FLIR *CHAMELEON®3*

P/N: CM3-U3-13S2, USB3 VISION

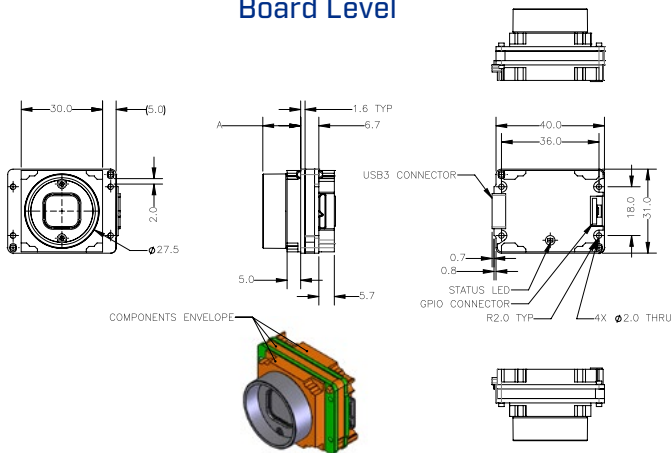### FLEXIBLE FORM FACTOR + USB3 VISION

The Chameleon3 camera line combines the ease-of-use of USB 3.0, the small size and flexibility of board-level, and the most popular CCD and CMOS image sensors into an affordable package. Available in a compact 44 x 35 x 19.5 mm case or as a 40 x 31 mm board stack. The lightweight metal case is designed for reliability and offers multiple mounting points and a locking USB 3.0 connection. Includes on-camera frame buffer for image retransmission, opto-isolated GPIO with locking connection, and a hassle-free 3-year warranty.
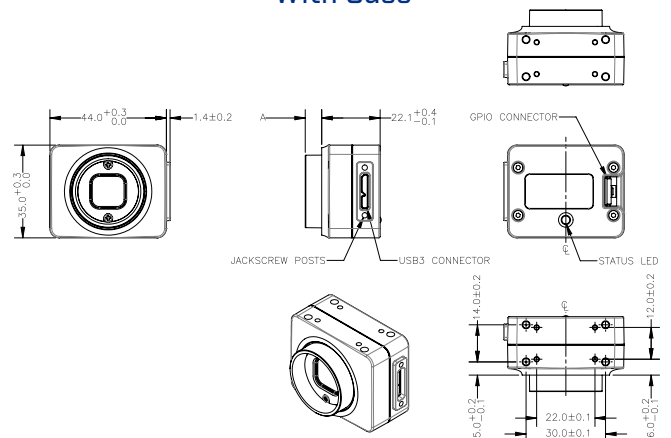
KEY FEATURES

- Boxed and board level available
- On-camera image processing: color interpolation, gamma, and LUT
- 16 MByte frame buffer; LED status indicator

Board Level

With Case

The World's Sixth Sense®

Specifications

	CM3-U3-13S2M	CM3-U3-13S2C
Firmware	1.1.3.0	1.1.3.0
Resolution	1288 x 964	1288 x 964
Frame Rate	30 FPS	30 FPS
Megapixels	1.3 MP	1.3 MP
Chroma	Mono	Color
Sensor	Sony ICX445, CCD, 1/3"	Sony ICX445, CCD, 1/3"
Readout Method	Global shutter	Global shutter
Pixel Size	3.75 μm	3.75 μm
Lens Mount	CS-mount	CS-mount
ADC	12-bit	12-bit
Gain Range	-11 dB to 23.991 dB	-11 dB to 23.991 dB
Exposure Range	0.046 ms to 31.9 seconds	0.046 ms to 31.9 seconds
Trigger Modes	Standard, bulb, low smear, overlapped, multi-shot	Standard, bulb, low smear, overlapped, multi-shot
Partial Image Modes	Pixel binning, ROI	Pixel binning, ROI
Image Processing	Gamma, lookup table, and sharpness	Gamma, lookup table, hue, saturation, and sharpness
HDR Sequencing	4 x exposure, 4 x gain (Firmware: 1.10.3.0)	4 x exposure, 4 x gain (Firmware: 1.10.3.0)
Image Buffer	16 MB	16 MB
User Sets	2 memory channels for custom camera settings	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory	1 MB non-volatile memory
Opto-isolated I/O Ports	1 input, 1 output	1 input, 1 output
Non-isolated I/O	2 bi-directional	2 bi-directional
Auxiliary Output	3.3 V, 150 mA maximum	3.3 V, 150 mA maximum
Interface	USB 3.0	USB 3.0
Power Requirements	5 - 24 V via GPIO or 5 V via USB 3.0 interface	5 - 24 V via GPIO or 5 V via USB 3.0 interface
Power Consumption	<3 W maximum	<3 W maximum
Dimensions/Mass	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)
Machine Vision Standard	USB3 Vision v1.0	USB3 Vision v1.0
Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.
Temperature	Operating: 0° to 45°C Storage: -30° to 60°C	Operating: 0° to 45°C Storage: -30° to 60°C
Humidity	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)
Warranty	3 years	3 years

