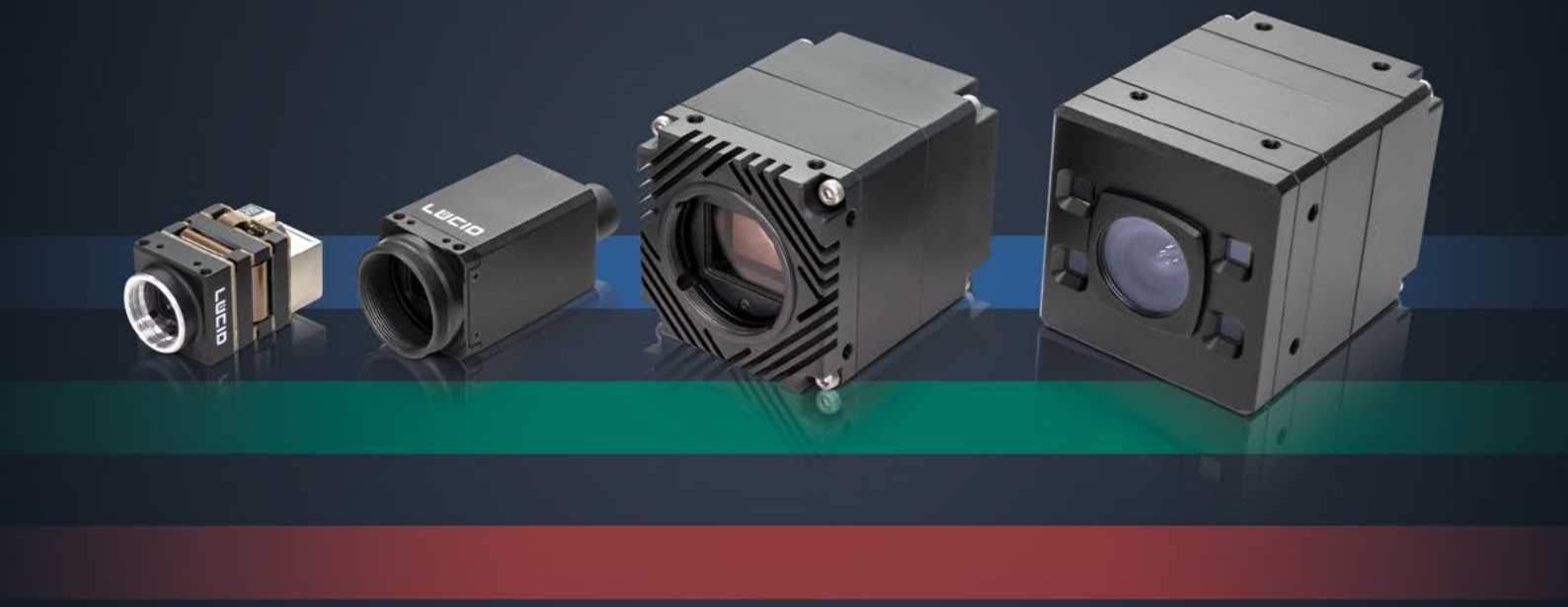
THE INDUSTRIAL CAMERA EVOLVED



Be Inspired. Think LUCID.

LUCID
VISION LABS

Triton™

Factory Tough Industrial Camera

The Triton camera sets a new price performance standard in the industrial camera market. Active Sensor Alignment for superior optical performance, a lightweight, compact 29 x 29 mm size, and IP67 protection with a sealed lens tube make the Triton camera suitable for harsh industrial environments. The M12 Ethernet and M8 I/O connectors provide a robust and sturdy connection. All Triton models are shock and virbation certified.

