

❖ **GO-2400-USB**
2.35-megapixel CMOS global shutter

USBTM
VISION



- *2.35-megapixel 1/1.2" CMOS imager (global shutter)*
- *Up to 159 fps at full resolution*
- *5.86 μm 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 models*
- *Exposure control from 6 μs to 8 seconds in 1 μs 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 USB₃ Vision interface or via separate 6-pin connector*
- *C-mount lens mount*

Specifications for GO-2400-USB

Go Series

Specifications		GO-2400-USB
Sensor		1/1.2" CMOS global shutter (IMX174)
System clock		74.25 MHz (for pulse generator)
Frame rate, full frame		159 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	1936 (h) x 1216 (v) up to 159 fps
	ROI (mono)	H: 16 to 1936 pixels in 16 pixel steps V: 1 to 1216 lines in 1 line steps
	ROI (color)	H: 16 to 936 pixels in 16 pixel steps V: 2 to 1216 lines in 2 line steps
Binning		1x2, 2x1, 2x2 (monochrome only)
EMVA 1288 Parameters		12-bit output format
Absolute sensitivity (mono)		9.44 p (λ = 525 nm)
Absolute sensitivity (color)		10.86 p (λ = 525 nm)
Maximum SNR (mono)		45.16 dB
Maximum SNR (color)		45.23 dB
Traditional SNR*		mono >60 dB (0 dB gain) color >60 dB (0 dB gain, green)
Video signal output		mono 8/10/12-bit monochrome† color (raw) 8/10/12-bit raw Bayer†
Gain control		Manual/auto 0 dB to +24 dB
Gamma		0.45, 0.6, 1.0 or 256-point LUT
White balance (GO-2400C)		Manual, one-push auto, or continuous (3000K to 9000K)
Synchronization		Internal
Video modes		Normal, Single ROI, Multi ROI, Sequencer (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, Sequencer
Electronic shutter		Timed exposure 19.7 μs to 8 sec in 1 μs steps Auto shutter 100 μs to 8 sec
Auto Level Control (ALC)		Shutter range from 100 μs to 8 sec, gain range for 0 dB to +24 dB Tracking speeds and max values adjustable.
Pre-processing functions		Flat-field correction, color shading correction (GO-2400C), blemish compensation (256 pixels)
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%. 4.08 W @ 12V USB 3.0 Bus power: 4.4 W @ 5V
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

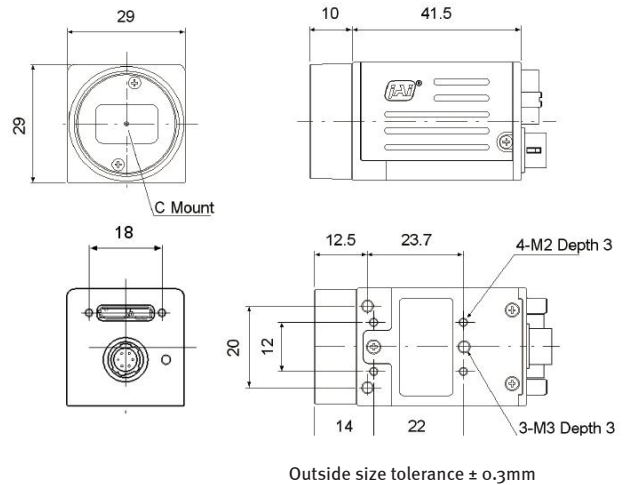
Ordering Information

GO-2400M-USB	Monochrome camera with USB3 Vision
GO-2400C-USB	Color camera with USB3 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.

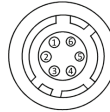
†12-bit output available in IP Bypass mode. See manual for details.

Dimensions



Connector pin-out

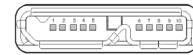
DC In / Trigger



HIROSE HR10A-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

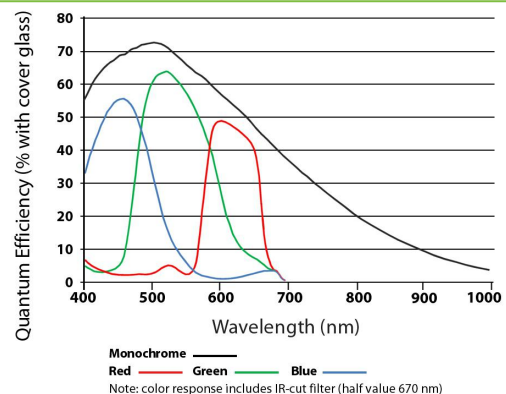
USB 3.0 Interface



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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