Engineered for every environment
High-resolution cameras for demanding applications

Prosilica GT 4090 with ON Semi PYTHON 12K runs 9.6 frames per second at 12.5 MP resolution.

The rugged housing optimized for heat dissipation makes Prosilica GT the ideal solution for harsh environments. The various lens control options allow constant adjustment of the image brightness to changing light conditions. Offering resolutions of up to 31 megapixels, they are ideal for high-definition imaging applications with demanding requirements of robustness and 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.
Specifications

**Interface**
IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)

**Resolution**
4096 (H) × 3072 (V)

**Sensor**
ON Semi PYTHON 12K

**Sensor type**
CMOS

**Shutter mode**
GS (Global shutter)

**Sensor size**
Type 4/3

**Pixel size**
4.5 µm × 4.5 µm

**Lens mount (default)**
F-Mount

**Max. frame rate at full resolution**
9.58 fps

**ADC**
10 Bit

**Image buffer (RAM)**
128 MByte

---

**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 monochrome models measured without optical filter.

- **Quantum efficiency at 529 nm**: 54 %
- **Temporal dark noise**: 28.0 e⁻
- **Saturation capacity**: 8400 e⁻
- **Dynamic range**: 49.5 dB
- **Absolute sensitivity threshold**: 28.6 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
- **RS232**: 1
### Operating conditions/dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-20 °C to +50 °C ambient (without condensation)</td>
</tr>
<tr>
<td>Power requirements (DC)</td>
<td>7 to 25 VDC AUX or 802.3at Type 1 PoE</td>
</tr>
<tr>
<td>Power consumption</td>
<td>4.96 W at 12 VDC; 6.7 W PoE</td>
</tr>
<tr>
<td>Mass</td>
<td>372 g</td>
</tr>
<tr>
<td>Body dimensions (L × W × H in mm)</td>
<td>96 × 66 × 53.3 (including connectors)</td>
</tr>
</tbody>
</table>

### Quantum efficiency

![Quantum Efficiency Graph](image-url)
Features

Image optimization features:

- Auto gain (manual gain control: 0 to 22 dB)
- Auto exposure (manual exposure control: 1 µs to 1 s, 1 µs increments)
- Binning (horizontal and vertical) (sum)
- Decimation X/Y
- Enhanced Defect Pixel Correction
- Fixed Pattern Noise Correction
- Gamma correction
- Three look-up tables
- Region of interest

Camera control features:

- EF lens control (order option -18)
- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol
- 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 Action Commands
Applications

Prosilica GT4090 is ideal for a wide range of applications including:

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