CHEETAH

INTELLIGENT CAMERA SERIES

C5180
CMOS 25 MP

Imperx: *C5180*

The C5180 incorporates the On Semiconductor Python NOIP1SN025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format delivering up to 26 frames per second in either global or rolling shutter mode with either a Camera Link® Deca or PoCL output. 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. However, Imperx puts you in control and gives you full access to raw data without corrections. By using the simple intuitive Graphical User Interface, you can quickly apply or remove image corrections. The C5180's flexibility and image quality 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 exacting requirements.

Specifications

Feature	Description
Interfaces available	Camera Link® Base, Full/Deca (CLF) w/PoCL
Resolution	5120 x 5120
Sensor	Python NOIP1SN025KA, CMOS Color/Mono
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format
Pixel Size	4.5 µm
NIR Sensitivity	850nm: 18%, 950nm: 6%: ENIR: 850nm: 30%, 950nm: 11%
Shutter	Global shutter (GS)
Fixed Pattern Noise	<0.9 LSB
Digitization	10 bit
Frame Rate	26 fps (10 bit), 32 fps (8 bit)
CameraLink Clock Rate	85MHz
Pixel Clock Rate	32MHz to 360 MHz
Dynamic Range	59 dB
Row Overhead Time (ROT)	Zero
Bit Depth	8, 10 bit
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x
Digital Gain	30 dB
White Balance	Manual, auto, off
Shutter Speed	1 µs/step, 4 µs to 1.0 sec
Exposure Control	Off, internal, external
Regions of Interest (ROI)	1 ROI
Averaging Decimation	1 x 2, 2 x 1, 2 x 2
Sub-sampling Decimation	1 x 2, 2 x 1, 2 x 2
Trigger Inputs	External, pulse generator, software, computer
Trigger Options	Edge, debounce
Trigger Modes	Internal, External, Computer
External Inputs/Outputs	1-LVTTL + 1 OPTO, 1 TTL + 1 OPTO

Feature	Description
Strobe Output	2 strobes, programmable position and duration
Pulse Generator	Yes, programmable
Image Enhancement	Two 12-bit LUT: 1 LUT Pre-programmable with Gamma 0.45
Data Corrections	Defective/hot pixel correction (static, dynamic) flat field
Lens Mount	F-Mount (Default), M42, EF Canon
Supply Voltage Range	12VDC (5V – 30V), 1.5 A inrush
Camera Current	Typical: 0.51A, Maximum: 0.65A
PoCL	PoCL capable in medium/full mode
Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 34.7mm (L) – Applies to all interfaces
Weight	385g
Vibration, Shock	UNTESTED
Environmental	-40°C to +85°C Operating, -50°C to +90°C Storage
Humidity	10% to 90% non-condensing
MTBF	>323,062.11 hours @ 40°C (Telcordia SR-332 Method 1)
Regulatory	FCC Part 15 Class B, CE, RoHs

IMPERX™
Industrial Cameras & Imaging Systems

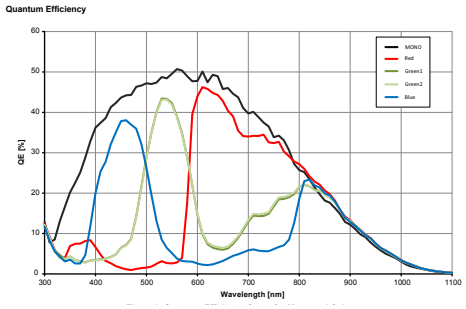
Imperx: *C5180 Applications*

The C5180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

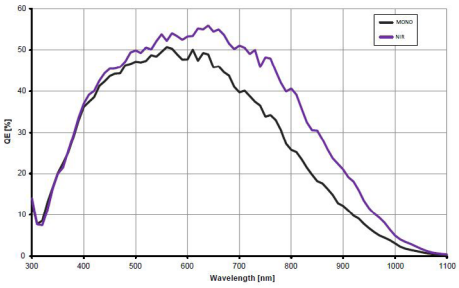
Aerospace ● Satellites ● Surveillance ● Military and Non-Military Ground Vehicles ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ● Broadcast Television ● Telepresence ● Unmanned Aerial Vehicles ● Machine Vision ● Reconnaissance ● Aerospace ● Intelligent Traffic Systems ● Aerial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

Absolute Quantum Efficiency

Mono & Color Spectral Response NOIP1SN025KA

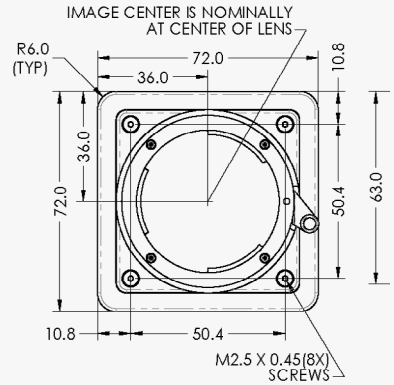


Mono & ENIR Spectral Response NOIP1SN025KA



Dimensions

FRONT



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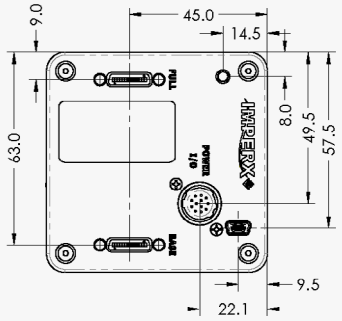
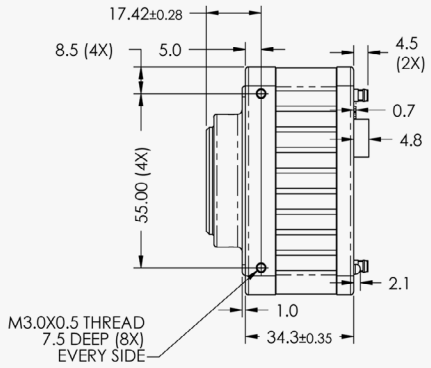


SIDE



Ordering Information

Interface Available

Camera Link® Full (CLF)

Sensor Types available

Monochrome
Bayer Color

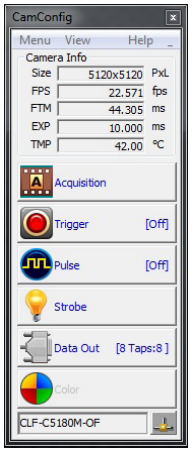
Lens Mounts

F-Mount (Default)
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

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 +

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