



- Type 4/3 CMOS sensor
- IEEE 1588 PTP
- Power over Ethernet
- 9.58 fps @ full resolution

Description

12.5 MP CMOS machine vision camera for extended temperature ranges

Prosilica GT4090 is a 12.5 Megapixel camera with a GigE Vision compliant Gigabit Ethernet port and Hirose I/O port. Prosilica GT4090 is offered as monochrome and extended near-infrared (NIR) models. This camera incorporates the high quality ON Semiconductor PYTHON 12K CMOS sensor with In-pixel Correlated Double Sampling (IP-CDS) global shutter technology. At full resolution, this camera runs 9.58 frames per second. With a smaller region of interest, higher frame rates are possible. Prosilica GT4090 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 monochrome and NIR models ship with no optical filter.

Benefits and features:

- Monochrome (GT4090) and extended near-infrared (GT4090NIR) models
- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for industrial environments
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- The ON Semiconductor PYTHON 12K is a high sensitivity CMOS sensor
- Trigger over Ethernet (ToE) Action Commands allow for a single cable solution
- Planarity adjustable (PA) EF Lens Mount (option -18) for electronic control of aperture and autofocus
- Standard M3 mounting holes and 1/4-20 tripod mounting holes
- Support for popular third party image-processing libraries including Cognex VisionPro, MathWorks MATLAB, National Instruments LabVIEW, Stemmer Imaging Common Vision Blox, MVTec HALCON and MERLIC
- 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

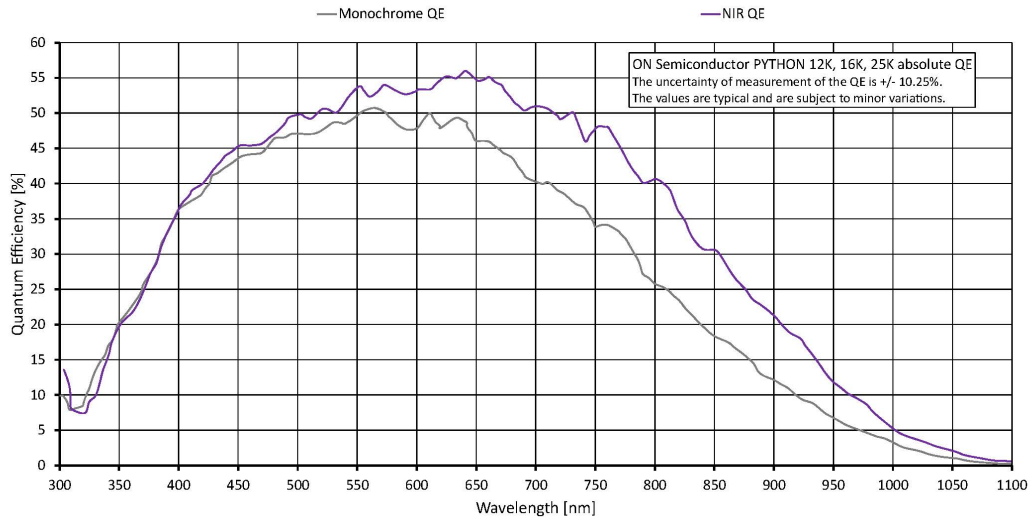
Options:

- Available with F-Mount PA, M58-Mount, M58-Mount PA, EF-Mount PA, M42-Mount, M42-Mount PA
- Available with IR cut filter or protection glass

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

Specifications

Prosilica GT	4090
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	4096 (H) × 3072 (V)
Sensor	ON Semi PYTHON 12K
Sensor type	CMOS
Sensor size	Type 4/3
Pixel size	4.5 μm x 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
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	
Operating temperature	-20 °C to +50 °C ambient (without condensation)
Power requirements (DC)	7 to 25 VDC; PoE
Power consumption	4.96 W @ 12 VDC; 6.7 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 (RoHS); FCC Class A; CAN ICES-003 Issue 4/5



Features

Image optimization features:

