GOX-20405-PGE

20.3-megapixel CMOS global shutter

GiGE VISION

- *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*

Specifications for GOX-20405-PGE

Go-X Series

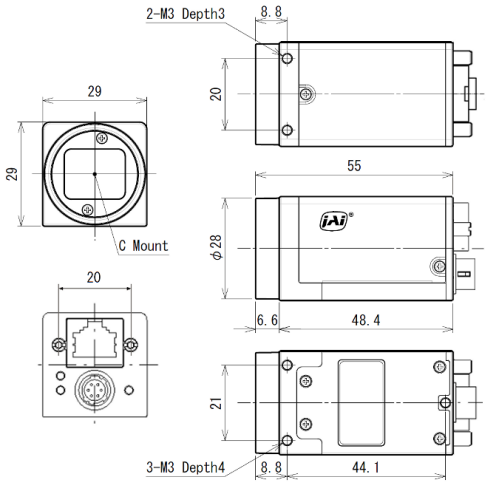
Specifications

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) ROI (multi) Binning	 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 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 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	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	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. 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-20405M-PGE	Monochrome camera with GigE Vision interface
GOX-20405C-PGE	Color camera with GigE Vision interface

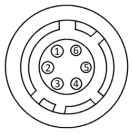
Dimensions



Outside size tolerance ± 0.3 mm

Connector pin-out

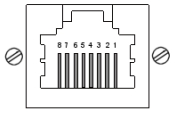
DC In / Trigger



HIROSE HR10A-7R-6PB(73)

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

GigE Vision Interface

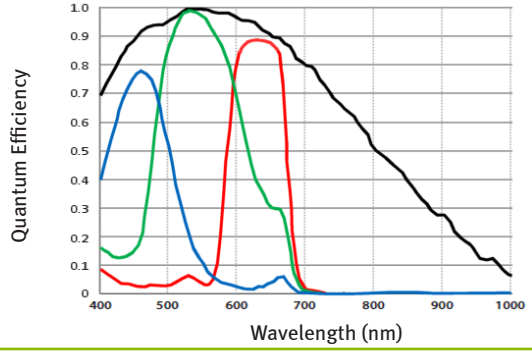


RJ45 with locking screws

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.

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