



PL-D755MU-POL

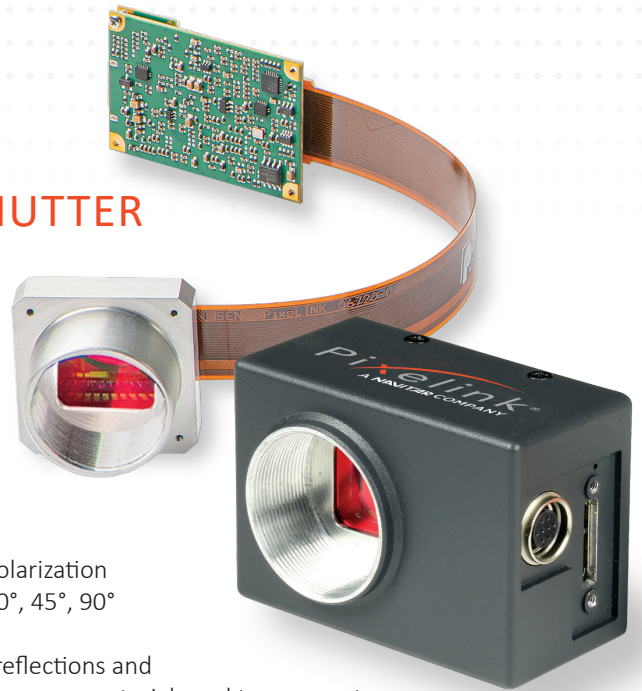
CMOS | SONY IMX250MZR | GLOBAL SHUTTER

The PL-D755MU-POL polarization machine vision camera, featuring the Sony IMX250MZR image sensor, offers broader visual detection and characterization capabilities of material properties and improved performance over conventional monochrome sensors.

The PL-D755MU-POL has a 2/3" optical format, 3.45 micron pixel resolution and is available in board level or enclosed configurations.

The IMX250MZR sensor is designed with Sony's innovative pixel-level quad polarization filter technology, where four polarizer positions, one per pixel, are angled at 0°, 45°, 90° and 135°, to enable greater detection of both the amount and angles of polarized light across an image. By filtering unwanted reflections and reducing glare, imaging previously undetectable defects, such as scratches, stress on materials and transparent objects, is now possible.

As with all Pixelink cameras, the PL-D755MU-POL is compatible with Pixelink Capture, our free real-time interactive multi-camera software. Pixelink Capture includes the ability to view all four polarization angles at once, or one at a time in several different formats including, HSV, Stokes and Polar.



KEY FEATURES

5 MP
CMOS

36 fps

3.45 μm

11.1 mm

SENSOR SIZE
2/3"

12-BIT

MONO

USB 3

USB VISION

TYPICAL APPLICATIONS

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



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SENSOR

Sensor	Sony IMX250MZR
Type	CMOS Global Shutter
Resolution	5.01MP (2448 x 2048)
Pixel Pitch	3.45 μm x 3.45 μm
Active Area	11.1 mm diagonal

PERFORMANCE SPECIFICATIONS

FPN	<0.03% of signal
PRNU	<0.4% of signal
Dynamic Range	70 dB
Bit Depth	8-bit and 12-bit
Color Data Formats	Bayer 8, Bayer 12 Packed, Bayer 16 and YUV422
Mono Data Formats	Mono 8, Mono 12 Packed & Mono 16

FRAME RATES

Resolution	Free Running
2448 x 2048	80.3 fps
* Frame rate will vary based on host system and configuration.	
** Above calculations based on fixed frame rate mode.	

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 & 1 optically isolated max
GPI	1 input, 3.3v (with internal pullup resistor)

MECHANICALS

Dimensions (mm)	55 x 38.5 x 30.29
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, 3.3V HCMOS output
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

