GOX-6409-PGE

6.3-megapixel CMOS rolling shutter

GiGE VISION

- *1/1.8" CMOS imager (rolling shutter with global reset)*
- *Up to 18 fps at full resolution (3088 x 2064)*
- *2.4 µm square pixels*
- *Backside illuminated (BSI) sensor technology for enhanced low-light performance*
- *8-bit output in choice of monochrome or raw Bayer color models*
- *ROI settings for added flexibility*
- *Horizontal/vertical image flip function, plus blemish correction and shading compensation*
- *Includes Automatic Level Control (ALC) to maintain exposure in dynamic lighting conditions*
- *Compact size with excellent shock and vibration resistance*
- *Accepts power over GigE Vision interface or separate 6-pin connector*
- *C-mount lens mount*

Specifications for GOX-6409-PGE

Go-X Series

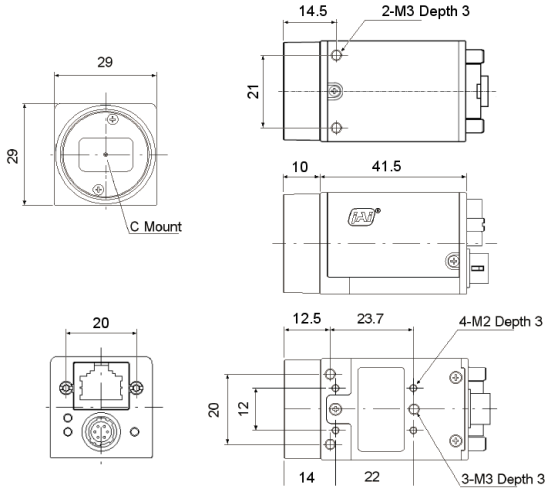
Specifications	GOX-6409-PGE
Sensor	1/1.8" CMOS rolling shutter (IMX178)
Active pixels	3088 (h) x 2064 (v)
Frame rate	18 frames/sec. @ 8-bit mono/Bayer
Active area	7.37 mm (h) x 4.91 mm (v) - 8.86 mm diagonal
Pixel size	2.4 µm x 2.4 µm
System clock	74.25 MHz (for pulse generator)
Read-out modes Full ROI (single) Binning	 3088 (h) x 2064 (v) up to 18 fps H: 96 - 3088 pixels in 16-pixel steps V: 8 to 2064 lines in 2-line steps 1x2, 2x1, 2x2 (mono only)
EMVA 1288 Parameters Absolute sensitivity Maximum SNR	8-bit output format Mono: TBD p Color: TBD p (λ = 527 nm) Mono: TBD dB Color: TBD dB
Traditional SNR*	>60 dB mono, >60 dB color (0 dB gain, 10-bit)
Video signal output	Monochrome: 8-bit Color: 8-bit Bayer
Gain control	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
Synchronization	Internal
Video modes	Normal/Single ROI
Trigger input	Opto In, Pulse Generator, Software, NAND Out (2), User Output (4)
Exposure modes	Timed/EPS, Auto
Electronic shutter (TriggerMode OFF)	Timed: 16.02 µs to 1.7 s in 1 µs steps Auto: 100 µs to 55.5 ms at full resolution
Auto Level Control (ALC)	Shutter range from 100 µs to 55.5 ms, gain range from 0 dB to +42 dB. Tracking speeds and max. values adjustable.
Shading correction	Flat shading, color shading (color model)
Pre-processing functions	H & V flip (mirroring), blemish compensation
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. 2.7 W typical @ +12 V +36V to +57 V DC. 3.7 W typical @ +48 V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 51.5 mm
Weight	65 g

Ordering Information

GOX-6409M-PGE	Monochrome camera with GigE Vision interface
GOX-6409C-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.

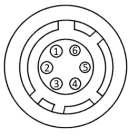
Dimensions



Outside size tolerance ± 0.3 mm

Connector pin-out

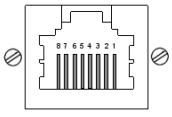
DC In / Trigger



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

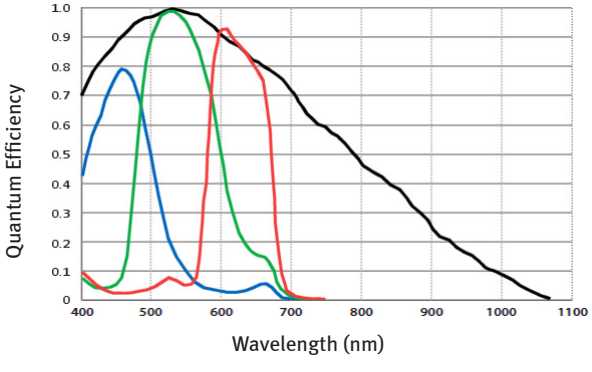


RJ-45 with locking screws

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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