

➤ **GOX-20409-PGE**  
20-megapixel CMOS rolling shutter

▪ 5472 x 3648

▪ 5 fps

Go-X Series 

**GIG**<sup>®</sup>  
VISION



- **1" CMOS imager (rolling shutter with global reset)**
- **Up to 5 fps at full resolution (5472 x 3648)**
- **2.4  $\mu\text{m}$  square pixels**
- **Backside illuminated (BSI) sensor technology for enhanced low-light performance**
- **8/10/12-bit\* output in choice of monochrome or raw Bayer color models**
- **ROI settings for added flexibility**
- **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**

\* Not all processing functions supported with 12-bit output.

# Specifications for GOX-20409-PGE

# Go-X Series

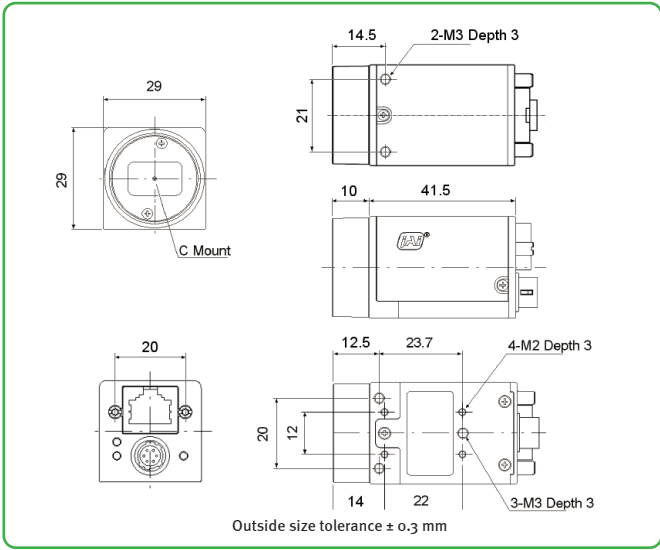
| Specifications                       |                                  | GOX-20409-PGE   |
|--------------------------------------|----------------------------------|---|
| Sensor                               |                                  | 1" CMOS rolling shutter (IMX183)  |
| Active pixels                        |                                  | 5472 (h) x 3648 (v)   |
| Frame rate                           |                                  | 5 frames/sec. @ 8-bit mono/Bayer  |
| Active area                          |                                  | 13.13 mm (h) x 8.75 mm (v) - 15.78 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        | 5472 (h) x 3648 (v) up to 5 fps<br>H: 96 - 5472 pixels in 16-pixel steps<br>V: 8 to 3648 lines in 2-line steps<br>1x2, 2x1, 2x2 (mono only) |
| EMVA 1288 Parameters                 | Absolute sensitivity Maximum SNR | 10-bit output format<br>Mono: TBD p Color: TBD p (λ = 527 nm)<br>Mono: TBD dB Color: TBD dB   |
| Traditional SNR*                     |                                  | >60 dB mono, >60 dB color (0 dB gain, 10-bit)   |
| Video signal output                  |                                  | Monochrome: 8/10/12-bits†<br>Color: 8/10/12-bit Bayer†  |
| Gain control                         |                                  | Manual/auto 0 dB to +24 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: 106.17 μs to 1.7 s in 1 μs steps<br>Auto: 106 μs to 175 ms at full resolution  |
| Auto Level Control (ALC)             |                                  | Shutter range from 106 μs to 175 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             |                                  | Blemish compensation (256 user definable)   |
| 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<br>+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-20409M-PGE | Monochrome camera with GigE Vision interface |
| GOX-20409C-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.  
†12-bit output only available in video processing bypass mode. See manual for details.

## Dimensions



## Connector pin-out

### DC In / Trigger

HIROSE HR10A-7R-6PB(73)

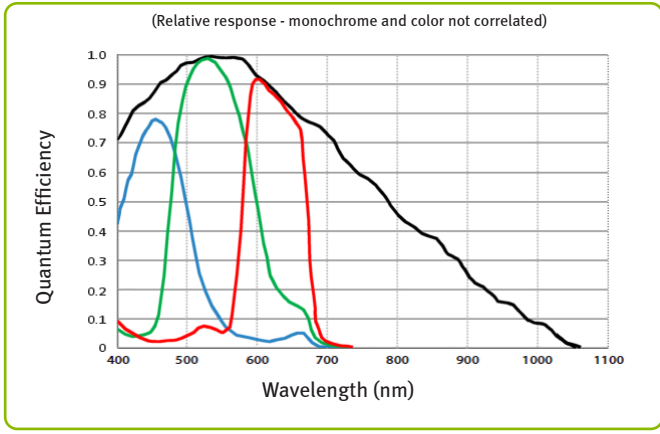
| Pin | Signal             |
|-----|--------------------|
| 1   | DC in +10V to +25V |
| 2   | Opto In+           |
| 3   | Opto In-           |
| 4   | Opto Out+          |
| 5   | Opto Out-          |
| 6   | Ground             |

### GigE Vision Interface

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



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