

# Manta

## G-419 NIR



- NIR enhanced CMOS sensor
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

## Description

### GigE camera with NIR optimized CMOSIS/ams CMV4000 CMOS sensor

Manta G-419B NIR is a machine vision camera that incorporates the NIR-optimized Type 1 (16 mm diagonal) CMOSIS/ams CMV4000 CMOS sensor. At full resolution, this camera runs 28.6 frames per second. With a smaller region of interest, higher frame rates are possible. The Manta is one of Allied Vision's versatile GigE Vision cameras with a wide range of features. Particular highlights are the three look-up tables, a robust metal housing, and many modular options. By default, the Manta G-419B NIR ships with no optical filter.

### Benefits and features:

- GigE Vision interface with Power over Ethernet option
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- Trigger over Ethernet (ToE) 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 on top and bottom of housing or optional tripod adapter
- Easy software integration with Allied Vision's [Vimba SDK](#) and compatibility to the most popular [third party image-processing libraries](#).

### Options:

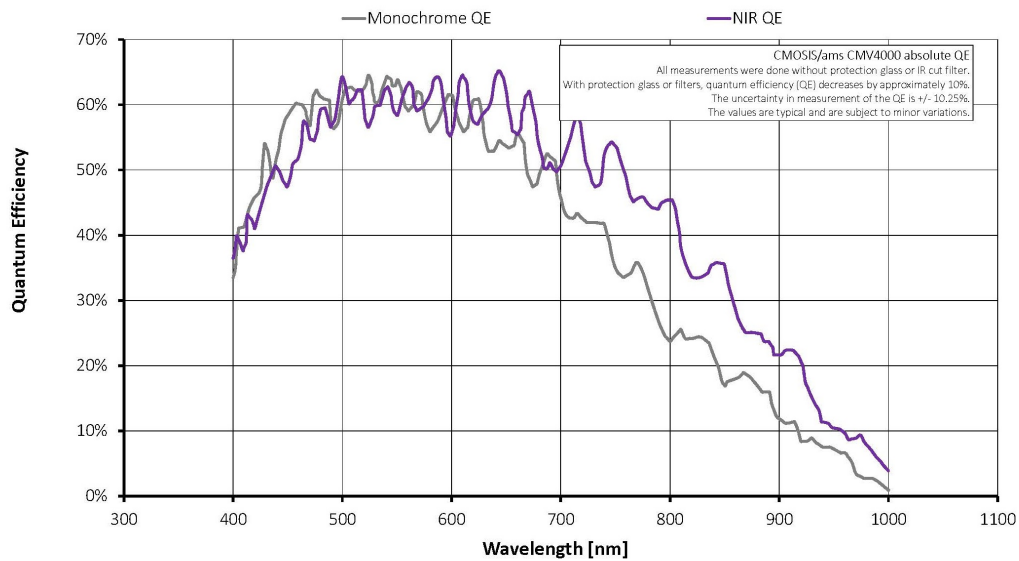
- Available with Power over Ethernet (PoE) compliant interface
- Available with CS-Mount or M12-Mount adapter

- Available with Protection glass B 270 (ASG), IRC type Jenofilt 217 (IR cut filter), IRC Hoya C-5000 (IR cut filter), IRP RG715 (IR pass filter), IRP RG830 (IR pass filter)
- Available with various angled-head housings or board level version
- Available with white medical design

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

<b>Manta</b>	<b>G-419 NIR</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	2048 (H) × 2048 (V)
Sensor	CMOSIS/ams CMV4000 NIR
Sensor type	CMOS
Sensor size	Type 1
Pixel size	5.5 μm × 5.5 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	28.6 fps
ADC	12 bit
Image buffer (RAM)	128 MByte
<b>Output</b>	
Bit depth	8/12 bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
<b>General purpose inputs/outputs (GPIOs)</b>	
Opto-isolated I/Os	2 inputs, 2 outputs
RS232	1
<b>Operating conditions/dimensions</b>	
Operating temperature	+5 °C to +45 °C ambient (without condensation)
Power requirements (DC)	8 to 30 VDC; PoE
Power consumption	2.7 W at 12 VDC; 3.1 W PoE
Mass	190 g; 200 g (PoE)
Body dimensions (L × W × H in mm)	86.4 × 44 × 29 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class B; CAN ICES-003



