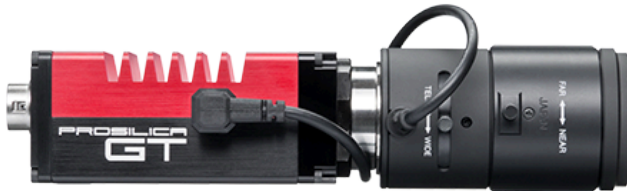# Prosilica GT
2000NIR

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

2.2 megapixel NIR enhanced camera for extreme environments

Prosilica GT2000NIR is a 2.2 megapixel camera with a GigE Vision compliant Gigabit Ethernet port and Hirose I/O port. This camera incorporates a NIR-optimized variant of the high-quality CMOSIS/ams CMV2000 CMOS sensor. At 900 nm this sensor offers double the quantum efficiency, an increase from 8 to 16 percent absolute. At full resolution, this camera runs 53.7 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 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 NIR models ship with no protection glass or filter.

Benefits and features

- Near-Infrared (GT2000NIR) 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-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.
- Defect pixel masking feature with the Defect Mask Loader tool that allows you to manage a user defined defective pixel list to match your application and optimize the life cycle of the camera.

Hardware options

- Various lens mounts: Select between C-Mount, CS-Mount, F-Mount, EF-Mount Birger, 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	2000NIR
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	2048 (H) × 1088 (V)
Sensor	CMOSIS/ams CMV2000 NIR
Sensor type	CMOS
Shutter mode	Global shutter
Sensor size	Type 2/3
Pixel size	5.5 µm × 5.5 µm
Lens mounts (available)	C-Mount, CS-Mount, F-Mount, Birger EF-Mount, M42-Mount
Max. frame rate at full resolution	53.7 fps
ADC	12 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 NIR models measured at full resolution without optical filter.

Quantum efficiency at 529 nm	80 %
Quantum efficiency at 850 nm	44 %
Temporal dark noise	13.9 e⁻
Saturation capacity	9400 e⁻
Dynamic range	56.3 dB
Absolute sensitivity threshold	14.4 e⁻
Output	
Bit depth	8/12 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
General purpose inputs/outputs (GPIOs)	

Prosilica GT	2000NIR
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 802.3at Type 1 PoE
Power consumption	3.4 W at 12 VDC; 4.2 W PoE
Mass	210 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-003 Issue 4/5

Quantum efficiency
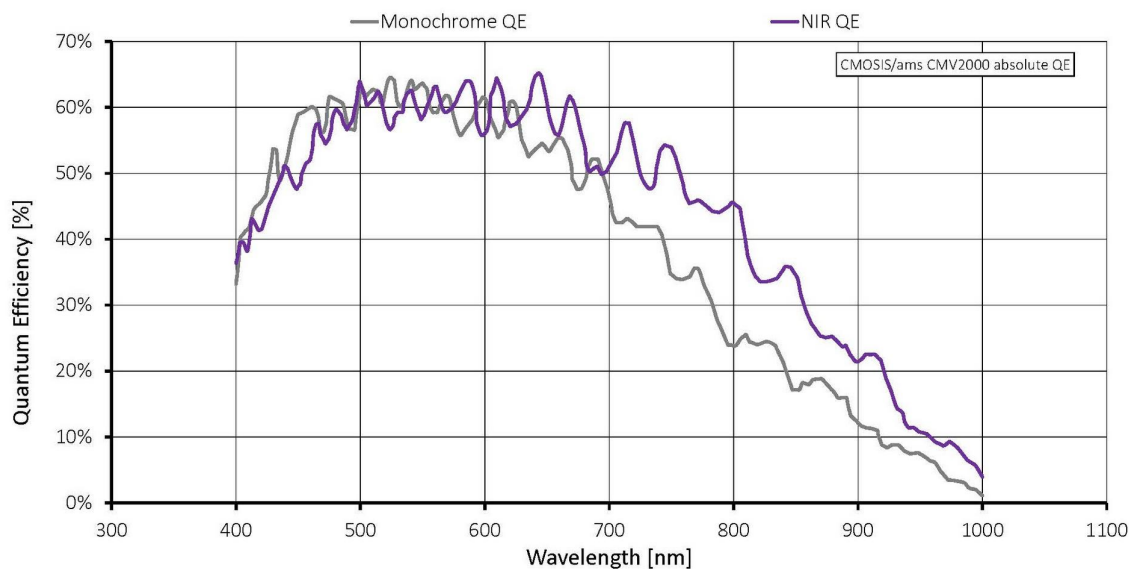
Features

Image optimization features:

- Auto gain (manual gain control: 0 to 26 dB)
- Auto exposure (manual exposure control: 25 µs to 122 s)
- BlackLevel (offset)
- Defect pixel masking (user defined with Defect Mask Loader tool)

