Front View    Rear View

# C2410Y/Z
# CMOS 5 MP with Polarization Filters
## GigE Vision® with Power over Ethernet (PoE)

### Imperx: *C2410Y/Z*

The POE-C2410Y/Z camera features the Sony Pregius IMX250MY/ZR Global Shutter CMOS sensor with a native resolution of 2464 x 2056 in a 2/3" optical format delivering up to 22 frames per second with GigE Vision® Power over Ethernet (PoE) 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 C2410Y/Z's flexibility, outstanding sensitivity, and speed make it suitable for a broad range of diverse and demanding applications from reducing glare off glass, water, and painted surfaces to materials science or 3D image reconstruction.
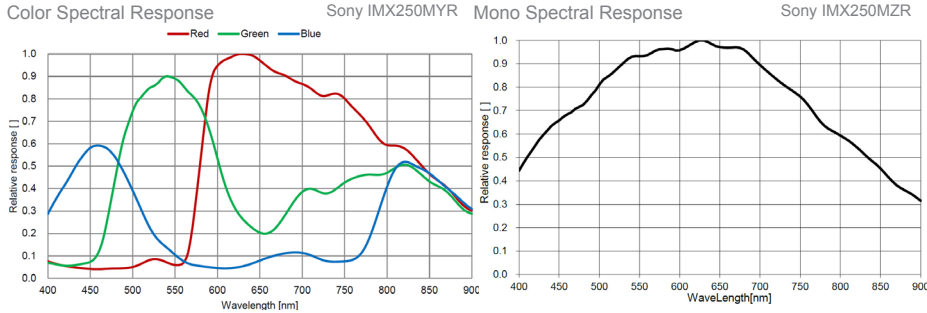
## Specifications

| Feature | Description |
|---|---|
| Output Interface | GigE Vision® with Power over Ethernet (PoE) |
| 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 | 8.5 mm (H) x 7.1 mm (V), 2/3" optical format |
| Pixel Size | 3.45 microns square |
| Shutter | Global shutter (GS) |
| Sensor Digitization | 12-bit |
| Frame Rate | 22 fps (8-bit), 11 fps (10-bit/12-bit unpacked), 15 fps (10-bit/12-bit packed) |
| Dynamic Range | 71 dB |
| 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 – 4095), Auto |
| White Balance | Manual, Auto, Off, Once |
| Shutter Speed | 35 µs to 16.0 s |
| Exposure Control | Off, Manual, Auto, External |
| Regions of Interest (ROI) | 2 ROI |
| Polarization Modes | 0, 45, 90, and 135 degrees, Off |
| Trigger Inputs | External, Pulse Generator, Software |
| Trigger Options | Edge, Pulse width, 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 | 2 LUTs pre-programmed with Gamma 0.45, 2 LUTs pre-programmed with Negative LUT Bad pixel correction (static), Flat field correction |
| Lens Mount | C-Mount (default) |
| P-Iris | Optional |
| P-Iris Control | Auto, Programmable |
| Supply Voltage Range | 12 V DC (6 V – 30 V), 1.5 A inrush @ 12 V PoE (IEEE 802.3af / IEEE 802.3at) |
| Power Consumption | 3.24 W @ 12 V; PoE: 4.69 W |
| Camera Current | Typical: 270 mA @ 12 V |
| Size - Width/Height/Length | 37 mm (W) x 37 mm (H) x 61.6 mm (L) |
| Weight | 125.2 g |
| Vibration, Shock | 20G (20 – 200 Hz XYZ)/100G |
| Environmental | -30 °C to +75 °C Operating,<br>-40 °C to +85 °C Storage |
| Humidity | 10% to 90% non-condensing |
| MTBF (Telcordia SR-332) | 530,000 hours @ 50 °C (EST) |
| Military Standard | MIL-STD-810G |
| Regulatory | FCC Part 15, CE, RoHS, UKCA |

