



# Goldeye

## G-008

- Affordable GigE Vision SWIR camera
- Power over Ethernet
- Compact industrial design, no fan

## Description

### Goldeye G-008 - High-speed, low-cost InGaAS camera

The new Goldeye G-008 is the fastest 1/4-VGA resolution short wave infrared camera (SWIR) with GigE Vision interface. With frame rates up to 344 fps at full resolution, versatile application fields can be addressed and processes can be sped up strongly. Thanks to its very affordable price, many cost-sensitive applications, where the lower resolution is sufficient, can benefit from the camera's outstanding performance.

Save time and money to integrate the camera into your system: a small form factor and multiple mounting options let the camera fit easily into compact system designs. Additionally, its standardized GigE Vision interface including Power over Ethernet (PoE) and comprehensive I/O control options simplify the connection to your software solution and the synchronization with other system components. The integrated thermo-electric sensor cooling and several on-board image correction features contribute to the Goldeye's outstanding image quality.

Reveal more of the invisible with Goldeye SWIR cameras!

### Benefits and Features

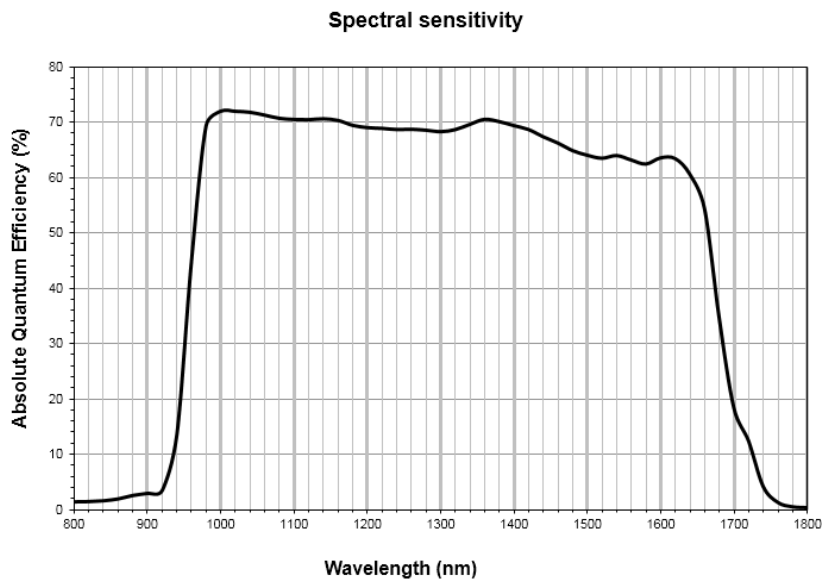
- Compact industrial design
- Up to 344 fps at full resolution
- GigE Vision interface with PoE+
- Comprehensive I/O control options
- Automated on-board image correction
- Stabilized sensor-cooling, no fan
- Extended operating temperature range

### Options

- Available with C-Mount, F-Mount, M42 Mount

## Specifications

<b>Goldeye</b>	<b>G-008</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	320 (H) × 256 (V)
Spectral range	900 nm to 1700 nm
Sensor	InGaAs FPA 320 x 256
Sensor type	InGaAs
Cell size	30 μm x 30 μm
Cooling temperature	+20 °C, +25 °C +35 °C, +50 °C, or user-configurable
Temporal dark noise	420 e <sup>-</sup> (Gain0), 170 e <sup>-</sup> (Gain1)
Dark current	280 ke <sup>-</sup> /s (@ +25 °C FPA temperature)
Saturation capacity	2.5 Me <sup>-</sup> (Gain0), 170 ke <sup>-</sup> (Gain1)
Dynamic range	75 dB (Gain0), 60 dB (Gain1)
Lens mount	M42-Mount, F-Mount, C-Mount
Max frame rate at full resolution	344 fps
ADC	14 bit
Image buffer (RAM)	256 MByte
<b>Output</b>	
Bit depth	8 - 14 bit
Mono modes	Mono8, Mono12, Mono12Packed, Mono14
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	LVTTL I/Os: 1 Input, 1 Output
Opto-isolated I/Os	1 Input, 2 Outputs
RS-232	115 000 Baud, 8N1 (adjustable)
<b>Operating conditions/dimensions</b>	
Operating temperature	-20 °C to +55 °C (Case)
Power requirements (DC)	10.8 V to 30.0 V or via PoE
Power consumption (@12 V)	10.8 W (@ 12 V DC), <12.95 W (@ PoE),
Mass	340 g (with C-Mount adapter)
Body dimensions (L × W × H in mm)	78 × 55 × 55
Regulations	CE (2004/108/EC), RoHS (2011/65/EU), WEEE (2012/19/EU), FCC Class B



## Features

IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogeneity and underlying structures (non-uniformity correction - NUC)
- Defect pixel correction
- Background correction
- Automated and manual sensor temperature management via TEC Features
- Temperature status LED

