



# CAMERA SOLUTIONS

MACHINE VISION • MICROSCOPY • CUSTOM DESIGNS

## PL-X Series

### High Performance 10 GigE Machine Vision Cameras

- 10X Faster Than GigE & 2X Faster Than USB3
- Larger Bandwidth for High-Speed Imaging
- 10GBase-T Interface
- Power Over Ethernet (PoE)
- Trigger Over Ethernet (ToE)
- Reliable up to 100m Over CAT6A



**10GigE**  
VISION

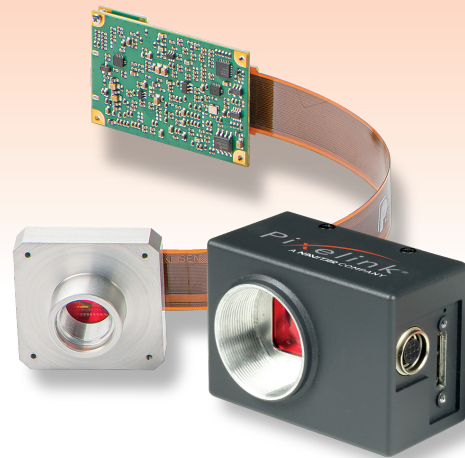
#### 1.1" & 1.2" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Sensor Size	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>PL-X9512</b>	12 MP (4096 x 3000)	17.6 mm	3.45 $\mu$ m	Sony IMX253	1.1"	65 fps	C - M	12	C	Global
<b>PL-X957</b>	7 MP (3216 x 2200)	17.6 mm	4.5 $\mu$ m	Sony IMX420	1.1"	154 fps	C - M	12	C	Global
<b>PL-X9520</b>	20 MP (4512 x 4512)	17.5 mm	2.74 $\mu$ m	Sony IMX531	1.1"	52 fps	C - M	12	C	Global
<b>PL-X9524</b>	24 MP (5328 x 4608)	19.3 mm	2.74 $\mu$ m	Sony IMX530	1.2"	44 fps	C - M	12	TFL - C	Global

## PL-D Series

### High Performance USB 3.0 Machine Vision Cameras

- Resolutions up to 20 Megapixels
- Wide Range of CMOS Image Sensors
- Fast Frame Rates
- Low Noise Images



**USB**  
VISION

#### 1.1" & 1.2" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Sensor Size	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>PL-D7920</b>	20 MP (4512 x 4512)	17.5 mm	2.74 $\mu$ m	Sony IMX541	1.1"	21 fps	C - M	12	C - CS	Global
<b>PL-D7512</b>	12 MP (4096 x 3000)	17.6 mm	3.45 $\mu$ m	Sony IMX253	1.1"	33 fps	C - M	12	C - CS	Global
<b>PL-D7912</b>	12 MP (4096 x 3000)	17.6 mm	3.45 $\mu$ m	Sony IMX304	1.1"	23 fps	C - M	12	C - CS	Global
<b>PL-D757 (HDR)</b>	7 MP (3208 x 2200)	17.6 mm	4.5 $\mu$ m	Sony IMX420	1.1"	57 fps	C - M	12	C - CS	Global
<b>PL-D797</b>	7 MP (3208 x 2200)	17.6 mm	4.5 $\mu$ m	Sony IMX428	1.1"	27 fps	C - M	12	C - CS	Global
<b>PL-D7924</b>	24 MP (5328 x 4608)	19.3 mm	2.74 $\mu$ m	Sony IMX540	1.2"	17 fps	C - M	12	C - CS	Global

## 1" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D7620	20 MP (5472 x 3648)	15.9 mm	2.4 µm	Sony IMX183	20 fps	C or M	12	C or CS	Rolling
PL-D759	9 MP (4096 x 2160)	16.1 mm	3.45 µm	Sony IMX255	45 fps	C or M	12	C or CS	Global
PL-D799	9 MP (4096 x 2160)	16.1 mm	3.45 µm	Sony IMX267	32 fps	C or M	12	C or CS	Global
PL-D726	7 MP (2208 x 3000)	13.0 mm	3.5 µm	onsemi IBIS4	5 fps	M	10	C	Rolling
PL-D725	5 MP (2592 x 2048)	15.9 mm	4.8 µm	onsemi Vita5000	75 fps	C or M	10	C or CS	Global
PL-D734	4 MP (2048 x 2048)	15.9 mm	5.5 µm	CMOSIS CMV4000	90 fps	C or M or NIR	10	C or CS	Global

