



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



- **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



Specifications for AP-3200T-USB

Apex Series

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 ROI (single) 2064 (h) x 1544 (v) up to 38.3 fps 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 12V to 24V DC ± 10%. 5.52 W typical @ +12V USB 3.0 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

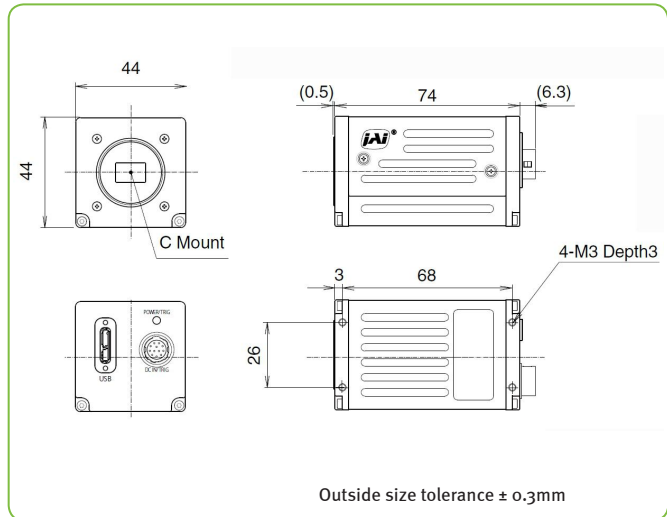
Ordering Information

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



Connector pin-out

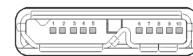
DC In / Trigger



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

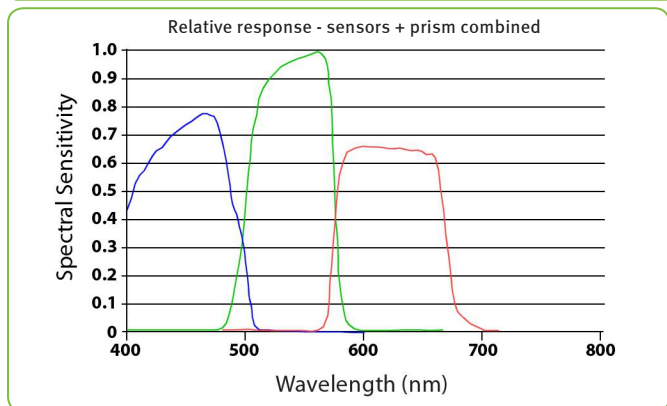
USB 3.0 Interface



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 (+)

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