

- Versatile temperature range for extreme environments
- IEEE 1588 PTP
- Power over Ethernet
- P-Iris and DC-Iris lens control

1.2 megapixel machine vision camera for extreme environments

Prosilica GT1290 is a 1.2 megapixel camera with a GigE Vision compliant Gigabit Ethernet port and Hirose I/O port. Prosilica GT1290 is offered in both monochrome and color models. This camera incorporates the high-quality Type 1/3 (6.0 mm diagonal) Sony ICX445 EXview HAD CCD sensor providing excellent monochrome and color image quality. The EXview HAD CCD is a sensor that drastically improves light efficiency by including near infrared light region as a basic structure of HAD (Hole-Accumulation Diode) sensor. At full resolution, this camera runs 33.3 frames per second. With a smaller region of interest, higher frame rates are possible. It is a robust camera designed to operate in extreme environments and fluctuating lighting conditions. This camera offers Precise iris lens control allowing users to fix the aperture size to optimize depth of field, exposure, and gain without the need for additional control elements. By default monochrome models ship with no optical filter and color models ship with a Type IRC30 IR cut filter.

Benefits and features

- Monochrome (GT1290) and color (GT1290C) models
- 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-6 recommended)
- Trigger over Ethernet Action Commands allow for a single cable solution to reduce system costs
- Comprehensive I/O functionality for simplified system integration
- Popular C-Mount lens mount
- Easy camera mounting via standard M3 threads or optional tripod adapter
- Easy software integration with Allied Vision's [Vimba Suite](#) and compatibility to the most popular [third party image-processing libraries](#).



Hardware options

- Various lens mounts: Select between C-Mount CS-Mount, F-Mount, or M42-Mount
- Various optical filters: Select between B 270 ASG protection glass and filter types: IRC30 IR cut filter, RG715 IR pass filter, or RG830 IR pass filter.

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

Specifications

Prosilica GT	1290
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	1280 (H) × 960 (V)
Spectral range	300 to 1100 nm
Sensor	Sony ICX445
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 1/3
Pixel size	3.75 μm × 3.75 μm
Lens mounts (available)	C-Mount, CS-Mount, F-Mount, M42-Mount
Max. frame rate at full resolution	33.3 fps
ADC	14 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 at full resolution without optical filter.

Quantum efficiency at 529 nm	56 %
Temporal dark noise	9.6 e ⁻
Saturation capacity	8400 e ⁻
Dynamic range	58.3 dB
Absolute sensitivity threshold	10.1 e ⁻

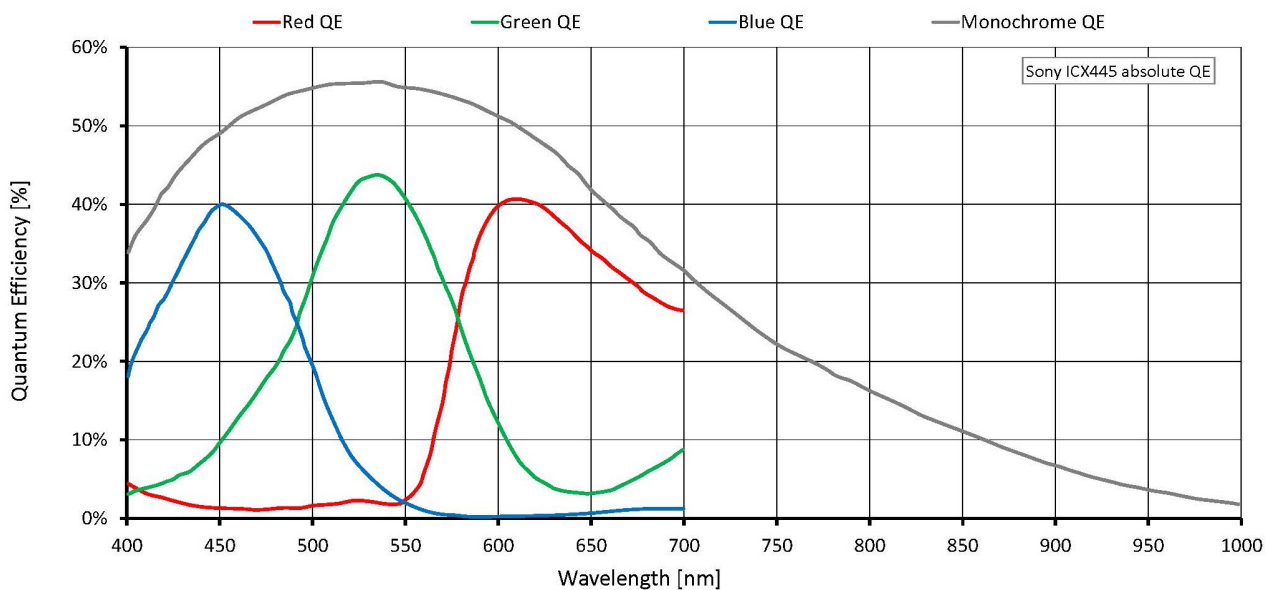
Output

Bit depth	12/14 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed, Mono14
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw pixel formats	BayerRG8, BayerRG12, BayerRG12Packed

