Product Datasheet







TRITON10 12.3 MP MODEL (SONY IMX535)

Sensor	Sony IMX535 CMOS
Resolution	12.3 MP, 4096 x 3000 px
Frame Rate	89.7 FPS

Model SKUs	Chroma	Lens Mount	10GBASE-T GigE Vision Connector
TRX124S-CC	Color	C-mount	M12
TRX124S-MC	Mono	C-mount	M12

SPECIFICATIONS

Sensor Properties	
Sensor Model	Sony IMX535 CMOS (Pregius-S, BSI)
Shutter Type	Global
Sensor Size	14.0mm (Type 1/1.1″)
Resolution	4096 x 3000, 12.3 MP
Pixel Size	2.74 µm (H) x 2.74 µm (V)
Framerate*	89.7 FPS (90.9 FPS) @ 12.3 MP (8 Bit ADC mode)[1] 89.7 FPS (91.6 FPS) @ 12.3 MP (10 Bit ADC mode) 89.7 FPS (90.1 FPS) @ 12.3 MP (12 Bit ADC mode)

Physical Properties	
Dimensions	44 x 44 x 82 mm
Lens Mount	C-Mount
Weight	243 g
Ingress Protection	IP67 (For IP67 protection Triton10 must be used with IP67 lens tube and cables)

Imaging Properties	
Image Buffer	880 MB
Image Processing	Gain, gamma, black level, white balance, LUT, CCM, pixel correction, color space conversion
Pixel Formats	Mono8/10/12/16, Bayer8/10/12/16, RGB8, BGR8, YCbCr8, YCbCr411, YUV422, YUV411
Image Modes	Horizontal and vertical binning, decimation, ROI, horizontal and vertical flip
ADC	8, 10, 12 bit
Gain Range	0 dB to 48 dB analog and digital Dual ADC Mode (low-gain, high-gain)
Exposure Time	6.048 µs to 10 s (Normal) / 2.312 µs to 2.472 µs (Short Mode)

Interface and Power Information	
Digital Interface	10GBASE-T, 5GBASE-T, 2.5GBASE-T, 1000BASE-T, 100BASE-TX M12 (8-Pin X-Coded), PoE
Transport Layer Protocol	UDP (GigE Vision), RDMA (RoCE v2, GigE Vision 3.0)
GPIO Interface	17 pin M12 connector
Opto-Isolated I/O Ports	1 input, 3 output
Non-Isolated I/O Ports	2 bi-directional or 2 TTL/DI
Differential / Single-input Ports	3 RS-422/HTL/TTL (1 selectable as DI)
Power Requirement	PoE (IEEE 802.3af) or 12-24 V ±5% through GPIO
Typical Power Consumption	<8.3W via PoE, <7.5W when powered externally

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Camera Features	
User Sets	1 default and 2 custom user set
File System Size	16 MB
Chunk Data	Image, CRC, histogram stats, timestamp, line status, sequencer set, pixel format, width/height, offset X/Y, pixel dynamic range min/max, gain, black level, exposure time
Event Data	Exposure start/end
Counter & Timer	2 counters and 2 timers
Sequencer	Exposure time, gain
Synchronization	Software trigger, hardware trigger, PTP (IEEE 1588)

Standards and Certifications	
Standard	GigE Vision v2.0, GigE Vision v3.0 Ready*
Compliance	CE, FCC, KCC, RoHS, REACH, WEEE
Storage Temperature	-30 to 60°C
Operating Temperature	-20 to 55°C ambient
Humidity	Operating: 20% ~ 80%, relative, non-condensing
Shock and Vibration	DIN EN 60068-2-27, DIN EN 60068-2-64
Industrial EMC Immunity	DIN EN 61000-6-2 ESD 8kV
Warranty	3 year

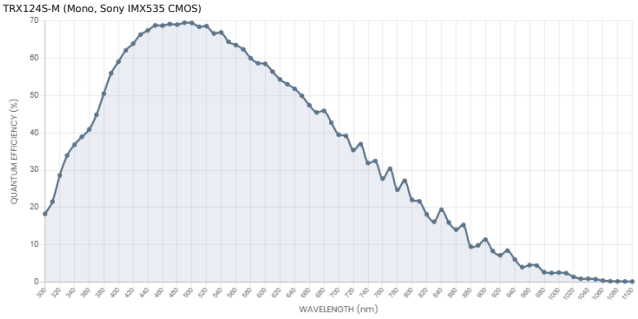
*Max FPS based on 10% Device Link Throughput Reserve for packet resend. FPS stated in brackets () based on 0% Device Link Throughput Reserve. LUCID recommends 10% reserve for stream reliability. [1]Running the sensor in 8-bit ADC mode results in a 4x noise penalty.

*Requires camera firmware update. Refer to our GigE Vision 3.0 RDMA FAQ.