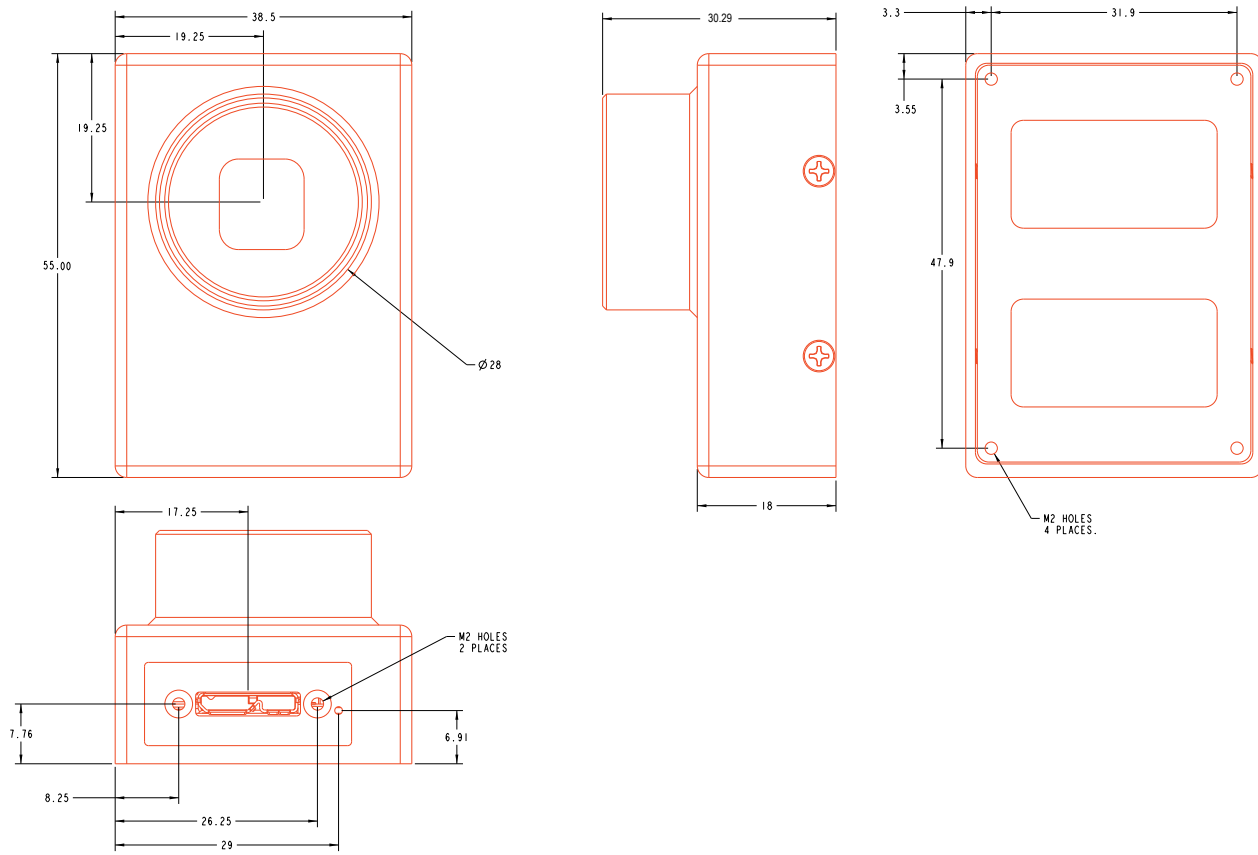
SOFTWARE

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

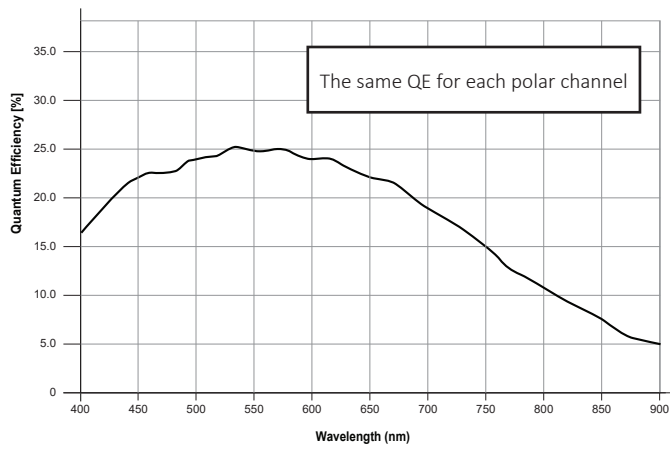
COMPUTER & OPERATING SYSTEM (minimum requirements)

	Windows	Linux x86	Linux ArmV7	Linux ArmV8
Processor	Intel i5	Intel i5	Arm 7 (32 bit)	Arm8 (64 bit)
Memory	4GB recommended	4GB recommended	2GB	2GB
Hard Drive	150 MB	150 MB	50 MB	50 MB
Operating System	Windows 7/8/10	Ubuntu 14.04 16.04	Ubuntu 14.04 16.04	Ubuntu 14.04 16.04

Mechanical Drawing



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.

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-D755MU-POL
- PL-D755MU-BL-POL
- PL-D755MU-T-POL

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