AP-3200T-USB
3.2 megapixel CMOS prism area scan

USB3™
VISION

- ■ *World's fastest prism-based 3CMOS camera*
- ■ *Full spatial resolution and true RGB color values with no interpolation*
- ■ *Individual analog gain and exposure control for R, G, and B channels*
- ■ *Color and edge enhancement functions*
- ■ *On-board RGB to HSI, XYZ, sRGB and Adobe RGB color space conversions*
- ■ *Single and multi-ROI's*
- ■ *RGB video output with 8, 10, or 12-bits per channel**
- ■ *Compact size and smart design*
- ■ *Excellent shock and vibration resistance*
- ■ *C-mount lens mount*

* Some video processing functions not available with 12-bit output

JAI®

See the possibilities

Specifications for AP-3200T-USB

Apex Series

Specifications

| Specifications		AP-3200T-USB
Sensor		1/1.8" 3CMOS global shutter (IMX265)
System clock		74.25 MHz (for pulse generator)
Frame rate, full frame		38.3 frames/sec. @ 8-bit
Active area		7.12 mm (h) x 5.33 mm (v) x 8.89 mm diagonal
Cell size		3.45 µm (h) x 3.45 µm (v)
Active pixels		2064 (h) x 1544 (v) x 3(R,G,B)
Read-out modes	Full	2064 (h) x 1544 (v) up to 38.3 fps
	ROI (single)	H: 16 to 2064 pixels in 16 pixel steps V: 2 to 1544 lines in 2 line steps
	ROI (multi)	Up to 5 scanning areas can be defined. Multi-ROI areas can overlap.
	Binning	1x2, 2x1, 2x2
EMVA 1288 Parameters		12-bit output format
Absolute sensitivity		3.77 p (λ = 525 nm)
Maximum SNR		40.39 dB
Traditional SNR*		>60 dB (0 dB gain, 10-bit)
Video signal output		8/10/12-bit per channel† (24/30/36-bit RGB)
Gain control		Manual control (master mode or individual R/G/B channels) Auto gain control (off, continuous, one-push)
White balance		Off, 4 presets (3200K, 5000K, 6500K, 7500K), or one-push/continuous AWB using gain or exposure time (3000K to 9000K)
Gamma/LUT (programmable)		0.45 to 1.0 (9 steps) or 256-point LUT
Shading correction		Flat shading, color shading
Video modes		Normal, Single ROI, Multi ROI, Sequencer (Trigger & Command)
Trigger input		Opto In (2), Pulse Generators (4), Software, NAND Out (2), User Output (4)
Exposure modes		Timed/EPS, Trigger Width, Auto
Electronic shutter		(can be set independently on R/G/B ch.) 17 µs to 8 sec. in 1 µs steps (8-bit) 21 µs to 8 sec. in 1 µs steps (10-bit)
Auto Level Control (ALC)		Shutter range from 100 µs to 13.427 ms, gain range from 0 dB to +12 dB. Tracking speeds and max values adjustable.
Pre-processing functions		Color enhancer, edge enhancer, color space conversion (RGB to HSI, XYZ, sRGB, Adobe RGB), blemish compensation (200 px/ch.)
Operating temperature		-5°C to +45°C
Storage temperature		-25°C to +60°C
Humidity		20 – 80% non-condensing
Vibration		3 G (20 Hz to 200 Hz XYZ)
Shock		50 G
Regulations		CE (EN 61000-6-2, EN 61000-6-3), FCC Part 15 Class B, RoHS/WEEE
Power	6-pin connector USB 3.0	12V to 24V DC ± 10%. 5.52 W typical @ +12V Bus power: not supported
Lens mount		C-mount
Dimensions (H x W x L)		44 mm x 44 mm x 74 mm (excl. connectors)
Weight		170 g

Ordering Information

AP-3200T-USB	3CMOS prism 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 video processing bypass mode. See manual for details.

Dimensions

44

44

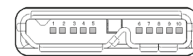(0.5) 74 (6.3)

C Mount

4-M3 Depth3

3 68

26

Outside size tolerance ± 0.3mm
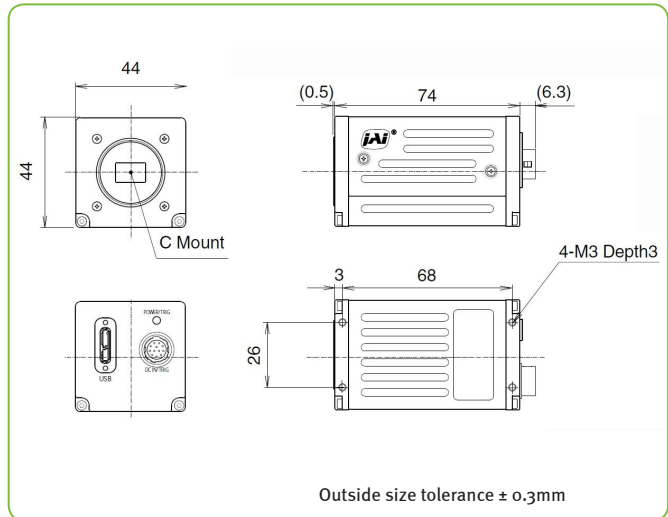
Connector pin-out

DC In / Trigger

HIROSE HR10A-10R-12PB(71)

Pin	Signal
1	GND
2	+12V to +24V DC input
3	Opto In 2-
4	Opto In 2+
5	Opto In 1-
6	Opto In 1+
7	Opto Out 1-
8	Opto Out 1+
9	TTL Out 1
10	
11	+12V to +24V DC input
12	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
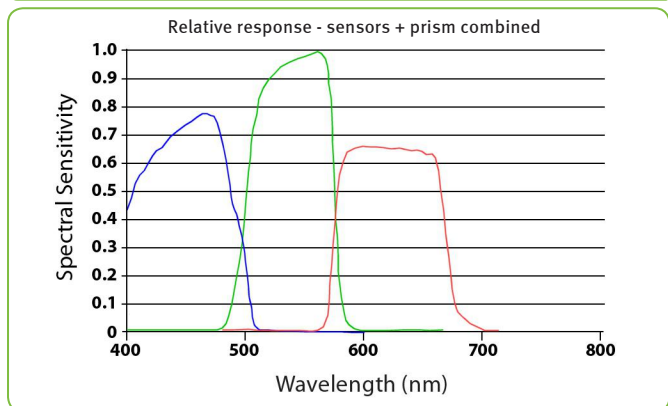
Relative response - sensors + prism combined

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See the possibilities