CHEETAH

RUGGEDIZED CAMERA SERIES

C4190
CMOS 12 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
Output Interface	4-channel CXP-6 CoaXPress® w/PoCXP
Resolution	4096 (H) x 3072 (V)
Sensor	Python NOIP1xx012KA, CMOS Color/Mono/ ENIR
Sensor Format	18.4 mm (H) x 13.8 mm (V), 4/3" optical format
Pixel Size	4.5 microns square
NIR Sensitivity	Mono: 850 nm: 18%, 950 nm: 6% ENIR: 850 nm: 30%, 950 nm: 11%
Shutter	Global shutter (GS)
Fixed Pattern Noise	<0.9 LSB
Sensor Digitization	10-bit
Frame Rate	160 fps (8-bit), 132 fps (10-bit)
Dynamic Range	59 dB
Row Overhead Time (ROT)	Zero
Output Bit Depth	8, 10-bit
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x
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, 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 Bad pixel correction (static), Flat field correction, Fixed pattern noise
Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
Power over CoaXPress (PoCXP)	Yes
Power consumption	Typical: 10 W, Maximum: 10.5 W
Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 44.3 mm (L)
Weight	379 g
Vibration, Shock	TBD
Environmental	-40 °C to +70 °C Operating, -50 °C to +90 °C Storage
Humidity	10% to 90% non-condensing
MTBF	>323,000 hours @ 40 °C (Telcordia SR-332)
Military Standard	MIL-STD-810G
Regulatory	FCC Part 15 Class A, CE, RoHs

IMPERX
Industrial Cameras & Imaging Systems

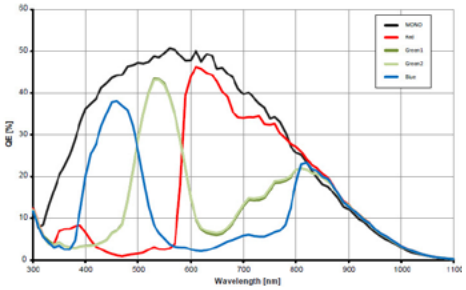
Imperx: *C4190 Applications*

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

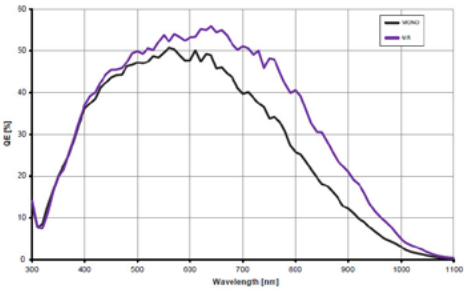
Aerospace ● Surveillance ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ● Machine Vision ● Industrial Inspection ● Intelligent Traffic Systems ● Aerial Imaging ● Open Road Tolling Systems

Absolute Quantum Efficiency

Mono & Color Spectral Response NOIP1xx012KA

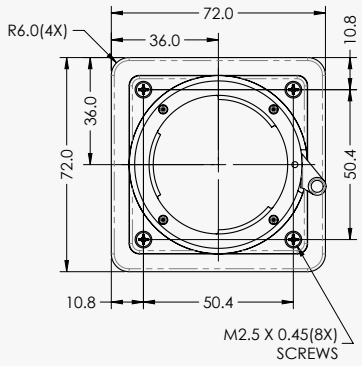


Mono & ENIR Spectral Response NOIP1xx012KA

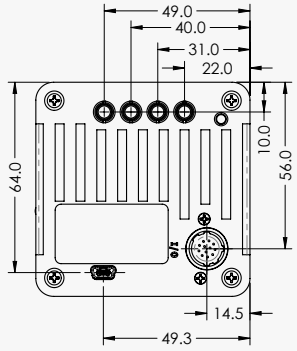


Dimensions

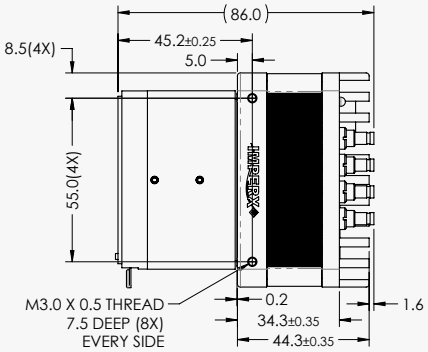
FRONT



BACK



TOP



Ordering Information

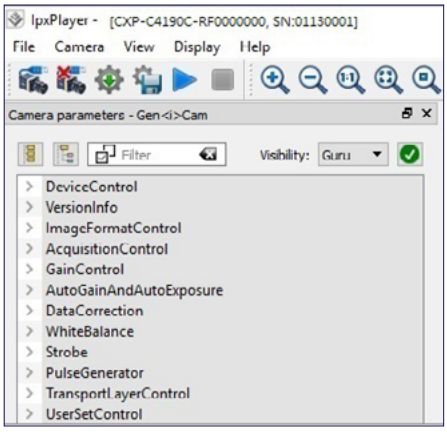
Output Interface
4-channel CXP-6 CoaXPress® with Power over CoaXPress

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

CoaXPress

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