

CHEETAH

RUGGEDIZED CAMERA SERIES

Front View

Rear View

C4510

CMOS 20.4 MP

GigE Vision® with Power over Ethernet (PoE)

Imperx: C4510

The POE-C4510 camera features the Sony Pregius S™ IMX541 Global Shutter CMOS sensor with a native resolution of 4512 x 4512 in a 1.1" optical format delivering up to 5.9 frames per second with GigE Vision® Power over Ethernet (PoE) 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. Imperx puts you in control by providing full access to raw data without corrections. Using the simple intuitive graphical user interface, you can quickly apply image corrections. The C4510'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

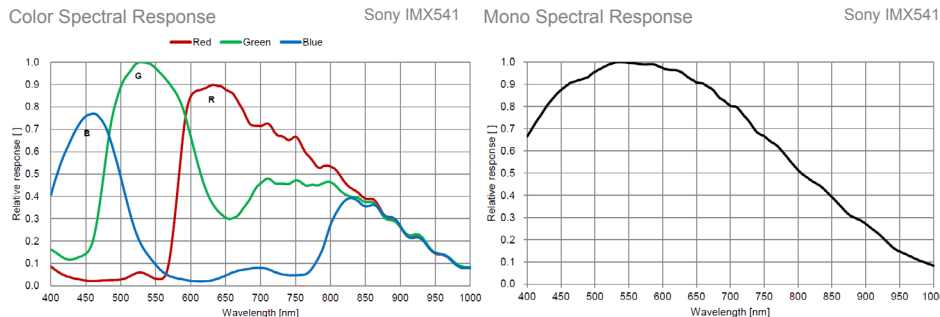
Feature	Description	Feature	Description
Output Interface	GigE Vision® with Power over Ethernet (PoE)	Strobe Output	2 strobes, programmable position and duration
Resolution	4512 (H) x 4512 (V)	Pulse Generator	Yes, programmable
Sensor	Sony Pregius S IMX541 CMOS Color/Mono	Data Corrections	2 LUTs pre-programmed with Gamma 0.45, 2 LUTs pre-programmed with Negative LUT
Sensor Format	12.3 mm (H) x 12.3 mm (V), 1.1" optical format (17.5 mm diagonal)		Bad pixel correction (static), Flat field correction
Pixel Size	2.74 microns square	Lens Mount	C-Mount (default)
Shutter	Global shutter (GS)	P-Iris	Optional
Sensor Digitization	12-bit	P-Iris Control	Auto, Programmable
Frame Rate	5.9 fps (8-bit), 2.9 fps (10-bit/12-bit unpacked), 3.9 fps (10-bit/12-bit packed)	Supply Voltage Range	12 VDC (6 V – 30 V), 1.5 A inrush @ 12 V PoE (IEEE 802.3af / IEEE 802.3at)
Dynamic Range	71 dB	Power Consumption	Typical: 3.96 W @ 12 V; PoE: 5.95 W
Output Bit Depth	8, 10, 12-bit	Camera Current	Typical: 330 mA @ 12 V
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps	Size - Width/Height/Length	37 mm (W) x 37 mm (H) x 61.6 mm (L)
Digital Gain	1x (0 dB) to 4x (12 dB) with a precision of 0.001x	Weight	125.2 g
Black Level Offset	Manual (0–4095), Auto	Vibration, Shock	20G (20 – 200 Hz XYZ)/100G
White Balance	Manual, Auto, Once, Off	Environmental	-30 °C to +75 °C Operating -40 °C to +85 °C Storage
Shutter Speed	50 µs to 16.0 s	Humidity	10% to 90% non-condensing
Exposure Control	Off, Manual, Auto, External	MTBF	530,000 hours @ 50 °C (EST) (Telcordia SR-332)
Regions of Interest (ROI)	2 ROI	Military Standard	MIL-STD-810G
Binning	1x1, 2x2 (Mono cameras only)	Regulatory	FCC Part 15 Class A, CE, RoHS, UKCA
Sub-sampling	1x1, 2x2		
Trigger Inputs	External, Pulse generator, Software		
Trigger Options	Edge, Pulse width, Trigger delay, Debounce, Trigger over Ethernet		
Trigger Modes	Free run, Standard, Fast		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C4510 Applications

