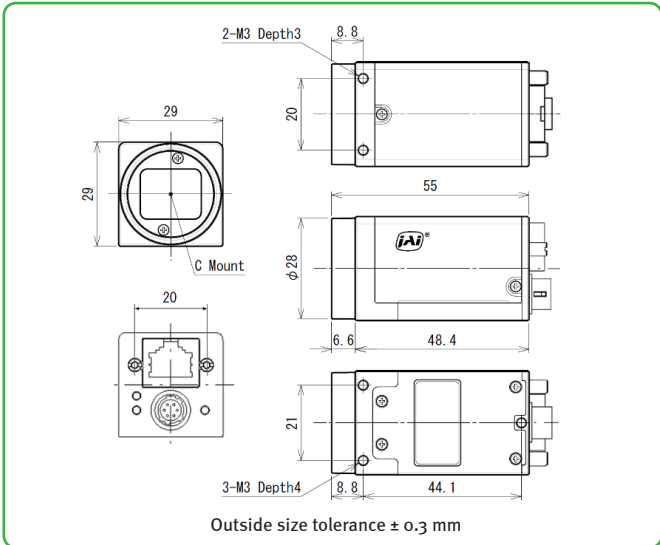
**Europe, Middle East & Africa**  
Phone +45 4457 8888  
Fax +45 4491 8880

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

**Americas**  
Phone (Toll-Free) 1 800 445 5444  
Phone +1 408 383 0300

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

## Dimensions



## Connector pin-out

### DC In / Trigger

HIROSE HR10A-7R-6PB(73)

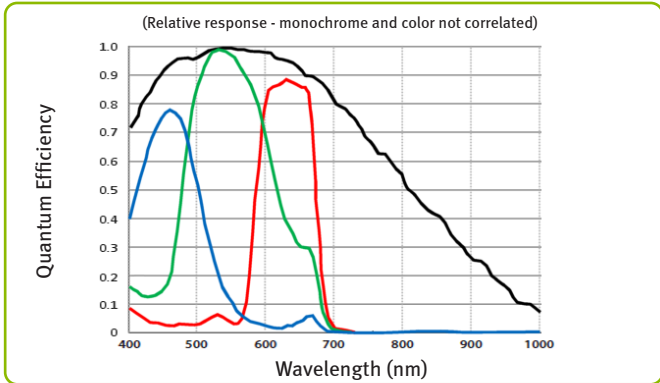
Pin	Signal
1	DC in +10V to +25V
2	Opto In+
3	Opto In-
4	Opto Out+
5	Opto Out-
6	Ground

### GigE Vision Interface

RJ45 with locking screws

Pin	Signal
1	TRD+ (0)
2	TRD- (0)
3	TRD+ (1)
4	TRD+ (2)
5	TRD- (2)
6	TRD- (1)
7	TRD+ (3)
8	TRD- (3)

## Spectral Response



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

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners. JAI A-S cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notice.



See the possibilities