GiGE VISION GENICAM

Triton™

Factory Tough Industrial Camera

Triton Models

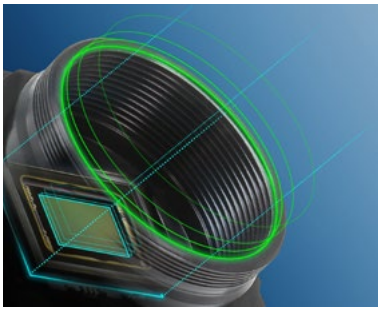
Model	MP	Resolution	FPS	Sensor	Format	Pixel Size	Shutter	Lens Mount	GigE Interface
TRI200S	20.0 MP	**5472 x 3648 px**	6 fps	**Sony IMX183 CMOS**	1"	**2.40 µm**	Rolling	**C**	M12
TRI120S	12.3 MP	**4096 x 3000 px**	10 fps	**Sony IMX304 CMOS**	1.1"	**3.45 µm**	Global	**C**	M12
TRI122S	12.2 MP	**4024 x 3036 px**	9.7 fps	**Sony IMX226 CMOS**	1/1.7"	**1.85 µm**	Rolling	**C**	M12
TRI089S	8.9 MP	**4096 x 2160 px**	13.7 fps	**Sony IMX267 CMOS**	1"	**3.45 µm**	Global	**C**	M12
TRI071S	7.1 MP	**3208 x 2200 px**	17.4 FPS	**Sony IMX428 CMOS**	1.1"	**4.5 µm**	Global	**C**	M12
TRI064S	6.3 MP	**3072 x 2048 px**	19.5 fps	**Sony IMX178 CMOS**	1/1.8"	**2.40 µm**	Rolling	**C**	M12
TRI054S	5.4 MP	**2880 x 1860 px**	21.5 fps	**Sony IMX490 CMOS**	1/1.55"	**3.0 µm**	Rolling	**C**	M12
TRI050S-P **TRI050S-Q**	5.0 MP	**2448 x 2048 px**	24 fps	**Sony IMX250MZR CMOS** **Sony IMX250MYR CMOS**	2/3"	**3.45 µm**	Global	**C**	M12
TRI050S	5.0 MP	**2448 x 2048 px**	24 fps	**Sony IMX264 CMOS**	2/3"	**3.45 µm**	Global	**C**	M12
TRI032S	3.2 MP	**2048 x 1536 px**	38 fps	**Sony IMX265 CMOS**	1/1.8"	**3.45 µm**	Global	**C**	M12
TRI028S	2.8 MP	**1936 x 1464 px**	43 fps	**Sony IMX429 CMOS**	2/3"	**4.5 µm**	Global	**C**	M12
TRI023S	2.3 MP	**1920 x 1200 px**	52 fps	**Sony IMX392 CMOS**	1/2.3"	**3.45 µm**	Global	**C**	M12
TRI016S	1.6 MP	**1440 x 1080 px**	77 fps	**Sony IMX273 CMOS**	1/2.9"	**3.45 µm**	Global	**C**	M12
TRI005S	0.5 MP	**812 x 620 px**	166.5 fps	**Sony IMX433 CMOS**	1/1.7"	**9.0 µm**	Global	**C**	M12
TRI004S	0.4 MP	**728 x 544 px**	291 fps	**Sony IMX287 CMOS**	1/2.9"	**6.9 µm**	Global	**C**	M12

Line Scan

Model	Resolution	Line Rate	Sensor	Format	Pixel Size	Shutter	Lens Mount	GigE Interface
TRI02KA	**2048 x 1 px**	60 kHz	**AMS Dragster DR-2k-7**	14.3 mm	**7.0 µm**	Global	**C**	M12

For the latest Triton models and machine vision accessories, including IP67 lens tubes and M12 / M8 cables please visit www.thinklucid.com

Highlights



Active Sensor Alignment

All Triton cameras are actively aligned to minimize sensor tilt and rotation, and to place the center of the sensor at the lens optical axis.

M12 and M8 Connectors

Designed to provide a sealed connection resistant to shock and vibration. Shielded against electrical interference.

Sony Sensors

Designed to maximize the performance of Pregius and Starvis CMOS sensors, including polarized sensors.

IP67 Protection

By adding LUCID's IP67 lens tube, the camera can be protected from both dust and water particles.

Beyond Small and Light

The camera has a wide operating temperature range from -20°C to 55°C ambient. At only 67 grams and 29 x 29 mm, the Triton is an easy and reliable fit in any environment.

Accessories

Lenses

Model	Mount	Max Sensor Size	Focal Length	Max Aperture	Weight
Lucid NF120-5M	NF-Mount	2/3"	**12 mm**	f/2.0	40 g
Lucid NF120-5M-C	C-Mount	2/3"	**12 mm**	f/2.0	38 g
Edmund Optics 67-709	C-Mount	1/1.8"	**6 mm**	f/1.4	102 g
Edmund Optics 58-000	C-Mount	2/3"	**8.5 mm**	f/1.3	80 g
Edmund Optics 58-001	C-Mount	2/3"	**12 mm**	f/1.8	54 g
Edmund Optics 59-870	C-Mount	2/3"	**16 mm**	f/1.6	73 g
Edmund Optics 59-871	C-Mount	2/3"	**25 mm**	f/1.4	73 g
Edmund Optics 59-872	C-Mount	2/3"	**35 mm**	f/1.65	72 g
Edmund Optics 59-873	C-Mount	2/3"	**50 mm**	f/2.0	107 g
Computar V0828-MPY	C-Mount	1.1"	**8 mm**	f/2.8	155 g
Computar V1228-MPY	C-Mount	1.1"	**12 mm**	f/2.8	98 g
Computar V1628-MPY	C-Mount	1.1"	**16 mm**	f/2.8	91 g
Computar V2528-MPY	C-Mount	1.1"	**25 mm**	f/2.8	78 g
Computar V3528-MPY	C-Mount	1.1"	**35 mm**	f/2.8	103 g
Edmund Optics 11-320	TFL-Mount	APS-C	**50 mm**	f/1.8	276 g
Edmund Optics 11-322	TFL-Mount	APS-C	**100 mm**	f/2.88	597 g