General features

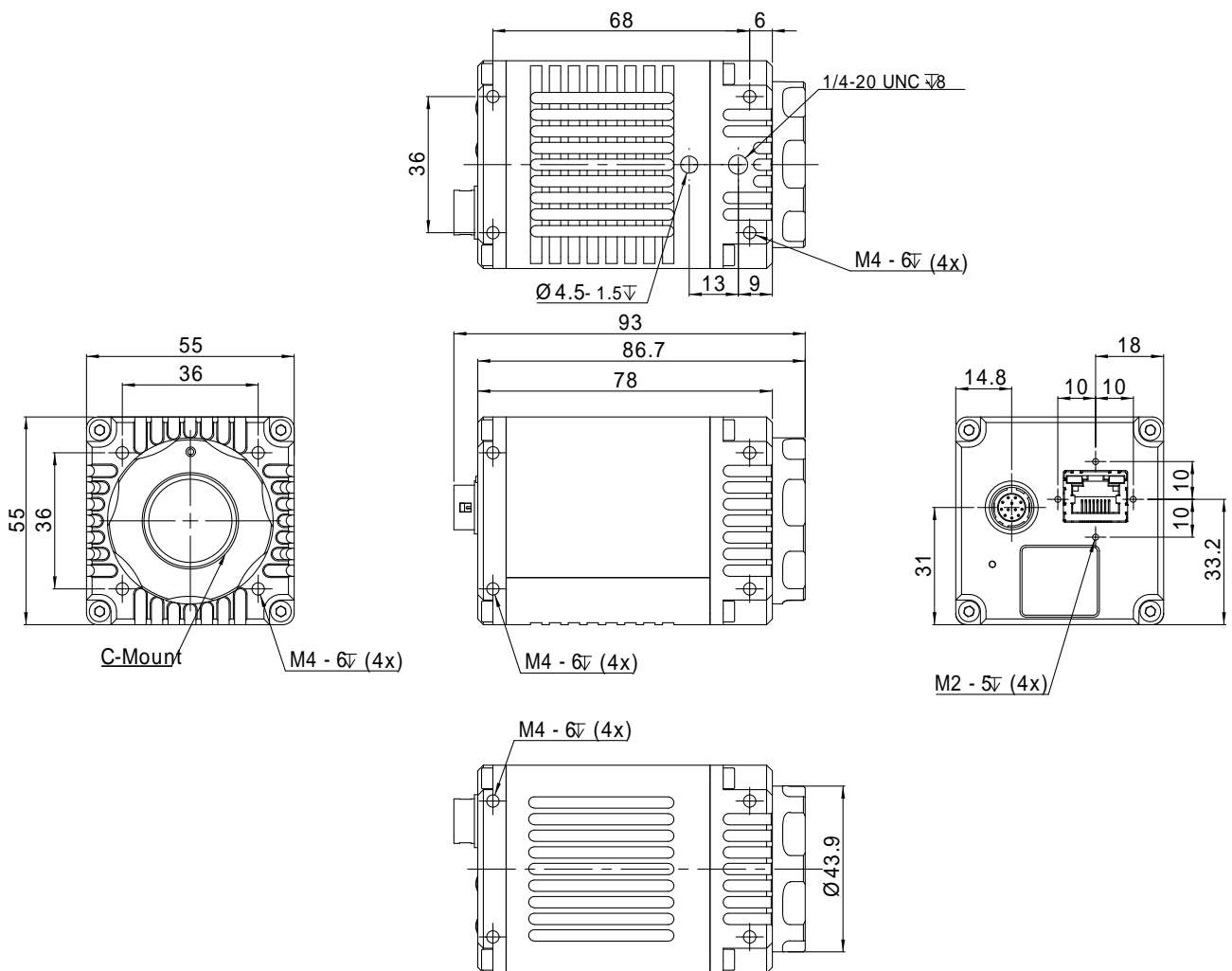
- Exposure time control
- Gain (analog)
- I/O configuration and trigger control
- Stream hold (deferred image output)
- Storable user sets
- Firmware update in the field
- Region of interest (ROI) control, Look-up table (LUT) support, as well as various Auto-Features

Goldeye cameras are compatible with Allied Vision's Vimba SDK. Moreover, in combination with our AcquireControl software, extensive image analysis functions are available:

- Pseudo color LUT with several color profiles
- Auto contrast

- Auto brightness
- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display

## Technical drawing





## Applications

Goldeye cameras are very sensitive in the SWIR spectrum. They can be used in an extended operating temperature range. Thanks to TEC cooling and integrated image correction, Goldeye cameras achieve an outstanding image quality with little noise and a high dynamic range. They are well-suited for many typical SWIR applications in various industry branches:

- Semiconductor industry: solar cell and chip inspection
- Recycling industry: plastics sorting
- Medical imaging, sciences: hyperspectral imaging, microscopy, OCT
- Metal and glass industry: thermal imaging of hot objects (250 °C to 800 °C)
- Agriculture industry: airborne remote sensing
- Printing industry: banknote inspection
- Electronics industry: laser beam profiling
- Surveillance and security: vision enhancement (e.g., through fog or night vision)

### **White Paper**

To learn more about typical application fields for SWIR cameras, download our White Paper:

[Seeing beyond the visible – short-wave infrared \(SWIR\) cameras offer new application fields in machine vision](#)



# Goldeye

## G-032

- GigE Vision SWIR camera
- Power over Ethernet
- Compact industrial design, no fan

## Description

### Goldeye G-032 - all purpose SWIR camera

The Goldeye G-032 is a very versatile shortwave infrared camera for the spectral range from 900 nm to 1700 nm. High frame rates of 100 fps at full resolution (636 x 508), a strong sensor cooling, as well as a high intra-scene dynamic range of more than 73 dB enable to apply the camera in various application areas and under varying operating conditions.