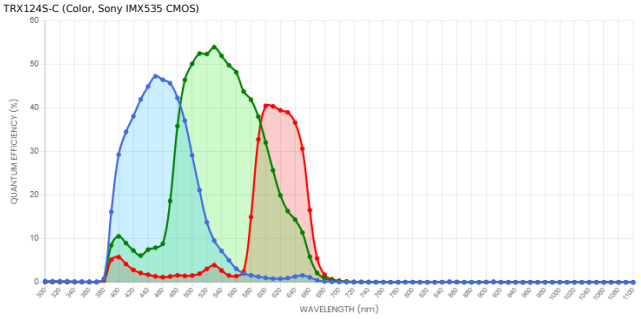
Patents: patents.thinklucid.com

EMVA 1288 DATA

TRX124S-M (Mono, Sony IMX535 CMOS)



TRX124S-C (Color, Sony IMX535 CMOS)



Mono EMVA 1288 Results	
Dynamic Range	69.65 dB
SNR (Max)	39.58 dB
Saturation Capacity	9079 e-
Absolute Sensitivity Threshold (Measured at 527.5nm)	4.25 γ
Temporal Dark Noise	2.39 e-
Gain	0.42 DN / e-
Dark Current	1.04 e- / s
Dark Signal Non-Uniformity	0.36 e-
Photo Response Non-Uniformity	0.44 %
Linearity Error Max/Min	0.09/-0.22 %

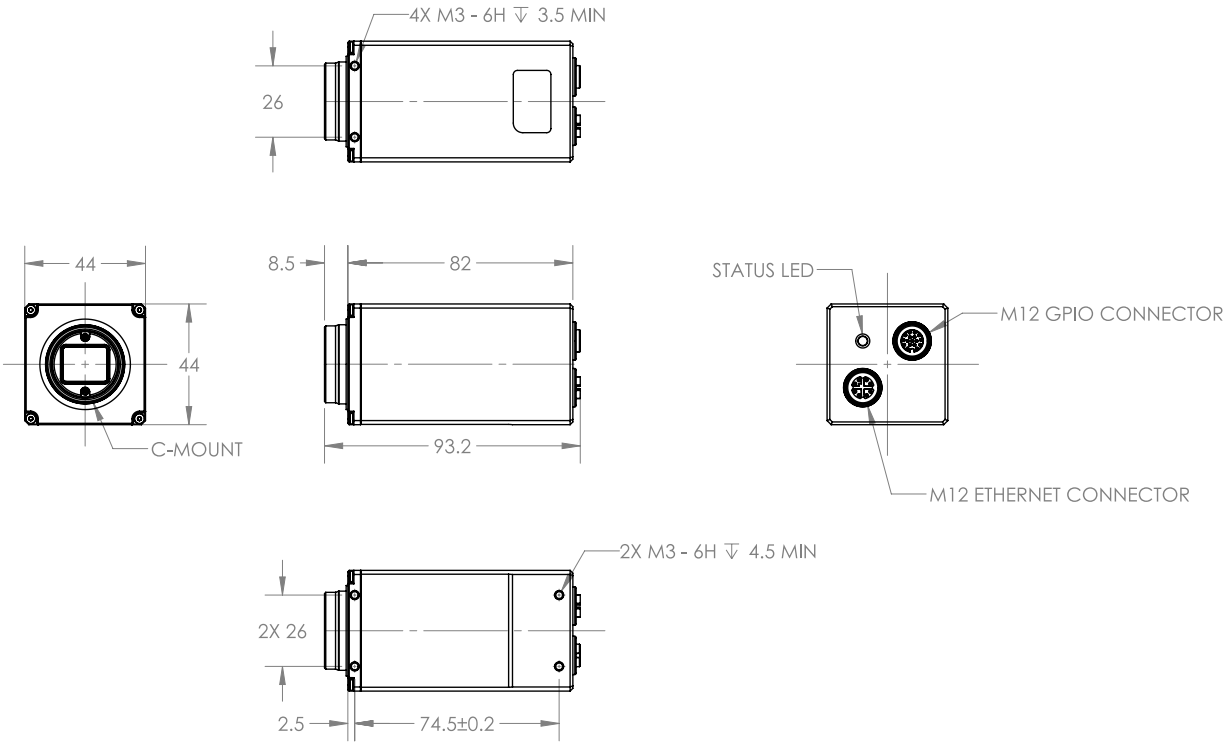
Color EMVA 1288 Results	
Dynamic Range	70.7 dB
SNR (Max)	39.5 dB
Saturation Capacity	8918 e-
Absolute Sensitivity Threshold (Measured at 527.5nm)	4.82 γ
Temporal Dark Noise	1.99 e-
Gain	0.43 DN / e-
Dark Current	1.62 e- / s
Dark Signal Non-Uniformity	0.65 e-
Photo Response Non-Uniformity	0.62 %
Linearity Error Max/Min	0.098/-0.17 %

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DRAWINGS

Triton10 C-Mount Drawings



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