CHEETAH

RUGGEDIZED CAMERA SERIES

Front View | Rear View

C2420Y/Z

CMOS 5 MP with Polarization Filters

Camera Link®

Imperx: *C2420Y/Z*

The CLF-C2420Y/Z camera features the Sony Pregius IMX250MY/ZR micro-polarized CMOS sensor with a native resolution of 2464 x 2056 in a 2/3" optical format delivering up to 97 frames per second with a Camera Link® Full Power over Camera Link (PoCL®) output. The sensor is available in monochrome (Z) or color (Y) versions and has a unique 2x2 pixel sub-array where each pixel within the sub-array senses a different polarization angle (0, 45, 90 or 135 degrees). This allows the user to obtain images with four different polarization angles in each image capture. The camera allows the user to select and view images from each polarization angle or save raw image files with all four polarization angles. The C2420Y/Z's flexibility, outstanding sensitivity, and speed make it suitable for a broad range of applications from reducing glare off glass, water, and painted surfaces to materials science or 3D image reconstruction.

Specifications

Feature	Description
Output Interface	Camera Link® Base, Medium, Full with Power over Camera Link (PoCL)
Resolution	2464 (H) x 2056 (V) 1232 (H) x 1028 (V) per polarization angle
Sensor	Sony Pregius IMX250MY/ZR CMOS color (Y) or monochrome (Z)
Sensor Format	8.4 mm (H) x 7.1 mm (V), 2/3" optical format
Pixel Size	3.45 microns square
Shutter	Global shutter (GS)
Digitization	8, 10, 12-bit
Frame Rate	97 fps (8-bit), 79 fps (10-bit), 35 fps (12-bit)
Dynamic Range	71dB
Output Bit Depth	8, 10, 12-bit
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps
Digital Gain	1x (0 dB) to 4x (12 dB) with a precision of 0.001x
Black Level Offset	Manual (0 – 255), Auto
White Balance	Manual, Auto, Off
Shutter Speed	14 µs to 16.0 s
Exposure Control	Off, Manual, External, Auto
Regions of Interest (ROI)	2 ROI
Polarization Angles	0, 45, 90, and 135 degrees
Trigger Inputs	External, Pulse generator, Software, Computer
Trigger Options	Edge, Pulse width, Trigger filter, Trigger delay, Debounce
Trigger Modes	Free run, Standard, Fast
External Inputs/Outputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)

Feature	Description
Strobe Output	2 strobes, programmable position and duration
Pulse Generator	Yes, programmable
Data Correction	4 LUTs pre-programmed with Gamma 0.45; Bad pixel correction (static, dynamic) Flat field correction
Lens Mount	C-Mount (default)
P-Iris	Optional
P-Iris Control	Auto, programmable
Supply Voltage Range	12V DC (6V – 30V), 1.5 A inrush @ 12 V
Camera Current	Typical: 200 mA/12V
PoCL Capable	Yes, in Base/Medium/Full mode
Size - Width/Height/Length	37 mm (W) x 37 mm (H) x 47.2 mm (L)
Weight	103.4 g
Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Environmental	-30 °C to +75 °C Operating; -40 °C to +85 °C Storage
Humidity	10% to 90% non-condensing
MTBF	TBD
Military Standard	MIL-STD-810G
Regulatory	FCC Part 15, CE, RoHS, UKCA