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FLIR *CHAMELEON®3*

P/N: CM3-U3-13Y3, USB3 VISION
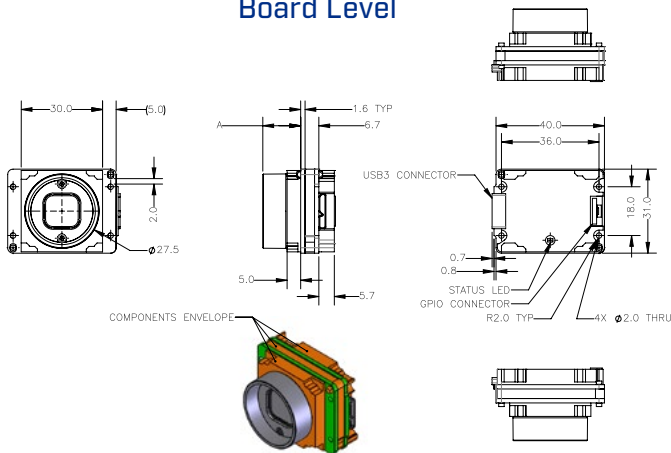
FLEXIBLE FORM FACTOR + USB3 VISION

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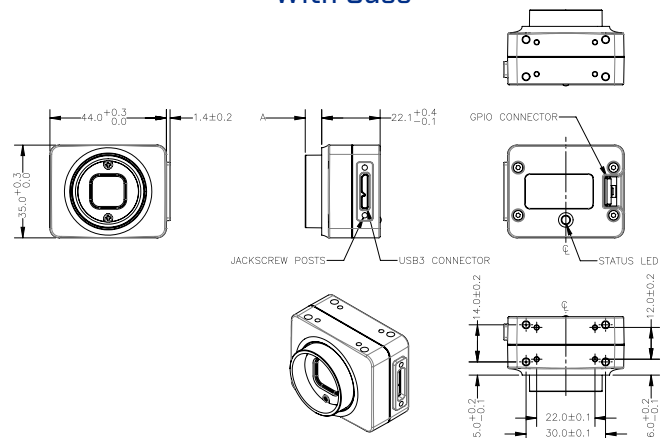
KEY FEATURES

- Boxed and board level available
- On-camera image processing: color interpolation, gamma, and LUT
- 16 MByte frame buffer; LED status indicator

