

▪ 4128 x 3008

▪ 43 fps

Go-X Series 

**GIG**  
VISION

➤ **GOX-12405-5GE**  
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**
- **4128 x 3008 resolution with 2.74  $\mu\text{m}$  square pixels**
- **Up to 43 fps over high performance 5GBASE-T interface (5 gigabits per second)**
- **Can auto-negotiate to 2.5GBASE-T and standard GigE (1000BASE-T)**
- **8/10/12-bit output in choice of monochrome or raw Bayer color models**
- **Flexible ROI & rescaling function (Xscale) for sub-pixel color/mono binning and resolution matching**
- **Traditional 1x2, 2x1, or 2x2 binning also included on monochrome models**
- **Horizontal/vertical image flip function, plus blemish compensation and shading correction**
- **Bayer model includes 5x5 debayering function plus built-in color conversion and temperature presets**
- **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**

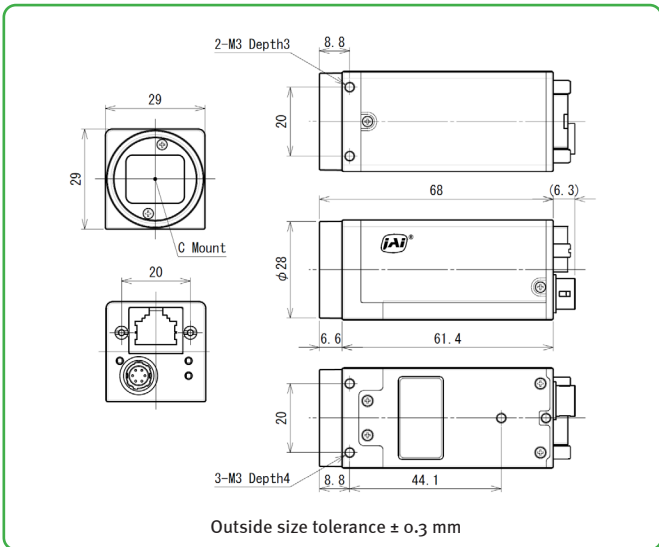
# Specifications for GOX-12405-5GE

Specifications		GOX-12405-5GE
Sensor	1/1.1" CMOS global shutter (IMX545)	
Active pixels	4128 (h) x 3008 (v)	
Frame rate, full frame	43 frames/sec. @ 8-bit mono/Bayer	
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 43 fps H: 96 to 4128 pixels in 8 pixel steps V: 8 to 3008 lines in 2 line steps ROI (multi) Binning Up to 64 scanning areas - no overlap 1x2, 2x1, 2x2 (mono only)	
Image scaling (Xscale)	Supports independent, sub-pixel rescaling of H and/or V resolution (1/16 max.)	
EMVA 1288 Parameters	10-bit output format	
Absolute sensitivity	Mono: TBD p Color: TBD p (λ= 527 nm)	
Maximum SNR	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	
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 23.2 ms at full resolution	
Auto Level Control (ALC)	Shutter range from 100 μs to 23.2 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, edge 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. TBD W typical @ +12 V +36V to +57 V DC. TBD W typical @ +48 V
Lens mount	C-mount	
Dimensions (H x W x L)	29 mm x 29 mm x 68 mm	
Weight	94 g	

## Ordering Information

GOX-12405M-5GE	Monochrome camera with 5GigE Vision interface
GOX-12405C-5GE	Color camera with 5GigE Vision interface

## Dimensions



## Connector pin-out

### DC In / Trigger

HIROSE HR10A-7R-6PB(73)

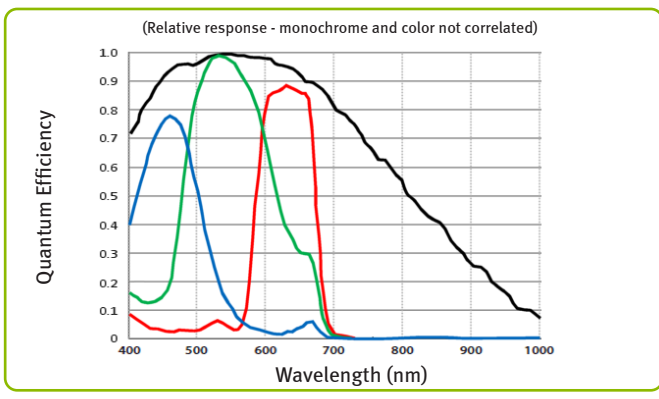
Pin	Signal
1	DC in +10V to +25V
2	Opto In+
3	Opto In-
4	Opto Out+
5	Opto Out-
6	Ground

### 5GigE 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.

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