IMPERX
Industrial Cameras & Imaging Systems

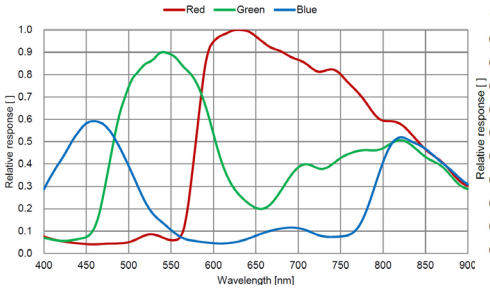
Imperx: *C2420Y/Z Applications*

The CLF-C2420Y/Z incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

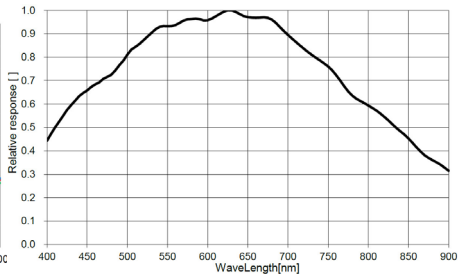
Aerospace ● Satellites ● Surveillance ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ● Broadcast Television Telepresence ● Unmanned Aerial Vehicles ● Machine Vision ● Intelligent Traffic Systems ● Aerial Imaging ● Open Road Tolling Systems ● Situational Awareness

Absolute Quantum Efficiency

Color Spectral Response — Sony IMX250MYR

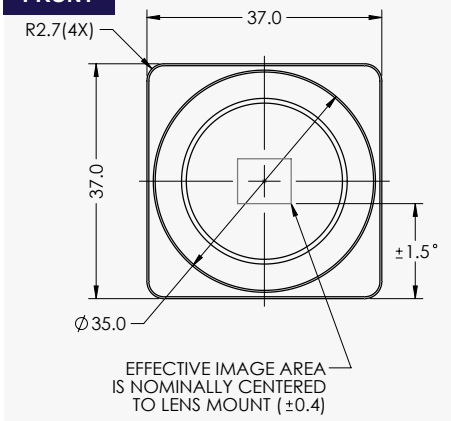


Mono Spectral Response — Sony IMX250MZR

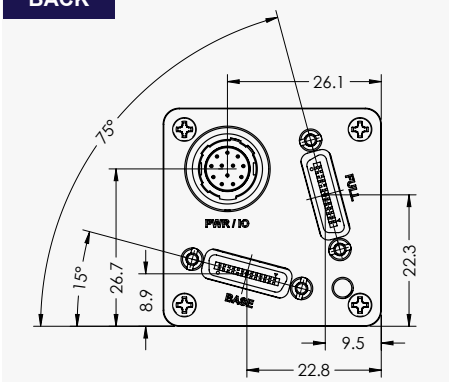


Dimensions

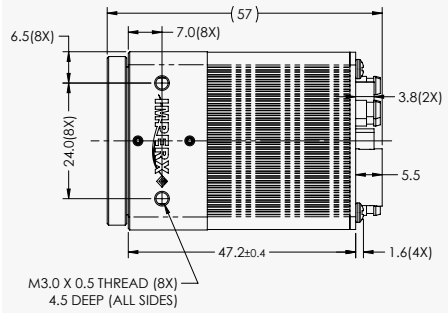
FRONT



BACK



TOP



Ordering Information

Output Interface

Camera Link® Full (CLF) w/PoCL®

Sensor Types available

C2420Z = Monochrome
C2420Y = Color

Lens Mounts

C-Mount (Default)
P-Iris (optional)

Accessories (Sold separately)

PS12V14A – Power Supply w/ 1 input & 1 output

PS12V18A – Power Supply w/ 1 input, 1 output, and a P-Iris connector

Software/Drivers/Interface

Hirose Connectors

Power and I/O Interface

1.	12 VDC Return	7.	OUT1 (TTL)
2.	+12 VDC	8.	IN1 (OPTO)
3.	Reserved	9.	IN2 (LVTTL)
4.	Reserved	10.	IN1 RTN
5.	OUT2 RTN (OPTO)	11.	IN2 RTN
6.	OUT1 RTN	12.	OUT2 (OPTO)

Connector: Hirose HR10A-10R-12PB(71)

Rev: cl_c2420Y/Z_r7_2021

Quality Management System ISO 9001:2015 Registered
Environmental Management System ISO 14001:2015 Registered
DDTC Registered (Directorate of Defense Trade Controls, US Department of State)

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