## IMPERX™
Industrial Cameras & Imaging Systems
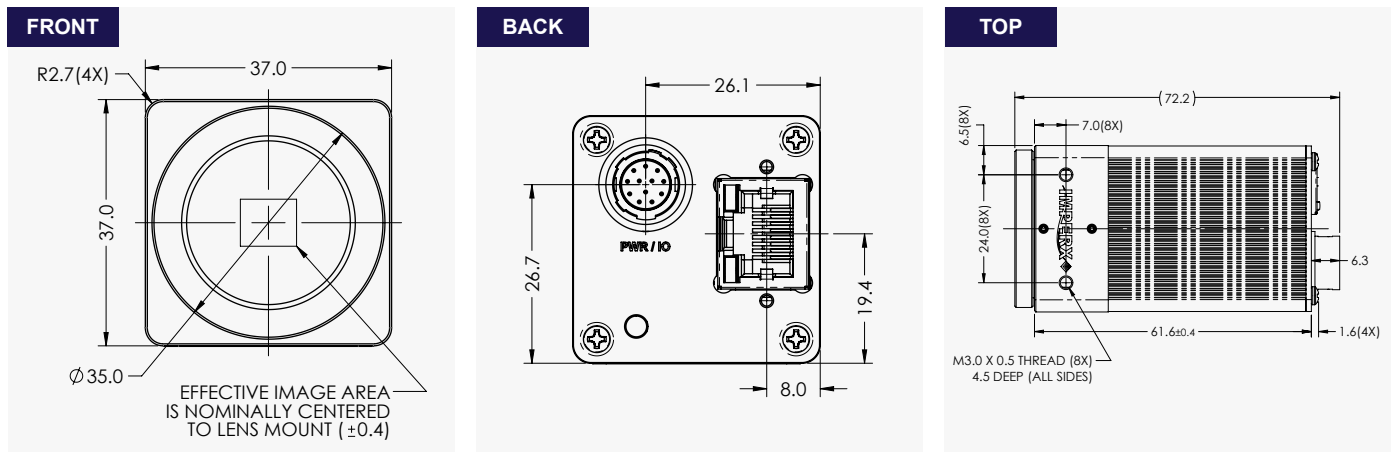
## Imperx: *C2410Y/Z Applications*

The POE-C2410Y/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

R2.7(4X)    37.0

37.0

Ø 35.0

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

BACK

26.1

26.7

PWR / IO

19.4

8.0

TOP

6.5(8X)

7.0(8X)

72.2

24.0(8X)

6.3

61.6±0.4

1.6(4X)

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

## Ordering Information

| Output Interface |
| --- |
| GigE Vision® with Power over Ethernet (PoE®) |

| Sensor Types available |
| --- |
| C2410Y = Color |
| C2410Z = Monochrome |

| Lens Mounts | |
| --- | --- |
| C-Mount (Default) | P-Iris (Optional) |

| Accessories (Sold separately) |
| --- |
| PS12V14A – Power Supply w/ 1 input and 1 output |
| PS12V18A – Power Supply w/ 1 input, 1 output, and a P-Iris connector |

## Gen<I>Cam Compliant Camera Configurator
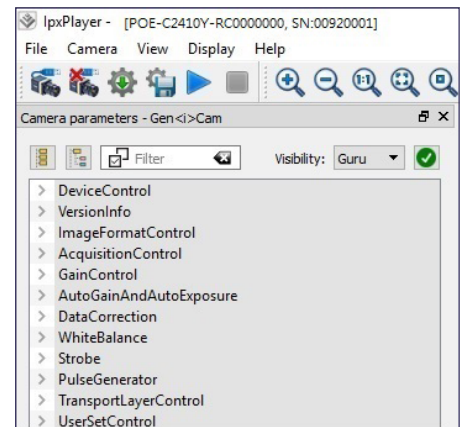


## Hirose Connectors

| Power and I/O Interface |
| --- |



1. 12 VDC Return
2. +12 VDC Power
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: poe_c2410Y/Z_r5_2022*

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