

# Prosilica GT

## 5120NIR



- Type APS-H CMOS sensor
- IEEE 1588 PTP
- Power over Ethernet
- 4.59 fps at full resolution

## 26.2 Megapixel industrial camera for extended temperature ranges

Prosilica GT5120NIR is a 26.2 Megapixel camera with a GigE Vision compliant Gigabit Ethernet interface and Hirose port. Prosilica GT5120NIR is an extended near-infrared (NIR) model. This camera incorporates the high quality ON Semiconductor PYTHON 25K NIR (NOIPFN025KA) CMOS sensor with In-pixel Correlated Double Sampling (IP-CDS) global shutter technology. At full resolution, this camera runs 4.59 frames per second. With a smaller region of interest, higher frame rates are possible. Prosilica GT5120NIR is a rugged camera with a robust thermal housing that is designed to operate in extended temperature ranges and fluctuating lighting conditions. It is a large format housing camera with a standard F-Mount lens mount. By default NIR models ship with no optical filter.

### Benefits and features:

- Extended near-infrared (GT5120NIR) model
- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- The ON Semiconductor PYTHON 25K is a high sensitivity CMOS sensor
- Trigger over Ethernet (ToE) Action Commands allow for a single cable solution to reduce system costs
- Comprehensive I/O functionality for simplified system integration
- Planarity adjustable (PA) EF Lens Mount (option -18) for electronic control of aperture and autofocus
- Easy camera mounting via standard M3 threads at all sides and 1/4-20 tripod mounting hole
- Easy software integration with Allied Vision's [Vimba SDK](#) and compatibility to the most popular [third party image-processing libraries](#).
- Enhanced Defect Pixel Correction feature with a new Defective Pixel List Manager tool that allows you to load different user defined defective pixel lists to match your application and optimize the life cycle of the camera



## Options:

- Available with F-Mount PA, M58-Mount, M58-Mount PA, EF-Mount PA, M42-Mount, M42-Mount PA
- Available with IRC30 IR cut filter, IRC Filter Schneider 486, or Protection Glass B 270 (ASG)

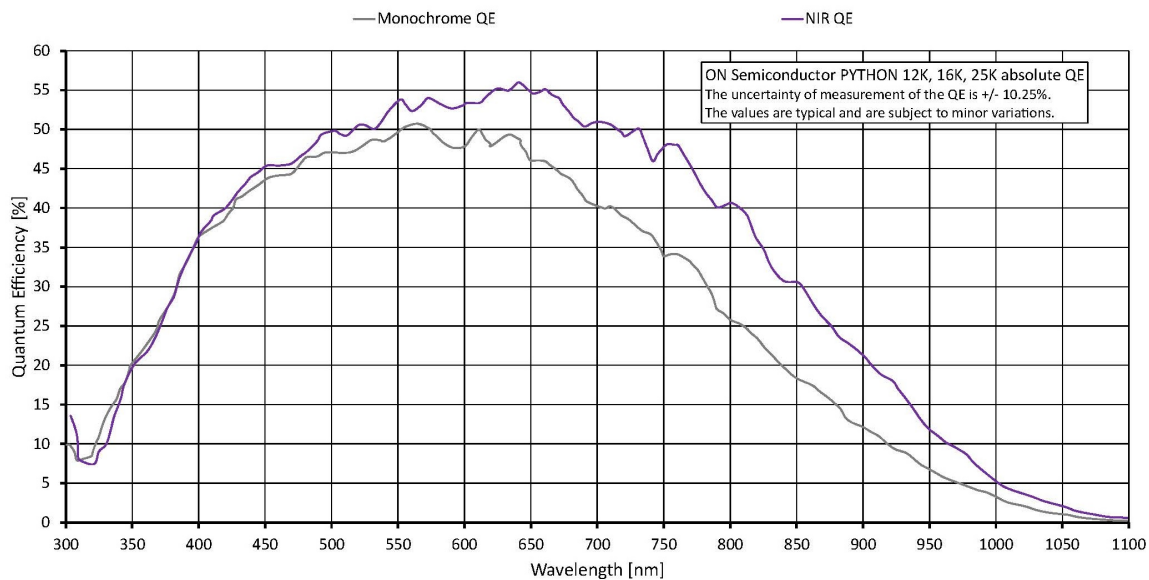
See the [Modular Concept](#) for lens mount and optical filters options. See the [Customization and OEM Solutions](#) webpage for additional options.

## Specifications

| Prosilica GT  | 5120NIR                                   |
|---|---|
| Interface   | IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) |
| 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 mount (default)  | F-Mount                                   |
| Max. frame rate at full resolution  | 4.59 fps                                  |
| ADC   | 10 Bit                                    |
| Image buffer (RAM)  | 128 MByte                                 |
| <b>Imaging performance</b>  |   |
| 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 at full resolution without optical filter. Contact Sales or AE for more information. |   |
| Quantum efficiency at 529 nm  | 55 %                                      |
| Quantum efficiency at 850 nm  | 33 %                                      |
| Temporal dark noise   | 25.9 e <sup>-</sup>                       |
| Saturation capacity   | 8000 e <sup>-</sup>                       |
| Dynamic range   | 49.6 dB                                   |
| Absolute sensitivity threshold  | 26.5 e <sup>-</sup>                       |
| <b>Output</b>   |   |
| Bit depth   | 10 Bit                                    |
| Monochrome pixel formats  | Mono8, Mono10                             |
| <b>General purpose inputs/outputs (GPIOs)</b>   |   |
| TTL I/Os  | 1 input, 2 outputs                        |
| Opto-isolated I/Os  | 1 input, 2 outputs                        |
| RS232   | 1   |
| <b>Operating conditions/dimensions</b>  |   |

| Prosilica GT                      | 5120NIR   |
|-----------------------------------|---|
| Operating temperature             | -20 °C to +50 °C ambient (without condensation)   |
| Power requirements (DC)           | 7 to 25 VDC AUX or 802.3at Type 1 PoE   |
| Power consumption                 | 5.02 W at 12 VDC; 6.3 W PoE   |
| Mass                              | 372 g   |
| Body dimensions (L × W × H in mm) | 96 × 66 × 53.3 (including connectors)   |
| Regulations                       | CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class A; CAN ICES-003 Issue 4/5 |

