CHEETAH

RUGGEDIZED CAMERA SERIES

Front View | Rear View

CXP-C5340

CMOS 24.6 MP

Dual CXP-6

Imperx: *C5340*

The low-power CXP-C5340 camera features the Sony Pregius S™ IMX530 Global Shutter CMOS sensor with a native resolution of 5312 x 4608 in a 1.2” optical format delivering up to 46.6 frames per second with a dual CXP-6 CoaXPress output. The Pregius S technology uses a stacked back-illuminated pixel structure offering reduced pixel size, increased peak quantum efficiency, and improved sensitivity with fast lenses. A dual ADC mode enables HDR imaging by combining high gain and low gain lines within the sensor. Short interframe time of 2 µs makes the camera suitable for PIV applications. The camera features low power consumption and operates over an extended temperature range from -30 °C to +75 °C. Imperx puts you in control and gives you full access to raw data without corrections. Using the simple, intuitive GenICam™ compliant user interface, you can quickly apply image corrections, if desired. The CXP-C5340’s flexibility, image quality, and speed make it suitable for a broad range of diverse and demanding applications, but “one size doesn’t fit all,” and Imperx can help optimize the camera to your exact requirements.

Specifications

Feature	Description
Output Interface	2-channel CXP-6 CoaXPress w/PoCXP
Resolution	5312 (H) x 4608 (V)
Sensor	Sony Pregius S IMX530 CMOS Color/Mono
Sensor Format	14.3 mm (H) x 12.4 mm (V), 1.2” optical format
Pixel Size	2.74 microns square
Shutter	Global shutter (GS)
Sensor Digitization	10, 12-bit
Frame Rate	46.6 fps (8-bit), 37.9 fps (10-bit), 31.7 fps (12-bit)
Dynamic Range	71 dB
Output Bit Depth	8, 10, 12-bit
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps
Digital Gain	0x to 4x (12 dB) with a precision of 1/4096
AEC/AGC	Off, Once, Auto
Gamma Correction	0.00 to 4.00, with a step of 0.01
Black Level Offset	Manual (0 – 4095), Auto
White Balance	Manual, Auto, Once, Off
Shutter Speed	8 µs to 16.0 s
Exposure Control	Off, Internal, External, Auto
Regions of Interest (ROI)	One Master ROI, two Processing ROI
Binning	1 x 2, 2 x 1, 2 x 2 (Mono cameras only)
Sub-sampling	1 x 2, 2 x 1, 2 x 2
HDR Imaging (Dual ADC)	Available with 12-bit sensor digitization only
Trigger Inputs	External, Pulse generator, Software, Link Trigger (Trigger over CXP)
Trigger Options	Edge, Pulse width, Trigger filter, Trigger delay, Debounce
Trigger Modes	Free run, Standard, Fast

Feature	Description
PIV Mode	Available in Free run and Fast trigger modes
PIV Interframe Time	2 µs (recommended by the image sensor’s manufacturer)
External Inputs/Outputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)
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 and Defective pixel correction (static), 8 Flat field correction tables
Lens Mount	C-Mount (default)
Canon EF-Mount	Optional, Active or Passive
Power	Power over CoaXPress or 6.5 V–33 V external power supply (Optional)
Power Consumption	Typ.: 4.8 W @ 12 V, 25 °C Max.: 5 W @ 12 V, 75 °C
Size - Width/Height/Length	60 mm (W) x 60 mm (H) x 47 mm (L)
Weight	370 g
Vibration, Shock	20G (20 – 200 Hz XYZ) /100G
Environmental	-30 °C to +75 °C Operating, -40 °C to +85 °C Storage
Humidity	10% to 90% non-condensing
MTBF	452,000 hours @ 50 °C (EST) (Telcordia SR-332)
Military Standard	MIL-STD-810G
Regulatory	FCC Part 15 Class A, CE, RoHS, UKCA

