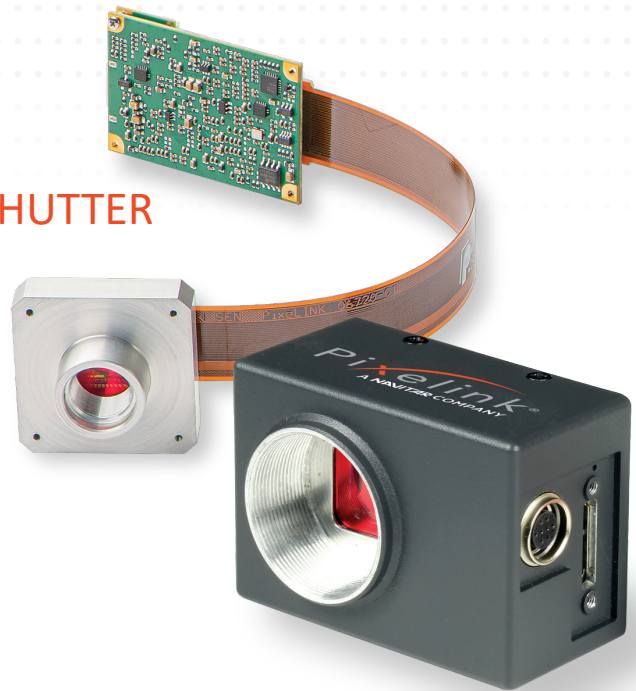# Pixelink®

AMETEK®

PL-D7718

CMOS | ON SEMI AR1820 | ROLLING SHUTTER

The PL-D family of cameras link together the benefits of CMOS technology with the high speed data throughput of USB 3.0 . The PL-D7718 camera, with On Semi AR1820 18 MP rolling shutter sensor, provides low noise images for outstanding value for a broad range of industrial applications.

KEY FEATURES

| 18 MP CMOS | 14 14 fps | 1.25 µm | 7.67 mm | SENSOR SIZE 1/2.3" | 8 & 12-BIT | COLOR | USB 3 | USB3 VISION |

TYPICAL APPLICATIONS

- Parts Inspection
- Strength / Stress Testing
- Traffic Enforcement

- Scratch Inspection
- Metrology
- Biometric

- Medical Imaging
- PCB & Flat Panel Display Inspection

Pixelink®
AMETEK®

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SENSOR

Sensor	On Semi AR1820
Type	CMOS Rolling Shutter
Resolution	18 MP (4912 x 3680)
Pixel Pitch	1.25µm x 1.25µm
Active Area	7.67 mm diagonal
Peak QE	70% @ 540 nm

PERFORMANCE SPECIFICATIONS

FPN	<1% of signal
PRNU	<2% of signal
Dynamic Range	60.5 dB
Bit Depth	8-bit and 12-bit
Color Data Formats	Bayer 8, Bayer 12 Packed, Bayer 16 and YUV422

FRAME RATES

Effective Resolution	Free Running
4912 x 3680	14 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 30.00
Weight (g)	35.8 (board level without optics)
Mounting	C-Mount and S-Mount

POWER REQUIREMENTS

Voltage Required	5V DC (from USB connector)

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 (12C- SCL for autofocus)
7	GPO2, 3.3V HCMOS output (12C- SDA for autofocus)
8	Ground (logic and chassis ground)

