



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](#).
- 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.

Options:

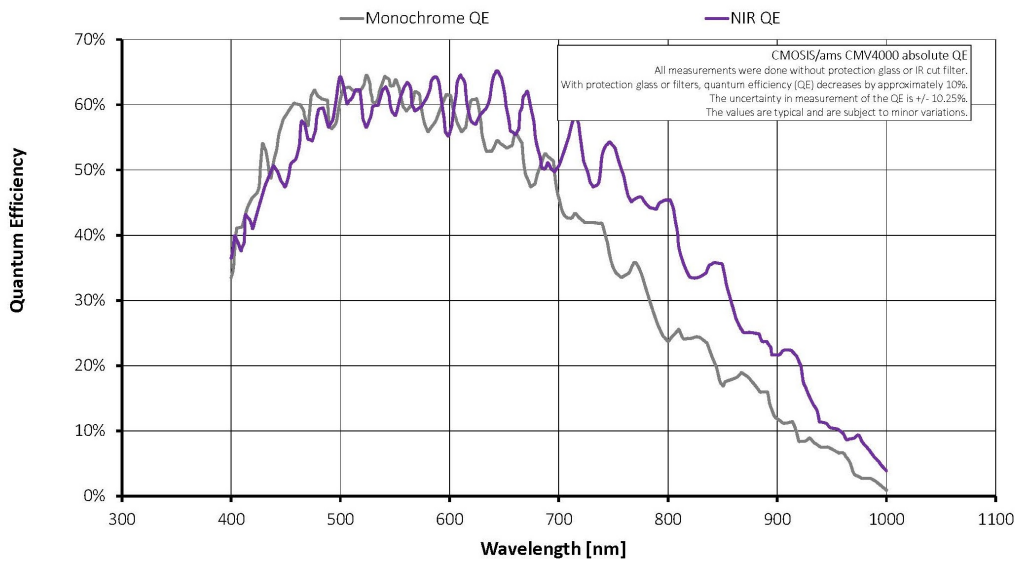
- Available with Power over Ethernet (PoE) compliant interface

- 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

Manta	G-419 NIR
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
Output	
Bit depth	8/12 bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
General purpose inputs/outputs (GPIOs)	
Opto-isolated I/Os	2 inputs, 2 outputs
RS232	1
Operating conditions/dimensions	
Operating temperature	+5 °C to +45 °C ambient (without condensation)
Power requirements (DC)	8 to 30 VDC AUX or 802.3af 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:

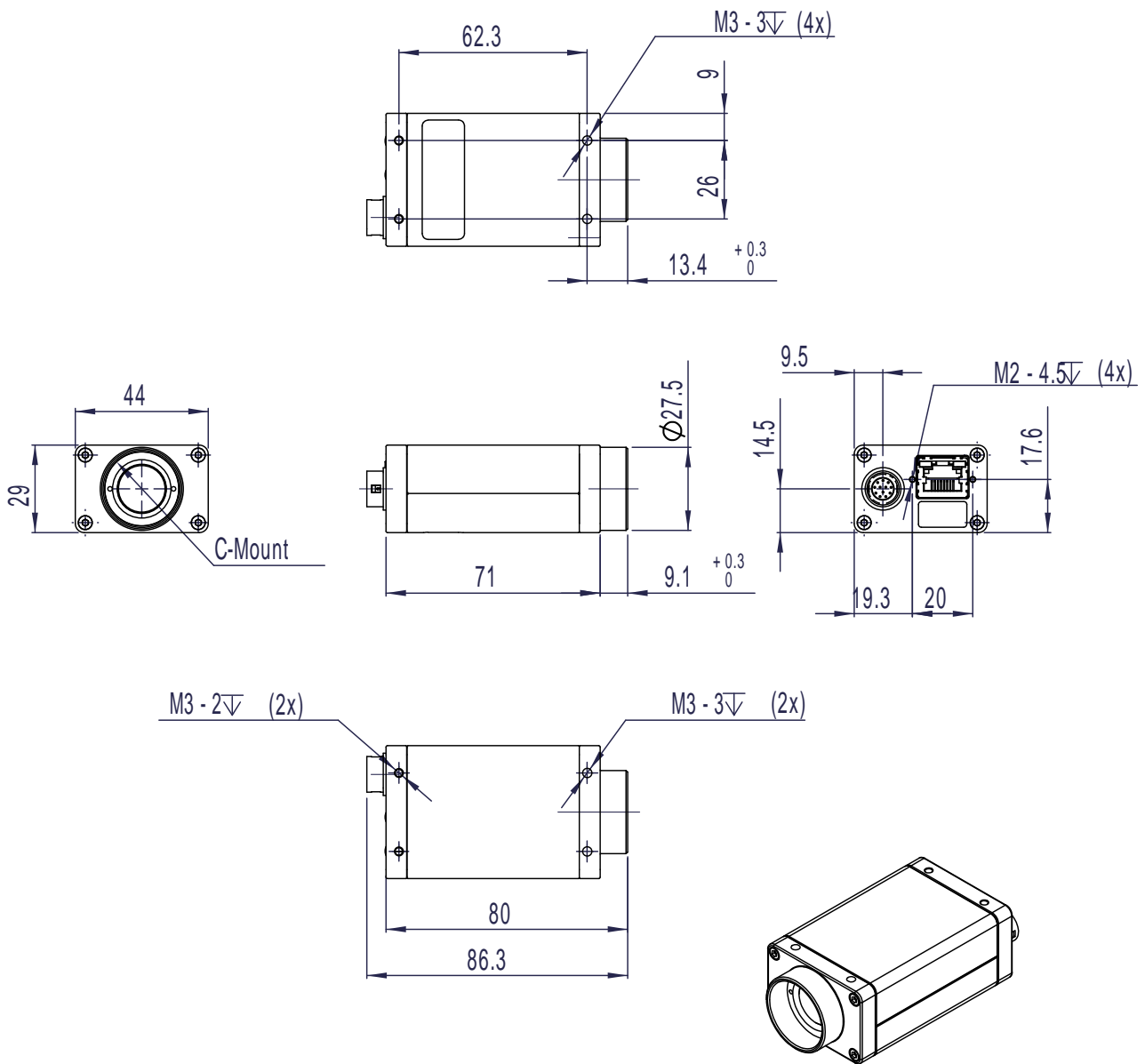
- Auto gain (manual gain control: 0 to 26 dB; 1 dB increments)
- Auto exposure (34 μ s to 126 s; 1 μ s increments)
- Black level (offset)
- Decimation
- Defect pixel masking (user defined with Defect Mask Loader tool)
- Gamma correction
- Three look-up tables (LUTs)
- Piecewise Linear HDR mode
- Region 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