More lens options available online.

Lens Tubes

Model	Length	Outer Diameter	Inner Diameter
IPTC-D270L346	46.5 mm	**Ø 33.0mm**	Ø 27.0 mm
IPTC-D355L299	40 mm	**Ø 41.0mm**	Ø 35.5 mm
IPTC-D355L399	50 mm	**Ø 41.0mm**	Ø 35.5 mm
IPTC-D355L599	70 mm	**Ø 41.0mm**	Ø 35.5 mm
IPTC-D440L385	49.0 mm	**Ø 51.0mm**	Ø 44.0 mm
IPTC-D440L685	79.0 mm	**Ø 51.0mm**	Ø 44.0 mm
IPTC-D590L555	66.0 mm	**Ø 68.0mm**	Ø 59.0 mm
IPTC-D590L715	82.0 mm	**Ø 68.0mm**	Ø 59.0 mm

ATL Lens Mount Adapter

ADA-TFL-F	TFL-Mount to F-Mount Lens Adapter
ADA-TFL-C	TFL-Mount to C-Mount Adapter

PHX Transform Kit

Model	Transform Type	Compatibility
PHX24-TK	90°, 180°	**All 24 x 24mm PHX**
PHX28-TK	90°, 180°	**All 28 x 28mm PHX**
FFC-15-JST-RJ45	FFC extension	**All PHX FFC models**
FFC-15-JST-M12	FFC extension	**All PHX FFC models**

Cables

Model	Type	Rating	Length	Weight	AWG	Color
StarTech C6ASPAT7BK	RJ45 (Both)	**CAT6a**	2.1 m	**89 g**	26	Black
StarTech C6ASPAT15BK	RJ45 (Both)	**CAT6a**	4.6 m	**190 g**	26	Black
LUCID CAB-IR-2M	ix Industrial, RJ45	**CAT6a**	2.0 m	**90 g**	26	Black
LUCID CAB-IR-5M	ix Industrial, RJ45	**CAT6a**	5.0 m	**204 g**	26	Black
LUCID CAB-MR-2M	M12 X-Coded, RJ45	**CAT6a**	2.0 m	**110 g**	26	Dark Green
LUCID CAB-MR-5M	M12 X-Coded, RJ45	**CAT6a**	5.0 m	**224 g**	26	Dark Green
LUCID CAB-MR-5M-RA1	M12 X-Coded Right Angle Down, RJ45	**CAT6a**	5.0 m	**248 g**	26	Dark Green
LUCID CAB-MR-5M-RA2	M12 X-Coded Right Angle Up, RJ45	**CAT6a**	5.0 m	**248 g**	26	Dark Green
LUCID CAB-MR-15M	M12 X-Coded, RJ45	**CAT6a**	15.0 m	**607 g**	26	Dark Green
LUCID CAB-MR-15M-RA1	M12 X-Coded Right Angle Down, RJ45	**CAT6a**	15.0 m	**658 g**	26	Dark Green
LUCID CAB-MR-15M-RA2	M12 X-Coded Right Angle Up, RJ45	**CAT6a**	15.0 m	**658 g**	26	Dark Green
GPIO-8P20	8-pin JST	**GPIO**	20 cm	**3 g**	28	Multi-colored
GPIO-M8	8-pin M8	**GPIO**	1.0 m	**86 g**	26	Black
GPIO-M8-5M	8-pin M8	**GPIO**	5.0 m	**225 g**	26	Black
GPIO-M8-5M-RA1	8-pin M8 Right Angle Down	**GPIO**	5.0 m	**205 g**	26	Black
GPIO-M8-5M-RA2	8-pin M8 Right Angle Up	**GPIO**	5.0 m	**205 g**	26	Black
GPIO-M8-15M-RA1	8-pin M8 Right Angle Down	**GPIO**	15.0 m	**567 g**	26	Black
GPIO-M8-15M-RA2	8-pin M8 Right Angle Up	**GPIO**	15.0 m	**567 g**	26	Black

