

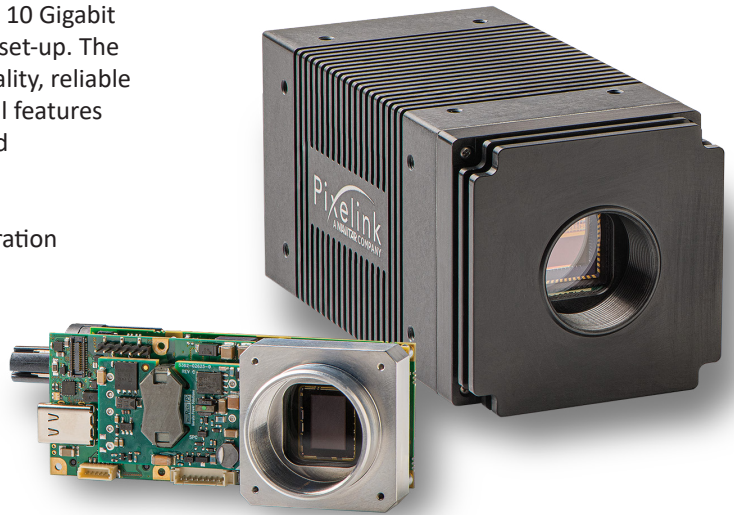
PL-X957

CMOS | 10GigE | HDR | SONY IMX420 | GLOBAL SHUTTER

The PL-X family of high performance machine vision cameras, with 10 Gigabit ethernet, offers speed, accuracy and reliability in a quick and easy set-up. The 10GBASE-T interface and packet resend capability provide high quality, reliable image transfer at cable lengths of up to 100m on CAT6A. Additional features include, Power over Ethernet (PoE), Trigger over Ethernet (ToE) and IEEE1588 clock synchronization (PTP).

The Pixelink PL-X957 camera, featuring the Sony IMX420 3rd generation Pregius CMOS sensor, is ideal for high dynamic range imaging applications requiring high resolution, fast frame rates, and high quality, low noise images.

A key feature of the IMX420 Sony sensor is a Dual ADC mode, where each pixel can be read out with two different gains. The PL-X957 combines the Dual ADC images into a single hybrid HDR image, directly on camera - thus removing the need for any host processing. Real time on camera HDR is an easy way for the user to gain 6-10dB of additional dynamic range on their image without taxing the CPU or requiring additional complex software algorithms.



KEY FEATURES

7 MP
CMOS

154
154 fps

4.5 μm

17.6 mm

SENSOR
SIZE
1.1"

8 & 12-BIT

COLOR

MONO

10GBASE-T

10GiGE
VISION

TYPICAL APPLICATIONS

- Parts Inspection
- Strength / Stress Testing
- Scratch Inspection
- Automated Inspection
- Sports Analysis
- Research
- Broadcasting
- 3D Mapping
- VR and AR Applications Research
- Multi-camera Synchronization



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SENSOR

| | |
|-------------|----------------------|
| Sensor | Sony IMX420 |
| Type | CMOS Global Shutter |
| Resolution | 7.1 MP (3216 x 2200) |
| Pixel Pitch | 4.5µm x 4.5µm |
| Active Area | 17.6 mm diagonal |

PERFORMANCE SPECIFICATIONS

| | |
|--------------------|--|
| FPN | <0.03% of signal |
| PRNU | <0.7% of signal |
| Dynamic Range | 72 dB |
| Bit Depth | 8 bit and 12 bit |
| Color Data Formats | Bayer 8, Bayer 12 Packed, Bayer 16, YUV422, RGB 24, BGR 24 |
| Mono Data Formats | Mono 8, Mono 12 Packed & Mono 16 |

FRAME RATES

| | |
|----------------------|---------------|
| Effective Resolution | Free Running |
| 3216 x 2200 | Up to 154 fps |

* Frame rate will vary based on host system and configuration.

** Above calculations based on fixed frame rate mode & 8-bit pixel depth.

INTERFACES

| | |
|-------------------------------|--|
| Board Level Trigger Connector | 8-pin Molex 1.25 mm pitch |
| Enclosed Trigger Connector | Hirose M12 (12-pin) |
| Trigger | Software and hardware |
| Board Level Trigger Input | 1 input, 3.3V (with internal pullup resistor) |
| Enclosed Trigger Input | 1 optically isolated, 5-12V DC at 4-11 mA |
| Board Level GPO/Strobe | 2 outputs, 3.3V |
| Enclosed GPO/Strobe | 1 optically isolated, 5-12V DC at 4-11 mA, 2 outputs, 3.3V |
| Board Level GPI Input | 1 input, 3.3V |
| Enclosed GPI Input | 1 optically isolated, 5-12V DC at 4-11 mA |
| 10GBase-T Connector | M12 X-coded (8-pin) |

MECHANICALS

| | |
|-----------------|---------------|
| Dimensions (mm) | 125 x 57 x 57 |
| Weight (g) | 560 |
| Mounting | C-Mount |

POWER REQUIREMENTS

| | |
|------------------|---|
| Voltage Required | 5V (from USB Type-C connector), 48V (802.3bt PoE) |
|------------------|---|

BOARD LEVEL GPIO INTERFACE PIN NAME & DESCRIPTION

| | |
|---|-----------------------------------|
| 1 | 3.3V power output |
| 2 | TRIGGER 3.3V HCMOS input |
| 3 | Ground |
| 4 | GPO1, 3.3V HCMOS output |
| 5 | GPO2, 3.3V HCMOS output |
| 6 | Clock, 3.3V (I2C access for OEMs) |
| 7 | Data, 3.3V (I2C access for OEMs) |
| 8 | GPI, 3.3V HCMOS input |

