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 **ENGLISH**([HTTPS://THINKLUCID.COM/TRITON-SMART-AI-CAMERA-WITH-SONY-IMX501/](https://thinklucid.com/triton-smart-ai-camera-with-sony-imx501/)) [DOWNLOADS \(/DOWNLOADS-HUB/\)](#)
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Triton[®]

Featuring Sony's 12.3MP IMX501 Intelligent Vision

On-sensor AI Processing & Memory

100% Offline, Local AI Processing

Classification
Object detection
Anomaly detection*

IP67 Dust & Water Protection

29 x 29 x 45 mm, 67 g

Power over Ethernet (PoE)

Active Sensor Alignment

*Requires Brain Builder for AITRIOS with Anomaly Hi-Fi

Sony's IMX501 Intelligent Vision Sensor

The IMX501 CMOS rolling shutter sensor features 12.3 MP resolution at 4056 x 3040 px and on-sensor AI processing, enabled by its integrated ISP (Image Signal Processor), DSP (Digital Signal Processor), and on-chip SRAM. This on-sensor AI processing eliminates the need for expensive PC host resources, reduces latency, and lowers power consumption. Additionally, since AI processing and computation occur directly on the sensor and camera, no online cloud connection is needed. Users create AI models easily and efficiently using Neurala's Brain Builder. These AI models run entirely offline, locally on the camera.

Triton Smart Camera: Beyond Small and Light

The Triton Smart Machine Vision camera, weighing just 68 grams and measuring 29 x 29 mm, is designed for reliable operation in challenging industrial environments. Its electronics and AI sensor are housed in a durable, sealed two-piece aluminum case secured by four M2 screws. The camera features robust M12 and M8 connectors for Ethernet and GPIO, resistant to shock and vibration. An optional IP67 lens tube offers dustproof and water-resistant protection without an external enclosure. The Triton operates efficiently within a wide temperature range from -20°C to 55°C ambient.

Triton Smart Camera Model with Sony

Models	MP	Resolution	FPS	Sensor	For
TRS123S-CC (/product/triton-smart-12-3-mp-imx501/)	12.3 MP	4056 x 3040 px	7.9 fps	Sony IMX501 CMOS	1/
Brain Builder – Basic Edition (6 Months) (/product/brain-builder-basic-6-months/)	AI training tool designed to efficiently create, train, and deploy custom AI				

———— Building and Viewing AI Models for Triton Smart ————

Triton Smart Camera Model with Sony

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TRS123S-CC (/product/triton-smart-12-3-mp-imx501/)	12.3 MP	4056 x 3040 px	7.9 fps	Sony IMX501 CMOS	1/
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[Phoenix GigE PoE Camera \(/phoenix-machine-vision/\)](/phoenix-machine-vision/)

20.0 MP PHX200S (/product/phoenix-20-mp-imx183/)
 12.3 MP PHX124S (IMX565) (/product/phoenix-12-3-mp-imx565/)
 12.3 MP PHX120S (IMX304) (/product/phoenix-12-3-mp-imx304/)
 12.2 MP PHX122S (/product/phoenix-12-2-mp-imx226/)
 8.9 MP PHX089S (/product/phoenix-8-9-mp-imx267/)
 8.1 MP PHX081S (/product/phoenix-8-1-mp-imx566/)
 6.3 MP PHX064S (/product/phoenix-6-mp-imx178/)
 5.0 MP Polarized PHX050SI-P/Q (/product/phoenix-5-0-mp-polarization-model-imx264mzrmyr/)
 5.0 MP Polarized PHX050S-P/Q (/product/phoenix-5-0-mp-polarized-model/)
 5.0 MP PHX051S (IMX568) (/product/phoenix-5-0-mp-imx568/)
 5.0 MP PDH050S (IMX264 x2) (/product/phoenix-5mp-dual-head-model-imx264/)
 5.0 MP PHX050S (IMX264) (/product/phoenix-5-mp-imx264/)
 3.2 MP PHX032S (/product/phoenix-32-mp-imx265/)
 2.3 MP PHX023S (/product/phoenix-23-mp-imx392/)
 1.6 MP PDH016S (IMX273 x2) (/product/phoenix-1-6mp-dual-head-model-imx273/)
 1.6 MP PHX016S (/product/phoenix-16-mp-imx273/)
 0.4 MP PHX004S (/product/phoenix-04-mp-imx287/)

Triton10 10GigE PoE Camera (/triton10-10gige-camera-with-rdma/)