General purpose inputs/outputs (GPIOs)

Prosilica GT	1290
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 +65 °C ambient (without condensation)
Power requirements (DC)	7 to 25 VDC AUX or IEEE 802.3at Type 1 PoE
Power consumption	External power: 2.9 W at 12 VDC Power over Ethernet: 3.5 W
Mass	211 g
Body dimensions (L × W × H in mm)	86 × 53.3 × 33 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class A; CAN ICES-3 (A)

Quantum efficiency



Features

Image optimization features:

- Auto gain (manual gain control: 0 to 33 dB; 1 dB increments)
- Auto exposure (manual exposure control: 12 μs to 77.3 s; 1 μs increments)
- Auto white balance (GT1290C only)

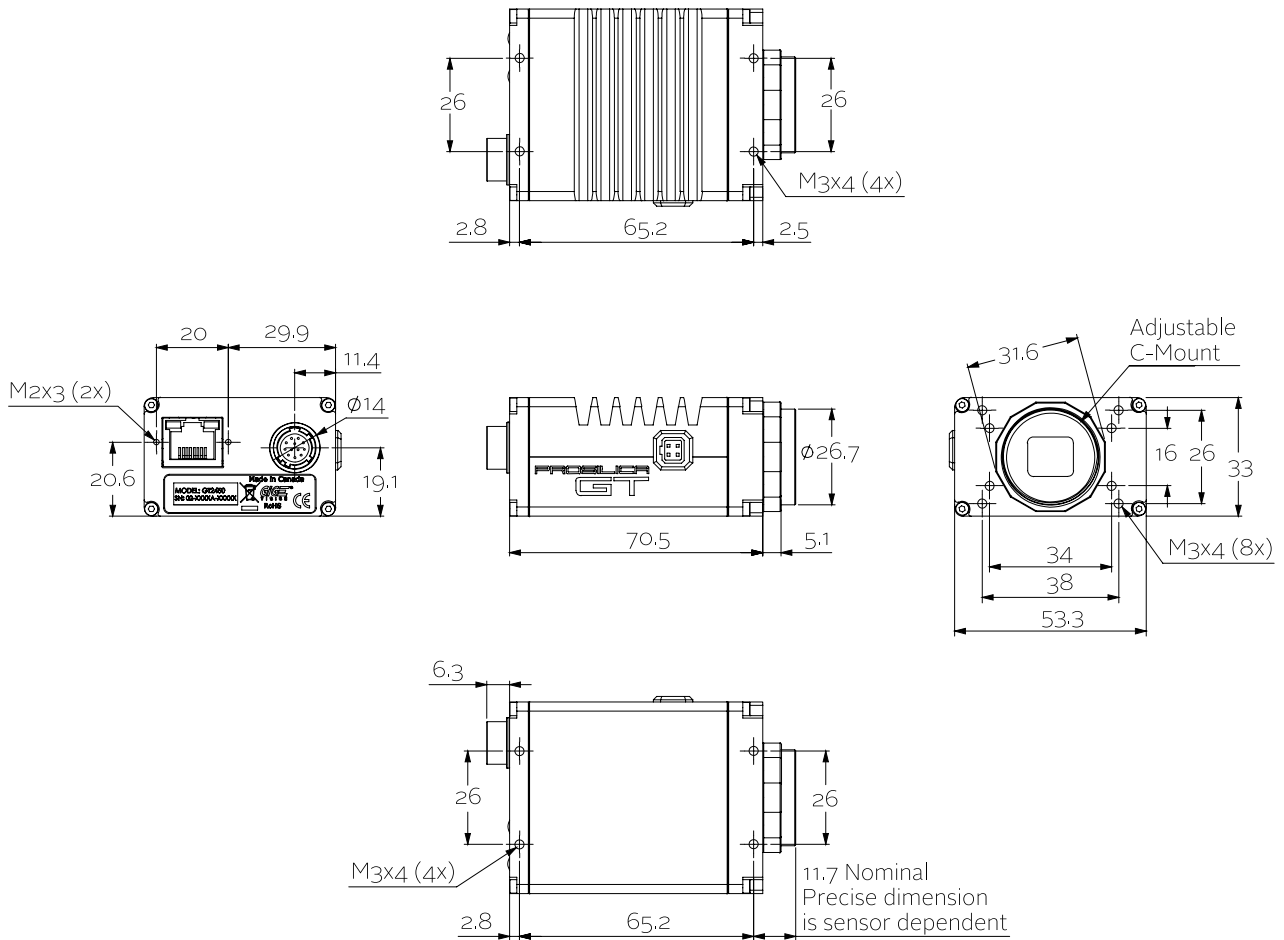


- Binning (horizontal and vertical)
- Color correction, hue, saturation (GT1290C only)
- Decimation X/Y
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features

Camera control features:

- P-Iris and DC-Iris lens control
- 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

Technical drawing





Applications

Prosilica GT1290 is ideal for a wide range of applications including:

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