

FSFE-1600D-10GE

1.6 megapixel CMOS multispectral

Flex-Eye base model



- **Flex-Eye configurable multispectral prism camera with two 1/2.9" CMOS imagers**
- **Customize wavebands for each sensor - minimum width of 25 nm at 5 nm increments**
- **3.45 x 3.45 μm pixel sizes with support for 1x2, 2x1, or 2x2 binning**
- **Up to 226 fps over high performance 10GBASE-T (10 gigabits per second) interface**
- **Backwards compatible to NBASE-T (5GBASE-T/2.5GBASE-T) and standard GigE (1000BASE-T)**
- **Single and multi-ROI modes provide higher speeds with lower processing loads**
- **8, 10, or 12-bits per channel***
- **Optional Bayer sensor can be used for waveband located within visible spectrum**
- **5x5 de-Bayering available for RGB output on color channel**
- **Supports separate or unified control of key camera parameters for each channel**
- **Excellent shock and vibration resistance**
- **GigE Vision 2.0 interface with dual-stream output**
- **C-mount lens mount**

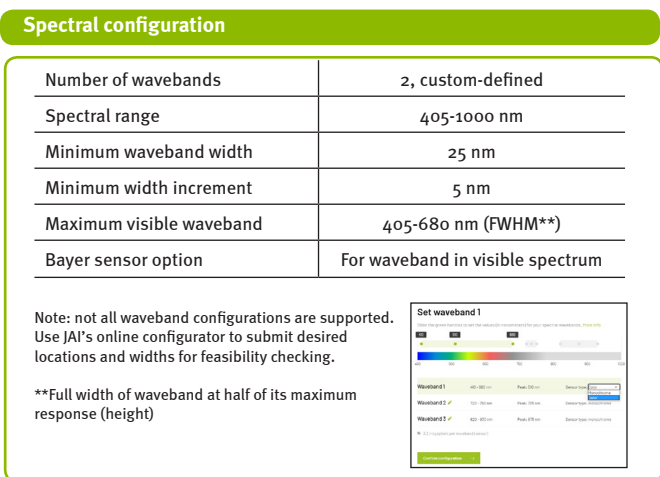
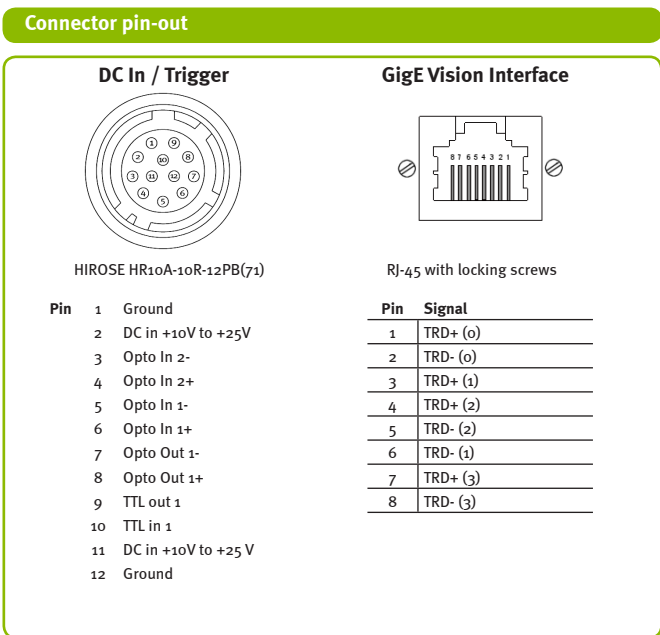
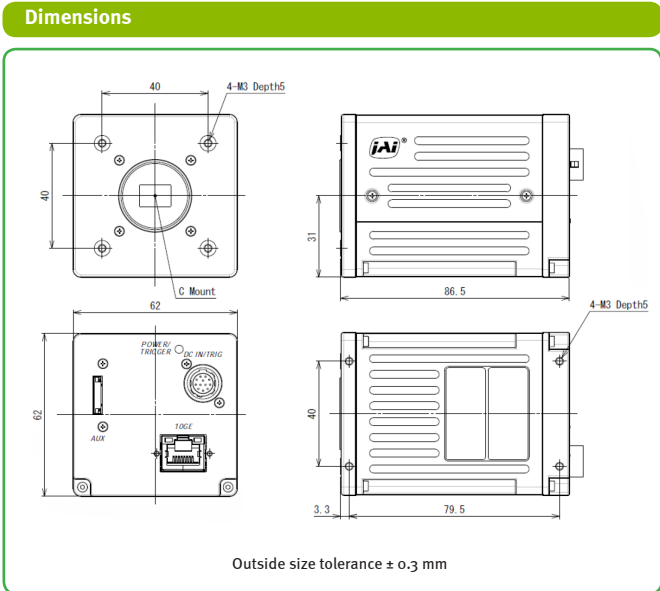
* Some video processing functions not available with 12-bit output