ENVIRONMENTAL & REGULATORY

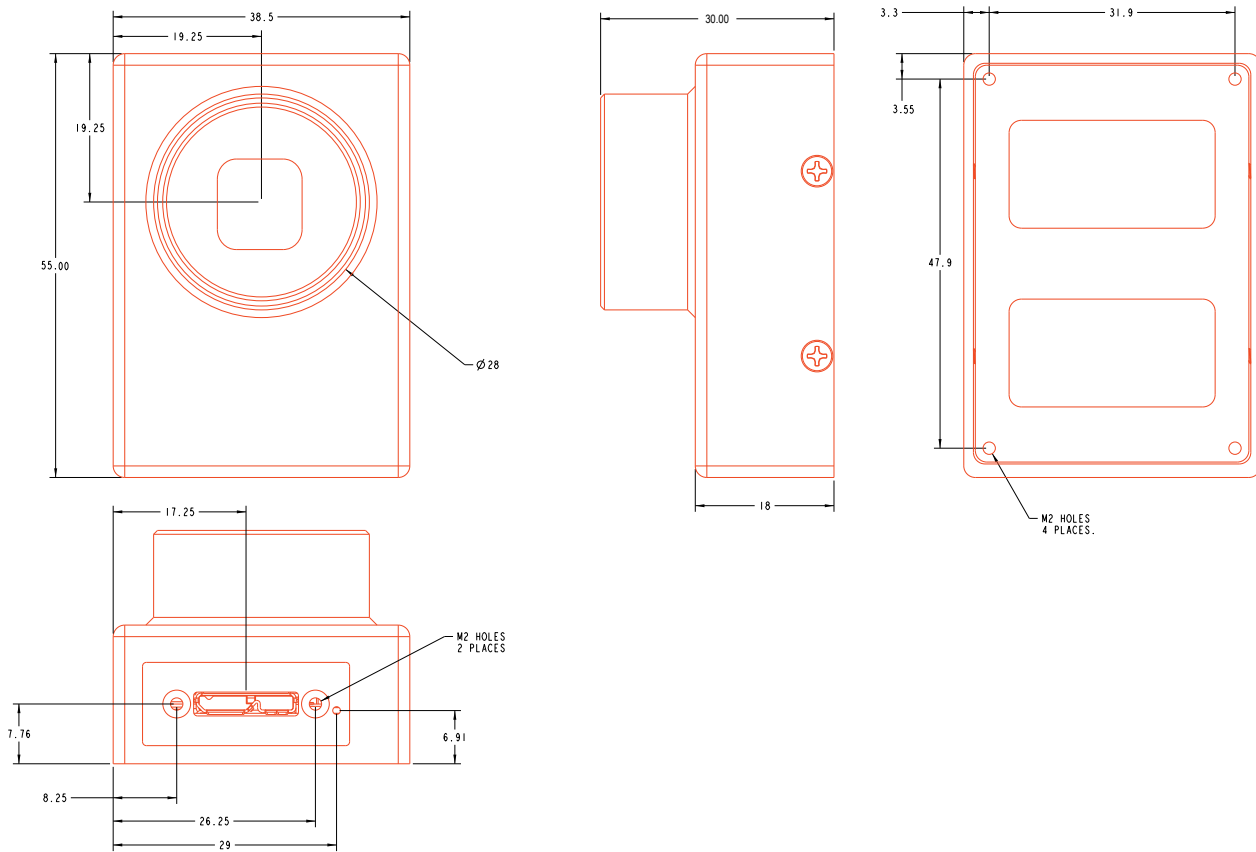|	
Compliance	FCC, CE & RoHS
Operating Temperature	0°C to 50°C
Storage Temperature	-45°C to 85°C

SOFTWARE

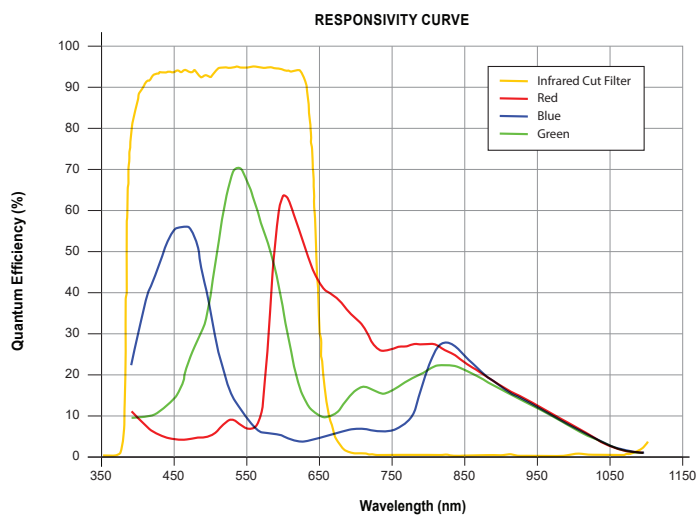|	
Pixelink Capture	Control & operate multi-camera
Pixelink SDK	Software Development Kit
Pixlink µScope	Acquisition, analysis & reporting
3rd. Party U3V Vision Applications	

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 16.04 18.04 20.04	Ubuntu 16.04 18.04	Ubuntu 16.04 18.04

Mechanical Drawing

Responsivity Curve - Color

RESPONSIVITY CURVE

Legend:
- Infrared Cut Filter
- Red
- Blue
- Green

Y-axis: Quantum Efficiency (%)
X-axis: Wavelength (nm)

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-D7718CU

PL-D7718CU-BL

PL-D7718CU-T

PL-D7718CU-AF16

PL-D7718CU-AF25

PL-D7718CU-BL-AF16

PL-D7718CU-BL-AF25

PL-D7718CU-S-BL-AF2.6

PL-D7718CU-S-BL-AF7.5

PL-D7718CU-S-BL-AF9.6

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