

# CHEETAH

## RUGGEDIZED CAMERA SERIES

### C4080 CMOS 12 MP CoaXPress (CXP)



#### Imperx: C4080

The C4080 incorporates the ON Semiconductor KAC-12040 CMOS image sensor with a native resolution of 4000 x 3000 in a 4/3" optical format. The GenICam™ compliant camera delivers up to 70 frames per second in either global or rolling shutter mode with 2-channel CXP-6 CoaXPress® output. Extended dynamic range technology coupled with extremely robust blooming suppression produce clean imagery in even the most severe uncontrolled lighting applications. Additionally, Cheetah cameras incorporate "smart" wide dynamic range technology that monitors each pixel's exposure and sets the exposure to one of four user selectable values based on the intensity of the source at the pixel. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications.

#### Specifications

Feature	Description	Feature	Description
Output Interface	2-channel CXP-6 CoaXPress® w/PoCXP	Strobe Output	2 strobes, programmable position and duration
Resolution	4000 x 3000	Pulse Generator	Yes, programmable
Sensor	KAC-12040, CMOS Color/Mono	Data Correction	Vertical/Horizontal flip. Two 12-bit LUTs pre-programmed with Gamma 0.45 Defective/hot pixel correction (static, dynamic)
Sensor Format	18.8 mm (H) x 14.1 mm (V) 23.5 mm diagonal 4/3" optical format	Lens Mount	F-Mount (Default), C, M42, EF Canon (Passive or active)
Pixel Size	4.7 microns square	Supply Voltage Range	24V CoaXPress power over cable
NIR Sensitivity	850 nm: 15%, 950 nm: 5%	Power Consumption	Typical: 5.6 W, Maximum: 5.85 W
Shutter	Global shutter (GS), rolling shutter (RS)	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 33.5 mm (L)
Sensor Digitization	10-bit or 12-bit	Weight	383 g
Frame Rate	70 fps (8-bit), 70 fps (10-bit), 30 fps (12-bit)	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Dynamic Range	73 dB (RS), 56 dB (GS)	Environmental	-40 °C to +85 °C Operating -50 °C to +90 °C Storage
Output Bit Depth	8, 10, 12-bit	Humidity	10% to 90% non-condensing
Analog Gain Control	12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)	MTBF	>323,000 hours @ 40 °C (Telcordia SR-332)
Digital Gain	24 dB (128 steps)	Military Standard	MIL-STD-810G
Black Level Offset	Manual, 0 to 2048 1/step	Regulatory	FCC Part 15 Class A, CE, RoHS
White Balance	Manual, Auto, Off		
Shutter Speed	1 µs/step, 5 µs to 1.0 s (GS), 2 µs to 1.0 s (RS)		
Exposure Control	Off, Internal, External		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	Not supported		
Sub-sampling Decimation	Not supported		
Trigger Inputs	External, Pulse generator, Software		
Trigger Options	Edge, Debounce		
Trigger Modes	Internal, External, Computer		
Wide Dynamic Range	100 dB (typ.) GS, up to 3 knee points, piecewise linear		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

## Imperx: C4080 Applications

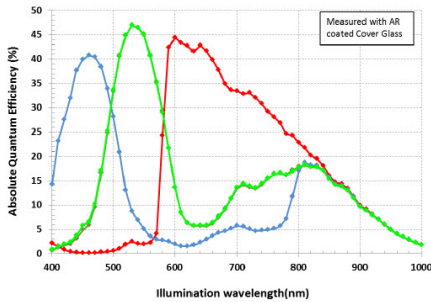
The CXP-C4080 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace • Satellites • Surveillance • Military and Non-Military Ground Vehicles • Ball Grid Array • Printed Circuit Board Inspection • Motion Analysis • Broadcast Television • Telepresence • Unmanned Aerial Vehicles • Machine Vision • Reconnaissance • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

