C5180
CMOS 25 MP
Dual CXP-6

Imperx: *C5180*

The C5180 features the ON Semiconductor Python NOIP1xx025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format. The GenICam™ compliant camera delivers up to 44 frames per second in global shutter mode using a dual CXP-6 CoaXPress interface. 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. In addition, Imperx puts you in control and gives you full access to raw data without corrections. Using the simple, intuitive Graphical User Interface, you can quickly apply or remove image corrections. Flexibility and image quality make the C5180 suitable for a broad range of diverse and demanding applications. Imperx can help optimize the camera to your exacting requirements.
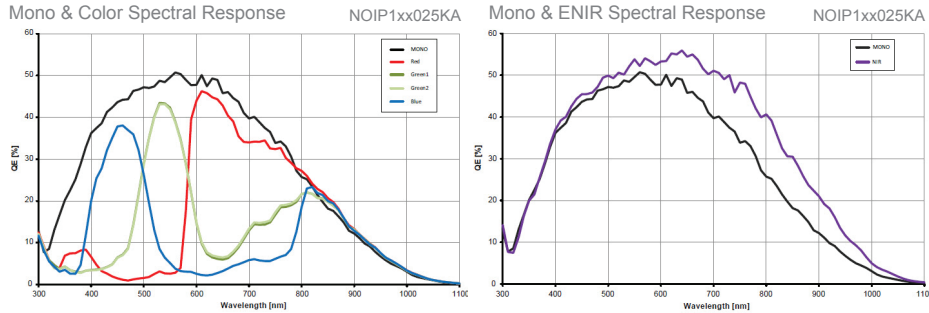
Specifications

Feature	Description
Interfaces available	2-channel CXP-6 CoaXPress®, USB3, Camera Link® Full (CLF), GigE Vision®
Resolution	5120 x 5120
Sensor	Python NOIP1xx025KA, CMOS Color/Mono/ENIR
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format
Pixel Size	4.5 µm
NIR Sensitivity	Mono: 850nm: 18%, 950nm: 6% ENIR: 850nm: 30%, 950nm: 11%
Shutter	Global shutter (GS)
Fixed Pattern Noise	<0.9 LSB
Digitization	10 bit
Frame Rate	35.6 fps (10 bit), 44 fps (8 bit)
Pixel Clock	32MHz to 360MHz (TBD)
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	1x (0dB) to 15.9 (24 dB) with a precision of 0.001x. (AGC available)
AEC/AGC	Yes
White Balance	Manual, auto, off
Shutter Speed	1 µs/step, 40 µs to 1.0 sec
Exposure Control	Off, internal, external. (AEC available)
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
Trigger Options	Edge, debounce
Trigger Modes	Internal, external, software
External Inputs/Outputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)

Feature	Description
Strobe Output	2 strobes, programmable position and duration
Pulse Generator	Yes, programmable
Image Enhancement	Two LUTs: 1 LUT pre-programmed with Gamma 0.45
Data Corrections	Bad pixel correction (static, dynamic) flat field correction, fixed pattern noise
Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
Power	Power over CXP (PoCXP)
Camera Current	Typical: TBD, Maximum: TBD
Size - Width/Height/Length	72.0mm (W) x 72.0mm (H) x 34.7mm (L) – Applies to all interfaces
Weight	379g
Vibration, Shock	TBD
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)
Military Standard	MIL-STD-810F
Regulatory	FCC Part 15 Class A, CE, RoHs

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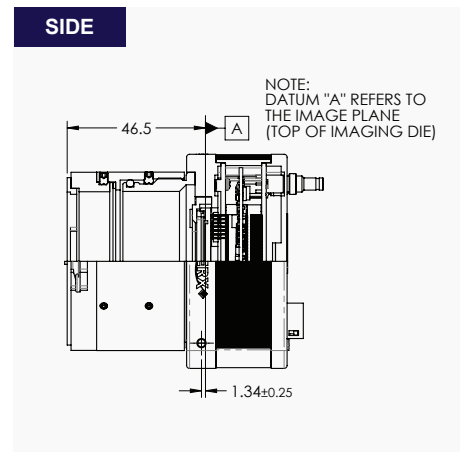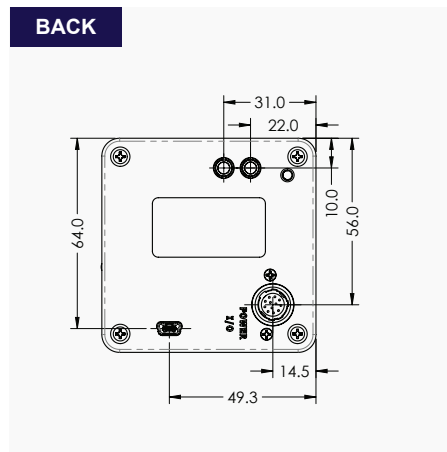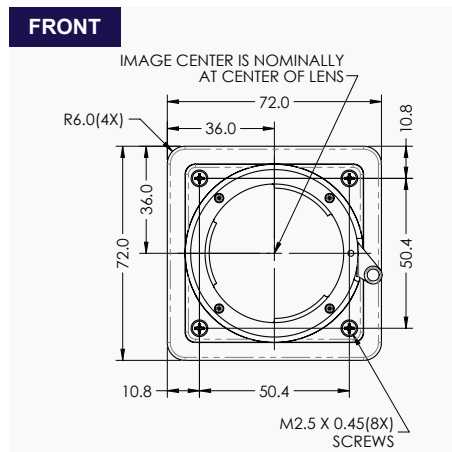## Imperx: *C5180 Applications*

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 — NOIP1xx025KA
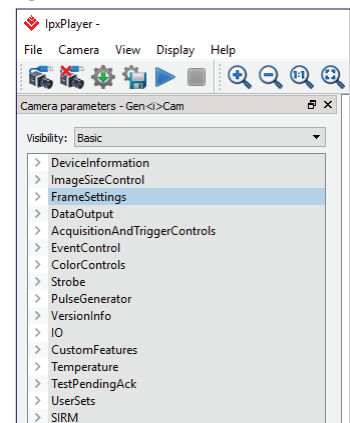

Mono & ENIR Spectral Response — NOIP1xx025KA

Dimensions

FRONT

BACK

SIDE

NOTE: DATUM "A" REFERS TO THE IMAGE PLANE (TOP OF IMAGING DIE)

Ordering Information

Interface Available

2-channel CXP-6 CoaXPress	Camera Link Full (CLF)
USB3	GigE Vision

Sensor Types available

Monochrome

Bayer Color

NIR

Lens Mounts

F-Mount (Default)

M42

EF Canon

Accessories (Sold separately)

PS12V04A-Power Supply w/ 1 input and 1 output

GenICam Compliant Camera Configurator

Hirose Connectors

Power and I/O Interface

1. Reserved
2. Reserved
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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Environmental Management System ISO 14001:2015 Registered
DDTC Registered (Directorate of Defense Trade Controls, US Department of State)