

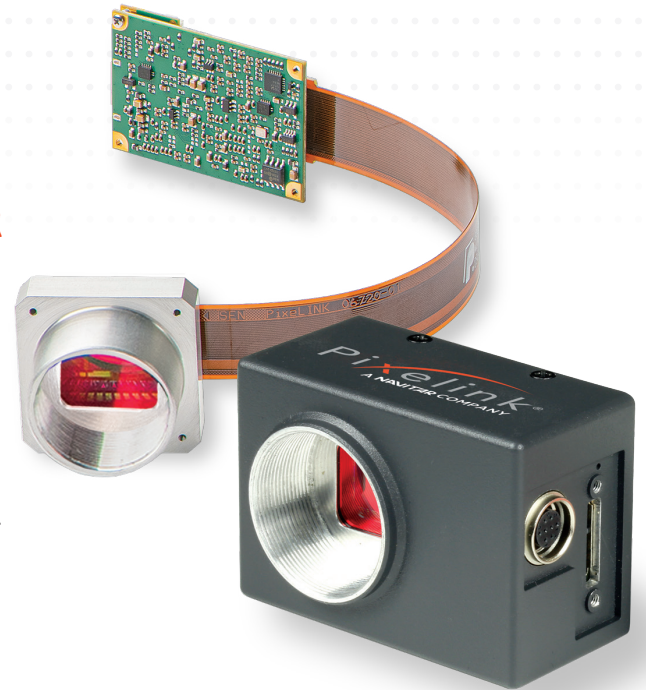
# Pixelink<sup>®</sup>

**AMETEK<sup>®</sup>**

## PL-D7920

CMOS | SONY IMX541 | GLOBAL SHUTTER

The PL-D family of cameras combine the benefits of CMOS technology with the high-speed data throughput of USB 3.0. The PL-D7920 camera, with the new Sony IMX541 20 MP Pregius S global shutter sensor, produces low noise images for outstanding value for a broad range of industrial applications. With 2.74  $\mu\text{m}$  back-side illuminated pixels, the PL-D7920 offers excellent low light performance, and one camera can easily replace multiple lower-resolution cameras to reduce system footprints.



### KEY FEATURES

20 MP  
CMOS



17 fps



2.74  $\mu\text{m}$



17.5 mm



1.1"



8 & 12-BIT



COLOR



MONO



USB 3

**USB<sup>®</sup>**  
VISION

### TYPICAL APPLICATIONS

- Parts Inspection
- Strength / Stress Testing
- Traffic Enforcement
- Scratch Inspection
- Metrology
- Biometric
- Medical Imaging
- PCB & Flat Panel Display Inspection

## SENSOR

Sensor	Sony IMX541
Type	CMOS Global Shutter
Resolution	20 MP (4512 x 4512)
Pixel Pitch	2.74 $\mu\text{m}$ x 2.74 $\mu\text{m}$
Active Area	17.5 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 and YUV422, RGB 24, BGR 24
Mono Data Formats	Mono 8, Mono 12 Packed & Mono 16

## FRAME RATES

Effective Resolution	Free Running
4512 x 4512	17.5 fps
* Frame rate will vary based on host system and configuration.	
** Above calculations based on 8-bit pixel depth.	

## INTERFACES

Interface   Data Rate	USB 3.0   Micro-B   5Gbps
Board Level Trigger Connector	8-pin Molex 1.25 mm pitch
Enclosed Trigger Connector	Hirose round 8-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	2 outputs, 3.3V and 1 optically isolated max 40V DC, max 15mA
GPI	1 input, 3.3v (with internal pullup resistor)

## MECHANICALS

Dimensions (mm)	55 x 38.5 x 30.23
Weight (g)	35.8 (board level without optics)
Mounting	C-Mount

## POWER REQUIREMENTS

Voltage Required	5V DC (from USB connector)
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## BOARD LEVEL GPIO INTERFACE PIN NAME & DESCRIPTION

1	3.3V power output
2	TRIGGER/GPI 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	No Connection
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	VBUS (Power output from USB3 cable)
2	TRIGGER + (optically isolated)
3	TRIGGER - (optically isolated)
4	GPO1 + (optically isolated)
5	GPO1 - (optically isolated)
6	GPO1, 3.3V HCMOS output (I2C- SCL for autofocus)
7	GPO2, 3.3V HCMOS output (I2C- SDA for autofocus)
8	Ground (logic and chassis ground)

