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GOX-5105M-5GE

Technical Datasheet

See the possibilities

IMX547 Pregius S

Apex Series

The Go-X Series offers compact, attractively-priced area scan cameras with a blend of features, image quality and industrial grade reliability that is in high demand for the next generation of machine vision systems.

The Go-X Series incorporates the most popular Sony Pregius and Pregius S global shutter CMOS sensors, and several Starvis CMOS sensors with rolling shutter technology. Resolutions range from 2.3 to 24.5 megapixels with a choice of USB3 Vision, GigE Vision (1000BASE-T or 5GBASE-T), or CoaXPress interfaces.

Specification Highlights

SENSOR:	IMX547 Pregius S	**SHUTTER:**	Global Shutter
FORMAT:	1/1.8"	**FRAME RATE:**	103 fps
PIXEL SIZE:	2.74 x 2.74 µm	**INTERFACE:**	5 Gbps GigE Vision
LENS MOUNT:	C-Mount	**RESOLUTION MP:**	5.1 MP
SPECTRUM:	Monochrome (Visible + NIR)	**RESOLUTION WxH:**	2472 x 2064 px

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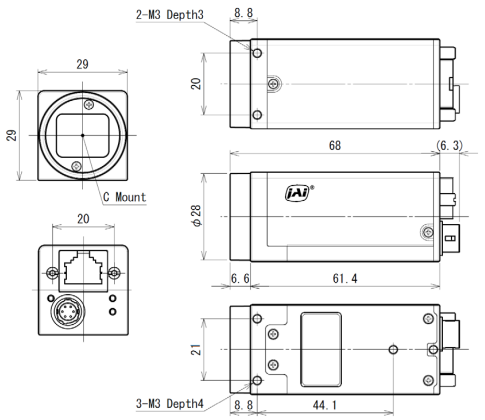
Specifications	GOX-5105-5GE
Sensor	1/1.8" CMOS global shutter (IMX547)
Active pixels	2472 (h) x 2064 (v)
Frame rate	103 frames/sec. @ 8-bit mono/Bayer
Active area	6.8 mm (h) x 5.6 mm (v) - 8.82 mm diagonal
Pixel size	2.74 µm x 2.74 µm
Read-out modes	
Full ROI (single)	2472 (h) x 2064 (v) up to 103 fps H: 96 to 2472 pixels in 8 pixel steps V: 8 to 2064 lines in 2 line steps
ROI (multi)	Up to 64 scanning areas - no overlap
Binning	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 Absolute sensitivity Maximum SNR	10-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 24/32-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 9.7 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 µs to 9.7 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	80 G
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-5105M-5GE	Monochrome camera with 5GigE Vision interface
GOX-5105C-5GE	Color camera with 5GigE Vision interface

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

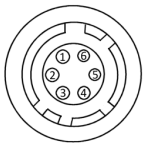
Dimensions



Outside size tolerance ± 0.3 mm

Connector pin-out

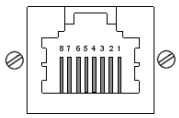
DC In / Trigger



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

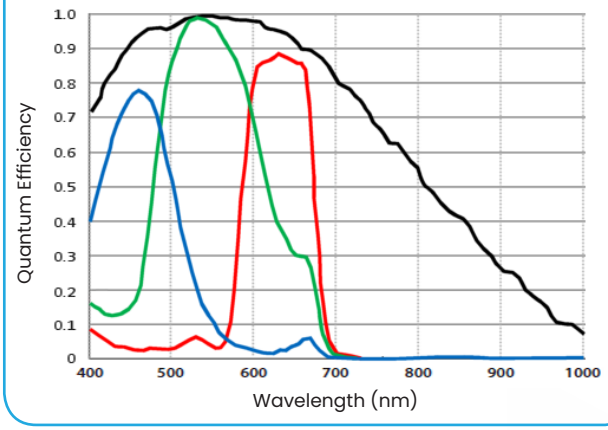


RJ45 with locking screws

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

(Relative response - monochrome and color not correlated)



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Product Highlights

- High performance camera with 5.1-megapixel resolution
- 1/1.8" CMOS imager (global shutter) features backside illuminated pixel technology
- 2472 x 2064 resolution with 2.74 µm square pixels
- Up to 103 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

Additional Product Images