

GO-5000M-USB
5-megapixel CMOS global shutter

USBTM
VISION



- **Large format 5 MP CMOS imager (global shutter)**
- **Up to 62 fps at full resolution**
- **5.0 μm square pixels in a 5:4 aspect ratio**
- **Small size (29 x 29 x 41.5 mm, excluding lens mount)**
- **8/10/12-bit monochrome output**
- **60 dB linear dynamic range with built-in HDR modes up to 100 dB**
- **Analog and digital gain control for less quantized noise in low-light situations**
- **Exposure control from 10 μs to 8 seconds in 1 μs steps**
- **2X and 4X binning for increased sensitivity**
- **Single and Multi-ROI modes for flexible windowing and use of 2/3" or smaller optics**
- **Accepts power over USB₃ Vision interface or separate 6-pin connector**
- **C-mount lens mount**
- **Automatic Level Control (ALC) for dynamic lighting conditions**



Specifications for GO-5000M-USB

Go Series

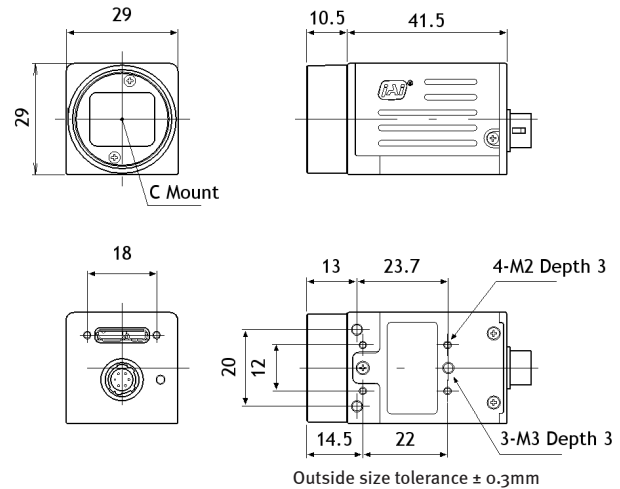
Specifications	GO-5000M-USB
Sensor	1" CMOS global shutter (Lince5M)
Pixel clock	48 MHz
Frame rate, full frame	62 frames/sec. @ 8-bit
Active area	12.8 mm (h) x 10.2 mm (v), 16.39 mm diagonal
Cell size	5.0 μm (h) x 5.0 μm (v)
Active pixels	2560 (h) x 2048 (v)
Read-out modes	Full ROI 2560 (h) x 2048 (v) up to 62 fps Any start line, any height in 1-line steps, with X offset and width in 16-pixel steps
Binning	1x2, 2x1, 2x2, 2x4, 4x2, 4x4
EMVA 1288 Parameters	10-bit output format
Absolute sensitivity	20.17 p (λ = 525 nm)
Maximum SNR	41.30 dB
Traditional SNR*	>55 dB (0 dB gain)
Video signal output	8/10/12-bit monochrome
Gain (digital)	Manual/automatic 0 dB to +24 dB
Gain (analog)	1x, 2x, 4x
Gamma	0.45, 0.6, 1.0 or 32-point LUT
Synchronization	Internal
Trigger input	Opto In, Pulse Generators, Software, User Output (NAND gates)
Trigger modes	EPS, Trigger Width, Timed RCT (with ALC), Sequence
Electronic shutter	Timed exposure Auto shutter
	10 μs to 8 sec in 1 μs steps 1/62 to 1/10000 sec.
Auto Level Control (ALC)	Shutter range from 1/62 to 1/10000, gain range from 0 dB to +24 dB. Tracking speeds and max values adjustable.
High Dynamic Range function	4 built-in HDR slopes. Selectable up to -100 dB.
Pre-processing functions	Flat field correction, 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 (20Hz to 200Hz XYZ)
Shock	80 G
Regulations	CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS/WEEE
Power	6-pin connector USB 3.0
	12V to 24V DC ± 10%. 2.8W typical @ 12V 720mA, 3.6W typical @ 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-5000M-USB | Monochrome camera with USB3 Vision

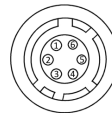
*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

Dimensions



Connector pin-out

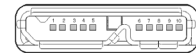
DC In / Trigger



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

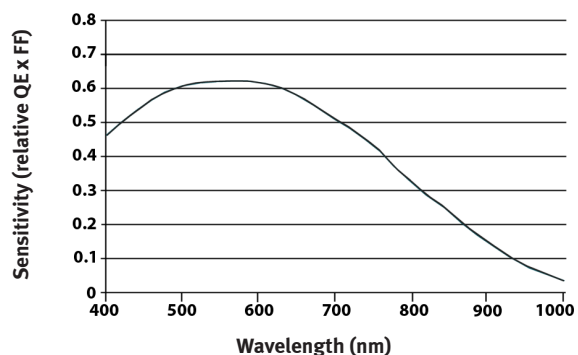
USB 3.0 Interface



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 (+)

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