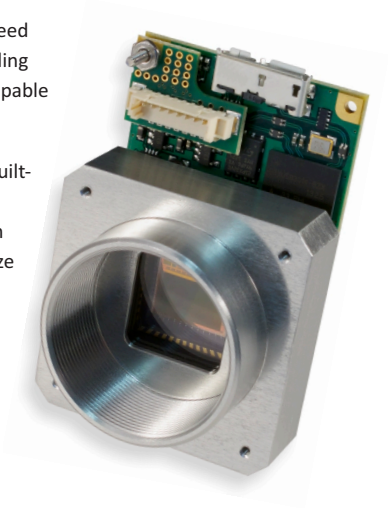
HYPERION CAMERA LINE

PL-D775

General Description



The Hyperion family of USB 3.0 cameras link together the benefits of high resolution CMOS technology with the high speed data throughput of USB 3.0 technology. PL-D775 color and monochrome cameras provide low noise images for outstanding value in a broad range of industrial applications. The camera features a 5.0 megapixel (2592 x 1944) resolution imager capable of 15 fps at full resolution.

The PL-D775 series of cameras are based on a Aptina rolling shutter sensor with a 1/2.5" optical format. The extensive built-in image processing possibilities (image pre-processing) result in outstanding image quality, less load on the system and higher performance. These cameras provide the user choice of 8-bit or 12-bit digitization and a dynamic range of 60dB in 12-bit mode. The external hardware trigger and 2 general-purpose outputs ensure users have the flexibility to synchronize the camera with their processes and illumination.

PixeLINK's industry leading SDK uses a common API for all cameras regardless of the chosen interface. Software code developed for one camera is easily transferred to other PixeLINK models without the need to recompile. Overall system costs are reduced and camera integration is simplified.

The flexible Region of Interest (ROI) control allows users to operate at higher frame rates by placing a lower resolution "window" on the imager at any location.

Typical Applications

- Biometrics
- High performance security & surveillance applications
- Parts inspection
- Metrology
- High resolution document archiving
- PCB inspection
- Flat panel display inspection.

Customization - The products listed here are standard offerings. PixeLINK also provides an extensive list of customized cameras to OEM customers around the world. We may already have what you need. If not, we can certainly design and build it for you.

Camera Features

- 5.0MP (2592 x 1944) Resolution
- CMOS Rolling Shutter
- 15 fps at full resolution
- USB 3.0
- Flexible Region of Interest (8 pixel H x 16 pixel W granularity)
- 1 trigger input, 2 general purpose outputs (3.3V)
- Great image quality
- Compact size
- Board level and Enclosed Models
- One common API for all cameras
- Free professional technical assistance
- Tethered sensor head option 6"/12" (*Board Level version only)
- Auto & manual exposure
- Programmable LUT
- Auto & Manual White Balance
- Color Temperature
- Gain
- Gamma
- Saturation
- Binning and Decimation
- Image Flip & Rotate
- Callbacks (Image Filters)

Sensor

Sensor	Aptina CMOS
Type	CMOS Rolling Shutter
Resolution	2592(H) x 1944 5.0 MP Color
Pixel Pitch	2.2 µm x 2.2 µm
Active Area	5.70 mm x 4.28 mm - 7.13 mm diagonal
Max Datarate	96 MHz

Performance Specifications

FPN	<1 % of signal
PRNU	<2.5 % of signal
Dynamic Range	60 dB
Bit Depth	8 or 12-bit
Responsivity	1.76V/lux-sec (550nm)
Color Data Formats	Bayer 8, Bayer 16 and YUV422

Mechanicals

Dimensions	32 x 48 x 11 mm (without lens mount)
Weight	35.8 g (without optics)
Mounting	Holes for 0-80 hardware
Lens Mount	C-mount, CS-mount and S-mount

Interfaces

Interface / Date rate	USB 3.0/ Micro-B / 5Gbps
Board Level Trigger Connector	8-pin Molex 1.25mm pitch
Enclosed Trigger Connector	Hirose round 8-pin
Trigger Modes	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

Frame Rates

Resolution	Free Running
2592 x 1944	15
1980 X 1020	32.4
1280 X 1024	42.6
640 X 480	127.4

Frame rates will vary based on host system and configuration

Board Level GPIO Interface Pin Output Description

Pin	Pin Name & Function
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 OEM's)
7	Data, 3.3V (I2C access for OEM's)
8	No connection

Board connector: Molex 53398-0871 (8-pin, 1.25mm pitch, vertical)
Cable receptacle: Molex 51021-0800
Cable crimp terminals: Molex 50079-8100

Enclosed GPIO Interface Pin Output Description

Pin	Pin Name & Function
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
7	GPO2, 3.3V HCMOS output
8	Ground (logic and chassis ground)

Power Requirements

Voltage Req.	5V DC (from USB connector)

Software

PixeLINK Capture OEM	Free Download (www.pixelink.com)
DirectShow	Bundled with PixeLINK Capture OEM
TWAIN	Bundled with PixeLINK Capture OEM
SDK	API, sample code and LabVIEW wrappers

Environmental & Regulatory

Compliance	RoHS
Shock & Vibration	300 G & 20 G (10Hz - 2KHz)
Operating Temp.	0°C to 50°C (non-condensing)
Storage Temp.	-45°C to 85°C

Computer & Operating System

	Windows	Linux x86	Linux Armv7
Processor	Intel i5 or better	Intel i5 or better	Arm7 (32 bit)
Memory	4 GB recommended	4 GB recommended	2 GB
Hard Drive Space	150 MB	150 MB	50 MB
Operating System	Windows 7/8/10	Ubuntu 14.04 Desktop	Ubuntu 14.04 Desktop