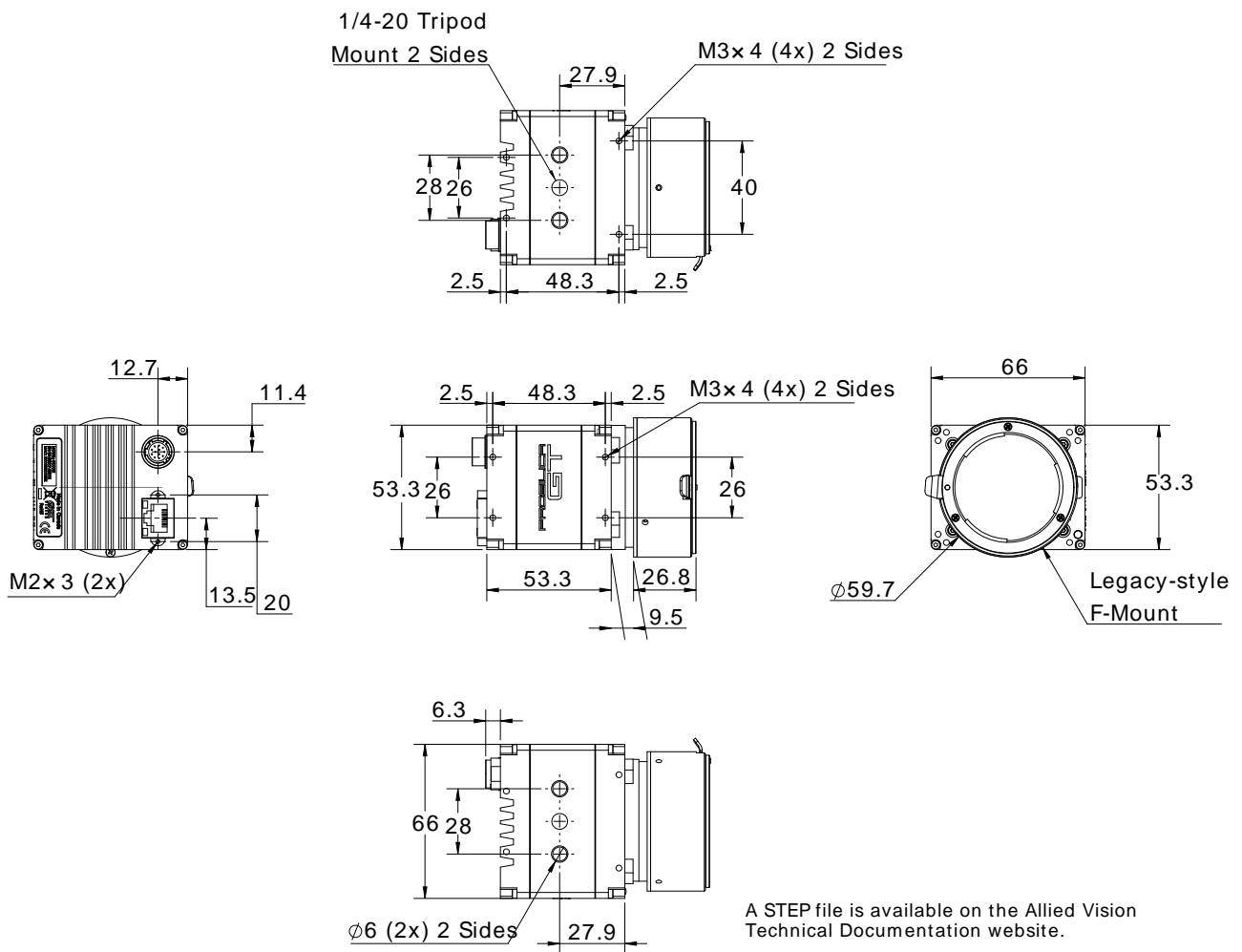
- Auto gain (manual gain control: 0 to 22 dB)
- Auto exposure (manual exposure control: 100 μ s to 1 s, 1 μ s increments)
- Binning (horizontal and vertical) (sum)
- Decimation X/Y
- Enhanced Defect Pixel Correction (DPC)
- Fixed Pattern Noise Correction (FPNC)
- Gamma correction
- Three look-up tables (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 GT4090 camera series 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