

▪ 4512 X 4512

▪ 27 fps

Go-X Series 

❖ **GOX-20405-5GE**
20.3-megapixel CMOS global shutter

GIG
VISION



- **High performance camera with 20.3-megapixel resolution**
- **1.1" CMOS imager (global shutter) features backside illuminated pixel technology**
- **4512 x 4512 resolution with 2.74 μm square pixels**
- **Up to 27 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-20405-5GE

Go-X Series

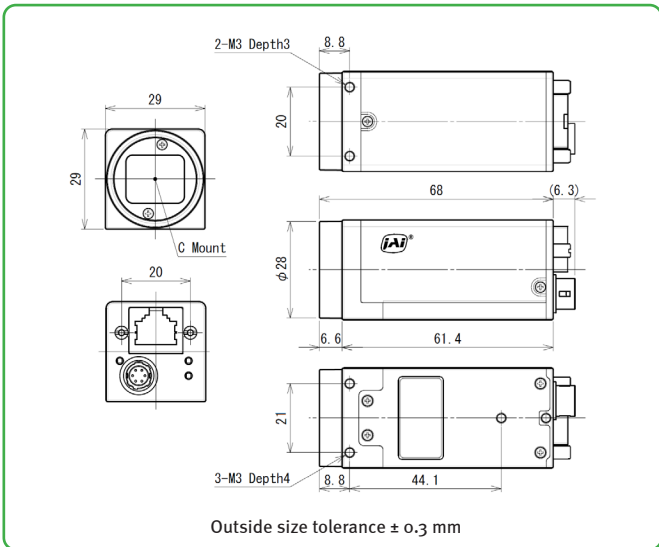
Specifications | GOX-20405-5GE

Sensor	1.1" CMOS global shutter (IMX541)
Active pixels	4512 (h) x 4512 (v)
Frame rate, full frame	27 frames/sec. @ 8-bit mono/Bayer
Active area	12.4 mm (h) x 12.4 mm (v) - 17.48 mm diagonal
Pixel size	2.74 μm x 2.74 μm
Read-out modes	Full ROI (single) 4512 (h) x 4512 (v) up to 27 fps H: 96 to 4512 pixels in 8 pixel steps V: 8 to 4512 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	12-bit output format
Absolute sensitivity	Mono: 3.88 p Color: 1.70 p ($\lambda = 527 \text{ nm}$)
Maximum SNR	Mono: 38.77 dB Color: 38.92 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 24/32-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: 3.45 μs to 8 sec. in 1 μs steps Auto: 100 μs to 37 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 μs to 37 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. 5.1 W typical @ +12 V +36V to +57 V DC. 6.7 W typical @ +48 V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 68 mm
Weight	95 g

Ordering Information

GOX-20405M-5GE	Monochrome camera with 5GigE Vision interface
GOX-20405C-5GE	Color camera with 5GigE Vision interface

Dimensions



Connector pin-out

DC In / Trigger

HIROSE HR10A-7R-6PB(73)

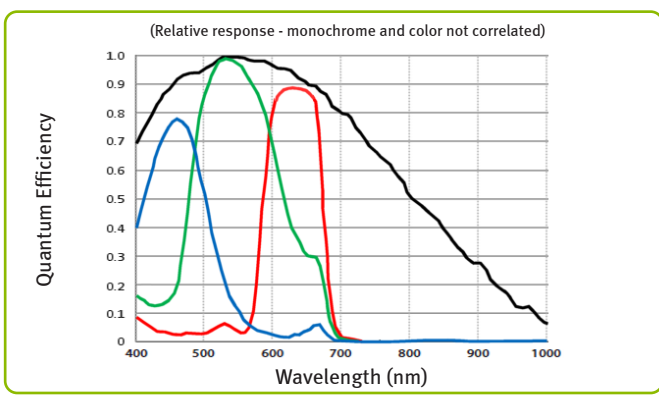
Pin	Signal
1	DC in +10V to +25V
2	Opto In+
3	Opto In-
4	Opto Out+
5	Opto Out-
6	Ground

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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