

# CHEETAH

RUGGEDIZED CAMERA SERIES

## C2880 CMOS 6 MP Camera Link®



### Imperx: C2880

The C2880 incorporates the On Semiconductor KAC-06040 CMOS image sensor with a native resolution of 2832 x 2128 in a 1" optical format delivering up to 129 frames per second in either global or rolling shutter mode with either a Camera Link® Deca or PoCL output. Extended dynamic range technology coupled with extremely robust blooming suppression provide clean imagery in even the most severe uncontrolled lighting applications. Cheetah cameras incorporate "smart" wide dynamic range technology which 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
Interfaces available	Camera Link® Base, Full/Deca (CLF) w/PoCL	Strobe Output	2 strobes, programmable position and duration
Resolution	2832 x 2128	Pulse Generator	Yes, programmable
Sensor	KAC-06040, CMOS Color/Mono	Image Enhancement	Vertical/Horizontal flip
Sensor Format	13.1 mm (H) x 10.0 mm (V) 16.65 mm diagonal 1" optical format	Data Corrections	Defective/hot pixel correction (static, dynamic)
Pixel Size	4.7 µm	Lens Mount	C-Mount (Default), F-Mount, M42, EF Canon
NIR Sensitivity	850nm: 15%, 950nm: 5%	Supply Voltage Range	12VDC (5V – 30V), 1.5 A inrush
Shutter	Global shutter (GS), rolling shutter (RS)	Camera Current	Typical: 0.44A, Maximum: 0.46A
Digitization	10 or 12 bit	PoCL	PoCL capable in medium/full mode
Frame Rate	50 fps (12 bit), 105 fps (10 bit), 129 fps (8 bit)	Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 33.5mm (L) – Applies to all interfaces
Camera Link Clock Rate	85MHz	Weight	385g
Dynamic Range	74 dB (RS), 57 dB (GS)	Vibration, Shock	TBD
Bit Depth	8, 10, 12 bit	Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Analog Gain Control	12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)	Humidity	10% to 90% non-condensing
Digital Gain	24 dB (128 steps)	MTBF	>323,000 hours @ 40°C (Telcordia RS-332)
White Balance	Manual, auto, off	Military Standard	MIL-STD-810F
Shutter Speed	1 µs/step, 5 µs to 1.0 sec (GS), 2 µs to 1.0 sec (RS)	Regulatory	FCC Part 15 Class A, CE, RoHs
Exposure Control	Off, internal, external		
Regions of Interest (ROI)	1 ROI		
Averaging Decimation	4:1, 9:1 (both color and monochrome)		
Sub-sampling Decimation	N pixels: 2, 4, 6...30 by every M pixels: 2, 4, 6...32		
Trigger Inputs	External, pulse generator, software, computer		
Trigger Options	Edge, debounce		
Trigger Modes	Internal, External, Computer		
Wide Dynamic Range	100dB (typ) GS, up to 3 knee points, piecewise linear		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

## Imperx: C2880 Applications

The C2880 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 •  
 Aerospace • Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

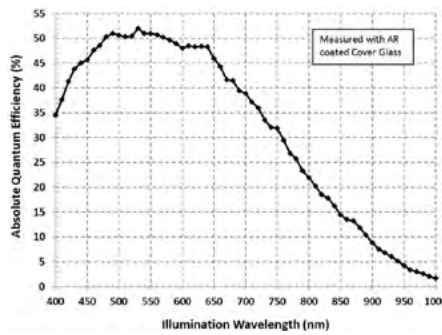
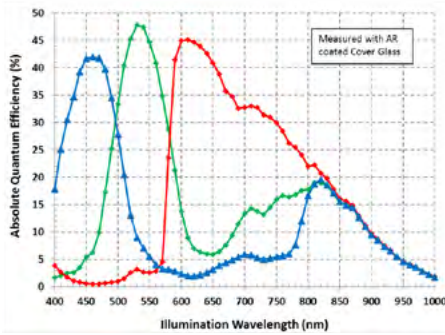
## Absolute Quantum Efficiency

Color Spectral Response

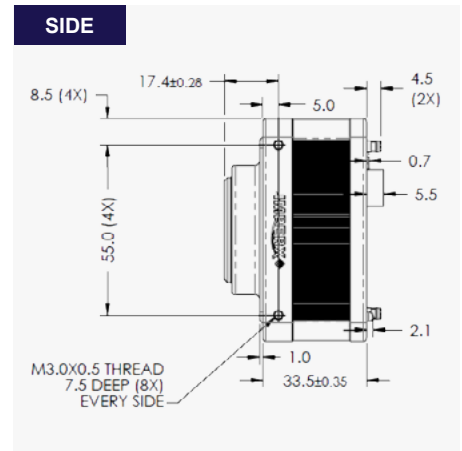
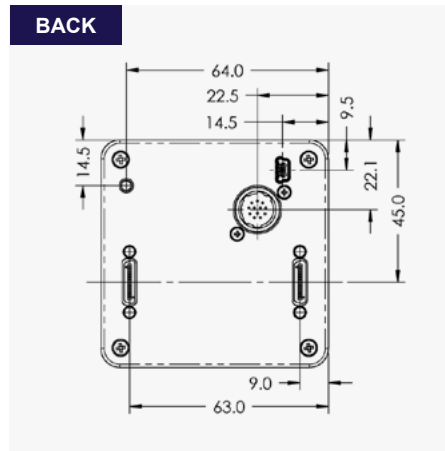
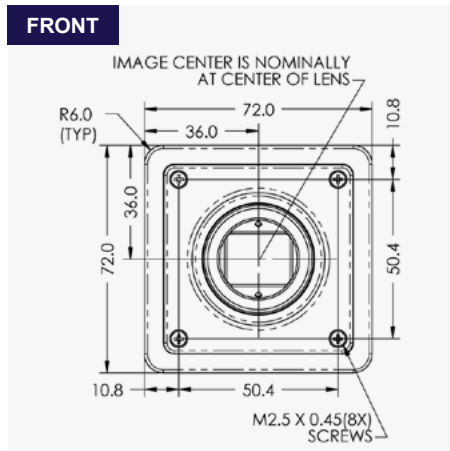
KAC-06040

Mono Spectral Response

KAC-06040



## Dimensions



## Ordering Information

**Interface Available**

- Camera Link® Full (CLF)
- USB3 (U3V)

**Sensor Types available**

- Monochrome
- Bayer Color

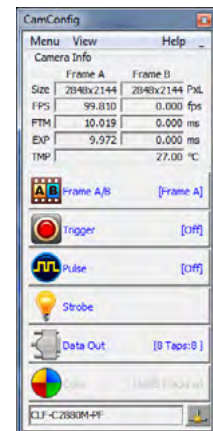
**Lens Mounts**

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

**Accessories (Sold separately)**

- PS12V04A-Power Supply w/ 1 input and 1 output

## Software/Drivers/Interface



## Hirose Connectors

**Power and I/O Interface**

- 12V DC Return
- +12V DC
- Reserved
- Reserved
- OUT2 OPTO -
- OUT1 TTL Gnd
- OUT1 TTL Signal
- IN1 OPTO +
- IN2 TTL Signal
- IN1 OPTO -
- IN2 TTL Gnd
- OUT2 OPTO +



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