PROMETHEUS CAMERA LINE

PL-D732

GENERAL DESCRIPTION

The Prometheus family of USB 3.0 cameras links together the benefits of high frame rate CMOS technology with the high speed data throughput of USB 3.0 technology. PL-D732 color and monochrome cameras provide low noise images for outstanding value in a broad range of industrial applications. The camera features a 2.2 megapixel (2048 x 1088) resolution imager capable of 170 fps at full resolution and is available in a NIR version.

The PL-D732 model of cameras is based on a CMOSIS CMOS global shutter sensor with a 2/3" 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 10-bit digitization and a dynamic range of 60dB in 10-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

- Medical
- Astrophotography
- High performance security & surveillance applications
- Parts inspection
- Metrology and biometrics
- PCB and 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

- 2.2MP (2048 x 1088) Resolution
- CMOS Global Shutter
- Monochrome (Standard or NIR) and Color
- 170 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
- Gain
- Gamma
- Saturation
- Binning and Decimation
- Image Flip & Rotate
- Callbacks (Image Filters)

Digital Imaging made simple

SENSOR

Sensor	CMOSIS 2000
Type	CMOS Global Shutter
Resolution	2048(H) x 1088(V) 2.2 MP Color & Mono (STD or NIR)
Pixel Pitch	5.5 µm x 5.5 µm
Active Area	11.26 mm x 5.98 mm - 12.75 mm diagonal
Peak QE	63 %
Max Datarate	480MHz

PERFORMANCE SPECIFICATIONS

FPN	< 0.1 % of signal
PRNU	<2% of signal
Dynamic Range	60 dB
Sensitivity	5.56 V/lux.s (with microlenses @ 550nm)
Bit Depth	8 or 10-bit
Color Data Formats	Bayer 8, Bayer 16 and YUV422
Mono Data Formats	Mono 8 and Mono 16

MECHANICALS

Dimensions	38.5 x 55 x 30.6 mm
Weight	35.8 g (without optics)
Mounting	Four M2 holes
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
2048 x 1088	170
1920 x 1080	170.8
1280 x 1024	180.1
640 x 480	380.4

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

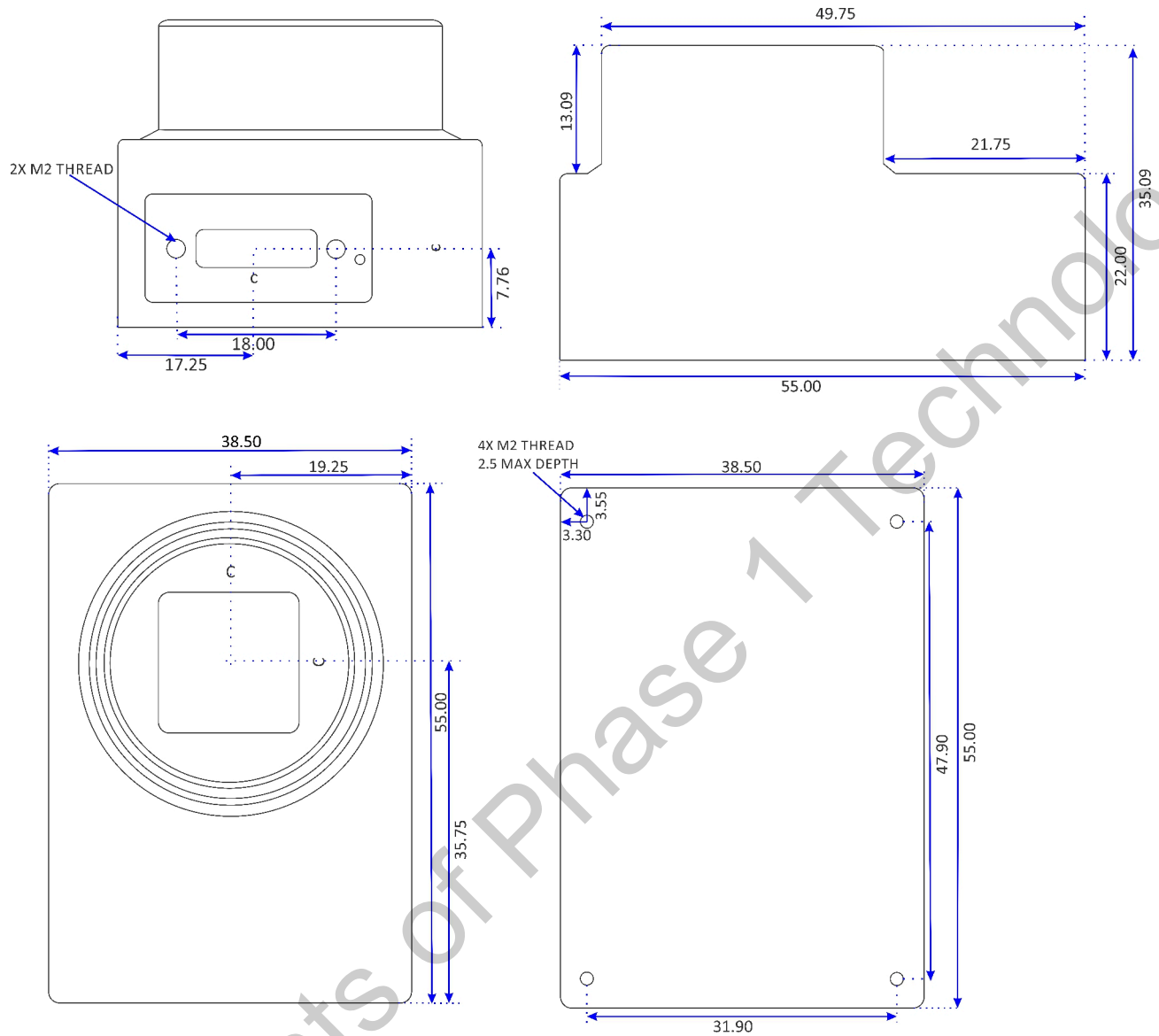|	
PixeLINK Capture OEM	Free Download (www.pixelink.com)
DirectShow	Bundled with PixeLINK Capture OEM
TWAIN	Bundled with PixeLINK Capture OEM
SDK (Sold Separately)	API, sample code and LabVIEW wrappers

