C4180
CMOS 12 MP
GigE Vision®

Imperx: *C4180*

The C4180 features the ON Semiconductor Python NOIP1xx012KA CMOS image sensor with a native resolution of 4096 x 3072 in a 4/3" optical format. The GenICam™ compliant camera delivers 8.3 frames per second in global shutter mode with the GigE Vision interface. CMOS technology eliminates smear columns from areas of ultra-bright intensity and specular reflections in uncontrolled lighting applications. The Imperx Cheetah camera 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 C4180 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	GigE Vision	Strobe Output	2 strobes, programmable position and duration
Resolution	4096 (H) x 3072 (V)	Pulse Generator	Yes, programmable
Sensor	Python NOIP1xx012KA, 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	18.4 mm (H) x 13.8 mm (V) 23 mm diagonal 4/3" optical format		
Pixel Size	4.5 microns square	Lens Mount	F-Mount (default), M42, EF Canon (passive or active)
NIR Sensitivity	Mono: 850 nm: 18%, 950 nm: 6% ENIR: 850 nm: 30%, 950 nm: 11%	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
Shutter	Global shutter (GS)		
Fixed Pattern Noise	<0.9 LSB		
Sensor Digitization	10-bit	Camera Current	Typical: 0.52 A, Maximum: 0.66 A
Frame Rate	8.3 fps (8-bit), 4.5 fps (10-bit)	Size - Width/Height/Length	72.0 mm (W) x 72.0 mm (H) x 33.8 mm (L)
Dynamic Range	59 dB	Weight	389 g
Output Bit Depth	8, 10-bit	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068-2-27
Analog Gain Control	1x, 1.26x, 1.87x, 3.17x		
Digital Gain	1x (0 dB) to 15.9 (24 dB) with a precision of 0.001x, Auto	Environmental	-40 °C to +85 °C Operating -50 °C to +90 °C Storage
AEC/AGC	Yes	Humidity	10% to 90% non-condensing
Black Level Offset	Manual (-512…+511), Auto	MTBF	>323,000 hours @ 40°C (Telcordia SR-332)
White Balance	Manual, Auto, Off	Military Standard	MIL-STD-810G
Shutter Speed	1 µs/step, 40 µs to 1.0 s	Regulatory	FCC Part 15 Class A, CE, RoHS
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, LVTTL) / 2 OUT (OPTO, TTL)		

IMPERX
Industrial Cameras & Imaging Systems

Imperx: *C4180 Applications*

The GEV-C4180 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

QE Curve for Mono & Color   NOIP1xx012KA
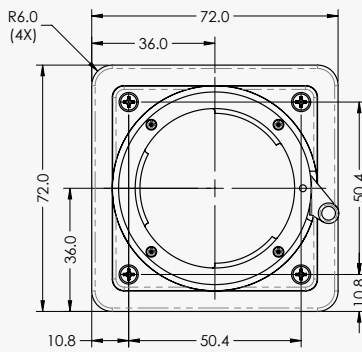

QE Curve for Standard & NIR Mono   NOIP1xx012KA
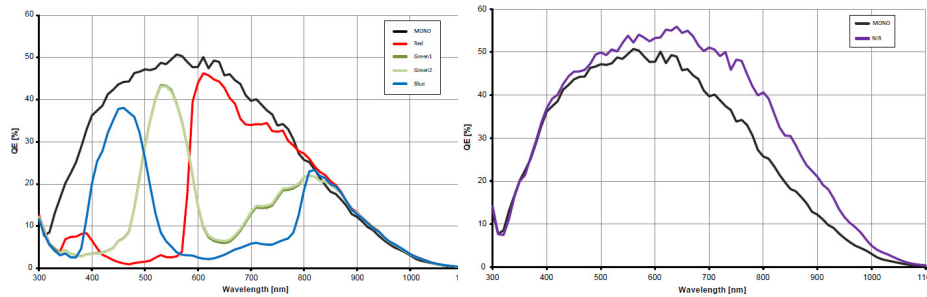
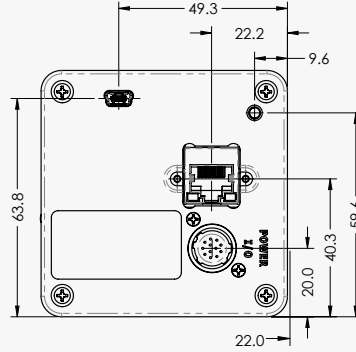## Dimensions

FRONT	BACK	TOP
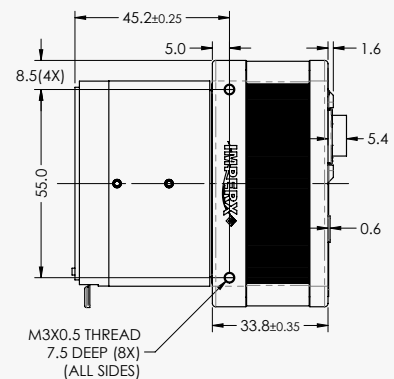
Ordering Information

Output Interface
GigE Vision® (GEV)

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

Gen<I>Cam Compliant Camera Configurator

Hirose Connectors

Power and I/O Interface

1. 12 VDC Return
2. +12 VDC
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 HR 10A-10R-12PB(71)

Rev: gev_c4180_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)

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