

GOX-20405C-PGE

Technical Datasheet



See the possibilities

IMX541 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

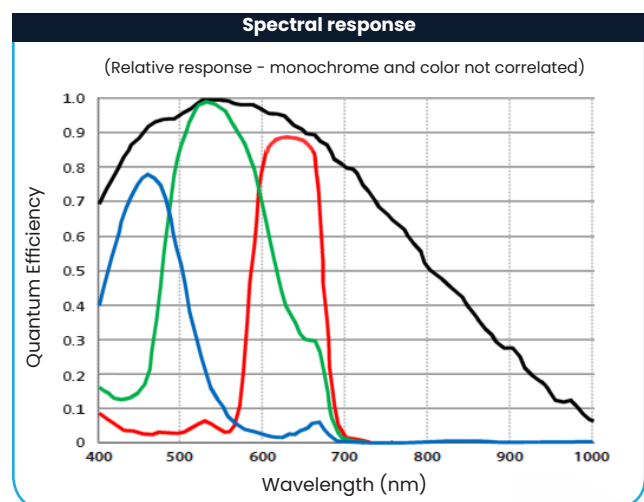
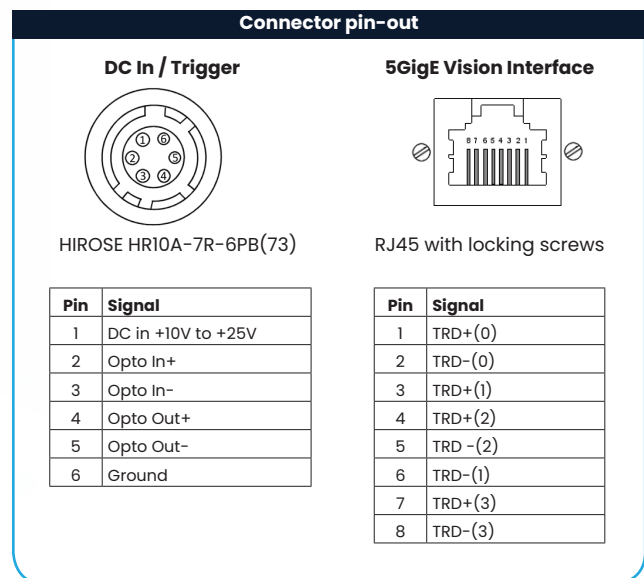
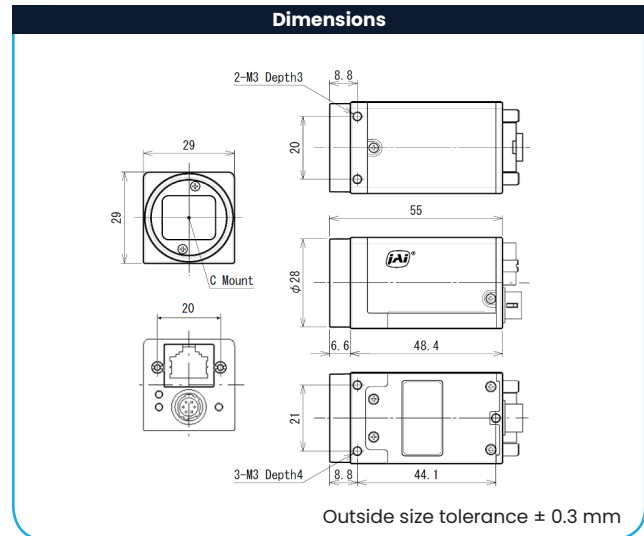
SENSOR: IMX541 Pregius S
FORMAT: 1.1"
PIXEL SIZE: 2.74 x 2.74 μm
LENS MOUNT: C-Mount
SPECTRUM: Color (Visible)

SHUTTER: Global Shutter
FRAME RATE: 5 fps
INTERFACE: GigE Vision 1-Cable (PoE)
RESOLUTION MP: 20.3 MP
RESOLUTION WxH: 4512 x 4512 px

Specifications		GOX-20405-PGE
Sensor	1.1" CMOS global shutter (IMX541)	
Active pixels	4512 (h) x 4512 (v)	
Frame rate, full frame	5 frames/sec. @ 8-bit mono/Bayer Supports higher fps via lossless compression (Xpress mode) [†]	
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 5 fps H: 96 to 4512 pixels in 8 pixel steps V: 8 to 4512 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	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 24/32-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 (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 200 ms at full resolution	
Auto Level Control (ALC)	Shutter range from 100 μs to 200 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	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 55 mm	
Weight	65 g	
Ordering Information		
GOX-20405M-PGE	Monochrome camera with GigE Vision interface	
GOX-20405C-PGE	Color camera with GigE 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.

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



Product Highlights

- High performance camera with 20.3-megapixel resolution
- 1.1" CMOS imager (global shutter) features backside illuminated pixel technology
- 2.74 μm square pixels
- Up to 5 fps standard output at full resolution (4512 x 4512). 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



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