## 1 / 1.2" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D752	2 MP (1920 x 1200)	13.4 mm	5.86 µm	Sony IMX174	167 fps	C or M	12	C or CS	Global

## 2 / 3" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D755MU-POL (Polarized)	5 MP (2448 x 2048)	11.1 mm	3.45 µm	Sony IMX250MZR	36 fps	M	12	C	Global
PL-D755	5 MP (2448 x 2048)	11.1 mm	3.45 µm	Sony IMX250	80 fps	C - M	12	C - S - CS	Global
PL-D795	5 MP (2448 x 2048)	11.1 mm	3.45 µm	Sony IMX264	36 fps	C - M	12	C - S - CS	Global
PL-D753 (HDR)	3 MP (1936 x 1464)	11.0 mm	4.5 µm	Sony IMX421	141 fps	C - M	12	C - S - CS	Global
PL-D732	2 MP (2048 x 1088)	12.7 mm	5.5 µm	CMOSIS CMV2000	170 fps	C - M - NIR	10	C - S - CS	Global
PL-D722	2 MP (1920 x 1200)	10.9 mm	4.8 µm	onsemi Vita 2000	87 fps	C - M	10	C - S - CS	Global

## 1 / 2" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D721P	1 MP (1280 x 1024)	7.9 mm	4.8 µm	onsemi Python 1300	212 fps	M	10	C - S - CS	Global
PL-D721	1 MP (1280 x 1024)	7.9 mm	4.8 µm	onsemi Vita 1300	151 fps	C - M	10	C - S - CS	Global

## 1 / 2.3" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D7718	18 MP (4912 x 3680)	7.67 mm	1.25 µm	onsemi AR1820	14 fps	C	12	C - S - CS	Rolling
PL-D7715	15 MP (4608x3288)	7.9 mm	1.4 µm	onsemi MT9F002	13 fps	C	12	C - S - CS	Rolling

## 1 / 2.5" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D775	5 MP (2592 x 1944)	7.1 mm	2.2 µm	onsemi MT9P006	14 fps	C - M	12	C - S - CS	Rolling

## Autofocus Systems

## Fast, Durable Autofocus Cameras

- One-Push Autofocus
- Fully Integrated Liquid Lens
- Near Infinite Focal Range
- On-Camera Focus Processing
- Seamless Integration with Pixelink SDK



### Extensive Optical Variation

Displacing a liquid interface allows for larger phase shift variations.

### Rugged Design

Our lenses have been tested for over 100 million cycles showing zero performance degradation. They show excellent response before and after shock tests.

### Extreme Speed

Refocus in less than 20 milliseconds.

### Low Power Consumption

Our liquid lens consumes 15mW, a tenth of what other systems require.

### By Sensor Size

Model	Sensor Size	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
PL-D755AF	2/3"	5 MP (2448 x 2048)	11.1 mm	3.45 $\mu$ m	Sony IMX250	80 fps	C - M	12	C - S	Global
PL-D753AF (HDR)	2/3"	3 MP (1936 x 1464)	11.0 mm	4.5 $\mu$ m	Sony IMX421	141 fps	C - M	12	C - S	Global
PL-D732AF	2/3"	2 MP (2048 x 1088)	12.7 mm	5.5 $\mu$ m	CMOS CMV2000	170 fps	C - M - NIR	10	C - S	Global
PL-D722AF	2/3"	2 MP (1920 x 1200)	11.0 mm	4.8 $\mu$ m	onsemi Vita 2000	87 fps	C - M	10	C - S	Global
PL-D721AF	1/2"	1 MP (1280 x 1024)	7.9 mm	4.8 $\mu$ m	onsemi Vita 1300	151 fps	C - M	10	C - S	Global
PL-D7718AF	1/2.3"	18 MP (4912 x 3680)	7.67 mm	1.25 $\mu$ m	onsemi AR1820	14 fps	C	12	C - S	Rolling
PL-D775AF	1/2.5"	5 MP (2592 x 1944)	7.1 mm	2.2 $\mu$ m	onsemi MT9P006/P031	14 fps	C - M	12	C - S	Rolling
PL-D7620AF	1"	20 MP (5472 x 3648)	15.9 mm	2.4 $\mu$ m	Sony IMX183	20 fps	C - M	12	C - S	Rolling