- Gamma correction
- Three look-up tables
- Piecewise Linear HDR mode
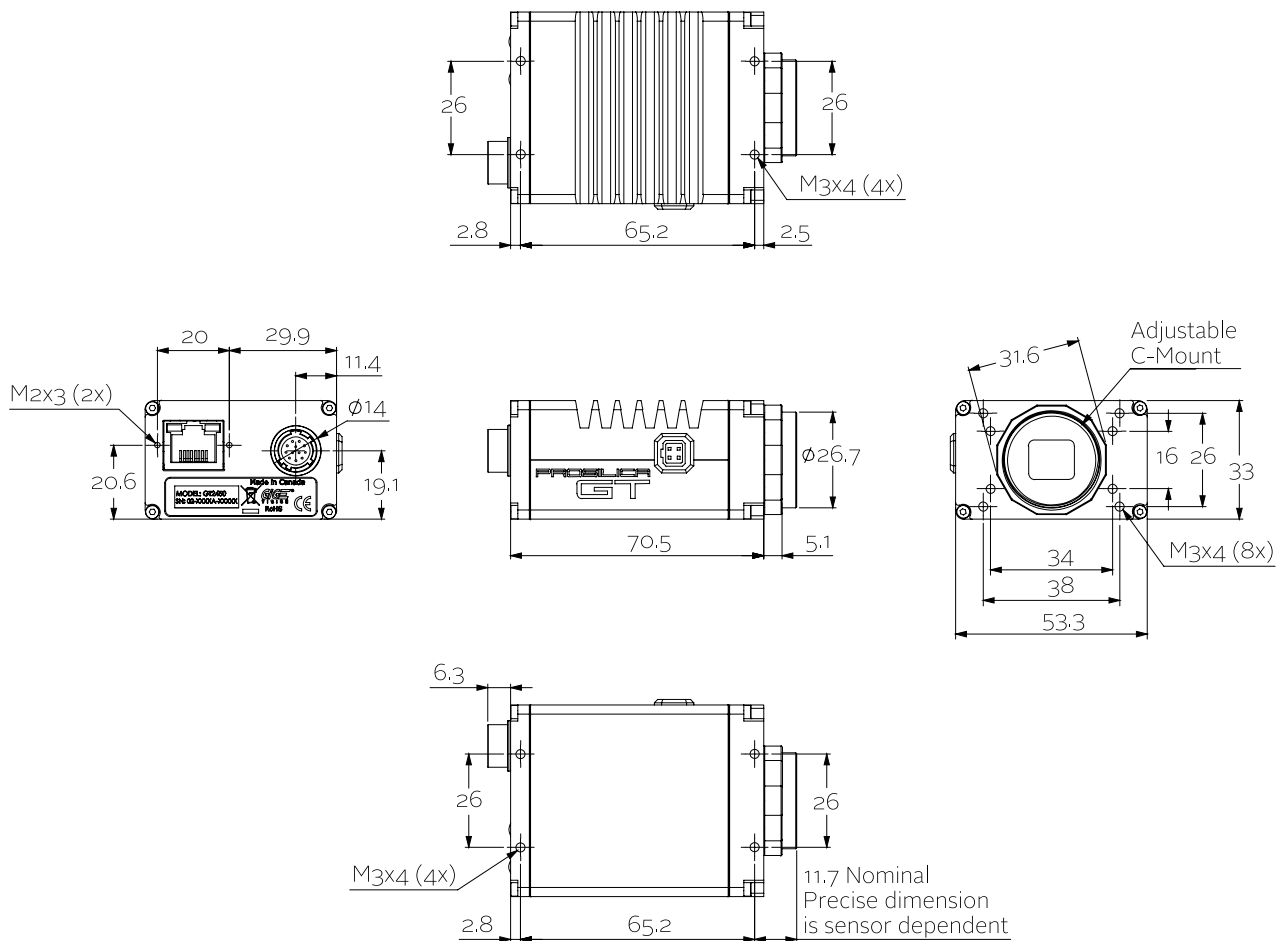- Region of interest, separate region for auto features

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 only)
- Trigger over Ethernet Action Commands

Technical drawing

26

26

M3x4 (4x)

2,8   65,2   2,5

M2x3 (2x)

20   29,9

11,4

Ø14

20,6

19,1

MODEL: GT2400
SN: 00-XXXXXX-XXXXX

PROSILICA
GT

Ø26,7

70,5   5,1

Adjustable
C-Mount

31,6

16   26   33

34
38
53,3

M3x4 (8x)

6,3

26

26

M3x4 (4x)

2,8   65,2

11,7 Nominal
Precise dimension
is sensor dependent

Applications

Prosilica GT2000NIR 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
- Microscopy
- Medical and healthcare