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LUCID Vision Labs Triton2™ TRT033S-WC, Sony IMX993 InGaAs, 3.2MP, SWIR

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LUCID Vision Labs Triton2™ 2.5GigE Power over Ethernet (PoE) Cameras - Front

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Spectrum:
SWIR

General

Type:
SWIR Camera

Model Number:
TRT033S-WC

Manufacturer:
Lucid Vision Labs

Camera Series:

Triton2™ SWIR

Note:

REQUIRES AN END USER STATEMENT TO BE COMPLETED BEFORE SHIPMENT

Physical & Mechanical Properties

Dimensions (mm):
44.0 x 29.0 x 45.3 (excludes connectors and lens mount)

Weight (g):
90

Housing:
Full

Sensor

Image Buffer:
128MB

Sensor Format:
1/1.8"

Resolution (Megapixels):
3.20

Frame Rate (fps):
80.30

Pixels (H x V):
2,048 x 1,536

Pixel Size, H x V (µm):
3.45 x 3.45

Sensing Area, H x V (mm):
7.07 x 5.30

Imaging Sensor:
Sony IMX993 InGaAs

Type of Sensor:
Progressive Scan CMOS

Shutter Type:
Global

Pixel Depth:
8/10/12 Bit

Exposure Time:
22.656 µs to 10 s

Dynamic Range (dB):
42

Machine Vision Standard:
GigE Vision v2.0

Electrical

Power Consumption (W):
5W via PoE, 4.5W when powered externally

Hardware & Interface Connectivity

Interface:
2.5GigE (PoE)

Connector:
2.5GigE, GigE, M12

Power Supply:
Power Supply Required and Sold Separately:
USA: **#18-364**
Europe: **#18-365**
Japan: **#18-364**
Korea: Not Available
China: **#18-365**

GPIOs:
1 opto-isolated input, 1 opto-isolated output, 2 non-isolated bi-directional ports

Synchronization:
Hardware Trigger (GPIO), Software Trigger, or PTP (IEEE 1588)

Interface Port Orientation:
Back Panel

GPIO Connector Type:
8-pin M8

Threading & Mounting

Mount:
C-Mount

Mounting Threads:
¼-20 with Tripod Mount Adapter

Environmental & Durability Factors

Operating Temperature (°C):	Storage Temperature (°C):
-20 to +50	-30 to +60

Regulatory Compliance

Certificate of Conformance:
View

Product Details

- Up to 5.20MP Resolution with Framerates up to 49.40FPS
- Actively Aligned Image Sensor for Precise Optical Axis Alignment
- Ideal for Electronic and Agricultural Inspection, Surveillance, and More
- **Requires an End User Statement to Be Completed Before Shipment**

LUCID Vision Labs Triton2™ Power over Ethernet (PoE) SWIR Cameras are designed to provide high-resolution images across the visible, near-infrared (NIR), and shortwave infrared (SWIR) spectrum from 400 – 1750nm. Featuring an actively aligned image sensor, these cameras are designed to minimize sensor tilt and rotation and ensure alignment of the image sensor to the lens optical axis. For harsh environments with dust or water, accessory lens tubes are available to ensure an IP67 rating. LUCID Vision Labs Triton2™ Power over Ethernet (PoE) SWIR Cameras feature excellent thermal management with a wide operating temperature range from -20°C to 55°C. These cameras are ideal for automotive, process control, and food and beverage applications.

SWIR is an acronym meaning Short Wavelength Infrared, also frequently referred to as shortwave infrared. SWIR generally refers to the wavelength band of light between 900nm and 2500nm.

Since standard silicon sensors have an upper limit of approximately 1000nm, SWIR imaging requires sensors and camera components capable of operation in the shortwave infrared range, which exceeds the upper limit of silicon. Indium gallium arsenide (InGaAs) sensors are commonly used in SWIR imaging, typically covering the 900nm to 1700nm range. But InGaAs devices are inherently expensive and face challenges in scaling to smaller pixel pitches and higher resolution arrays.

Unlike Long Wave Infrared (LWIR) light, which is emitted from the object itself, SWIR or shortwave infrared light is similar to visible light in that photons are reflected or absorbed by an object, providing the strong contrast needed for high-resolution imaging. While LWIR imagers give off more poorly defined thermal images, SWIR imagers deliver high-resolution images, much like visible light cameras.

SWIR imagers are used in a large number of applications including silicon inspection, laser beam profiling, hyperspectral imaging, chemical and plastics sensing, machine vision imaging, agricultural sensing, surveillance systems, and medical imaging. They are also intended for use in mobile phone facial recognition sensors, and autonomous vehicle imaging though obscured environments.

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