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 up to 90 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 GenICam™ compliant user interface, you can quickly apply image corrections, if desired. 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**
--- | ---
Output Interface | 2-channel CXP-6 CoaXPress® w/PoCXP
Resolution | 4096 (H) x 3072 (V)
Sensor | Python NOIP1xx012KA, CMOS Color/Mono/ENIR
Sensor Format | 18.4 mm (H) x 13.8 mm (V) 4/3” optical format
Pixel Size | 4.5 microns square
NIR Sensitivity | Mono: 850 nm: 18%, 950 nm: 6% ENIR: 850 nm: 30%, 950 nm: 11%
Shutter | Global shutter (GS)
Fixed Pattern Noise | <0.9 LSB
Sensor Digitization | 10-bit
Frame Rate | 90 fps (8-bit), 72.9 fps (10-bit)
Dynamic Range | 59 dB
Row Overhead Time (ROT) | Zero
Output Bit Depth | 8, 10-bit
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 (AGC available)
AEC/AGC | Yes
Black Level Offset | Manual (-511…+511), Auto
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 | 1 x 2, 2 x 1, 2 x 2
Trigger Inputs | External, Pulse generator, Software
Trigger Options | Edge, Debounce
Trigger Modes | Trigger over CoaXPress, 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
Data Correction | 2 LUTs pre-programmed with Gamma 0.45
Lens Mount | F-Mount (Default), M42, EF Canon (passive or active)
Power over CoaXPress (PoCXP) | Yes
Power consumption | Typical: 8.5 W, Maximum: 9.4 W
Size - Width/Height/Length | 72.0 mm (W) x 72.0 mm (H) x 33.8 mm (L)
Weight | 379g
Vibration, Shock | TBD
Environmental | -40 °C to +70 °C Operating
Humidity | 10% to 90% non-condensing
MTBF | >323,000 hours @ 40 °C (Telcordia SR-332)
Military Standard | MIL-STD-810G
Regulatory | FCC Part 15 Class A, CE, RoHs
Imperx: C4180 Applications

The C4180 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Aerospace ● Surveillance ● Ball Grid Array ● Printed Circuit Board Inspection ● Motion Analysis ● Machine Vision ● Industrial Inspection ● Intelligent Traffic Systems ● Aerial Imaging ● Open Road Tolling Systems Awareness

Absolute Quantum Efficiency

Dimensions

Ordering Information

Lens Mounts

Monochrome
Bayer Color
NIR

Accessories (Sold separately)

CBL-PWIO01: Cable Power; Hirose 12p (F) to loose end; 2 meters

Hirose Connectors

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 +