### Liquid Lens Specifications

	Varioptic C-Mount		Edmund Optics Liquid Lens Cx Series				Varioptic S-Mount			Edmund Optics Liquid Lens S-Mount			
EFL	16 mm	25 mm	12 mm	16 mm	25 mm	35 mm	2.6 mm	7.5 mm	9.6 mm	6 mm	8 mm	12 mm	16 mm
Format	1/3" - 2/3"	1/3" - 2/3"	1/2"	2/3"	2/3"	2/3"	1/2.5"	1/4" - 1/2.5"	1/4" - 1/1.8"	1/2"	1/2"	1/2"	1/1.8"
F#	f/2.8	f/4-22	f/6	f/5	f/5	f/7	f/2.5	f/2.9	f/3.7	f/2.4	f/2.4	f/2.4	f/2.4
Focus Range	110 mm	120 mm	100 mm	100 mm	150 mm	225 mm	4 mm	70 mm	70 mm	100 mm	150 mm	150 mm	220 mm
	to Infinity		to Infinity				to Infinity			to Infinity			

## M Series

## High Performance Microscopy Cameras

- High-Resolution Imaging for Laboratory Use
- Ideal for Bright Field and Dark Field Microscopy
- High Quality Image Acquisition
- Excellent Color Reproduction
- 1 Megapixel to 20 Megapixel Resolutions
- $\mu$ Scope Microscopy Software Suite Available



**USB**  
VISION

## 1.1" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>M12-CYL</b>	12 MP (4096 x 3000)	17.6 mm	3.45 $\mu$ m	Sony IMX253	33 fps	C - M	12	C	Global
<b>M12B-CYL</b>	12 MP (4096 x 3000)	17.6 mm	3.45 $\mu$ m	Sony IMX304	23 fps	C - M	12	C	Global
<b>M7-CYL</b>	7 MP (3208 x 2200)	17.6 mm	4.5 $\mu$ m	Sony IMX420	57 fps	C - M	12	C	Global

## 1" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>M20-CYL</b>	20 MP (5472 x 3648)	15.9 mm	2.4 $\mu$ m	Sony IMX183	20 fps	C - M	12	C	Rolling
<b>M9-CYL</b>	9 MP (4096 x 2160)	16.1 mm	3.45 $\mu$ m	Sony IMX255	45 fps	C - M	12	C	Global
<b>M4-CYL</b>	4 MP (2048 x 2048)	15.9 mm	5.5 $\mu$ m	CMOSIS CMV4000	90 fps	C - M	10	C	Global
<b>M5-CYL</b>	5 MP (2592 x 2048)	15.9 mm	4.8 $\mu$ m	onsemi Vita 5000	75 fps	C - M	10	C	Global

## 2/3" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>M5D-CYL</b>	5 MP (2448 x 2048)	11.1 mm	3.45 $\mu$ m	Sony IMX250	80 fps	C - M	12	C	Global
<b>M3-CYL</b>	3 MP (1936 x 1464)	11 mm	4.5 $\mu$ m	Sony IMX421	141 fps	C - M	12	C	Global
<b>M2-CYL</b>	2 MP (2048 x 1088)	12.7 mm	5.5 $\mu$ m	CMOSIS CMV2000	170 fps	C - M	10	C	Global

