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.
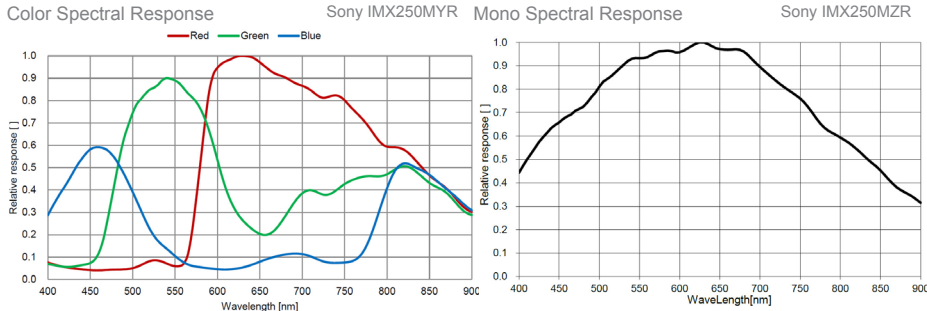
## Specifications

| Feature | Description |
|---|---|
| Output Interface | Camera Link® Base, Medium, Full with Power over Camera Link (PoCL) |
| Resolution | 2464 (H) x 2056 (V)<br>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

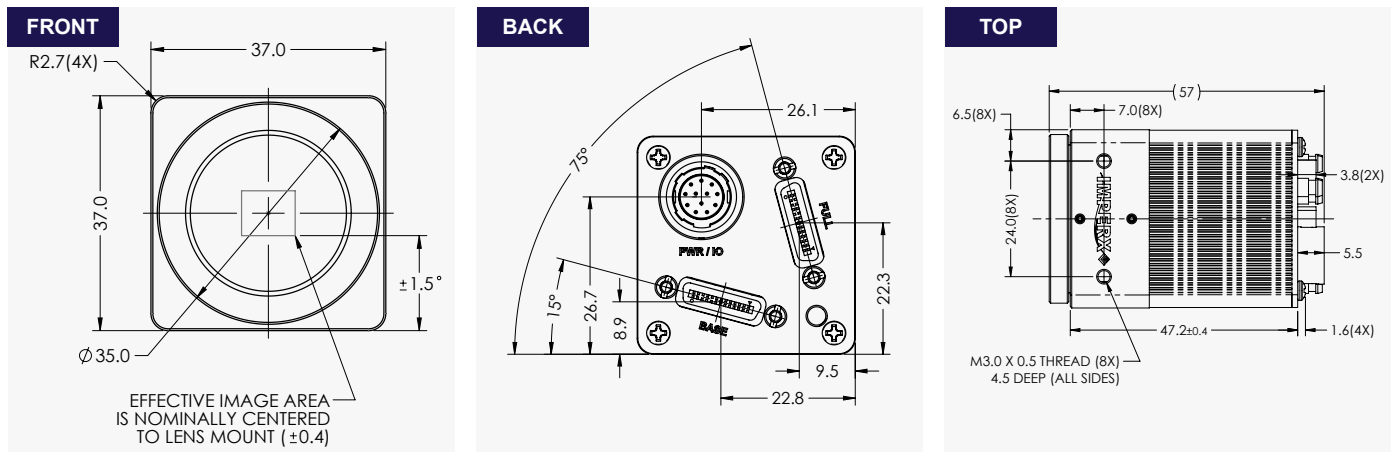## Imperx: *C2420Y/Z Applications*

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
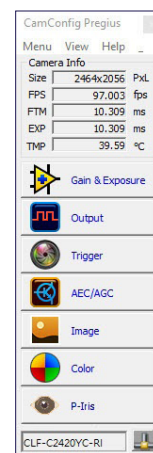
## Absolute Quantum Efficiency

Color Spectral Response        Sony IMX250MYR        Mono Spectral Response        Sony IMX250MZR



## Dimensions



FRONT

EFFECTIVE IMAGE AREA IS NOMINALLY CENTERED TO LENS MOUNT (±0.4)

BACK

TOP

M3.0 X 0.5 THREAD (8X) 4.5 DEEP (ALL SIDES)

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

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

*Rev: cl_c2420Y/Z_r7_2021*

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