# CHEETAH

## RUGGEDIZED CAMERA SERIES

# C5180
# CMOS 25 MP
## *GigE Vision®*

### 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 4.3 frames per second in global shutter mode using the GigE Vision standard 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.
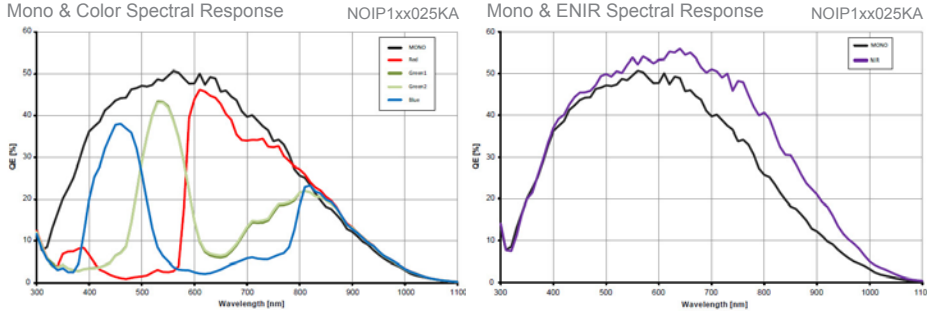
## Specifications

| Feature | Description |
| --- | --- |
| Interfaces available | 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 | 4.3 fps (8-bit), 2.2 fps (10-bit) |
| Pixel Clock | 32MHz to 360MHz |
| Dynamic Range | 59 dB |
| 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. |
| AEC/AGC | Yes |
| White Balance | Manual, auto, off |
| Shutter Speed | 1 µs/step, 40 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 |
| 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 | Defective/hot pixel correction (static, dynamic) flat field correction, fixed pattern noise correction |
| Lens Mount | F-Mount (Default), M42, EF Canon (passive or active) |
| Supply Voltage Range | 12VDC (5V - 33V) 1.5A inrush without enabled Canon controller |
| | 12VDC (6.5V - 33V) 1.5A inrush with enabled Canon controller |
| Camera Current | Typical: 0.52A. Maximum: 0.66A |
| Size - Width/Height/Length | 72.0mm (W) x 72.0mm (H) x 33.8mm (L) – Applies to all interfaces |
| Weight | 389g |
| Vibration, Shock | TBD |
| Environmental | -40°C to +85°C Operating, -50°C to +90°C Storage |
| Humidity | 10% to 90% non-condensing |
| MTBF | TBD |
| Military Standard | MIL-STD-810F |
| Regulatory | FCC Part 15 Class A, CE, RoHs |

# IMPERX
## Industrial Cameras & Imaging Systems

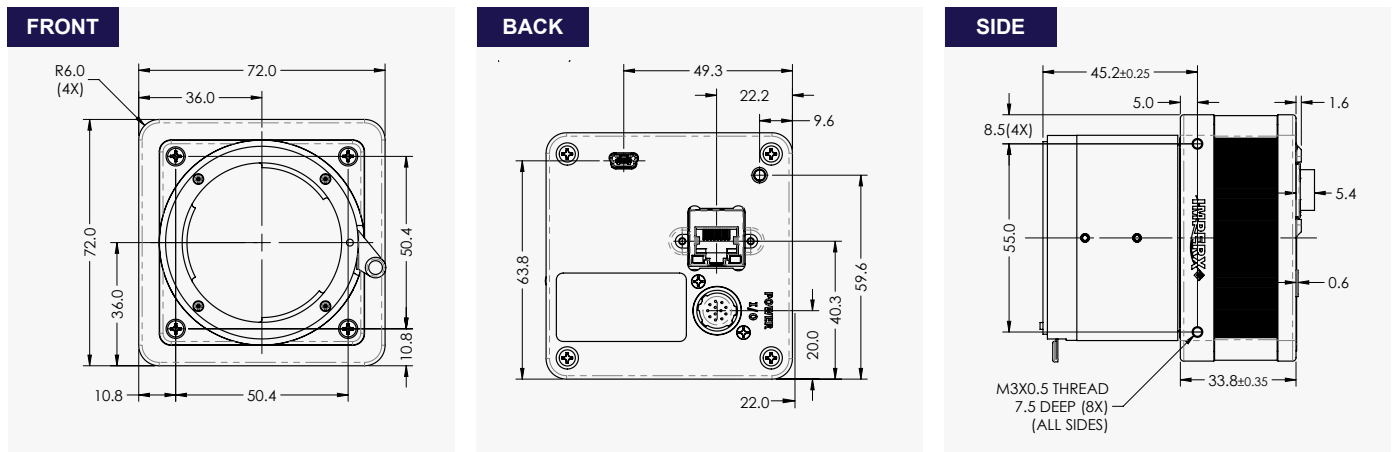## Imperx: *C5180 Applications*

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
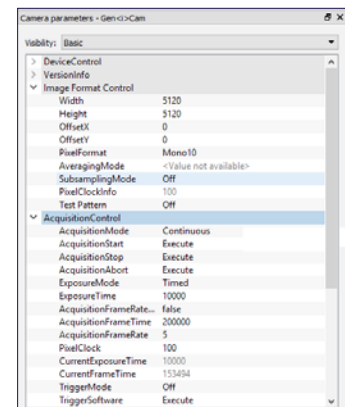
## Absolute Quantum Efficiency

Mono & Color Spectral Response    NOIP1xx025KA



Mono & ENIR Spectral Response    NOIP1xx025KA



## Dimensions



FRONT



BACK



SIDE

## Ordering Information

| Interface Available |
|---|
| GigE Vision® |
| Camera Link® Full (CLF) |
| USB3 |

| 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 |

## Camera Configurator Software



## 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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