24.5 MP TRX245S (/product/triton10-24-5-mp-imx530/)
 20.4 MP TRX204S (/product/triton10-20-4-mp-imx531/)
 16.2 MP TRX162S (/product/triton10-16-2-mp-imx532/)
 12.3 MP TRX124S (/product/triton10-12-3-mp-imx535/)
 8.1 MP TRX081S (/product/triton10-8-1mp-imx536/)
 5.0 MP TRX051S (/product/triton10-5-mp-imx537/)

Triton2 2.5GigE PoE Camera (/triton2-gige-machine-vision/)

24.5 MP TRT245S (/product/triton2-24-mp-imx540/)
 20.4 MP TRT204S (/product/triton2-20-4-mp-imx541/)
 20.0 MP TRT200S (/product/triton2-20-mp-imx183/)
 16.2 MP TRT162S (/product/triton2-16-2-mp-imx542/)
 12.3 MP TRT124S (IMX545) (/product/triton2-12-3-mp-imx545/)
 12.3 MP TRT120S (IMX304) (/product/triton2-12-3-mp-imx304/)
 8.1 MP TRT081S (/product/triton2-8-1-mp-imx546/)
 7.1 MP TRT071S (/product/triton2-71-mp-imx428/)
 6.3 MP TRT064S (https://thinklucid.com/product/triton2-6-3-mp-imx178/)
 5.0 MP TRT051S (IMX547) (/product/triton2-5-mp-imx547/)
 5.0 MP TRT050S (IMX264) (/product/triton2-5-mp-imx264/)
 2.8 MP TRT028S (/product/triton2-2-8-mp-imx429/)
 2.4 MP TRT024G (/product/triton2-2-4-mp-gmax4002/)
 2.3 MP TRT023S (/product/triton2-23-mp-imx392/)
 1.6 MP TRT016S (/product/triton2-16-mp-imx273/)
 4K TRT04KG Line Scan (/product/triton2-4k-gpixel-gl3504/)

Triton2 EVS 2.5GigE PoE Camera (/triton2-evs/)

0.9 MP TRT009S-EC (/product/triton2-evs-0-9mp-imx636/)
 0.3 MP TRT003S-EC (/product/triton2-evs-0-3mp-imx637/)

Triton GigE PoE Camera (/triton-gige-machine-vision/)

24.5 MP TRI245S (/product/triton-24-mp-imx540/)
 20.4 MP TRI204S (/product/triton-20-4-mp-imx541/)
 20.0 MP TRI200S (/product/triton-20-mp-imx183/)
 16.2 MP TRI162S (/product/triton-16-2-mp-imx542/)
 12.3 MP TRI124S (IMX545) (/product/triton-12-3-mp-imx545/)
 12.3 MP TRS123S (IMX501) (/product/triton-smart-12-3-mp-imx501/)
 12.3 MP TRI120S (IMX304) (/product/triton-12-3-mp-imx304/)
 12.2 MP TRI122S (/product/triton-12-2-mp-imx226/)
 8.9 MP TRI089S (/product/triton-89-mp-imx267/)
 8.1 MP TRI081S (/product/triton-8-1-mp-imx546/)
 7.1 MP TRI071S (/product/triton-71-mp-imx428/)
 6.3 MP TRI064S (/product/triton-64-mp-imx178/)
 5.4 MP TDR054S (/product/triton-5-mp-imx490-altaview/)
 5.4 MP TRI054S (/product/triton-5-mp-imx490/)
 5.0 MP Polarized TRI050SI-P/Q (/product/triton-5-0-mp-polarization-model-imx264mzrmyr/)
 5.0 MP Polarized TRI050S-P/Q (/product/triton-5-mp-polarization-camera/)
 5.0 MP TRI051S (IMX547) (/product/triton-5-mp-imx547/)
 5.0 MP TRI050S (IMX264) (/product/triton-5-mp-imx264/)
 3.2 MP TRI032S (/product/triton-32-mp-imx265/)
 2.8 MP TRI028S (/product/triton-2-8-mp-imx429/)
 2.3 MP TRI023S (/product/triton-23-mp-imx392/)
 1.6 MP TRI016S (/product/triton-16-mp-imx273/)
 0.5 MP TRI005S (/product/triton-05-mp-imx433/)
 0.4 MP TRI004S (/product/triton-04-mp-imx287/)
 2K TRI02KA Line Scan (/product/triton-2k-dragster-linescan/)

Atlas 5GigE PoE Camera (/atlas-5gige-machine-vision/)