## Features

### Image optimization features:

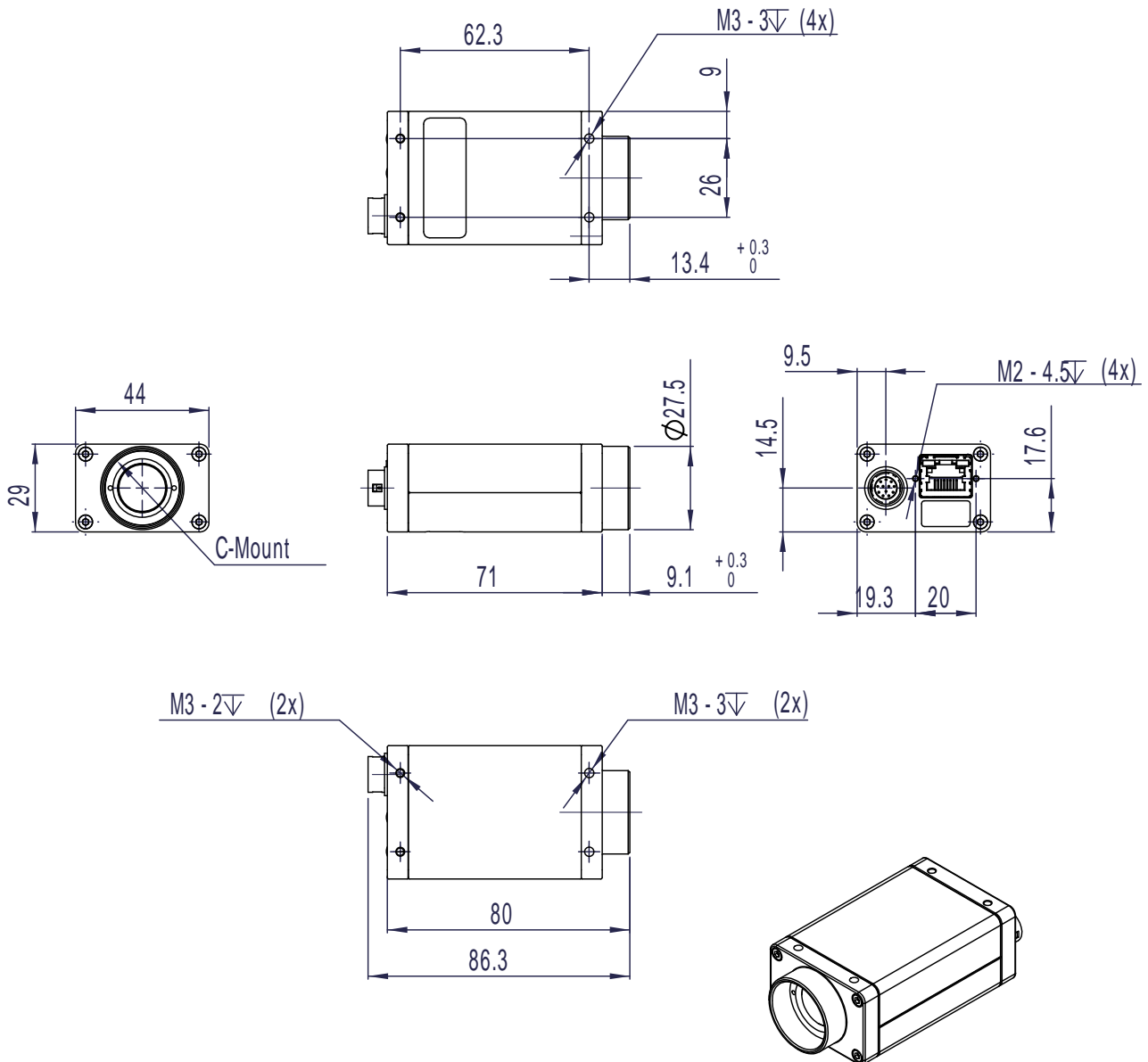
- Auto gain (manual gain control: 0 to 26 dB; 1 dB increments)
- Auto exposure (34  $\mu$ s to 126 s; 1  $\mu$ s increments)
- Black level (offset)
- Decimation
- Gamma correction
- Three look-up tables (LUTs)
- Piecewise Linear HDR mode
- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

### Camera control features:

- Auto-iris (video type)
- Event channel
- Image chunk data
- IEEE 1588 Precision Time Protocol
- Storable user sets
- StreamBytesPerSecond (easy bandwidth control)
- Stream hold

- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board)
- Trigger over Ethernet (ToE) Action Commands

## Technical drawing





## Applications

Manta G-419B NIR is ideal for a wide range of applications including:

- Multimedia and entertainment
- Machine vision
- Security and surveillance
- Metrology and inspection systems
- Industrial image processing