Interface Cards

Model	Form Factor	Ports
IOI GE10-PCIE4XG202P	PCI Express x4	**1 - 10G/ 5G/ 2.5G/ 1 GigE PoE**
ADLINK PCIe-GIE72	PCI Express x4	**2 GigE PoE**
ADLINK PCIe-GIE74	PCI Express x4	**4 GigE PoE**
Intel EXPI9301CTBLK	PCI Express x1	**1 GigE**

PoE Injectors

Model	Form Factor	Ports
TP-Link TL-POE150S	External	**1 GigE in** **1 GigE PoE out**
PHIHONG POE21U-1AF	External	**1 GigE in** **1 GigE PoE out**

Be Inspired. Think LUCID.

LUCID Vision Labs™, Inc. designs and manufactures innovative machine vision cameras and components that utilize the latest technologies to deliver exceptional value to customers. Our compact, high-performance GigE Vision cameras are suited for a wide range of industries such as factory automation, medical, life sciences and logistics. Our expertise combines deep industry experience with a passion for product quality, technology innovation and customer service excellence. LUCID Vision Labs, Inc. was founded in January 2017 and is located in Richmond, BC, Canada.

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LUCID
VISION LABS

Triton™

Designed for Demanding Industrial Environments

Polarization Models Available

- Active sensor alignment
- Fully tested against shock, vibration, water, dust, temperature, and EMI
- Lightweight, compact, IP67 upgradable

GiGE VISION

IP67 Upgradable

with IP67 lens tube and IP67 cables

Triton Models

Model	MP	Resolution	FPS	Sensor	Format	Pixel Size	Shutter	Lens Mount	Chroma	GigE Interface
TRI245S	24.5 MP	5320 x 4600 px	4.9 fps	Sony IMX540 CMOS	4/3″	2.74 µm	Global	C	M/C	M12
TRI204S	20.4 MP	4510 x 4510 px	6 fps	Sony IMX541 CMOS	1.1″	2.74 µm	Global	C	M/C	M12
TRI200S	20.0 MP	5472 x 3648 px	6 fps	Sony IMX183 CMOS	1″	2.40 µm	Rolling	C	M/C	M12
TRI162S	16.2 MP	5320 x 3040 px	7.5 fps	Sony IMX542 CMOS	1.1″	2.74 µm	Global	C	M/C	M12
TRI124S	12.3 MP	4096 x 3000 px	9.5 fps	Sony IMX545 CMOS	1/1.1″	2.74 µm	Global	C	M/C	M12
TRI120S	12.3 MP	4096 x 3000 px	9.5 fps	Sony IMX304 CMOS	1.1″	3.45 µm	Global	C	M/C	M12
TRI122S	12.2 MP	4024 x 3036 px	9.7 fps	Sony IMX226 CMOS	1/1.7″	1.85 µm	Rolling	C	M/C	M12
TRI089S	8.9 MP	4096 x 2160 px	13.7 fps	Sony IMX267 CMOS	1″	3.45 µm	Global	C	M/C	M12
TRI081S	8.1 MP	2840 x 2840 px	14.8 fps	Sony IMX546CMOS	2/3″	2.74 µm	Global	C	M/C	M12
TRI071S	7.1 MP	3208 x 2200 px	17.2 fps	Sony IMX428 CMOS	1.1″	4.5 µm	Global	C	M/C	M12
TRI064S	6.3 MP	3072 x 2048 px	19.5 fps	Sony IMX178 CMOS	1/1.8″	2.40 µm	Rolling	C	M/C	M12
TRI054S	5.4 MP	2448 x 1860 px	23.1 fps	Sony IMX490 CMOS	1/1.55"	3.0 µm	Rolling	C	Color HDR	M12
TRI050S1-PC	5.0 MP	2448 x 2048 px	24 fps	Sony IMX264MZR CMOS	2/3"	3.45 µm	Global	C	Polarized Mono	M12
TRI050S1-QC	5.0 MP	2448 x 2048 px	24fps	Sony IMX264MYR CMOS	2/3″	3.45 µm	Global	C	Polarized Color	M12
TRI051S	5.0 MP	2448 x 2048 px	24 fps	Sony IMX264 CMOS	2/3″	3.45 µm	Global	C	M/C	M12
TRI050S	5.0 MP	2448 x 2048 px	24 fps	Sony IMX264 CMOS	2/3"	3.45 µm	Global	C	M/C	M12
TRI032S	3.2 MP	2048 x 1536 px	38 fps	Sony IMX265 CMOS	1/1.8"	3.45 µm	Global	C	M/C	M12
TRI028S	2.8 MP	1936 x 1464 px	42.5 fps	Sony IMX429 CMOS	2.3″	4.5 µm	Global	C	M/C	M12
TRI023S	2.3 MP	1920 x 1200 px	52 fps	Sony IMX392 CMOS	1/2.3"	3.45 µm	Global	C	M/C	M12
TRI016S	1.6 MP	1440 x 1080 px	77 fps	Sony IMX273 CMOS	1/2.9"	3.45 µm	Global	C	M/C	M12
TRI005S	0.5 MP	812 x 620 px	166.5 fps	Sony IMX433 CMOS	1/1.7"	9.0 µm	Global	C	M/C	M12
TRI004S	0.4 MP	728 x 544 px	291 fps	Sony IMX287 CMOS	1/2.9"	6.9 µm	Global	C	M/C	M12