USB3
V I S I O N

Board Level

With Case

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Specifications

	CM3-U3-13Y3M	CM3-U3-13Y3C
Firmware	1.9.3.0	1.9.3.0
Resolution	1280 x 1024	1280 x 1024
Frame Rate	149 FPS	149 FPS
Megapixels	1.3 MP	1.3 MP
Chroma	Mono	Color
Sensor	On Semi P1300, CMOS, 1/2"	On Semi P1300, CMOS, 1/2"
Readout Method	Global shutter	Global shutter
Pixel Size	4.8 µm	4.8 µm
Lens Mount	CS-mount (case) / (S-mount board level)	CS-mount (case) / (S-mount board level)
ADC	10-bit	10-bit
Gain Range	0 dB to 18 dB	0 dB to 18 dB
Exposure Range	0.006 ms to 999.240 ms	0.006 ms to 999.240 ms
Trigger Modes	Standard, bulb, multi-shot	Standard, bulb, multi-shot
Partial Image Modes	Pixel binning, ROI	Pixel binning, ROI
Image Processing	Gamma, lookup table, and sharpness	Gamma, lookup table, hue, saturation, and sharpness
HDR Sequencing	Not supported	Not supported
Image Buffer	16 MB	16 MB
User Sets	2 memory channels for custom camera settings	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory	1 MB non-volatile memory
Opto-isolated I/O Ports	1 input, 1 output	1 input, 1 output
Non-isolated I/O	2 bi-directional	2 bi-directional
Auxiliary Output	3.3 V, 150 mA maximum	3.3 V, 150 mA maximum
Interface	USB 3.0	USB 3.0
Power Requirements	5 - 24 V via GPIO or 5 V via USB 3.0 interface	5 - 24 V via GPIO or 5 V via USB 3.0 interface
Power Consumption	<3 W maximum	<3 W maximum
Dimensions/Mass	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (case) / 27.9 g (board level)	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (case) / 27.9 g (board level)
Machine Vision Standard	USB3 Vision v1.0	USB3 Vision v1.0
Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.
Temperature	Operating: 0° to 45°C Storage: -30° to 60°C	Operating: 0° to 45°C Storage: -30° to 60°C
Humidity	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)
Warranty	3 years	3 years

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FLIR CHAMELEON®3

P/N: CM3-U3-28S4, USB3 VISION
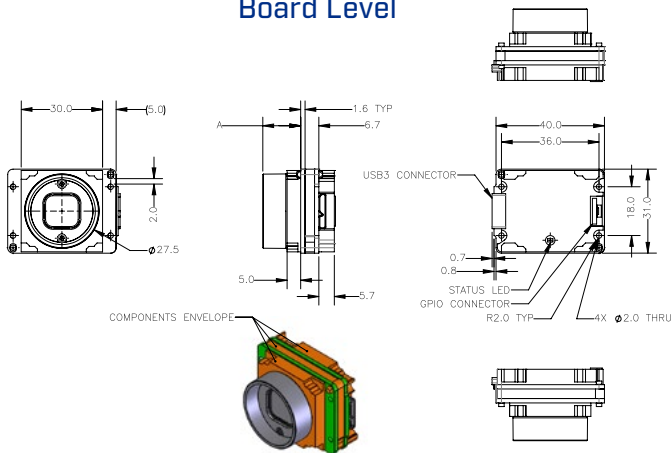

FLEXIBLE FORM FACTOR + USB3 VISION

The Chameleon3 camera line combines the ease-of-use of USB 3.0, the small size and flexibility of board-level, and the most popular CCD and CMOS image sensors into an affordable package. Available in a compact 44 x 35 x 19.5 mm case or as a 40 x 31 mm board stack. The lightweight metal case is designed for reliability and offers multiple mounting points and a locking USB 3.0 connection. Includes on-camera frame buffer for image retransmission, opto-isolated GPIO with locking connection, and a hassle-free 3-year warranty.

KEY FEATURES
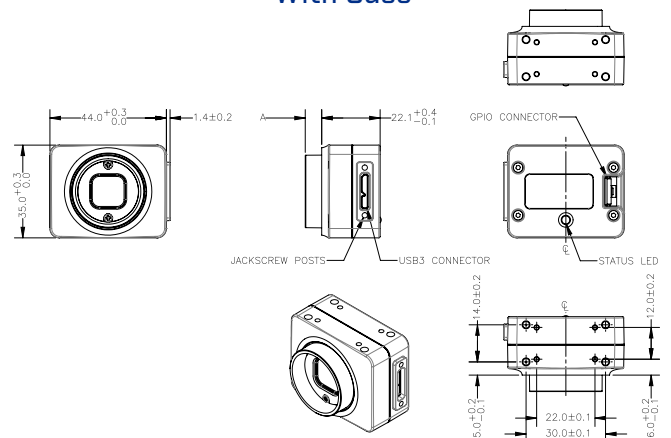
- Boxed and board level available
- On-camera image processing: color interpolation, gamma, and LUT
- 16 MByte frame buffer; LED status indicator

