

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 a Camera Link® Deca, Power over Camera Link (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
Output Interface	Camera Link® Base, Medium, 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	Data Correction	Vertical/Horizontal flip. Two 12-bit LUTs pre-programmed with Gamma 0.45 Defective/hot pixel correction (static, dynamic)
Sensor Format	13.1 mm (H) x 10.0 mm (V) 16.65 mm diagonal 1” optical format	Lens Mount	C-Mount (Default), F-Mount, M42, EF Canon (Passive)
Pixel Size	4.7 microns square	Supply Voltage Range	12 V DC (5 V – 30 V), 1.5 A inrush
NIR Sensitivity	850 nm: 15%, 950 nm: 5%	Camera Current	Typical: 0.44 A, Maximum: 0.46 A
Shutter	Global shutter (GS), rolling shutter (RS)	PoCL	PoCL capable in Medium/Full mode
Sensor Digitization	10-bit or 12-bit	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 33.5 mm (L)
Frame Rate	129 fps (8-bit), 105 fps (10-bit), 50 fps (12-bit)	Weight	385 g
Camera Link Clock Rate	85 MHz	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Dynamic Range	74 dB (RS), 57 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 RS-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	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	100 dB (typ.) GS, up to 3 knee points, piecewise linear		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C2880 Applications

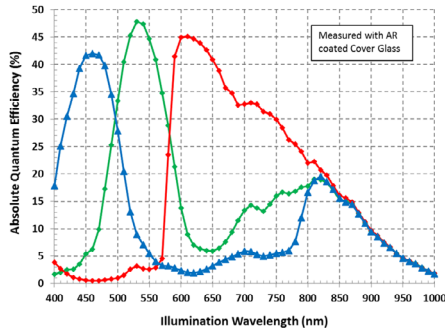
The CLF-C2880 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

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 •
 Intelligent Traffic Systems • Aerial Imaging • Open Road Tolling Systems • Situational Awareness

Absolute Quantum Efficiency

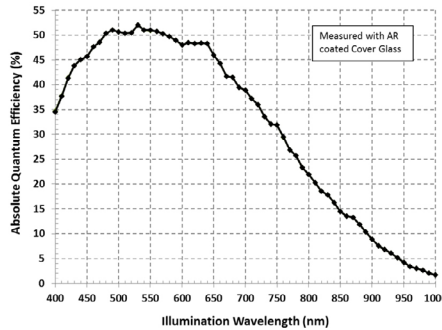
Color Spectral Response

KAC-06040

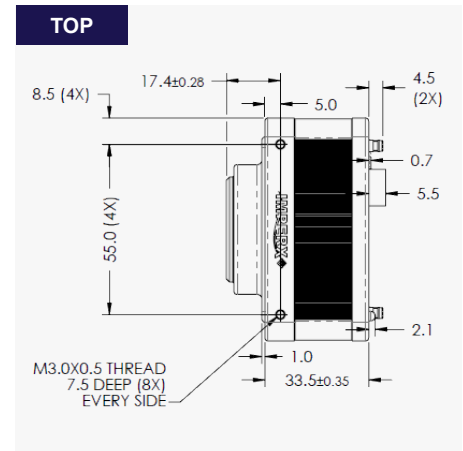
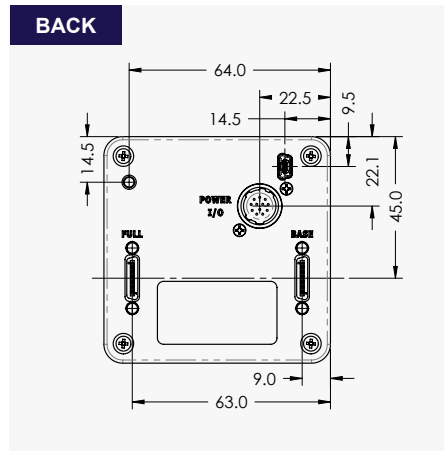
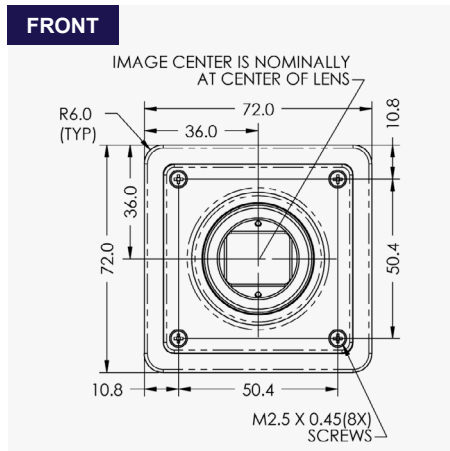


Mono Spectral Response

KAC-06040



Dimensions



Ordering Information

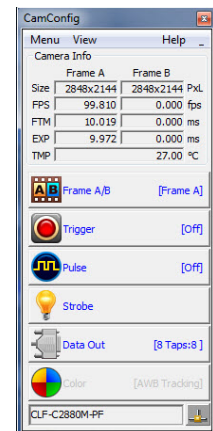
Output Interface
 Camera Link® Full (CLF)

Sensor Types available
 Monochrome
 Bayer Color

Lens Mounts
 C-Mount (Default)
 F-Mount
 M42
 EF Canon (Passive)

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 +

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

Rev: c_l_c2880_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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