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Triton™

29 x 29 mm Factory Tough Machine Vision Camera

Specifications

Interface, Power, and Size Information	
Digital Interface	1000BASE-T GigE M12, PoE
GPIO Interface	8 pin M8 connector
Opto-isolated I/O ports	1 input, 1 output
Non-isolated I/O ports	2 bi-directional
Dimensions	29 x 29 x 45* mm
Lens Mount	C-mount
Weight	67 g
Power Requirement	PoE (IEEE 802.3af), or 12-24 VDC external
Power Consumption	2.5W via V_ext; ~3.1W via PoE

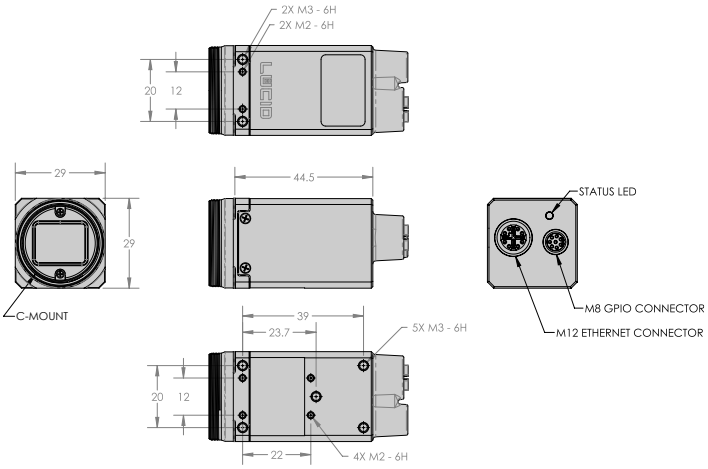
***Not including lens barrel or interface ports**

Imaging Properties	
Image Buffer	128 MB
Image Processing	Gain, gamma, black level, white balance, LUT, CCM, pixel correction, hue, saturation, color space conversion
Pixel Formats	Mono8/10/12/16, Bayer8/10/12/16, RGB8, YUV422, YUV411Mono8/12/16, PolarizeMono8/12/16 (TRI050S-P) BayerRG8/12/16, PolarizeMono8/12/16 (TRI050S-Q)
Image Modes	Horizontal and vertical binning, decimation, ROI, horizontal and vertical flip
ADC	12 bit
Gain Range	0 dB to 48 dB analog and digital
Exposure Time	30 µs to 10 s

Standard and Certifications	
Standard	GigE Vision v2.0
Compliance	CE, FCC, RoHS, REACH, WEEE
Ingress Protection	IP67 (For IP67 protection Triton must be used with IP67 lens tube and cables)
Storage Temperature	-30 to 60°C
Operating Temperature	-20 to 55°C ambient
Shock and Vibration	DIN EN 60068-2-27, DIN EN 60068-2-64 DIN EN 60068-2-6
Humidity	Operating: 20% ~ 80%, relative, non-condensing
Warranty	3 year

Camera Features	
User Sets	1 default and 2 custom user set
File system size	16 MB
Chunk Data	Frame counter, offset X/Y, width/height, exposure time, gain, black level, line status, sequencer set
Event Data	Acquisition start/end, exposure start/end, line rise/fall, error
Counter & Timer	2 counters and 2 timers
Sequencer	Exposure time, gain
Synchronization	Software trigger, hardware trigger, PTP (IEEE 1588)

C-Mount Model



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