Specifications for FSFE-1600D-10GE (Flex-Eye)

Fusion Series

Specifications	FSFE-1600D-10GE (Flex-Eye)
Sensor	1/2.9" 2-CMOS global shutter (IMX273)
Active pixels	1440 (h) x 1080 (v) x 2 sensors
Frame rate, full frame	226 frames/sec. @ 8-bit
Active area	4.97 mm (h) x 3.73 mm (v) - 6.21 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)
	1440 (h) x 1080 (v) for each channel H: 16 to 1440 pixels in 16 pixel steps V: 8 to 1080 lines in 4 line steps Up to 4 areas can be defined. No overlap. 1x2, 2x1, 2x2 (NIR only)
EMVA 1288 Parameters	12-bit output format
Absolute sensitivity	4.85 p (λ = 525 nm), 10.8 p (λ = 810 nm)
Maximum SNR	39.65 dB green, 39.36 dB NIR
Traditional SNR*	color >60 dB (0 dB gain, 10-bit) NIR >60 dB (0 dB gain, 10-bit)
Video signal output†	Define 2 custom wavebands between 405-1000 nm. Bayer sensor option for waveband located in visible spectrum. 8/10/12-bit mono/Bayer output, or RGB8, RGB10V1Packed, RGB10p32.
Video modes	Normal, Single ROI, Multi ROI, Sequencer (2 modes)
Gain	Manual control - master mode 0 to +24 dB Auto gain control - off, continuous, one-push R/B channels - individually -7 to +15 dB
White balance (Bayer waveband only)	Off, 4 presets (3200K, 5000K, 6500K, 7500K), or one-push/continuous AWB (3000K to 9000K)
Gamma/LUT	0.45 to 1.0 (9 steps) or 257-point programmable LUT
Shading correction	Flat shading, color shading (if Bayer selected)
Trigger input	Opto In (2), Pulse Generators (4), Software, TTL In (2), NAND Out (2), User Output (4)
Exposure modes	Timed/EPS, Trigger Width (to ∞), Auto. Delayed readout option.
Electronic shutter	(can be set independently for each channel) 15.26 μs to 8 sec. in 1 μs steps
Auto Level Control (ALC)	Shutter range from 100 μs, gain range from 0 dB to +24 dB. Tracking speeds and max. values adjustable.
Blemish compensation	Up to 200 px/channel
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	3G (20 Hz to 200 Hz, XYZ directions)
Shock	50G
Regulations	CE (EN61000-6-2, EN61000-6-3) FCC Part 15 Class B, RoHS/WEEE
Power	12-pin +10V to +25V DC. 10.4 W typical @ +12 V
Lens mount	C-mount
Dimensions (H x W x L)	62 mm x 62 mm x 86.5 mm (excl. connectors)
Weight	270 g



Ordering Information

FSFE-1600D-10GE	2-CMOS multispectral camera with GigE Vision
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*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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