Allied Vision

Prosilica GT
4905

- Versatile temperature range for extreme environments
- IEEE 1588 PTP
- Power over Ethernet
- 7.5 fps @ full resolution

Description

16 MP CCD machine vision camera for extreme environments

Prosilica GT4905 is a 16 Megapixel camera with a GigE Vision compliant Gigabit Ethernet port and Hirose I/O port. Prosilica GT4905 is offered in both monochrome and color models. This camera incorporates the high quality ON Semiconductor KAI-16050 TRUESENSE Gen 2 CCD sensor providing excellent monochrome and color image quality. At full resolution, this camera runs 7.5 frames per second. With a smaller region of interest, higher frame rates are possible. It is a rugged camera designed to operate in extreme environments. This camera is a large format housing camera with a standard F-Mount lens mount. By default monochrome models ship with no optical filter and color models ship with an IRC30 IR cut filter.

Benefits and features:

- Monochrome (GT4905) and color (GT4905C) 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 KAI-16050 TRUESENSE Gen 2 is a high sensitivity CCD sensor
- Trigger over Ethernet (ToE) Action Commands allows for a single cable solution
- Planarity adjustable (PA) EF Lens Mount (option -18) for electronic control of aperture and autofocus
- 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
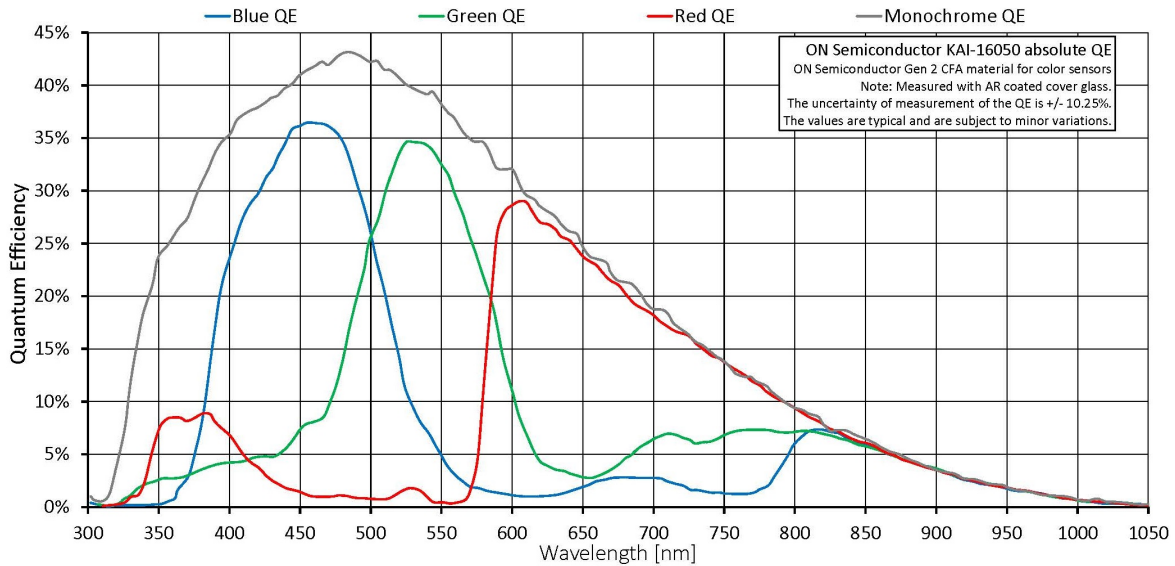
Options:

- 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

- Class 1 sensor option

See the Modular Concept for lens mount and optical filters options. See the Customization and OEM Solutions page for additional options.

Specifications

Prosilica GT	4905
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	4896 (H) × 3264 (V)
Sensor	ON Semi KAI-16050
Sensor type	CCD Progressive
Sensor size	Type APS-H
Pixel size	5.5 µm x 5.5 µm
Lens mount (default)	F-Mount
Max. frame rate at full resolution	7.5 fps
ADC	14 bit
Image buffer (RAM)	128 MByte
Output	
Bit depth	14 (monochrome); 12 (color) bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed, Mono14
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed, RGBA8Packed, BGRA8Packed
Raw pixel formats	BayerGR8, BayerGR12, BayerRG12Packed
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	7.3 W @ 12 VDC; 9.0 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

Legend: Blue QE — Green QE — Red QE — Monochrome QE

ON Semiconductor KAI-16050 absolute QE
ON Semiconductor Gen 2 CFA material for color sensors
Note: Measured with AR coated cover glass.
The uncertainty of measurement of the QE is +/- 10.25%.
The values are typical and are subject to minor variations.