Board Level

With Case

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Specifications

	CM3-U3-28S4M	CM3-U3-28S4C
Firmware	1.3.3.1	1.3.3.1
Resolution	1928 x 1448	1928 x 1448
Frame Rate	13 FPS	13 FPS
Megapixels	2.8 MP	2.8 MP
Chroma	Mono	Color
Sensor	Sony ICX818, CCD, 1/1.8"	Sony ICX818, CCD, 1/1.8"
Readout Method	Global shutter	Global shutter
Pixel Size	3.69 μm	3.69 μm
Lens Mount	CS-mount	CS-mount
ADC	12-bit	12-bit
Gain Range	-8.341 dB to 23.991 dB	-8.341 dB to 23.991 dB
Exposure Range	0.064 ms to 31.9 seconds	0.064 ms to 31.9 seconds
Trigger Modes	Standard, bulb, low smear, overlapped, multi-shot	Standard, bulb, low smear, overlapped, multi-shot
Partial Image Modes	Pixel binning, ROI	Pixel binning, ROI
Image Processing	Gamma, lookup table, and sharpness	Gamma, lookup table, hue, saturation, and sharpness
HDR Sequencing	4 x exposure, 4 x gain (Firmware: 1.10.3.0)	4 x exposure, 4 x gain (Firmware: 1.10.3.0)
Image Buffer	16 MB	16 MB
User Sets	2 memory channels for custom camera settings	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory	1 MB non-volatile memory
Opto-isolated I/O Ports	1 input, 1 output	1 input, 1 output
Non-isolated I/O	2 bi-directional	2 bi-directional
Auxiliary Output	3.3 V, 150 mA maximum	3.3 V, 150 mA maximum
Interface	USB 3.0	USB 3.0
Power Requirements	5 - 24 V via GPIO or 5 V via USB 3.0 interface	5 - 24 V via GPIO or 5 V via USB 3.0 interface
Power Consumption	<3 W maximum	<3 W maximum
Dimensions/Mass	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)
Machine Vision Standard	USB3 Vision v1.0	USB3 Vision v1.0
Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.
Temperature	Operating: 0° to 45°C Storage: -30° to 60°C	Operating: 0° to 45°C Storage: -30° to 60°C
Humidity	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)
Warranty	3 years	3 years

FLIR Integrated Imaging Solutions

CANADA
12051 Riverside Way
Richmond, BC, Canada
V6W 1K7
T: +1 866.765.0827 (toll free)
T: +1 604.242.9937
F: +1 604.242.9938
E: mv-sales@flir.com
www.flir.com/iis

USA
T: +1 866.765.0827 (toll free)
E: mv-na-sales@ptgrey.com

EUROPE
T: +49 7141 488817-0
F: +49 7141 488817-99
E: mv-eusales@flir.com

CHINA
T: +86 10 8215 9938
F: +86 10 8215 9936
E: mv-chinasales@flir.com

ASIA
E: mv-asiasales@ptgrey.com

For a full list of international distributors and offices visit www.flir.com/contact-us

