Polarization

Featuring Sony's Polarsens™ Sensor Technology

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GiGE VISION

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🔴 Phoenix™ Polarized Model

Model	Resolution	FPS	Lens Mount	Interface
PHX050S-PC (Mono) PHX050S-QC (Color) **Sony IMX250MZR/MYR**	5.0 MP 2448x2048 px	22 fps	C / C Ext Head / NF / No Mount	GigE RJ45 / ix / FCC
PHX050S1-PC (Mono) PHX050S1-QC (Color) **Sony IMX264MZR/MYR**	5.0 MP 2448x2048 px	22 fps	C / C Ext Head / NF / No Mount	GigE RJ45 / ix / FCC

🔴 Triton™ Polarized Model

Model	Resolution	FPS	Lens Mount	Interface
TRI050S-PC (Mono) TRI050S-QC (Color) **Sony IMX250MZR/MYR**	5.0 MP 2448x2048 px	22 fps	C	GigE M12
TRI050S1-PC (Mono) TRI050S1-QC (Color) **Sony IMX264MZR/MYR**	5.0 MP 2448x2048 px	22 fps	C	GigE M12

Specifications

Interface and Power Information

Digital Interface	1000BASE-T GigE PoE RJ45, ix Connector, or FCC (Phoenix) M12 Connector (Triton)
GPIO Interface	8 pin JST connector (Phoenix) 8 pin M8 connector (Triton)
Opto-isolated I/O ports	1 input, 1 output
Non-isolated I/O ports	2 bi-directional
Dimension	*See back page*
Power Requirement	PoE (12-24V) IEEE 802.3af
Power Consumption	2.5W via V_ext; ~3.1W via PoE

Standard and Certifications

Standard	GigE Vision v2.0
Compliance	CE, FCC, RoHS, REACH, WEEE
Storage Temperature	-30° to 60°C
Operating Temperature	-10° to 55° C (Phoenix) -20° to 55 °C (Triton)
Humidity	Operating: 20% ~ 80%, relative, non-condensing
Storage	20% ~ 95%, relative, non-condensing
Warranty	3 years

*Not including lens barrel or interface ports

Imaging Properties

Sensor	Sony IMX264MZR CMOS (Mono) 11.1 mm (Type 2/3) Sony IMX264MYR CMOS (Color) 11.1 mm (Type 2/3) Sony IMX250MZR CMOS (Mono) 11.1 mm (Type 2/3) Sony IMX250MYR CMOS (Color) 11.1 mm (Type 2/3)
Shutter Type	Global
Pixel Size	3.45 µm (H) x 3.45 µm (V)
Image Buffer	128 MB
Image Processing	Gain
Pixel Formats	Mono8/12/16, PolarizeMono8/12/16 (Mono) BayerRG8/12/16, PolarizeMono8/12/16 (Color)
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

Camera Features

User Sets	1 default and 2 custom
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)

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Applications:

Industrial Inspection:
- **Electronic manufacturing**
- **Wafer, flat panel display, carbon fiber, solar panel**
- **Automotive (glass, body and tire marking)**
  - Identify stress points
  - Identify defects
  - Identify surface imperfections
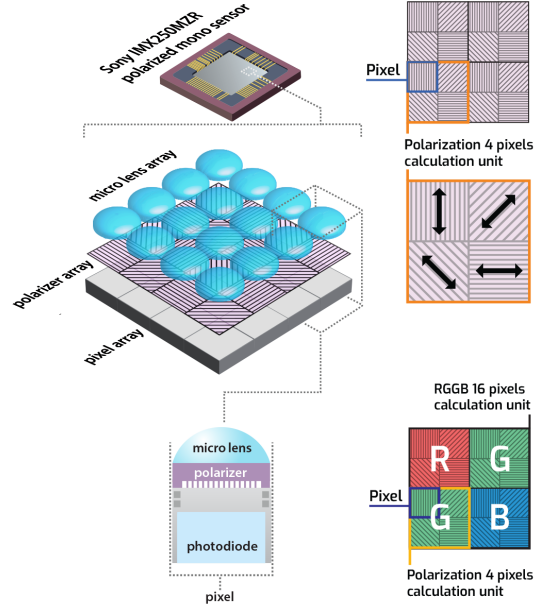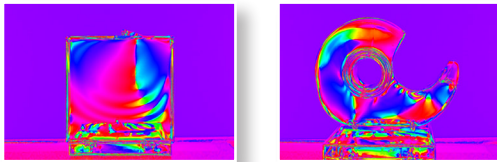
Food Sorting and Inspection
- Classification of stem, leaves, fruits
- Identification of foreign objects

Packaging Inspection
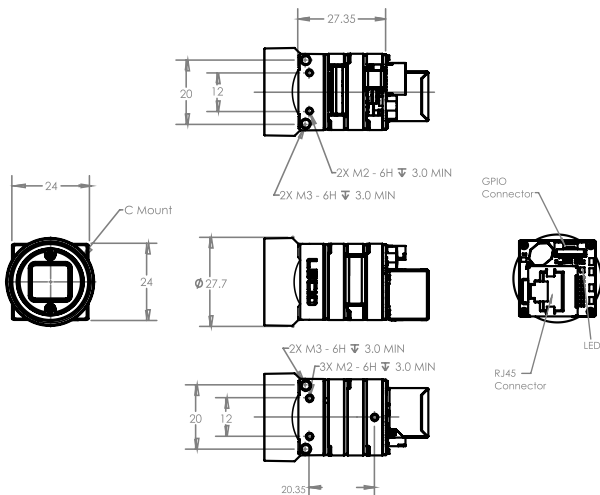- Identification rips in plastic wrap

Microscopy
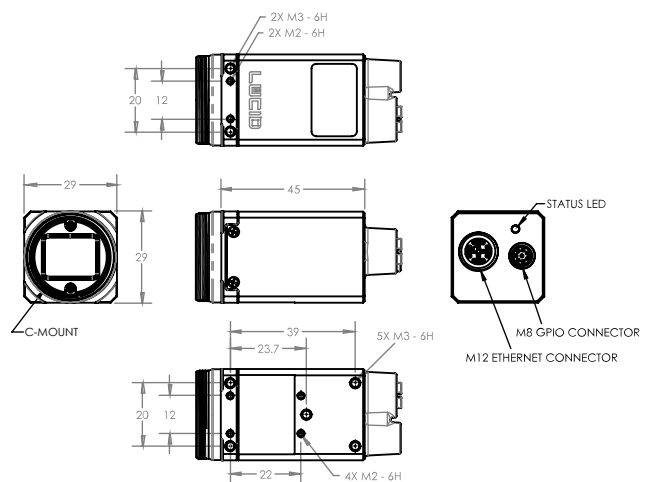- Material and particle characterization

Sony's IMX250MZR (mono) sensor layout showing the four directional filter pixel array in 0⁰, 45⁰, 90⁰, 135⁰ and IMX250MYR (color) RGGB 16 pixel bayer pattern.

Phoenix Model

Triton Model