## 1/2" Sensors

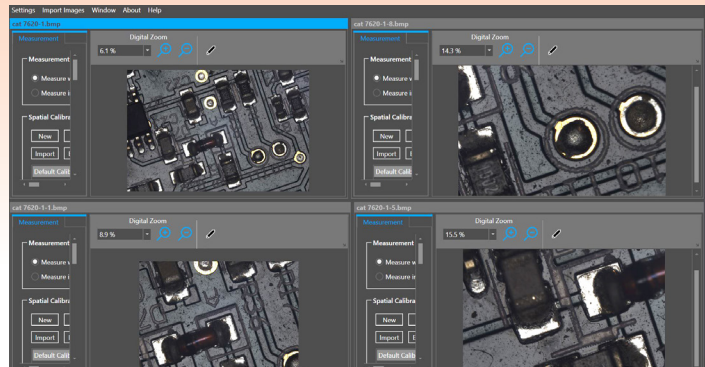
Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>M1-CYL</b>	1 MP (1280 x 1024)	7.9 mm	4.8 $\mu$ m	onsemi Vita 1300	151 fps	C / M	10	C	Global

## 1/2.3" Sensors

Model	Resolution	Sensor Diagonal	Pixel Pitch	Sensor	Frame Rate	Color Space	Bit Depth	Mount Option	Shutter Type
<b>M18-CYL</b>	18 MP (4912 x 3680)	7.67 mm	1.25 $\mu$ m	onsemi AR1820	14 fps	C	12	C	Rolling

Pixelink Capture

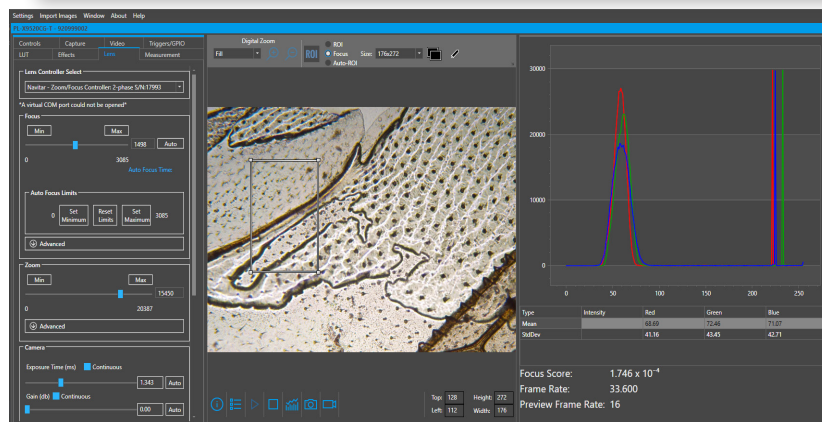
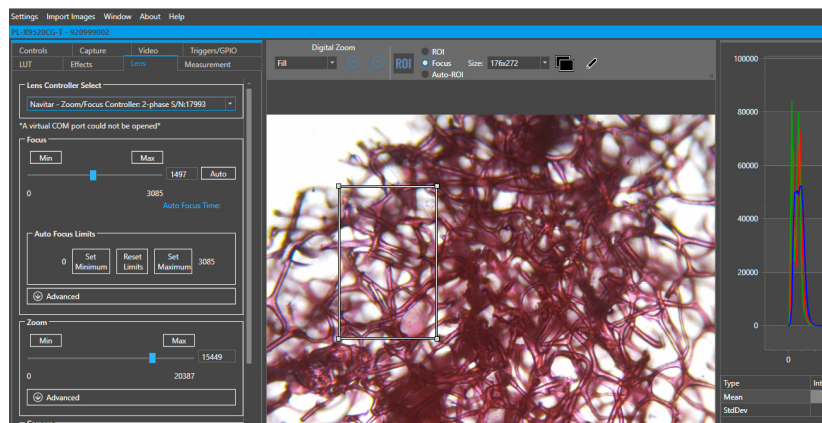
- Captures Images and Video
- Real-Time Video Streaming
- Full Control of All Camera Features
- Control of Trigger and GPIO Functions
- Resizable Region of Interest (ROI)
- Customizable Multi-Camera View
- Integrated Zoom and Focus Control
- Measurement Export In Excel Format
- Autofocus for Navitar, Varioptic and Edmund Lenses
- Accurate Measurement of Dimensions and Pixel Location



Four Camera Layout

**Pixelink Capture** is a real-time, interactive, image preview and acquisition program included with all Pixelink cameras. Users have the ability to adjust all camera features, including region of interest, frame rate, exposure, gain, and color, through an easy to use GUI, prior to image or video clip capture. The multi-window environment includes a preview window, a configuration window, and a real-time histogram, that can be displayed for up to four cameras at a time. The program also includes built-in measurement tools and autofocus applications.

