

▪ 2448 x 2048

▪ 35 fps

Go-X Series 

❖ **GOX-5103-USB**
5.01-megapixel CMOS global shutter

USB[™]
VISION



- *Go-X Series delivers exceptional combination of price and performance*
- *5.01-megapixel, 2/3" CMOS imager (global shutter)*
- *Up to 35.7 fps at full resolution (2448 x 2048)*
- *3.45 μm square pixels*
- *8/10/12-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 Sequencer function and Automatic Level Control (ALC) for dynamic lighting conditions*
- *Compact size with excellent shock and vibration resistance*
- *Accepts power over USB3 Vision interface or via separate 6-pin connector*
- *C-mount lens mount*

* Not all processing functions supported with 12-bit output

Specifications for GOX-5103-USB

Go-X Series

| Specifications | GOX-5103-USB |
|---------------------------|---|
| Sensor | 2/3" CMOS global shutter (IMX264) |
| Active pixels | 2448 (h) x 2048 (v) |
| Frame rate, full frame | 35.7 frames/sec. @ 8-bit mono/Bayer |
| Active area | 8.45 mm (h) x 7.07 mm (v) - 11.01 mm diagonal |
| Pixel size | 3.45 μm x 3.45 μm |
| System clock | 74.25 MHz (for pulse generator) |
| Read-out modes | Full ROI (single) 2448 (h) x 2048 (v) up to 35.7 fps H: 96 to 2432 pixels in 16 pixel steps V: 8 to 2046 lines in 2 line steps Binning 1x2, 2x1, 2x2 |
| EMVA 1288 Parameters | 10-bit output format |
| Absolute sensitivity | Mono: TBD p Color: TBD p (λ = 525 nm) |
| Maximum SNR | 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 [†] Color: 8/10/12-bit Bayer [†] |
| Gain | 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, Sequencer (Trigger & Command) |
| Trigger input | Opto In, Pulse Generators (4), Software, NAND Out (2), User Output (4) |
| Exposure modes | Timed/EPS, RCT, Trigger Width, Auto |
| Electronic shutter | Timed: 14.73 μs to 8 sec. in 1 μs steps Auto: 100 μs to 28 ms at full resolution |
| Auto Level Control (ALC) | Shutter range from 100 μs to 28 ms, gain range from 0 dB to +24 dB. Tracking speeds and max. values adjustable. |
| Shading correction | Flat shading, color shading (color model) |
| Pre-processing functions | H & V flip (mirroring), blemish compensation, H & V decimation |
| 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 B, RoHS/WEEE, KC |
| Power | 6-pin USB 3.0 +10V to +25V DC. 4.2 W typical @ +12 V +5V DC. 4.35 W typical @ +5 V |
| Lens mount | C-mount |
| Dimensions (H x W x L) | 29 mm x 29 mm x 51.5 mm |
| Weight | 62 g |

Ordering Information

| | |
|---------------|--|
| GOX-5103M-USB | Monochrome camera with USB3 Vision interface |
| GOX-5103C-USB | Color camera with USB3 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 available in video processing bypass mode. See manual for details.

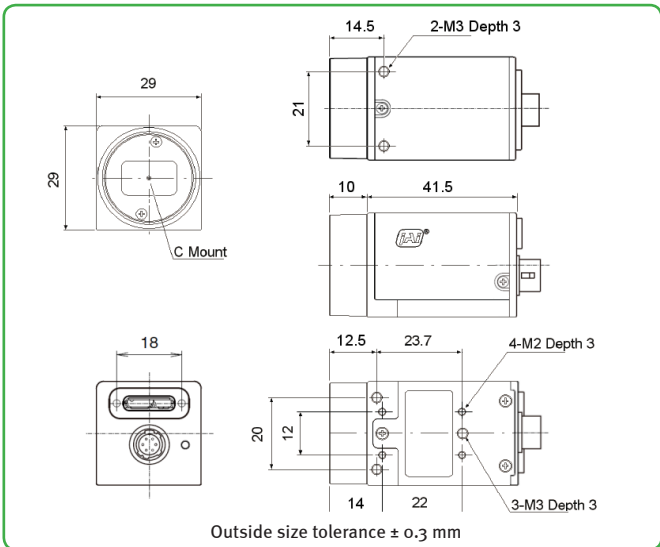
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Dimensions



Connector pin-out

DC In / Trigger

HIROSE HR10A-7R-6PB(73)

Pin

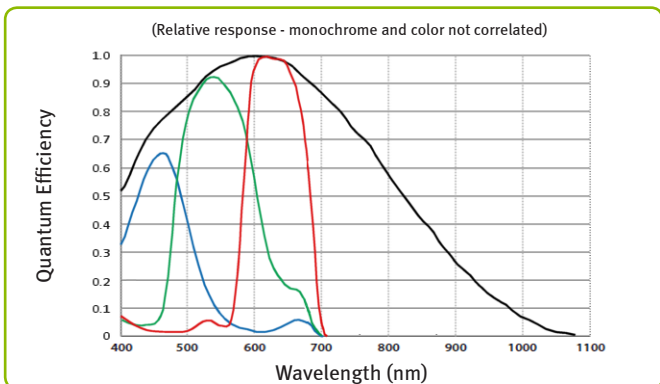
- DC in +10V to +25V
- Opto In 1
- Opto Out 1
- Opto Out 2
- Opto Common
- Ground

USB 3.0 Interface

Micro B type - ZX3600-B-10P or equiv.

| No. | I/O | Name | Note |
|-----|-----|-----------|-------------------------------------|
| 1 | I | VBUS IN | Power (VBUS) |
| 2 | I/O | DM | USB2.0 Differential pair (-) |
| 3 | I/O | DP | USB2.0 Differential pair (+) |
| 4 | | OTG ID | USB OTG ID for identifying lines |
| 5 | | GND | GND |
| 6 | O | FX3 SSTXM | USB3.0 Signal Transmission line (-) |
| 7 | O | FX3 SSTXP | USB3.0 Signal Transmission line (+) |
| 8 | | GND | GND |
| 9 | I | FX3 SSRXP | USB3.0 Signal Receiving line (-) |
| 10 | I | FX3 SSRXM | USB3.0 Signal Receiving line (+) |

Spectral Response



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See the possibilities