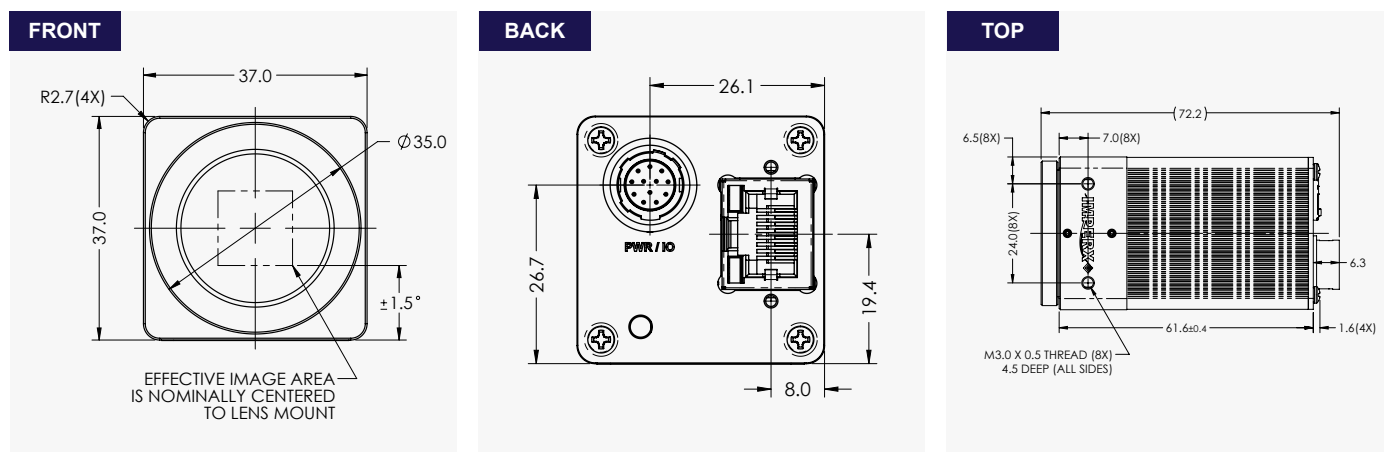
The POE-C4510 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Automation • Logistics • Robotics • Pharmaceuticals • Food and Beverages • Printed Circuit Board Inspection • Ball Grid Array • Motion Analysis • Aerospace • Satellites • Surveillance • Machine Vision • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency



Dimensions

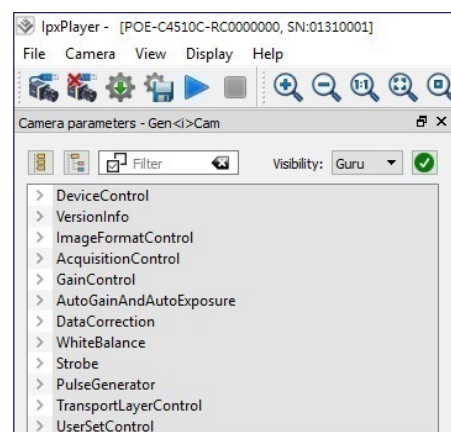


Ordering Information

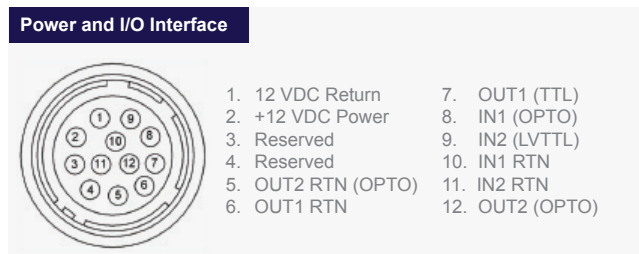
Output Interface	
GiG Vision® with Power over Ethernet (PoE®)	
Sensor Types available	
Monochrome	Bayer Color
Lens Mounts	
C-Mount (Default)	P-Iris (Optional)

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	
CBL-PWIO01-I/O Cable; Hirose 12p (F) to loose end; 2 m	

Software/Drivers/Interface



Hirose Connectors



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

Rev: poe_c4510_r3_2023

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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