IMPERX™

Industrial Cameras & Imaging Systems

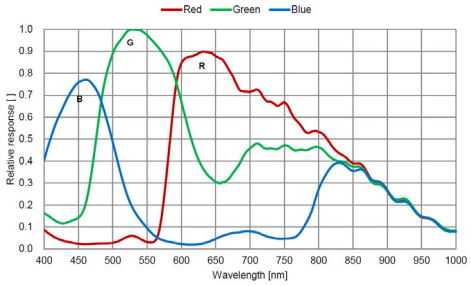
Imperx: *C5340 Applications*

The CXP-C5340 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

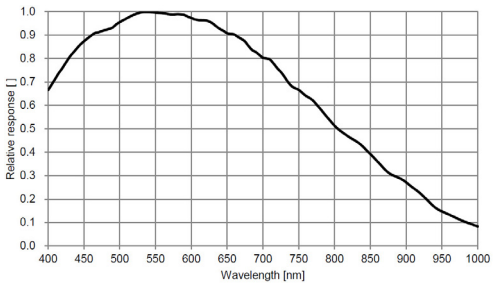
Particle Image Velocimetry ● Aerospace ● Satellites ● Surveillance ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ● Unmanned Aerial Vehicles ● Machine Vision ● Intelligent Traffic Systems ● Aerial Imaging ● Situational Awareness

Absolute Quantum Efficiency

Color Spectral Response — Sony IMX530

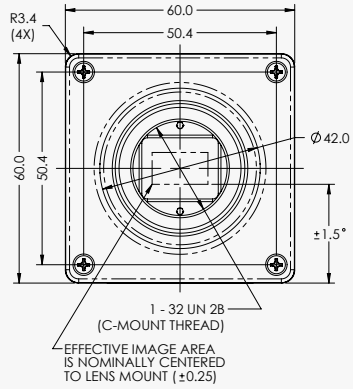


Mono Spectral Response — Sony IMX530

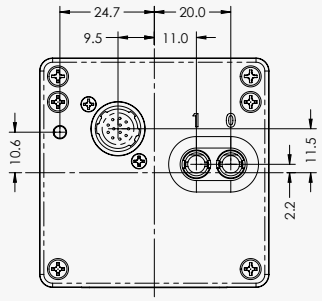


Dimensions

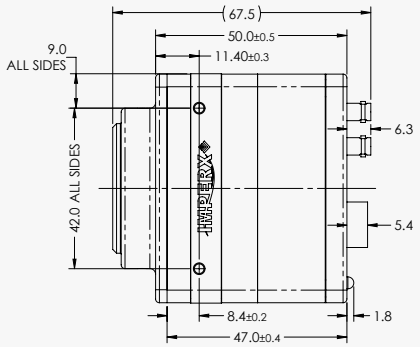
FRONT



BACK



TOP



Ordering Information

Output Interface

2-channel CXP-6 CoaXPress w/PoCXP (CXP)

Sensor Types available

Monochrome
Bayer Color

Lens Mounts

C-Mount (Default)
F-Mount (Optional)
M42 (Optional)
Canon EF Mount (Optional)

Accessories (Sold separately)

PS12V14A: Power Supply w/1 input and 1 output
CBL-PWIO01: Cable Power; Hirose 12p (F) to loose end; 2 meters

Gen<I>Cam Compliant Camera Configurator

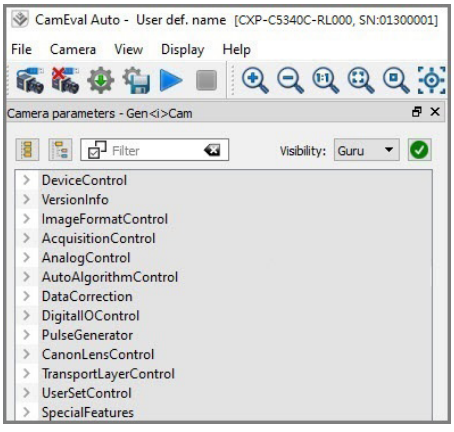


Image of the software interface is for illustrative purposes only. Camera configurator software is not available from Imperx, but is available from the frame grabber supplier.

Connectors

Power and I/O Interface

1. 12/24 VDC Return
2. +12/24V DC
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 HR 10A-10R-12PB(71)

CXP-connectors

Two micro-BNC (HD-BNC)
75 Ohm jacks

IMPERX
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