Allied Vision

CoaXPress

# Bonito PRO

## X-2620B NIR

- APS-H optical format CMOS sensor
- PoCXP
- 4-DIN type connector
- 79.7 fps at full resolution

**Speed up your high-resolution application**

## Robust high-bandwidth camera series

Bonito PRO X-2620B NIR with ON Semi PYTHON 25K NIR runs 79.7 frames per second at 26.2 MP resolution.

Bonito PRO is Allied Vision's high-bandwidth camera series with a CoaXPress interface. Equipped with four DIN 1.0/2.3 connectors the camera is capable to transmit 25 Gbps via four CXP-6 high-speed connections. Bonito PRO features a rugged, fanless housing design, and powerful feature set – making it the ideal choice for high-definition imaging applications that require high throughput, robustness, and system design-in flexibility.

Easy software integration with Allied Vision's Vimba Suite and compatibility to the most popular third party image-processing libraries.

See the Modular Concept for lens mount, housing variants, optical filters, case design, and other modular options. See the Customization and OEM Solutions webpage for additional options.

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## Specifications

| | |
|---|---|
| Interface | CoaXPress (CXP-6) 4 DIN |
| Resolution | 5120 (H) × 5120 (V) |
| Sensor | ON Semi PYTHON 25K NIR |
| Sensor type | CMOS |
| Shutter mode | Global shutter |
| Sensor size | Type APS-H |
| Pixel size | 4.5 µm × 4.5 µm |
| Lens mounts (available) | F-Mount, F-Mount PA, EF-Mount PA, M42-Mount, M42-Mount PA, M58-Mount, M58-Mount PA |
| Max. frame rate at full resolution | 79.7 fps |
| ADC | 10 Bit |
| Non-volatile memory (Flash) | 1024 KB |

**Imaging performance**

Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for NIR models measured without optical filter.

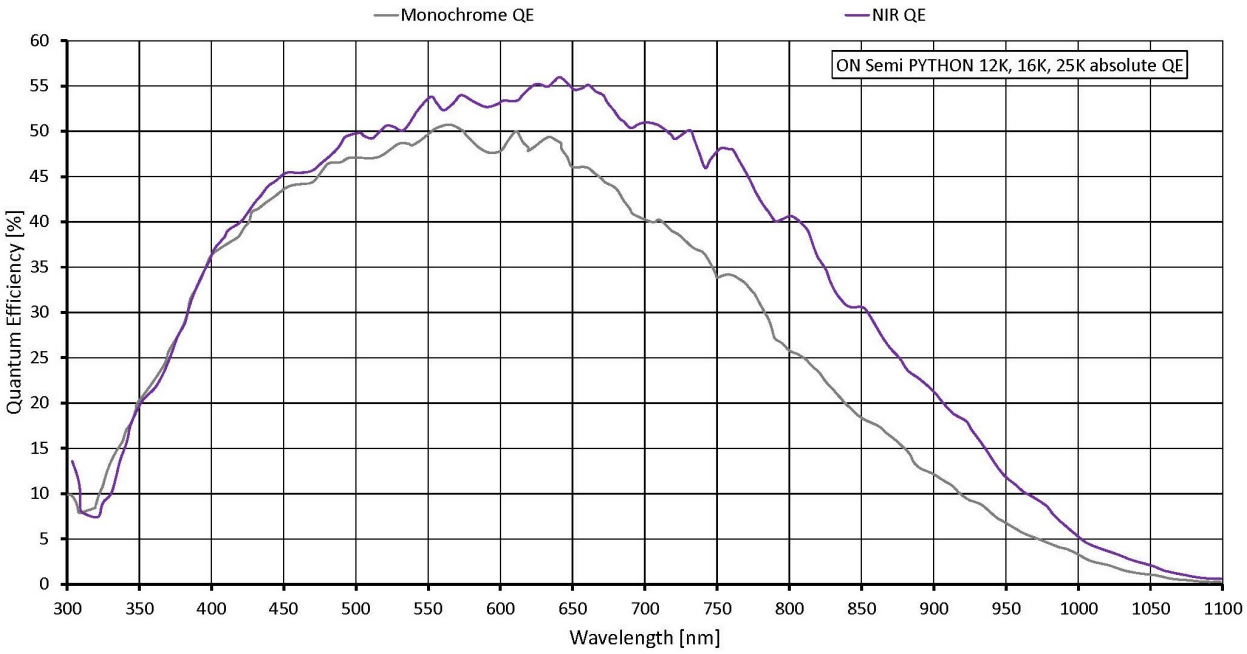
| | |
|---|---|
| Quantum efficiency at 529 nm | 55 % |
| Quantum efficiency at 850 nm | 34 % |
| Temporal dark noise | 20.7 $e^-$ |
| Saturation capacity | 8100 $e^-$ |
| Dynamic range | 51.6 dB |
| Absolute sensitivity threshold | 21.4 $e^-$ |

| **Output** | |
|---|---|
| Bit depth | 10 Bit |
| Monochrome pixel formats | Mono8, Mono10 |

| **General purpose inputs/outputs (GPIOs)** | |
|---|---|
| TTL I/Os | 1 input, 2 outputs |
| Opto-isolated I/Os | 1 input, 2 outputs |

| Operating conditions/dimensions | |
|---|---|
| Operating temperature | -20 °C to +70 °C housing (without condensation) |
| Power requirements (DC) | 24 VDC; PoCXP |
| Power consumption | External power: 15 W at 24 VDC \| Power over CoaXPress: 15 W |
| Mass | 500 g (with F-Mount) |
| Body dimensions (L × W × H in mm) | 114.9 × 70 × 70 (with F-Mount and connectors) |