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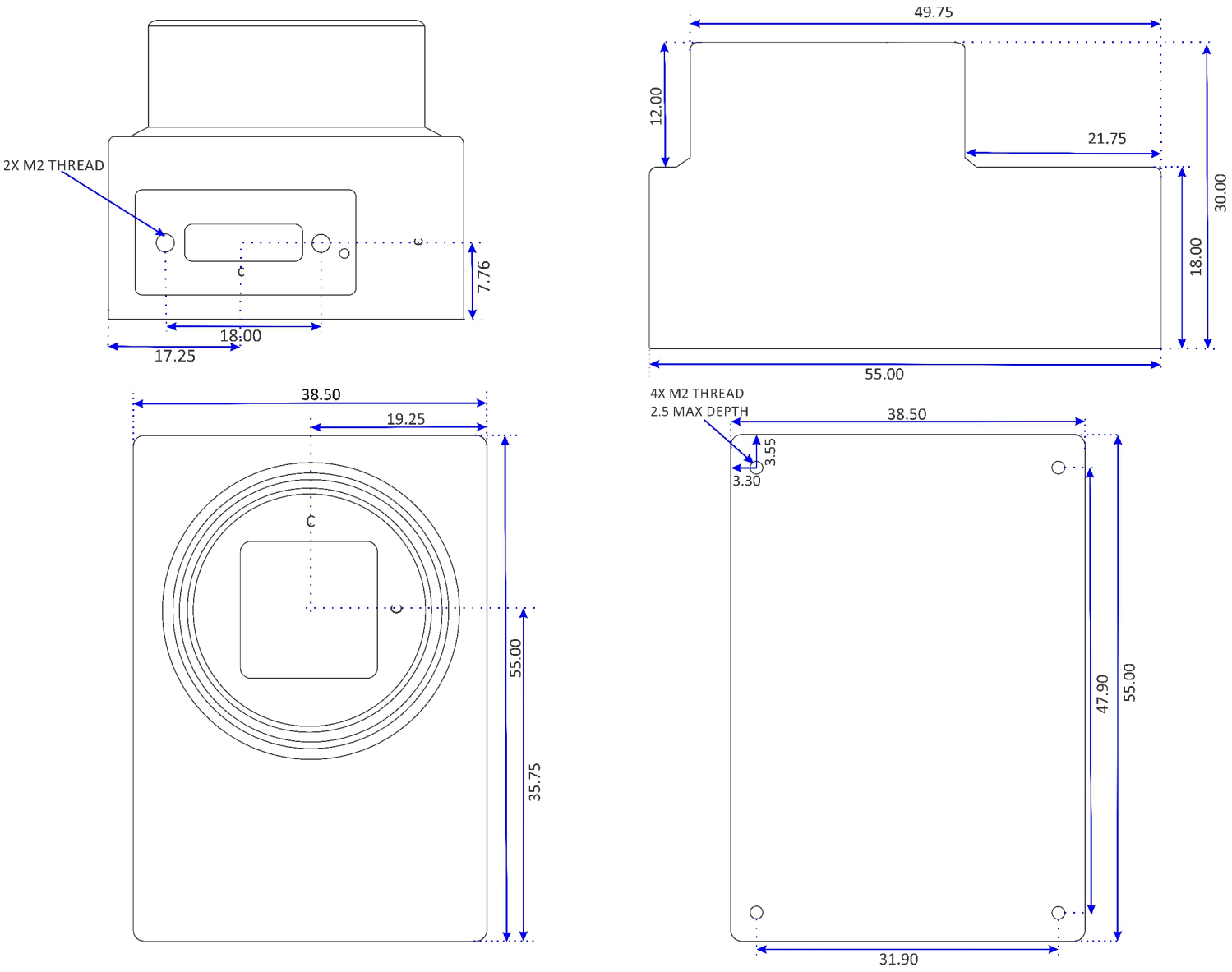
MECHANICAL DRAWINGS



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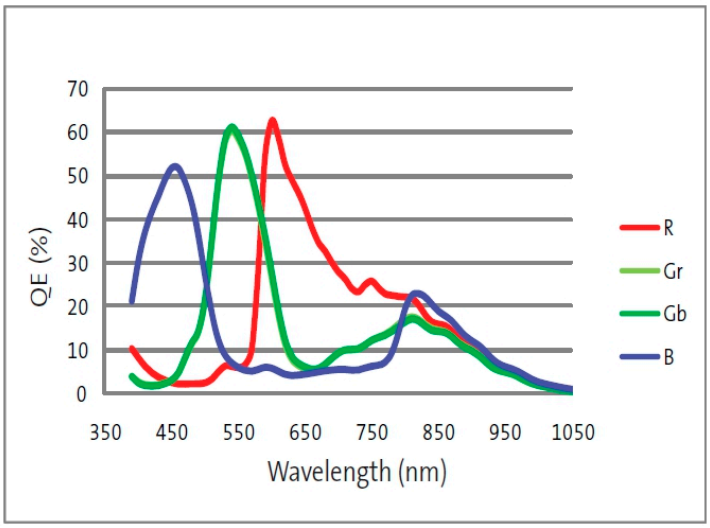
RESPONSIVITY CURVE



ORDERING GUIDE

Board Level Model	Enclosed Model	GPIO Enclosed Model
PL-D775CU-BL	PL-D775CU	PL-D775CU-T