31.4 MP ATL314S (</product/atlas-31-mp-imx342/>)
 19.6 MP ATL196S (</product/atlas-19-6-mp-imx367/>)
 16.8 MP ATL168S (</product/atlas-16-8-mp-imx387/>)
 12.3 MP ATL120S (</product/atlas-12-mp-imx253/>)
 8.9 MP ATL089S (</product/atlas-8-9-mp-imx255/>)
 7.1 MP ATL071S (</product/atlas-7-1-mp-imx420/>)
 5.0 MP ATL050S (</product/atlas-5-mp-imx250/>)
 2.8 MP ATL028S (</product/atlas-2-8-mp-imx421/>)

Atlas 5GigE IP67 PoE Camera (</atlas-5gige-machine-vision/>)

24.5 MP ATP245S (</product/atlas-ip67-24-5-mp-imx540/>)
 20.4 MP ATP204S (</product/atlas-ip67-20-4-mp-imx541/>)
 20.0 MP ATP200S (</product/atlas-ip67-20-mp-imx183/>)
 16.2 MP ATP162S (</product/atlas-ip67-16-2-mp-imx542/>)
 12.3 MP ATP124S (IMX545) (</product/atlas-ip67-12-3-mp-imx545/>)
 12.3 MP ATP120S (IMX253) (</product/atlas-ip67-12-mp-imx253/>)
 8.9 MP ATP089S (</product/atlas-ip67-8-9-mp-imx255/>)
 8.1 MP ATP081S (</product/atlas-ip67-8-1-mp-imx546/>)
 7.1 MP ATP071S (</product/atlas-ip67-7-1-mp-imx420/>)
 5.0 MP ATP051S (IMX547) (</product/atlas-ip67-5-0-mp-imx547/>)
 5.0 MP ATP050S (IMX250) (<https://thinklucid.com/product/atlas-ip67-5-mp-imx250/>)
 2.8 MP ATP028S (</product/atlas-ip67-2-8-mp-imx421/>)

Atlas & Triton SWIR IP67 PoE Cameras (</swir-ip67-cameras/>)

1.3 MP ATP013S-WC (with TEC) (</product/atlas-swir-1-3mp-model-imx990/>)
 0.3 MP ATP003S-WC (with TEC) (</product/atlas-swir-0-3mp-model-imx991/>)
 5.3 MP TRT053S-WC (</product/triton2-swir-5-2mp-model-imx992/>)
 3.2 MP TRT033S-WC (</product/triton2-swir-3-2mp-model-imx993/>)
 1.3 MP TRI013S-WC (</product/triton-swir-1-3mp-model-imx990/>)
 0.3 MP TRI003S-WC (</product/triton-swir-0-3mp-model-imx991/>)

Atlas10 10GigE PoE Camera (</atlas10-10gige-poe-pregius-s/>)

65.0 MP ATX650G (</product/atlas10-65-mp-gmax3265/>)
 47.0 MP ATX470S (</product/atlas10-47mp-imx492/>)
 45.0 MP ATX450N (</product/atlas10-45-mp-onsemi-xgs45000/>)
 31.4 MP ATX314S (</product/atlas10-31-4-mp-imx342/>)
 24.5 MP ATX245S (</product/atlas10-24-5-mp-imx530/>)
 20.4 MP ATX204S (</product/atlas10-20-4-mp-imx531/>)
 16.2 MP ATX162S (</product/atlas10-16-2-mp-imx532/>)
 12.3 MP ATX124S (</product/atlas10-12-3-mp-imx535/>)
 8.1 MP ATX081S (</product/atlas10-8-1mp-imx536/>)
 5.0 MP ATX051S (</product/atlas10-5-mp-imx537/>)

Atlas10 UV 10GigE PoE Camera (</atlas10-uv-camera/>)

8.1 MP ATX081S-UC (</product/atlas10-uv-8-1-mp-imx487/>)

Helios ToF PoE Camera (</helios-time-of-flight-tof-camera/>)

3D+RGB IP67 Kit (</product/rgb-3d-kit-triton-3-2mp-helios2-kit/>)
 0.3 MP Helios2+ (</product/helios2plus-time-of-flight-tof-ip67-3d-camera/>)
 0.3 MP Helios2 (</product/helios2-time-of-flight-imx556/>)
 0.3 MP Helios2 Ray (</product/helios2-ray-outdoor-tof-ip67-3d-camera/>)
 0.3 MP Helios2 Wide (</product/helios2-wide-time-of-flight-tof-ip67-3d-camera/>)
 0.3 MP Helios2 Narrow (</product/helios2-narrow-ip67-time-of-flight-tof-3d-camera/>)

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3rd Party Software Getting Started Guides (<https://support.thinklucid.com/#3rd-party>)

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