Y-axis: Quantum Efficiency (0% to 45%)
X-axis: Wavelength [nm] (300 to 1050)
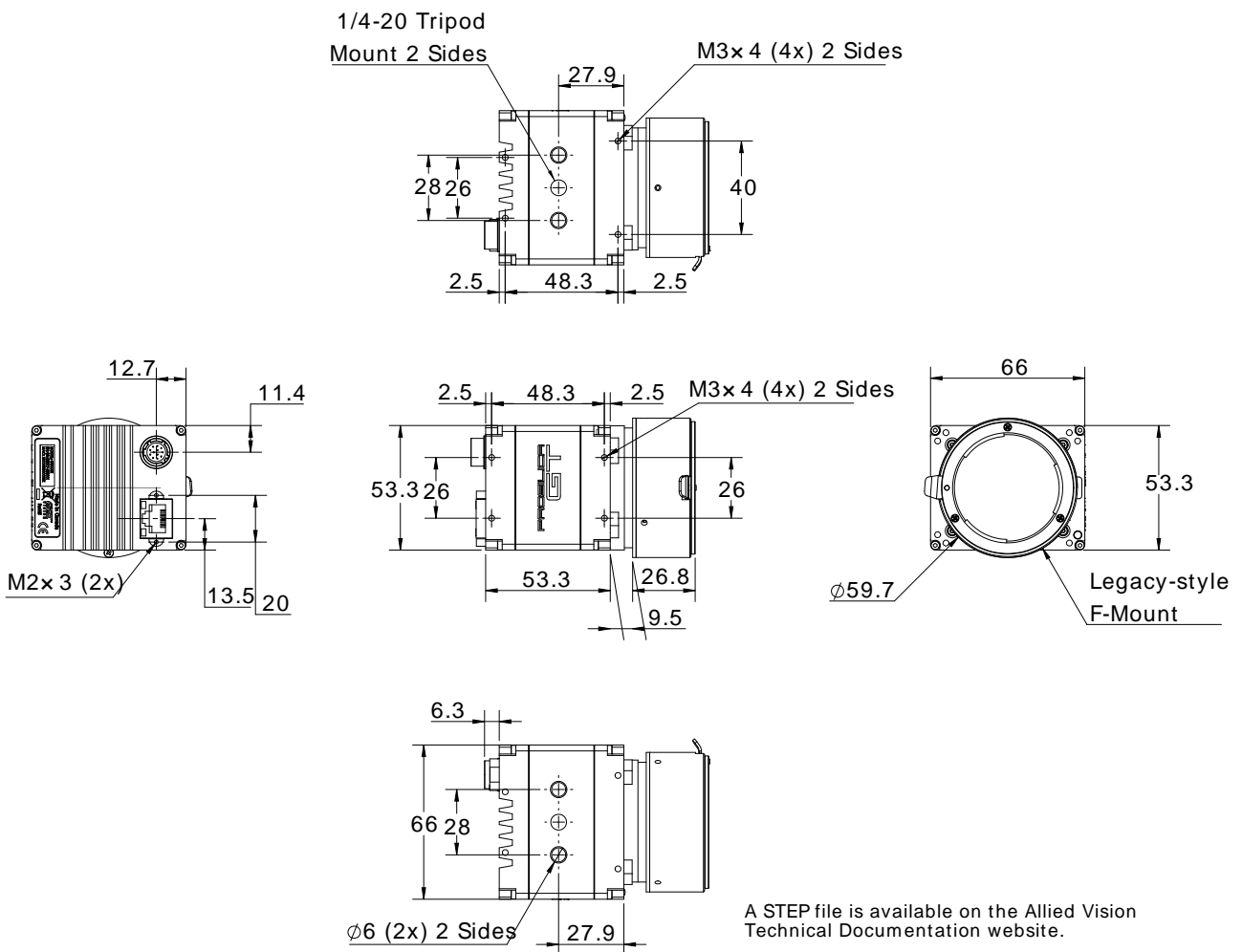
Features

Image optimization features:

- Auto gain (manual gain control: 0 to 33 dB)
- Auto exposure (manual exposure control: 15 µs to 26.8 s)
- Auto white balance (GT4905C only)
- Binning (horizontal and vertical)
- Color correction, hue, saturation (GT4905C only)
- Column defect masking
- Decimation X/Y
- Gamma correction
- Three look-up tables (LUTs)
- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

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)

![Allied Vision logo]

- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Tap mode switchable in Vimba Viewer 2.0 or later (four-tap, one-tap)
- Temperature monitoring (main board and sensor board)
- Trigger over Ethernet (ToE) Action Commands

Technical drawing

1/4-20 Tripod Mount 2 Sides
M3×4 (4x) 2 Sides
27.9
28 26
40
2.5
48.3
2.5

12.7
11.4
M2×3 (2x)
13.5 20

2.5
48.3
2.5
M3×4 (4x) 2 Sides
53.3 26
26
53.3
26.8
9.5

66
53.3
Ø59.7
Legacy-style F-Mount

6.3
66 28
Ø6 (2x) 2 Sides
27.9

A STEP file is available on the Allied Vision Technical Documentation website.

Applications

Prosilica GT4905 is ideal for a wide range of applications including:

- Outdoor imaging
- Traffic imaging and Intelligent Traffic Systems (ITS)
- Public security and surveillance
- Industrial inspection
- Machine vision
- Military and space applications