## Absolute Quantum Efficiency

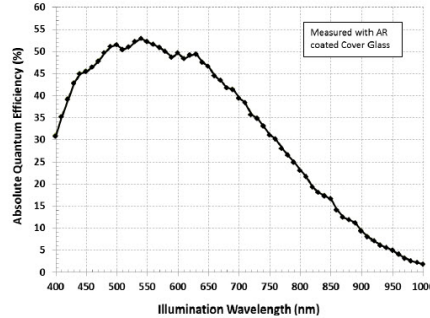
Color Spectral Response

KAC-12040

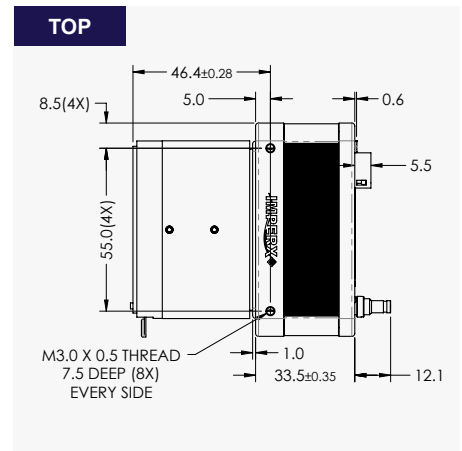
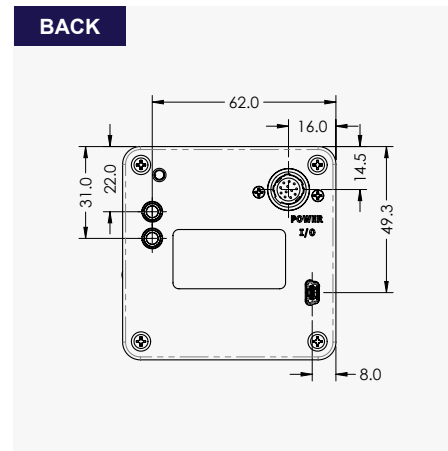
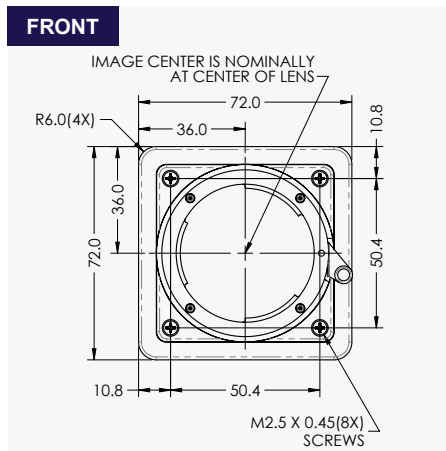


Mono Spectral Response

KAC-12040



## Dimensions

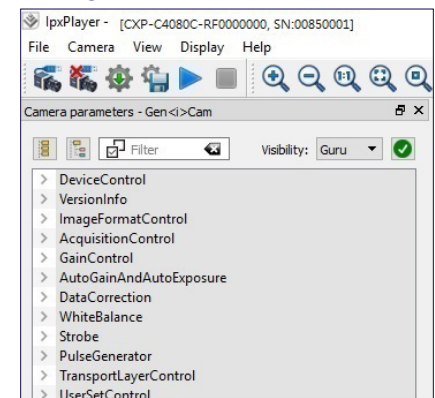


## Ordering Information

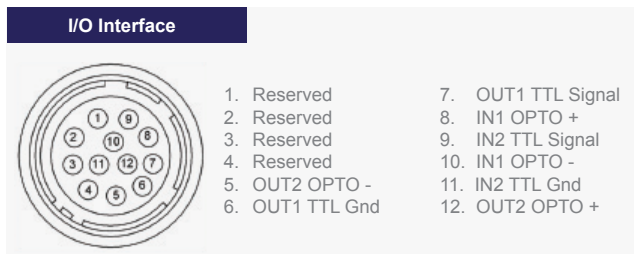
<b>Output Interface</b>
2-channel CXP-6 CoaXPress® (CXP) w/PoCXP
<b>Sensor Types available</b>
Monochrome
Bayer Color

<b>Lens Mounts</b>
F-Mount (Default) M42
C-Mount EF
<b>Accessories (Sold separately)</b>
CBL-PWIO01: Cable Power; Hirose 12p (F) to loose end; 2 meters

## Gen<I>Cam Compliant Camera Configurator



## Hirose Connectors



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

Rev: cxp\_c4080\_r2\_2019

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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