

CHEETAH

RUGGEDIZED CAMERA SERIES

C4190 CMOS 16 MP Quad CXP-6



Imperx: C4190

The C4190 features the ON Semiconductor Python NOIP1xx012KA CMOS image sensor with a native resolution of 4096 x 3072 in a 4/3" optical format. The GenICam™ compliant camera delivers up to 160 frames per second in global shutter mode using a 4-channel CXP-6 CoaXPress® interface. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications. The Imperx Cheetah line provides excellent image quality with Imperx proprietary processing. In addition, 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 C4190'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

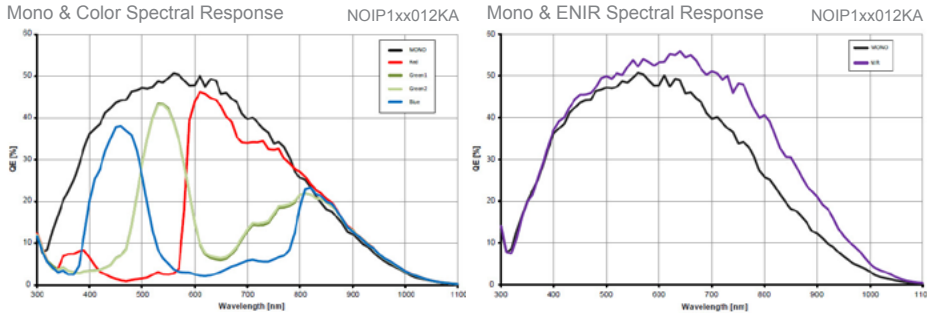
Feature	Description	Feature	Description
Output Interface	4-channel CXP-6 CoaXPress® w/PoCXP	Strobe Output	2 strobes, programmable position and duration
Resolution	4096 (H) x 3072 (V)	Pulse Generator	Yes, programmable
Sensor	Python NOIP1xx012KA, CMOS Color/Mono/ENIR	Data Correction	2 LUTs pre-programmed with Gamma 0.45 Bad pixel correction (static), Flat field correction, Fixed pattern noise
Sensor Format	18.4 mm (H) x 13.8 mm (V), 4/3" optical format	Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
Pixel Size	4.5 microns square	Power over CoaXPress (PoCXP)	Yes
NIR Sensitivity	Mono: 850 nm: 18%, 950 nm: 6% ENIR: 850 nm: 30%, 950 nm: 11%	Power consumption	Typical: 10 W, Maximum: 10.5 W
Shutter	Global shutter (GS)	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 44.3 mm (L)
Fixed Pattern Noise	<0.9 LSB	Weight	379 g
Sensor Digitization	10-bit	Vibration, Shock	TBD
Frame Rate	160 fps (8-bit), 132 fps (10-bit)	Environmental	-40 °C to +70 °C Operating, -50 °C to +90 °C Storage
Dynamic Range	59 dB	Humidity	10% to 90% non-condensing
Row Overhead Time (ROT)	Zero	MTBF	>323,000 hours @ 40 °C (Telcordia SR-332)
Output Bit Depth	8, 10-bit	Military Standard	MIL-STD-810G
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x	Regulatory	FCC Part 15 Class A, CE, RoHs
Digital Gain	1x (0dB) to 15.9 (24 dB) with a precision of 0.001x. (AGC available)		
AEC/AGC	Yes		
White Balance	Manual, Auto, Off		
Shutter Speed	1 µs/step, 40 µs to 1.0 s		
Exposure Control	Off, Internal, External. (AEC available)		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	1 x 2, 2 x 1, 2 x 2		
Sub-sampling	1 x 2, 2 x 1, 2 x 2		
Trigger Inputs	External, Pulse Generator, Software		
Trigger Options	Edge, Debounce		
Trigger Modes	Trigger over CoaXpress, Internal, External, Software		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C4190 Applications

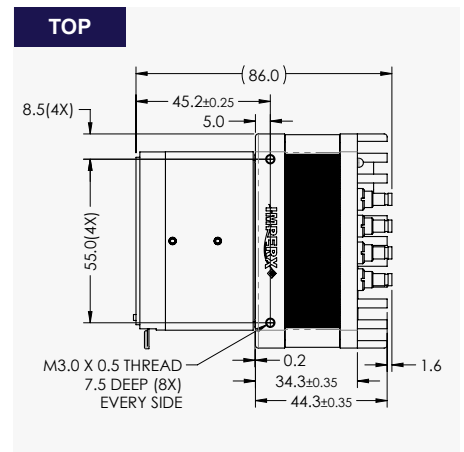
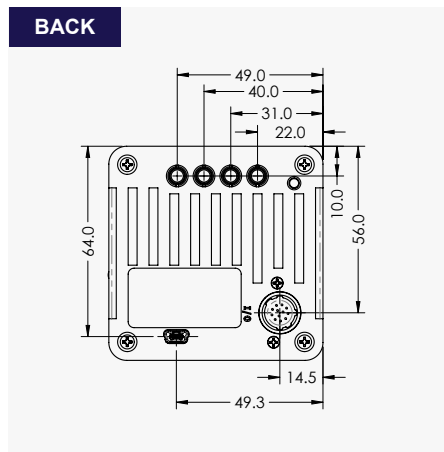
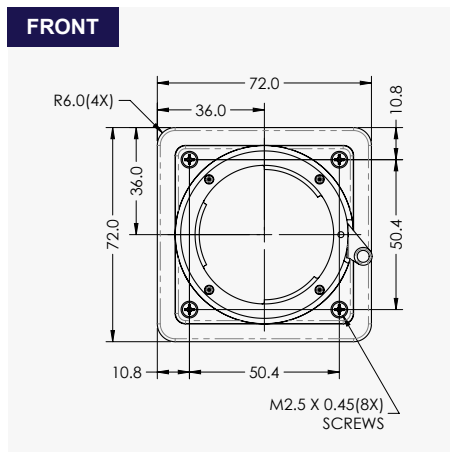
The C4190 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Surveillance • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Machine Vision • Industrial Inspection • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems

Absolute Quantum Efficiency



Dimensions



Ordering Information

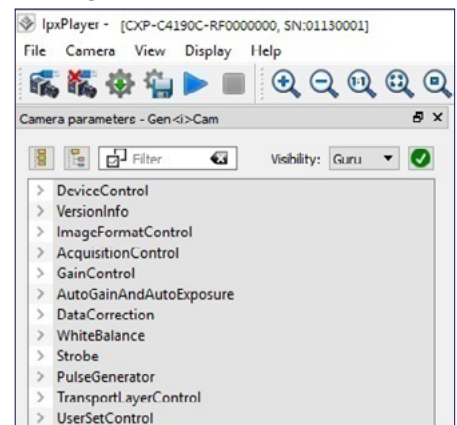
Output Interface
4-channel CXP-6 CoaXPress® with Power over CoaXPress

Sensor Types available
Monochrome
Bayer Color
NIR

Lens Mounts
F-Mount (Default)
M42
EF Canon

Accessories (Sold separately)
CBL-PWIO01: Cable Power; Hirose 12p (F) to loose end; 2 meters

Gen<I>Cam Compliant Camera Configurator



Hirose Connectors

I/O Interface

1. Reserved	7. OUT1 TTL Signal
2. Reserved	8. IN1 OPTO +
3. Reserved	9. IN2 TTL Signal
4. Reserved	10. IN1 OPTO -
5. OUT2 OPTO -	11. IN2 TTL Gnd
6. OUT1 TTL Gnd	12. OUT2 OPTO +

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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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