GOX-8105C-PGE
Technical Datasheet

IMX546 Pregius S

JAI ®
See the possibilities

GigE VISION ®

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.
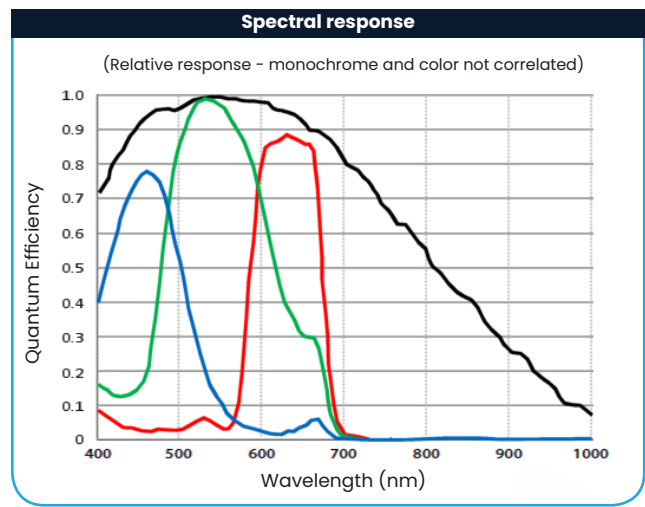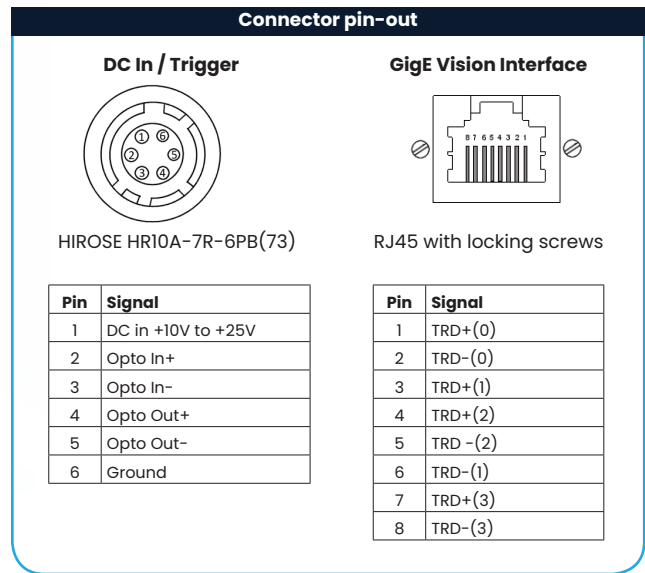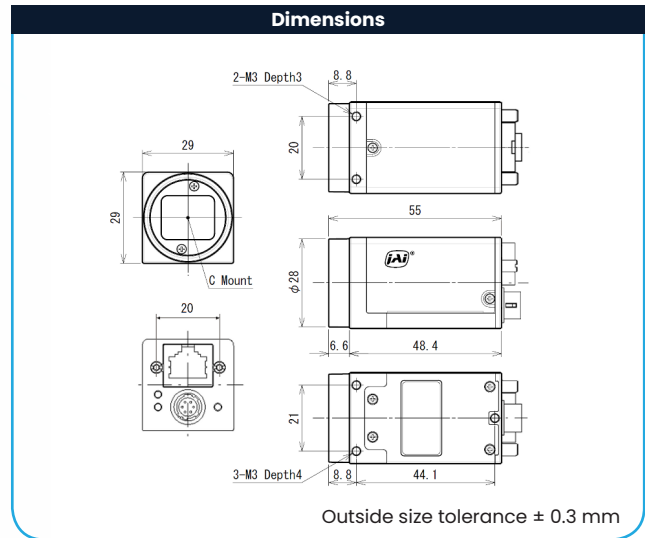
Specification Highlights

SENSOR:	IMX546 Pregius S	**SHUTTER:**	Global Shutter
FORMAT:	2/3"	**FRAME RATE:**	14 fps
PIXEL SIZE:	2.74 x 2.74 μm	**INTERFACE:**	GigE Vision 1-Cable (PoE)
LENS MOUNT:	C-Mount	**RESOLUTION MP:**	8.1 MP
SPECTRUM:	Color (Visible)	**RESOLUTION WxH:**	2856 x 2848 px

Specifications	GOX-8105-PGE
Sensor	2/3" CMOS global shutter (IMX546)
Active pixels	2856 (h) x 2848 (v)
Frame rate, full frame	14 frames/sec. @ 8-bit mono/Bayer Supports higher fps via lossless compression (Xpress mode)[†]
Active area	7.8 mm (h) x 7.8 mm (v) - 11.05 mm diagonal
Pixel size	2.74 µm x 2.74 µm
Read-out modes	
Full ROI (single)	2856 (h) x 2848 (v) up to 14 fps H: 96 to 2856 pixels in 8 pixel steps V: 8 to 2848 lines in 2 line steps
ROI (multi)	Up to 64 scanning areas - no overlap
Binning	1x2, 2x1, or 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	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	CXP In, Opto In, Pulse Generators (4), Software, NAND Out (2), User Output (4)
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 71.4 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 µs to 71.4ms, 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)	-5ºC to +45ºC (20 to 80% non-condensing)
Storage temp. (ambient)	-25ºC to +60ºC (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. 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-8105M-PGE	Monochrome camera with GigE Vision interface
GOX-8105C-PGE	Color camera with GigE Vision interface

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

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

(Relative response - monochrome and color not correlated)

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

[†]Part of free firmware upgrade scheduled for April 2023.

Product Highlights

- High performance camera with 8.1-megapixel resolution
- 2/3" CMOS imager (global shutter) features backside illuminated pixel technology
- 2.74 µm square pixels
- Up to 14 fps standard output at full resolution (2856 x 2848). 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

* Part of free firmware upgrade scheduled for April 2023

Additional Product Images