## Quantum efficiency



## Features

### Image optimization features:

- Auto gain (manual gain control: 0 to 22 dB)
- Auto exposure (manual exposure control: 1  $\mu$ s to 1 s, 1  $\mu$ s increments)
- Binning (horizontal and vertical) (sum)
- Decimation X/Y
- Enhanced Defect Pixel Correction (DPC)
- Fixed Pattern Noise Correction (FPNC)
- Gamma correction
- Three look-up tables (LUTs)

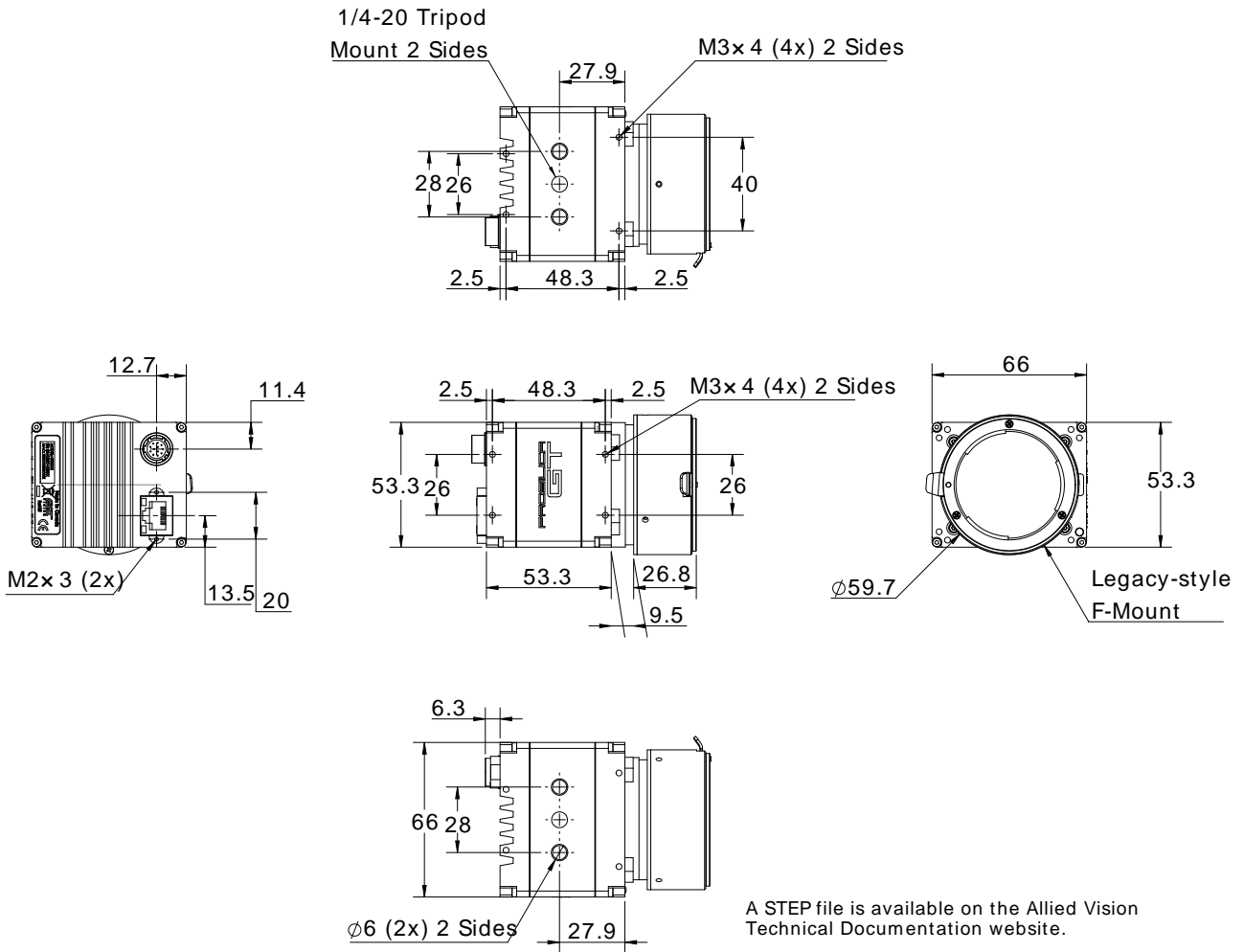


- Region of interest (ROI)

#### Camera control features:

- EF lens control (order option -18)
- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol (PTP)
- RS232
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board and sensor board)
- Trigger over Ethernet (ToE) Action Commands

## Technical drawing





## Applications

Prosilica GT5120NIR is ideal for a wide range of applications including:

- Outdoor imaging
- Intelligent Traffic Systems (ITS)
- Public security and surveillance
- Industrial inspection (food, bottles, recycling, labels, etc.)
- Microscopy
- Military and space applications
- Medical and healthcare
- Other machine vision applications