

❖ **GO-2401-PGE**  
2.35-megapixel CMOS global shutter



- *2.35-megapixel 1/1.2" CMOS imager (global shutter)*
- *Up to 41 fps at full resolution*
- *5.86  $\mu\text{m}$  square pixels*
- *Small size (29 x 29 x 41.5 mm, excluding lens mount)*
- *8/10-bit output in choice of monochrome or raw Bayer color models*
- *Exposure control from 73  $\mu\text{s}$  to 8 seconds in 1  $\mu\text{s}$  steps*
- *2X binning for increased sensitivity (monochrome only)*
- *Single and multi-ROI modes for flexible windowing and use of smaller optics*
- *Automatic Level Control (ALC) for dynamic lighting conditions*
- *Accepts power over GigE Vision interface or separate 6-pin connector*
- *C-mount lens mount*

# Specifications for GO-2401-PGE

# Go Series

| Specifications               | GO-2401-PGE   |
|------------------------------|---|
| Sensor                       | 1/1.2" CMOS global shutter (IMX249)   |
| System clock                 | 74.25 MHz (for pulse generator)   |
| Frame rate, full frame       | 41 frames/sec. @ 8-bit  |
| Active area                  | 11.3 mm (h) x 7.13 mm (v), 13.4 mm diagonal   |
| Cell size                    | 5.86 μm (h) x 5.86 μm (v)   |
| Active pixels                | 1936 (h) x 1216 (v)   |
| Read-out modes               | Full ROI (mono) 1936 (h) x 1216 (v) up to 32.8 fps<br>H: 16 to 1920 pixels in 16 pixel steps<br>V: 1 to 1215 lines in 1 line steps<br>ROI (color) H: 16 to 1920 pixels in 16 pixel steps<br>V: 2 to 1214 lines in 2 line steps<br>Binning 1x2, 2x1, 2x2 (monochrome only) |
| EMVA 1288 Parameters         | 12-bit output   |
| Absolute sensitivity (mono)  | 9.49 p (λ = 525 nm)   |
| Absolute sensitivity (color) | 10.60 p (λ = 525 nm)  |
| Maximum SNR (mono)           | 45.21 dB  |
| Maximum SNR (color)          | 45.11 dB  |
| Traditional SNR*             | mono >60 dB (0 dB gain)<br>color >60 dB (0 dB gain, green,)   |
| Video signal output          | mono 8/10/12-bit monochrome†<br>color 8/10/12-bit raw Bayer†  |
| Gain control                 | Manual/auto 0 dB to +24 dB  |
| White balance (GO-2400C)     | Manual, one-push auto, or continuous (3000K to 9000K)   |
| Gamma                        | 0.45, 0.6, 1.0 or 256-point LUT   |
| Synchronization              | Internal  |
| Video modes                  | Normal, Single ROI, Multi ROI, Sequence (Trigger & Command), Delayed Readout  |
| Trigger input                | Opto In, Pulse Generator, Software, NAND Out (2), User Output (2), Action Commands (2)  |
| Trigger modes                | EPS, Trigger Width, Sequence  |
| Electronic shutter           | Timed exposure 73 μs to 8 sec in 1 μs steps<br>Auto shutter 1/32 to 1/13698 sec.  |
| Auto Level Control (ALC)     | Shutter range from 1/32 to 1/13698, gain range from 0 dB to +24 dB<br>Tracking speeds and max values adjustable.  |
| Pre-processing functions     | Blemish compensation (256 pixels), shading  |
| Operating temperature        | -5°C to +45°C   |
| Storage temperature          | -25°C to +60°C  |
| Humidity                     | 20 - 80% non-condensing   |
| Vibration                    | 10 G (20 Hz to 200 Hz XYZ)  |
| Shock                        | 80 G  |
| Regulations                  | CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS, WEEE  |
| Power                        | 6-pin connector 12V to 24V DC ± 10%. 2.64 W typical @ 12V<br>PoE 36V to 57V DC. 3.02 W typical @ 48V  |
| Lens mount                   | C-mount   |
| Dimensions (H x W x L)       | 29 mm x 29 mm x 41.5 mm (excl. lens mount)  |
| Weight                       | 46 g  |

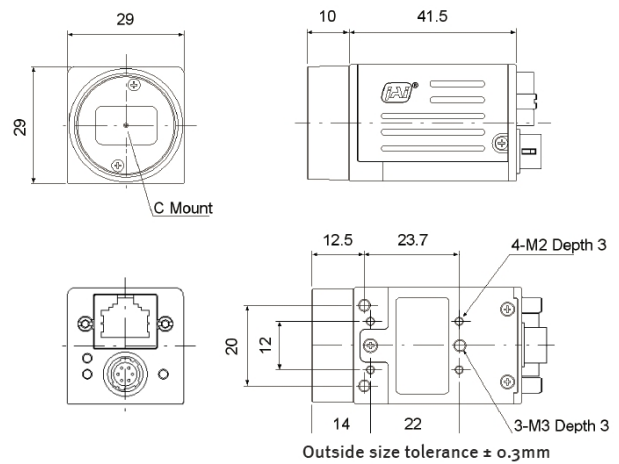
## Ordering Information

|              |                                    |
|--------------|------------------------------------|
| GO-2401M-PGE | Monochrome camera with GigE Vision |
| GO-2401C-PGE | Color camera with GigE Vision      |

\*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

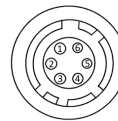
† 12-bit output available in IP bypass mode

## Dimensions



## Connector pin-out

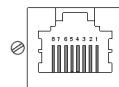
### DC In / Trigger



HIROSE HR-10A-7R-6PB(73)

| Pin | Signal                |
|-----|-----------------------|
| 1   | +12V to +24V DC Input |
| 2   | Opto In 1             |
| 3   | Opto Out 1            |
| 4   | Opto Out 2            |
| 5   | Opto Common           |
| 6   | GND                   |

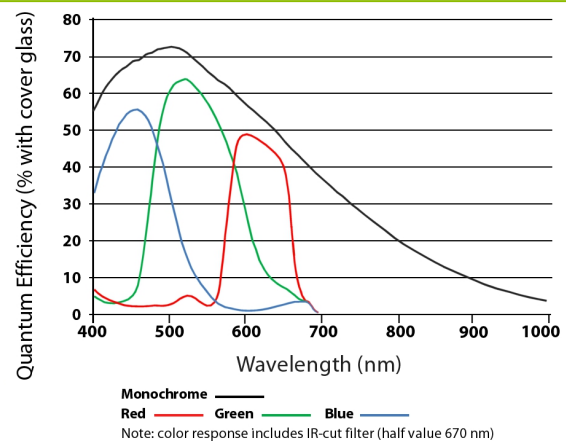
### GigE Vision Interface



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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