Board connector: Molex (8-pin, 1.25mm pitch, vertical)

Cable receptacle: Molex 51021-0800;

Cable crimp terminals: Molex 50079-8100

ENCLOSED GPIO INTERFACE PIN NAME & DESCRIPTION

| | |
|----|-----------------------------------|
| 1 | 5.0V output |
| 2 | TRIGGER + (optically isolated) |
| 3 | TRIGGER - (optically isolated) |
| 4 | Data, 3.3V (I2C access for OEMs) |
| 5 | GPO1 + (optically isolated) |
| 6 | GPO1 - (optically isolated) |
| 7 | GPO1, 3.3V HCMOS output |
| 8 | GPO2, 3.3V HCMOS output |
| 9 | Ground |
| 10 | GPI+ (optically isolated) |
| 11 | GPI- (optically isolated) |
| 12 | Clock, 3.3V (I2C access for OEMs) |

ENVIRONMENTAL & REGULATORY

| | |
|-----------------------|----------------|
| Compliance | FCC, CE & RoHS |
| Operating Temperature | 0°C to 50°C |
| Storage Temperature | -45°C to 85°C |

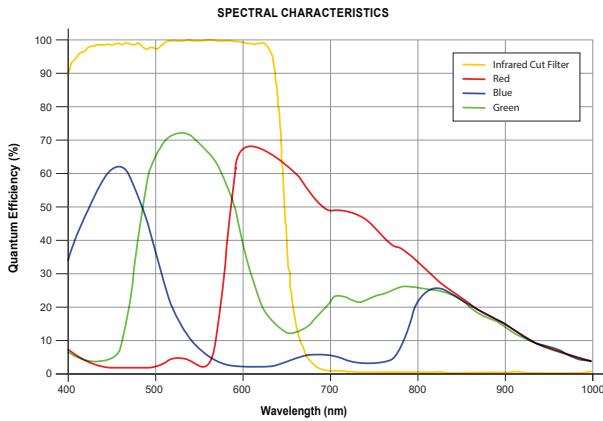
SOFTWARE

| | |
|------------------|--------------------------------|
| Pixelink Capture | Control & operate multi-camera |
| Pixelink SDK | Software Development Kit |

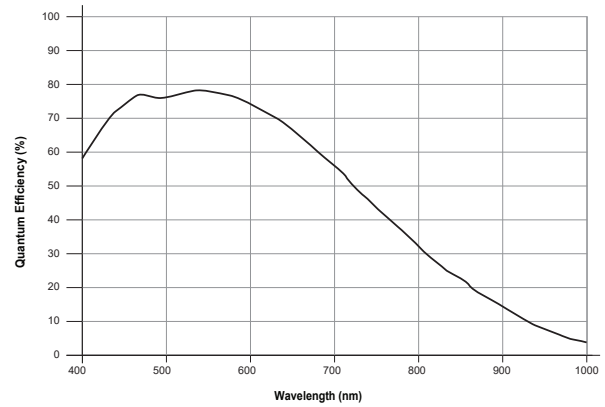
COMPUTER & OPERATING SYSTEM (minimum requirements)

| | |
|------------------|---|
| Processor | Intel Core i5 ARMv7 (32-bit) or (ARMv8 (64-bit) recommended) |
| Memory | 8GB RAM (16 GB multi-channel DDR4 recommended) |
| Hard Drive | 200MB- SSD recommended |
| BUS | PCIe 3.0 with a slot supporting x8 transfers |
| Operating System | Windows 7/8/10 (Windows 10 recommended) Ubuntu 16.04/18.04/20.04 |

RESPONSIVITY CURVE - COLOR



RESPONSIVITY CURVE - MONO



PIXELINK CAPTURE

Pixelink Capture is powerful multi-camera software application designed to configure “n” number of cameras and stream “n” number of cameras simultaneously in real-time high-quality video viewed in a multi-window environment. It offers options for complex image enhancements such as exposure control and filtering, in addition to multi-camera application testing and configuration.

Pixelink Capture features allow you to measure supporting point, line, circle, rectangle, polyline and polygon measurements while determining pixel location. The user can review and adjust data before exporting the findings to an Excel spreadsheet for further analysis.

Pixelink Capture also has integrated lens control (zoom & focus) for Navitar motorized lenses and accurate autofocus options for Navitar motorized fine focus mechanisms.

LINKS FOR MECHANICAL DRAWINGS

- [Enclosed Mechanical Drawing](#)
- [Board Level Configuration](#)
- [Board Level Configuration with Flex Cable](#)

PIXELINK SDK

Providing full control of all camera functions, the Pixelink Software Development Kit (SDK) is the software package of choice for developers and system integrators who are integrating Pixelink cameras into their applications. The Pixelink SDK provides access to the full Pixelink Application Programming Interface (API) and provides sample applications, wrappers for many 3rd party controls, such as LabVIEW, along with full documentation.

The Pixelink SDK is compatible with Microsoft Windows and popular Linux platforms. When using the Pixelink SDK, developers can integrate Pixelink cameras into their applications with ease.

AVAILABLE CONFIGURATIONS

- PL-X957CG-BL
- PL-X957CG-T
- PL-X957MG-BL
- PL-X957MG-T

COLOR SPACE

- C = Color
- M = Mono
- NIR = Near Infrared

INTERFACE

G = 10 GigE

HOUSING

- BL = Board Level
- T = Trigger