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FLIR CHAMELEON®3

P/N: CM3-U3-31S4, USB3 VISION

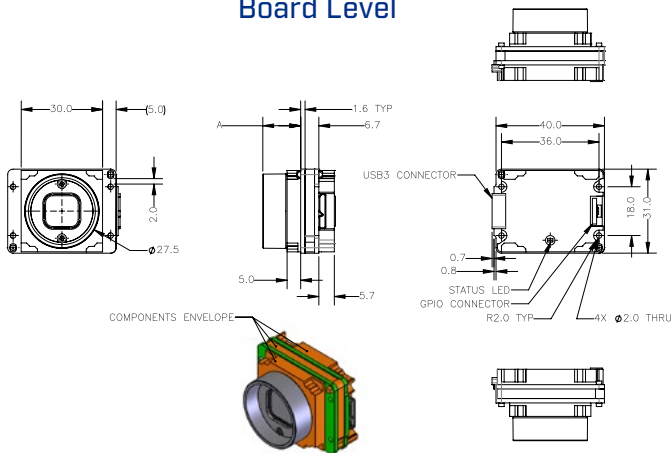

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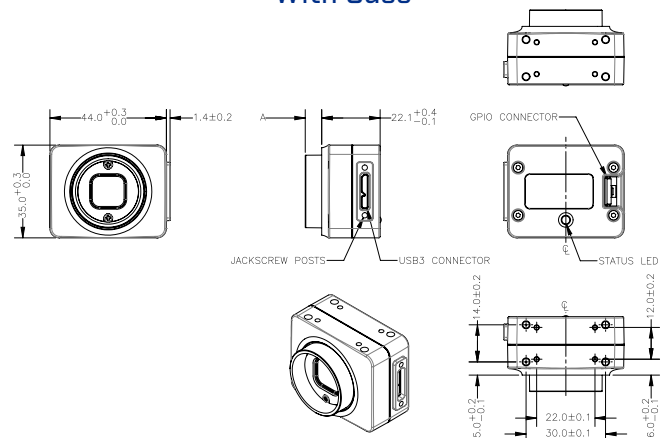
KEY FEATURES

• Boxed and board level available
• On-camera image processing: color interpolation, gamma, and LUT
• 16 MByte frame buffer; LED status indicator
• Sony® Pregius CMOS Global Shutter Sensor

Board Level

With Case

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Specifications

	CM3-U3-31S4M	CM3-U3-31S4C
Firmware	1.10.3.0	1.10.3.0
Resolution	2048 x 1536	2048 x 1536
Frame Rate	55 FPS	55 FPS
Megapixels	3.2 MP	3.2 MP
Chroma	Mono	Color
Sensor	Sony IMX265, CMOS, 1/1.8"	Sony IMX265, CMOS, 1/1.8"
Readout Method	Global shutter	Global shutter
Pixel Size	3.45 µm	3.45 µm
Lens Mount	CS-mount	CS-mount
ADC	12-bit	12-bit
Gain Range	0 dB to 47.994 dB	0 dB to 47.994 dB
Exposure Range	0.011 ms to 11.99 seconds	0.011 ms to 11.99 seconds
Trigger Modes	Standard, bulb, overlapped, multi-shot	Standard, bulb, overlapped, multi-shot
Partial Image Modes	Pixel binning, ROI	Pixel binning, ROI
Image Processing	Gamma, lookup table, and sharpness	Gamma, lookup table, hue, saturation, and sharpness
HDR Sequencing	4 x exposure, 4 x gain	4 x exposure, 4 x gain
Image Buffer	16 MB	16 MB
User Sets	2 memory channels for custom camera settings	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory	1 MB non-volatile memory
Opto-isolated I/O Ports	1 input, 1 output	1 input, 1 output
Non-isolated I/O	2 bi-directional	2 bi-directional
Auxiliary Output	3.3 V, 150 mA maximum	3.3 V, 150 mA maximum
Interface	USB 3.0	USB 3.0
Power Requirements	5-24 V via GPIO or 5 V via USB 3.0 interface	5-24 V via GPIO or 5 V via USB 3.0 interface
Power Consumption	<3 W maximum	<3 W maximum
Dimensions/Mass	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)
Machine Vision Standard	USB3 Vision v1.0	USB3 Vision v1.0
Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.
Temperature	Operating: 0° to 45°C Storage: -30° to 60°C	Operating: 0° to 45°C Storage: -30° to 60°C
Humidity	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)
Warranty	3 years	3 years