## ENVIRONMENTAL & REGULATORY

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

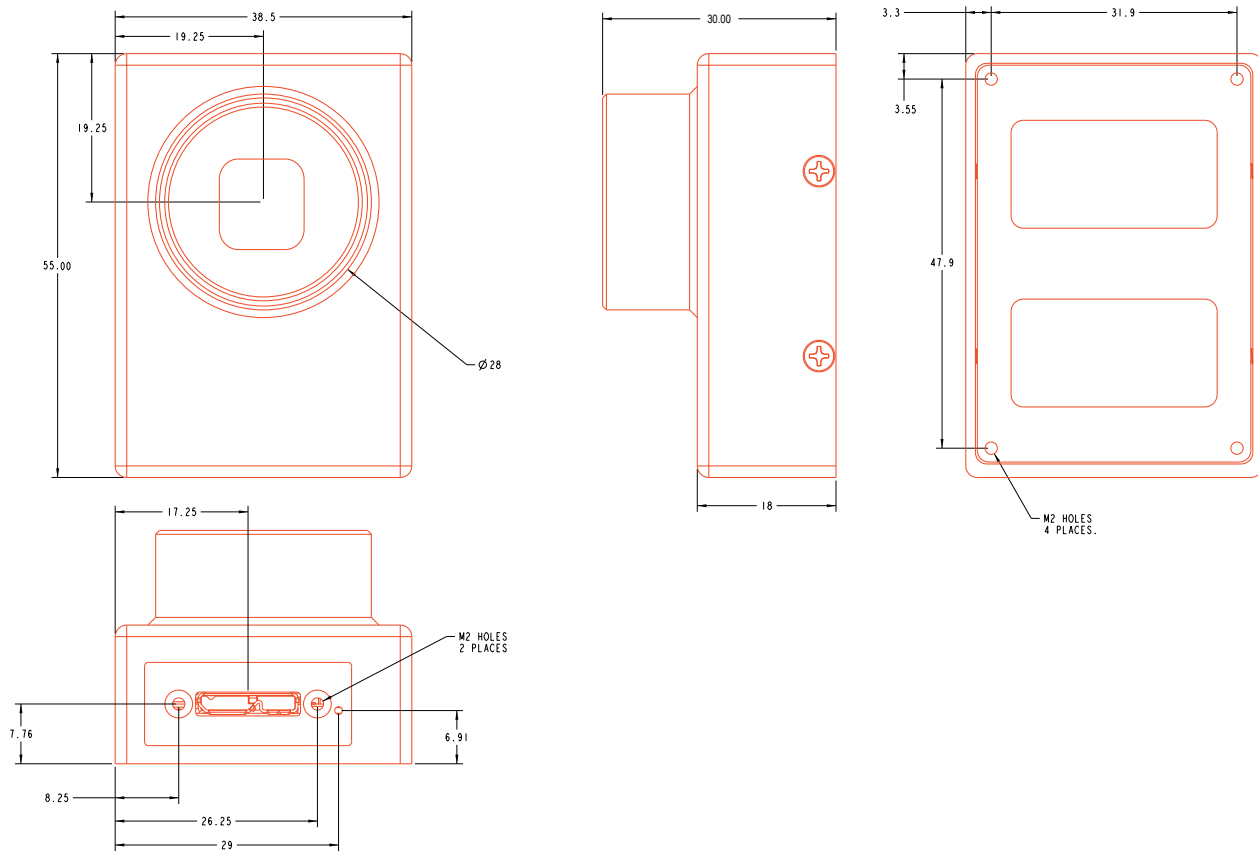
## SOFTWARE

Pixelink Capture	Control & operate multi-camera
Pixelink SDK	Software Development Kit
Pixelink $\mu$ Scope	Acquisition, analysis & reporting
3rd. Party U3V Vision Applications	

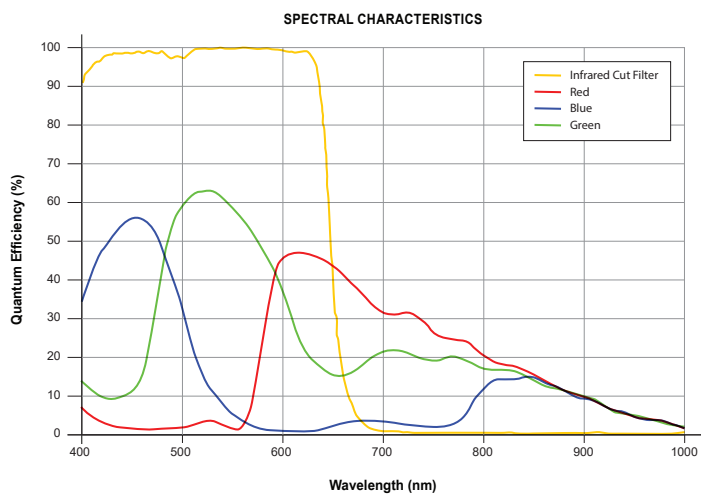
## COMPUTER & OPERATING SYSTEM (minimum requirements)

	Windows	Linux x86	Linux ArmV7	Linux ArmV8
<b>Processor</b>	Intel i5	Intel i5	Arm 7 (32 bit)	Arm8 (64 bit)
<b>Memory</b>	4GB recommended	4GB recommended	2GB	2GB
<b>Hard Drive</b>	150 MB	150 MB	50 MB	50 MB
<b>Operating System</b>	Windows 7/8/10	Ubuntu 16.04 18.04 20.04 22.04	Ubuntu 16.04 18.04	Ubuntu 16.04 18.04 20.04 22.04

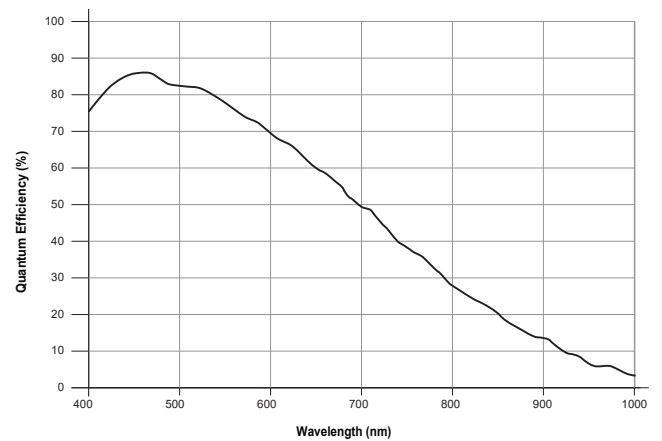
## Mechanical Drawing



## 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 allows 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.

**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-D7920CU
- PL-D7920CU-BL
- PL-D7920CU-T
- PL-D7920MU
- PL-D7920MU-BL
- PL-D7920MU-T

**COLOR SPACE**

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

**INTERFACE**

- F = Firewire
- G = 10 GigE
- U = USB

**HOUSING**

- CS = CS Mount
- S-BL = S-Mount Board Level
- BL = Board Level
- T = Trigger