# Quantum efficiency



# Features

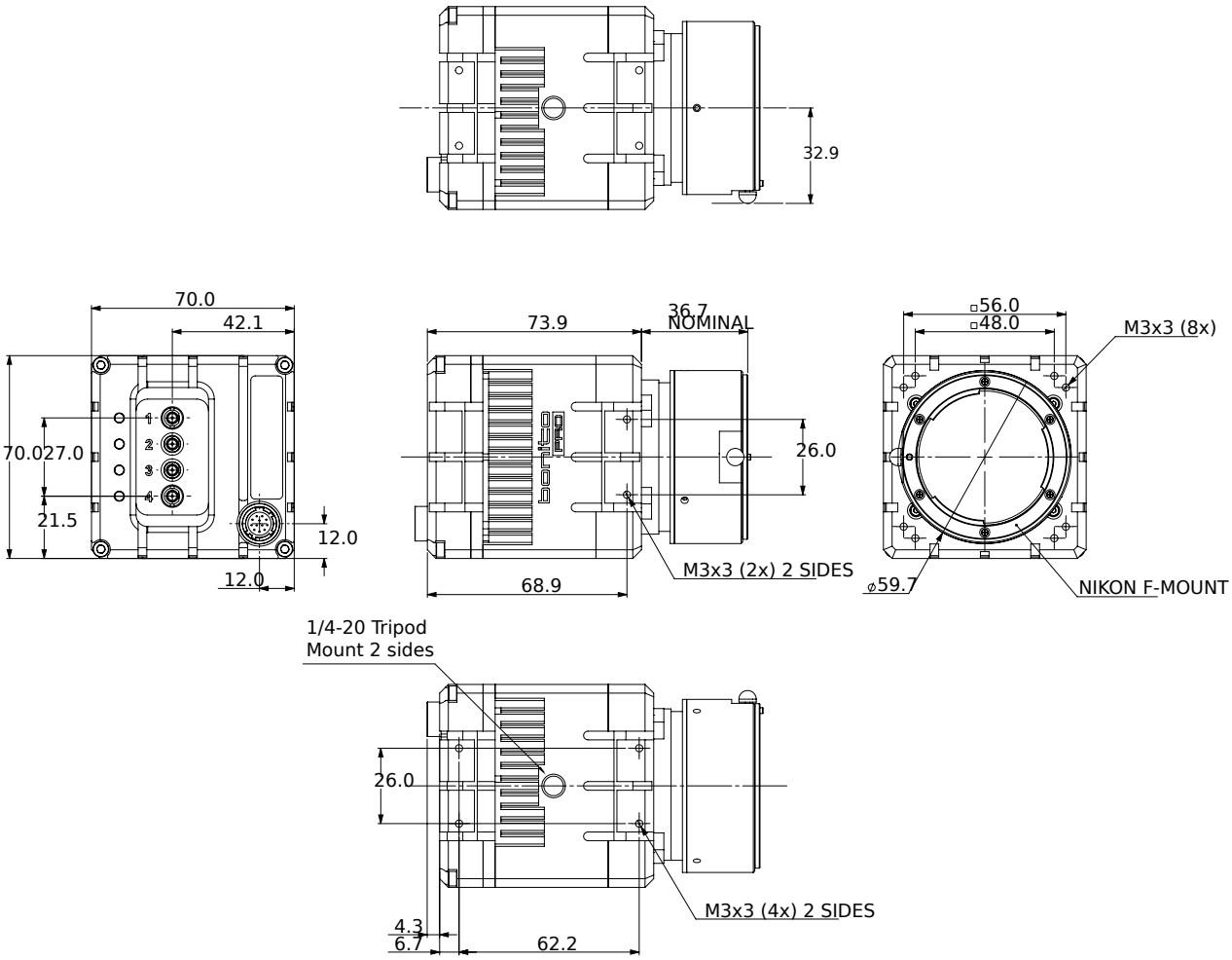
## Image optimization features:

- Auto gain (manual gain control: 0 to 22 dB)
- Auto exposure (manual exposure control: 1 µs to 1 s)
- Binning (horizontal and/or vertical), (sum or average)
- Decimation X/Y
- Gamma correction
- Look-up tables
- Defect Pixel Correction
- Fixed Pattern Noise Correction

## Camera control features:

- Multiple region of interest
- Sequencer Control
- Trigger over CoaXPress
- EF lens control (order option -18)
- Storable user sets
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board and sensor board)

# Technical drawing




# Applications

Bonito PRO X-2620B NIR is ideal for a wide range of applications including:

- Automated Optical Inspection of flat panel displays, PCB/electronics, printings
- 2D/3D Surface Inspection (for example, glass)
- Aerial imaging