CHEETAH

RUGGEDIZED CAMERA SERIES

C4080

CMOS 12 MP

Camera Link®

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 delivering up to 67 frames per second in either global or rolling shutter mode with a Camera Link® Full, 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
Output Interface	Camera Link® Base, Medium, Full/Deca (CLF) w/PoCL®
Resolution	4000 (H) x 3000 (V)
Sensor	KAC-12040, CMOS Color/Mono
Sensor Format	18.8 mm (H) x 14.1 mm (V) 23.5 mm diagonal 4/3" optical format
Pixel Size	4.7 microns square
NIR Sensitivity	850 nm: 15%, 950 nm: 5%
Shutter	Global shutter (GS), rolling shutter (RS)
Sensor Digitization	10-bit or 12-bit
Frame Rate	67 fps (8-bit), 55 fps (10-bit), 27 fps (12-bit)
Camera Link Clock Rate	85 MHz
Dynamic Range	73 dB (RS), 56 dB (GS)
Output Bit Depth	8, 10, 12-bit
Analog Gain Control	12-bit: 0-12 dB (16 steps); 8 or 10-bit: 0-18 dB (32 steps)
Digital Gain	24 dB (128 steps)
Black Level Offset	Manual, 0 to 2048, 1/step
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, piece-wise linear
External Inputs/Ouputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)

Feature	Description
Strobe Output	2 strobes, programmable position and duration
Pulse Generator	Yes, programmable
Data Correction	Vertical/Horizontal flip. Two 12-bit LUTs pre-programmed with Gamma 0.45
	Defective/hot pixel correction (static, dynamic)
Lens Mount	F-Mount (Default), C, M42, EF Canon (Passive. Active not supported)
Supply Voltage Range	12 V DC (5 V – 30 V), 1.5 A inrush
Camera Current	Typical: 0.30 A, Maximum: 0.33 A
PoCL	PoCL capable in Base/Medium/Full mode
Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 33.5 mm (L)
Weight	385 g
Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Environmental	-40 °C to +85 °C Operating
	-50 °C to +90 °C Storage
Humidity	10% to 90% non-condensing
MTBF	> 323,000 hours @ 40 °C (Telcordia SR-332 Method 1)
Military Standard	MIL-STD-810G
Regulatory	FCC Part 15 Class A, CE, RoH

IMPERX™
Industrial Cameras & Imaging Systems

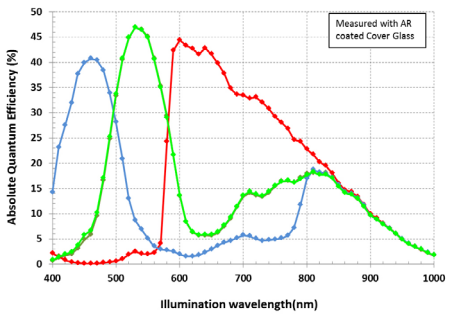
Imperx: *C4080 Applications*

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

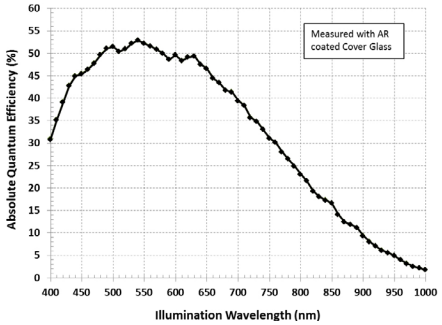
Aerospace ● Satellites ● Surveillance ● Military and Non-Military Ground Vehicles ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ●Broadcast Television ● Telepresence ● Unmanned Aerial Vehicles ● Machine Vision ● Reconnaissance ● Intelligent Traffic Systems ● Aerial Imaging ● Open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

Absolute Quantum Efficiency

Color Spectral Response KAC-12040

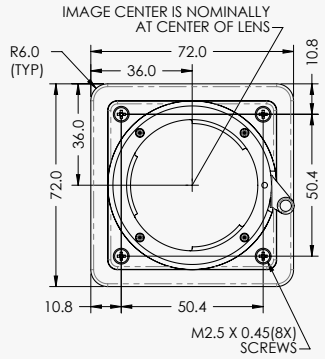


Mono Spectral Response KAC-12040

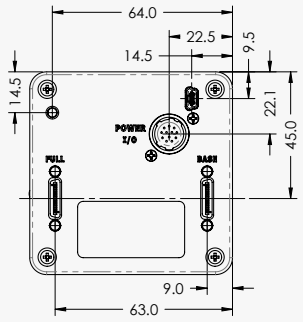


Dimensions

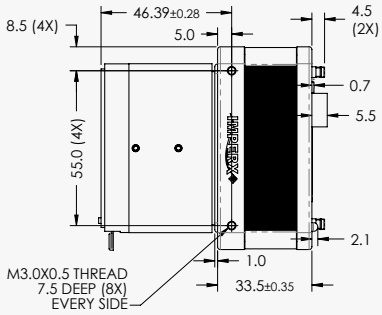
FRONT



BACK



TOP



Ordering Information

Output Interface

Camera Link® Full (CLF) w/PoCL®

Sensor Types available

Monochrome
Bayer Color

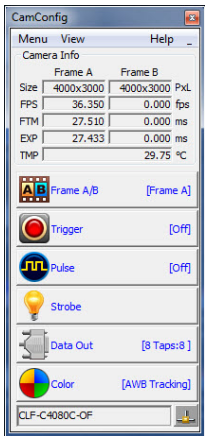
Lens Mounts

F-Mount (Default)
C-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

1. 12V DC Return
2. +12V DC
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 +

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

Rev: cl_c4080_r1_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)

IMPERX
Industrial Cameras & Imaging Systems

IMPERX 6421 Congress Ave., Boca Raton, FL 33487, USA
Tel: +1-561-989-0006. Email: sales@imperx.com

WWW.IMPERX.COM

Technical data has been fully checked, but accuracy of printed matter is not guaranteed. Subject to change without notice. Copyright 2019