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FLIR *CHAMELEON®3*

P/N: CM3-U3-50S5, USB3 VISION
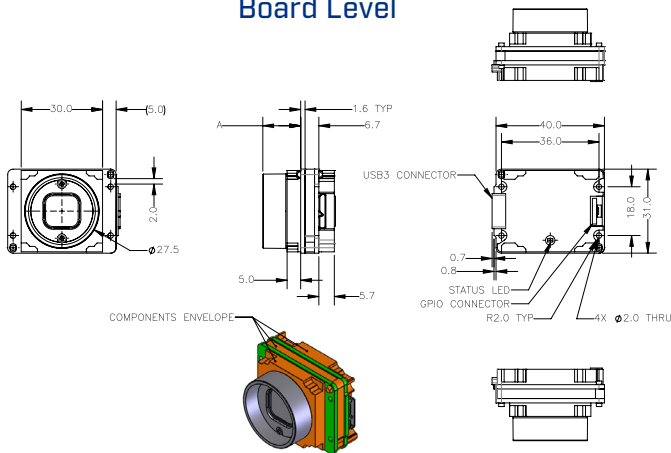

FLEXIBLE FORM FACTOR + USB3 VISION

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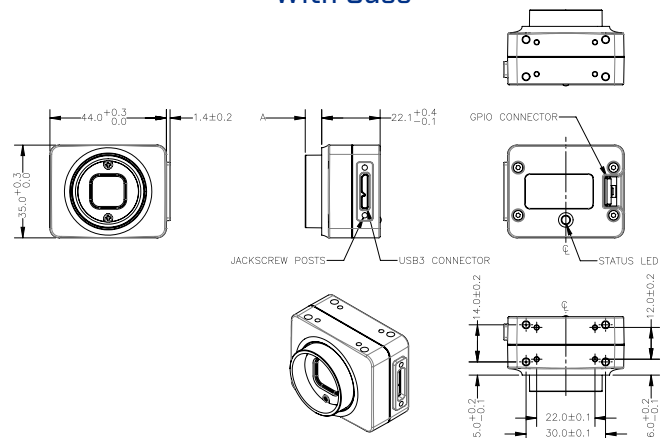
KEY FEATURES

- Boxed and board level available
- On-camera image processing: color interpolation, gamma, and LUT
- 16 MByte frame buffer; LED status indicator
- Sony® Pregius Global Shutter CMOS sensor

Board Level

With Case

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Specifications

	CM3-U3-50S5M	CM3-U3-50S5C
Firmware	1.12.3.0	1.12.3.0
Resolution	2448 x 2048	2448 x 2048
Frame Rate	35 FPS	35 FPS
Megapixels	5.0 MP	5.0 MP
Chroma	Mono	Color
Sensor	Sony IMX264, CMOS, 2/3"	Sony IMX264, CMOS, 2/3"
Readout Method	Global shutter	Global shutter
Pixel Size	3.45 µm	3.45 µm
Lens Mount	CS-mount	CS-mount
ADC	12-bit	12-bit
Gain Range	0 dB to 47.994 dB	0 dB to 47.994 dB
Exposure Range	0.013 ms to 31.995 seconds	0.013 ms to 31.995 seconds
Trigger Modes	Standard, bulb, overlapped, multi-shot	Standard, bulb, overlapped, multi-shot
Partial Image Modes	Pixel binning, ROI	Pixel binning, ROI
Image Processing	Gamma, lookup table, and sharpness	Gamma, lookup table, hue, saturation, and sharpness
HDR Sequencing	4 x exposure, 4 x gain	4 x exposure, 4 x gain
Image Buffer	16 MB	16 MB
User Sets	2 memory channels for custom camera settings	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory	1 MB non-volatile memory
Opto-isolated I/O Ports	1 input, 1 output	1 input, 1 output
Non-isolated I/O	2 bi-directional	2 bi-directional
Serial Port	1 (over non-isolated I/O)	1 (over non-isolated I/O)
Auxiliary Output	3.3 V, 150 mA maximum	3.3 V, 150 mA maximum
Interface	USB 3.1	USB 3.1
Power Requirements	5-24 V via GPIO or 5 V via USB 3.1 interface	5-24 V via GPIO or 5 V via USB 3.1 interface
Power Consumption	<3 W maximum	<3 W maximum
Dimensions/Mass	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)	44 mm x 35 mm x 19.5 mm (case enclosed); 40 mm x 31 mm (board level) /54.9 g (cased) / 27.9 g (board level)
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Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.
Temperature	Operating: 0° to 45℃ Storage: -30° to 60℃	Operating: 0° to 45℃ Storage: -30° to 60℃
Humidity	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)	Operating: 20% to 80% (no condensation) Storage: 20% to 95% (no condensation)
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