

Pixelink®

A NANITAR COMPANY

PL-X9524

CMOS | 10GigE | BSI | SONY IMX530 | 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-X9524 camera features the new Sony IMX530 24 MP Pregius S sensor. With 2.74 μm back-side illuminated pixels, the PL-X9524 offers higher resolution, excellent low light performance, and increased throughput in one compact package, and can easily replace multiple lower-resolution cameras to decrease system footprints.

KEY FEATURES

24 MP
CMOS

43
43 fps

2.74 μm

19.3 mm

SENSOR
SIZE
1.2"

8 & 12-BIT

COLOR

MONO

10GBASE-T **10GiG**
VISION

TYPICAL APPLICATIONS

- Precision Microscopy
- Defect and Scratch Inspection
- High Speed Inspection
- Factory Automation
- Image Recognition and Identification
- Speed, Traffic and Transportation

SENSOR	
Sensor	Sony IMX530
Type	CMOS Global Shutter
Resolution	24 MP (5328 x 4608)
Pixel Pitch	2.74 μm x 2.74 μm
Active Area	19.3 mm diagonal

PERFORMANCE SPECIFICATIONS	
FPN	<0.03% of signal
PRNU	<0.7% of signal
Dynamic Range	70 dB
Bit Depth	8 bit and 12 bit
Color Data Formats	Bayer 8, Bayer 12 Packed, Bayer 16, YUV422, RGB 24 and BGR 24
Mono Data Formats	Mono 8, Mono 12 Packed and Mono 16

FRAME RATES	
Effective Resolution	Free Running
5328 x 4608	Up to 43 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 (w/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	TFL and 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	

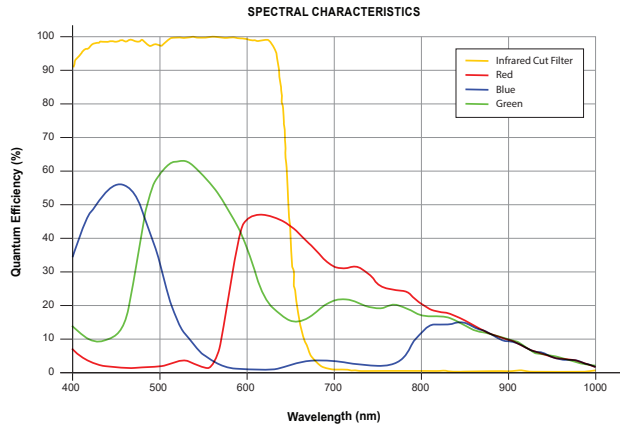
ENCLOSED GPIO INTERFACE PIN NAME & DESCRIPTION	
1	5.0V output
2	TRIGGER + (optically isolated)
3	TRIGGER - (optically isolated)
4	Data, 3.3V (I2C access for OEMs)
5	GPO1 + (optically isolated)
6	GPO1 - (optically isolated)
7	GPO1, 3.3V HCMOS output
8	GPO2, 3.3V HCMOS output
9	Ground
10	GPI+ (optically 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

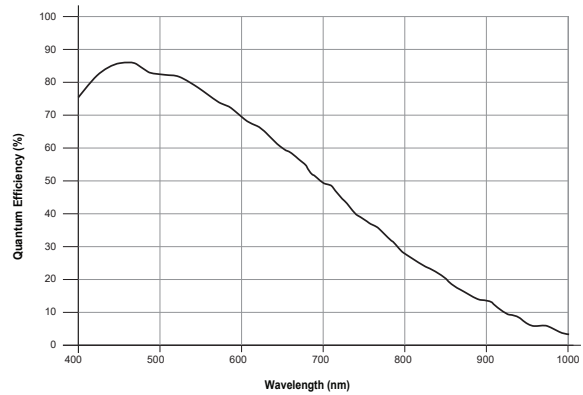
SOFTWARE	
Pixelink Capture	Control & operate multiple cameras
Pixelink SDK	Software Development Kit

COMPUTER & OPERATING SYSTEM (minimum requirements)	
Processor	Intel Core i5 ARMv7 (32-bit) or ARMv8 (64-bit) (ARMv8 recommended)
Memory	8GB RAM - (16 GB multi-channel DDR4 recommended)
Hard Drive Space	200MB (SSD recommended)
BUS	PCIe 3.0 (or better) 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 TFL-Mount**
- Enclosed C-Mount**
- Board Level TFL-Mount**
- Board Level C-Mount**
- Board Level TFL-Mount & Flex Cable**
- Board Level C-Mount & 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-X9524CG-BL (TFL mount) | PL-X9524MG-BL (TFL mount) |
| PL-X9524CG-T (TFL mount) | PL-X9524MG-T (TFL mount) |
| PL-X9524CG-BL-C (C mount) | PL-X9524MG-BL-C (C mount) |
| PL-X9524CG-T-C (C mount) | PL-X9524MG-T-C (C mount) |

COLOR SPACE

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

INTERFACE

G = 10 GigE

HOUSING

- BL = Board Level
- T = Trigger