Pixelink Capture offers tremendous flexibility and power, providing the ability to configure and run a single camera, or multi-camera, vision application seamlessly.



## Software Development Kit (SDK)

- Powerful, Easy to Use Interface
- Seamless Integration
- Free Technical Support
- U3V and GEV Compliant

Providing full control of all camera functions, the Pixelink SDK is the software package of choice for developers and system integrators. The SDK facilitates the faster creation of customer applications. It presents complex standards based features as easy to understand concepts, and includes a rich set of sample applications for reference/use.

### Compliance Standards

U3V compliant on all USB 3.0 cameras. GEV compliant on all GigE and 10 GigE cameras.

### Common API

Same API used for all camera types & operating systems (application code is re-usable)

### Compatible Languages:

C, C++, Python and Microsoft.NET

### Available Drivers:

USB 3.0, USB 2.0, GigE, Direct Show and TWAIN

### Third Party Software Compatibility to Include:

LabVIEW, MATLAB, GenICam GenTL, Halcon, Norpix, Micro-Manager and Matrox

## Camera Lens Solutions

High-Resolution, Low-Noise, Digital Imaging Solutions



We've simplified the lens and camera selection process by pairing proven high-speed USB 3.0 Pixelink industrial camera models with Navitar® high magnification imaging lens systems to meet the needs of your most demanding machine vision application.

Navitar's Resolv4K, 12X Zoom and Zoom 6000 product lines seamlessly integrate with Pixelink CMOS cameras. Advanced lens system functionality, such as motorized zoom and focus control, and autofocus fine-focus adjust, is achieved with Pixelink Capture software (included with all Pixelink camera purchases).

Contact a Navitar account representative or visit [navitar.com](http://navitar.com) for more details.



### Available Interfaces



Visit [pixelink.com](http://pixelink.com)  
to view our full line of products.

## Camera Customization

## Unique Solutions for Innovative Applications

- Custom Sensor-Lens Integration and Alignment
- Fault Tolerant Firmware and Software
- Connection Distances up to 100 meters
- Superior Engineering and Support
- Custom Design and Manufacturing
- 4K HDR Lenses for Maximum Stray Light Rejection



Pixelink offers camera formats ranging from 1/3" to 35mm, resolutions from 2 MP – 31+ MP, USB3 and 10 GigE interfaces, board level and enclosed, tethered sensor boards, and off-the-shelf or custom configurations. All base product models can be modified to meet unique performance and physical requirements.

### Customized Solutions

Custom Firmware / FPGA

Custom Software Functionality

Multi-Camera Synchronization

Replacing IR filters or Clear Glass

Cover Glass, Sensor Glass & Micro-Lens Removal

Custom Sensor Board Mechanicals

Mount Removal and Re-Design

Application Specific GPIO / Trigger Integration

Custom Sensor-Lens Integrations

Custom Sensor Calibrations

Custom Interfaces Between I / O and Connectors

Remote Sensors with Custom Length Flat Flex Cables

These are only a few of the custom solutions we've been able to provide for our clients. Our engineers are ready to tackle your unique imaging requirements and develop sound alternatives to off-the-shelf components.

## Lenses & Components

## Additional Product Offerings From Our Navitar Companies

### LENSES

Industrial Zoom | Fixed Machine Vision | Large Format | 4K HDR

### COMPONENTS

Illumination | Beam Expanders | Microscope Objectives | F-THETA Lenses

### CUSTOM

Lens / Sensor Integration | Lens & Camera Design | System Analysis | Custom Optical Design



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