ENVIRONMENTAL & REGULATORY

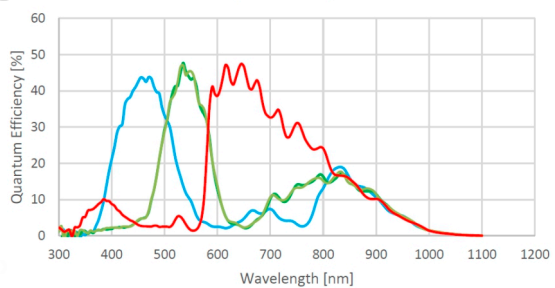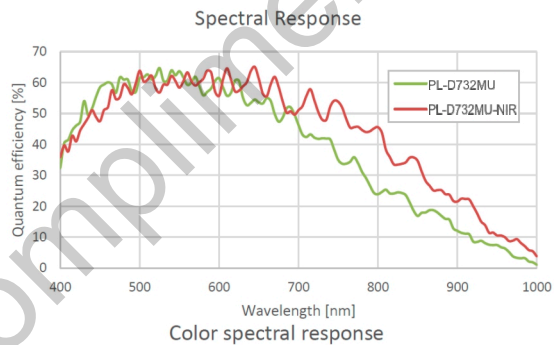|	
Compliance	FCC Class B, CE & RoHS
Shock & Vibration	300 G & 20 G (10Hz - 2KHz)
Operating Temp.	0°C to 50°C (non-condensing)
Storage Temp.	-45°C to 85°C

COMPUTER & OPERATING SYSTEM

Processor	Intel i5 or better
Memory	4 GB recommended
Operating System	Windows 7 / Windows 8
Hard Drive Space	75 MB

PixeLINK®

2X M2 THREAD

49.75
13.09
21.75
35.09
22.00
55.00

18.00
17.25
7.76

38.50
19.25
55.00
35.75

4X M2 THREAD
2.5 MAX DEPTH
3.55
3.30
38.50
47.90
55.00
31.90

RESPONSIVITY CURVE

Spectral Response

PL-D732MU
PL-D732MU-NIR

Color spectral response

ORDERING GUIDE

	Color	Mono	NIR
Board Level	PL-D732CU-BL	PL-D732MU-BL	PL-D732MU-NIR-BL
Enclosed Model	PL-D732CU	PL-D732MU	PL-D732MU-NIR
GPIO Enclosed Model	PL-D732CU-T	PL-D732MU-T	PL-D732MU-NIR-T

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