

CHEETAH

RUGGEDIZED CAMERA SERIES

C5180 CMOS 25 MP USB3



Imperx: C5180

The C5180 features the ON Semiconductor Python NOIP1x025KA CMOS image sensor with a native resolution of 5120 x 5120 in an APS-H optical format. The GenICam™ compliant USB3 camera delivers up to 13 frames per second in global shutter mode using the USB3 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

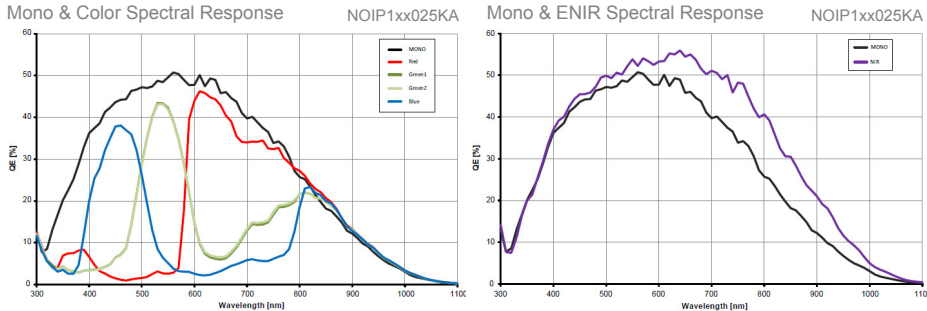
Feature	Description	Feature	Description
Output Interface	USB3	Strobe Output	2 strobes, programmable position and duration
Resolution	5120 (H) x 5120 (V)	Pulse Generator	Yes, programmable
Sensor	Python NOIP1x025KA, CMOS Color/Mono/ENIR	Data Correction	2 LUTs pre-programmed with Gamma 0.45 Defective/hot pixel correction (static, dynamic), Flat field correction, Fixed pattern noise correction
Sensor Format	23 mm (H) x 23 mm (V) 32.5 mm diagonal APS-H optical format	Lens Mount	F-Mount (Default), M42, EF Canon (passive or active)
Pixel Size	4.5 microns square	Supply Voltage Range	12 V DC (5 V – 33 V) 1.5 A inrush without enabled Canon controller 12 V DC (6.5 V – 33 V) 1.5 A inrush with enabled Canon controller
NIR Sensitivity	Mono: 850 nm: 18%, 950 nm: 6% ENIR: 850 nm: 30%, 950 nm: 11%	Camera Current	Typical: 0.52 A, Maximum: 0.66 A
Shutter	Global shutter (GS)	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 34.7 mm (L)
Fixed Pattern Noise	<0.9 LSB	Weight	379 g
Sensor Digitization	10-bit	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Frame Rate	13 fps (8-bit), 6 (10-bit)	Environmental	-40 °C to +85 °C Operating, -50 °C to +90 °C Storage
Dynamic Range	59 dB	Humidity	10% to 90% non-condensing
Row Overhead Time (ROT)	Zero	MTBF	>323,000 hours @ 40 °C (Telcordia SR-332)
Output Bit Depth	8, 10-bit	Military Standard	MIL-STD-810G
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x	Regulatory	FCC Part 15 Class A, CE, RoHS
Digital Gain	1x (0 dB) to 15.9 (24 dB) with a precision of 0.001x, Auto		
AEC/AGC	Yes		
Black Level Offset	Manual (-512...+511), Auto		
White Balance	Manual, Auto, Off		
Shutter Speed	1 μs/step, 40 μs to 1.0 s		
Exposure Control	Off, Internal, External, Auto		
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, LVTTTL) / 2 OUT (OPTO, TTL)		

Imperx: C5180 Applications

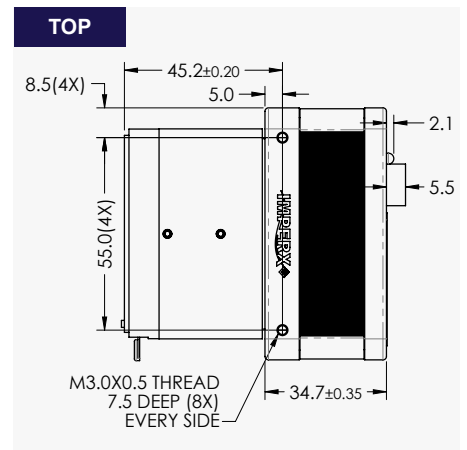
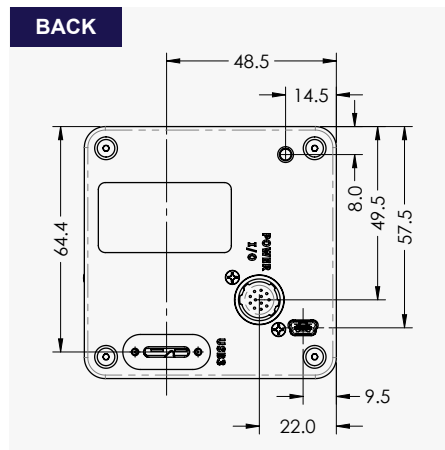
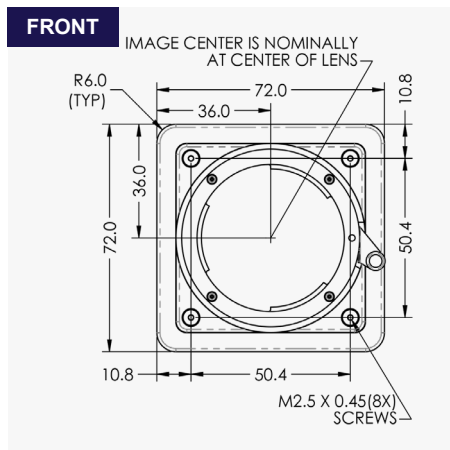
The C5180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

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

Absolute Quantum Efficiency



Dimensions



Ordering Information

Output Interface
USB3 (U3V)

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

Hirose Connectors

Power and I/O Interface

1. 12 VDC Return	7. OUT1 TTL Signal
2. +12V DC	8. IN1 OPTO +
3. Reserved	9. IN2 TTL Signal
4. Reserved	10. IN1 OPTO -
5. OUT2 OPTO -	11. IN2 TTL Gnd
6. OUT1 TTL Gnd	12. OUT2 OPTO +

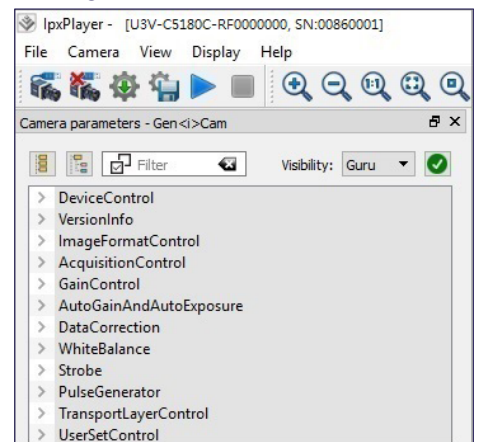
Connector: Hirose HR 10A-10R-12PB(71)

Rev: u3v_c5180_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)



Gen<I>Cam Compliant Camera Configurator



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