Save time and money to integrate the camera into your system: A small form factor and multiple mounting options let the camera fit easily into compact system designs. In addition, its standardized GigE Vision interface and comprehensive I/O control options simplify the connection to your software solution and the synchronization with other system components.

The integrated thermo-electric sensor cooling and several on-board image correction features contribute to the Goldeye's outstanding image quality.

Reveal more of the invisible with Goldeye SWIR cameras!

### Benefits and features

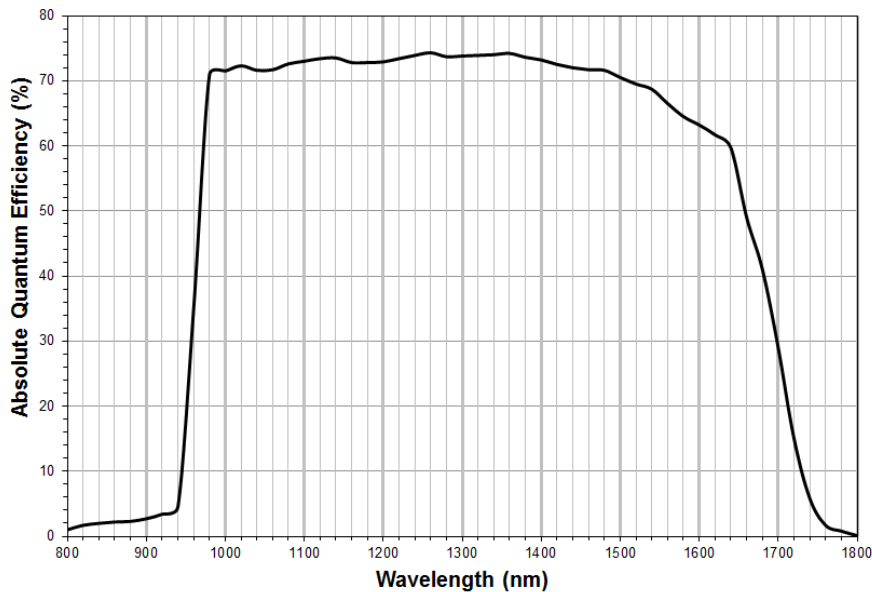
- Compact industrial design
- GigE Vision interface with Power over Ethernet
- Very high intra-scene dynamic range of 73 dB
- Comprehensive I/O control options
- Automated on-board image correction
- Stabilized sensor cooling, no fan
- Extended operating temperature range

### Options

- Available with C-/F-/M42-Mount

## Specifications

<b>Goldeye</b>	<b>G-032</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	636 (H) × 508 (V)
Spectral range	900 nm to 1700 nm
Sensor	InGaAs FPA 636 x 508
Sensor type	InGaAs
Cell size	25 μm x 25 μm
Cooling temperature	+5 °C, +20 °C, +35 °C, +50 °C, or user-configurable
Temporal dark noise	400 e <sup>-</sup> (Gain0), 170 e <sup>-</sup> (Gain1)
Dark current	380 ke <sup>-</sup> /s (@ +20 °C FPA Temperature)
Saturation capacity	1.9 Me <sup>-</sup> (Gain0), 39 ke <sup>-</sup> (Gain1)
Dynamic range	73 dB (Gain0), 47 dB (Gain1)
Lens mount	C-Mount, F-Mount, M42-Mount
Max frame rate at full resolution	100 fps
ADC	14 bit
Image buffer (RAM)	256 MByte
<b>Output</b>	
Bit depth	8 - 14 bit
Mono modes	Mono8, Mono12, Mono12Packed, Mono14
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	LVTTL I/Os: 1 Input, 1 Output
Opto-isolated I/Os	1 Input, 2 Outputs
RS-232	115 200 Baud, 8N1 (adjustable)
<b>Operating conditions/dimensions</b>	
Operating temperature	-20 °C to +55 °C (Case)
Power requirements (DC)	10.8 V to 30.0 V or via PoE
Power consumption (@12 V)	10.8 W @ 12 V, <12.95 W @PoE
Mass	370 g (with C-Mount adapter)
Body dimensions (L × W × H in mm)	78 × 55 × 55
Regulations	CE (2004/108/EC), RoHS (2011/65/EU), WEEE (2012/19/EU), FCC Class B



## Features

### IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogenities and underlying structure (non-uniformity correction, NUC )
- Defect pixel correction
- Background correction
- Automated and manual sensor temperature management via TEC Features
- Temperature status LED

### General features

- Exposure time control
- Gain (analog)
- I/O configuration and trigger control
- Stream hold (deferred image output)
- Storable user sets
- Firmware update in the field

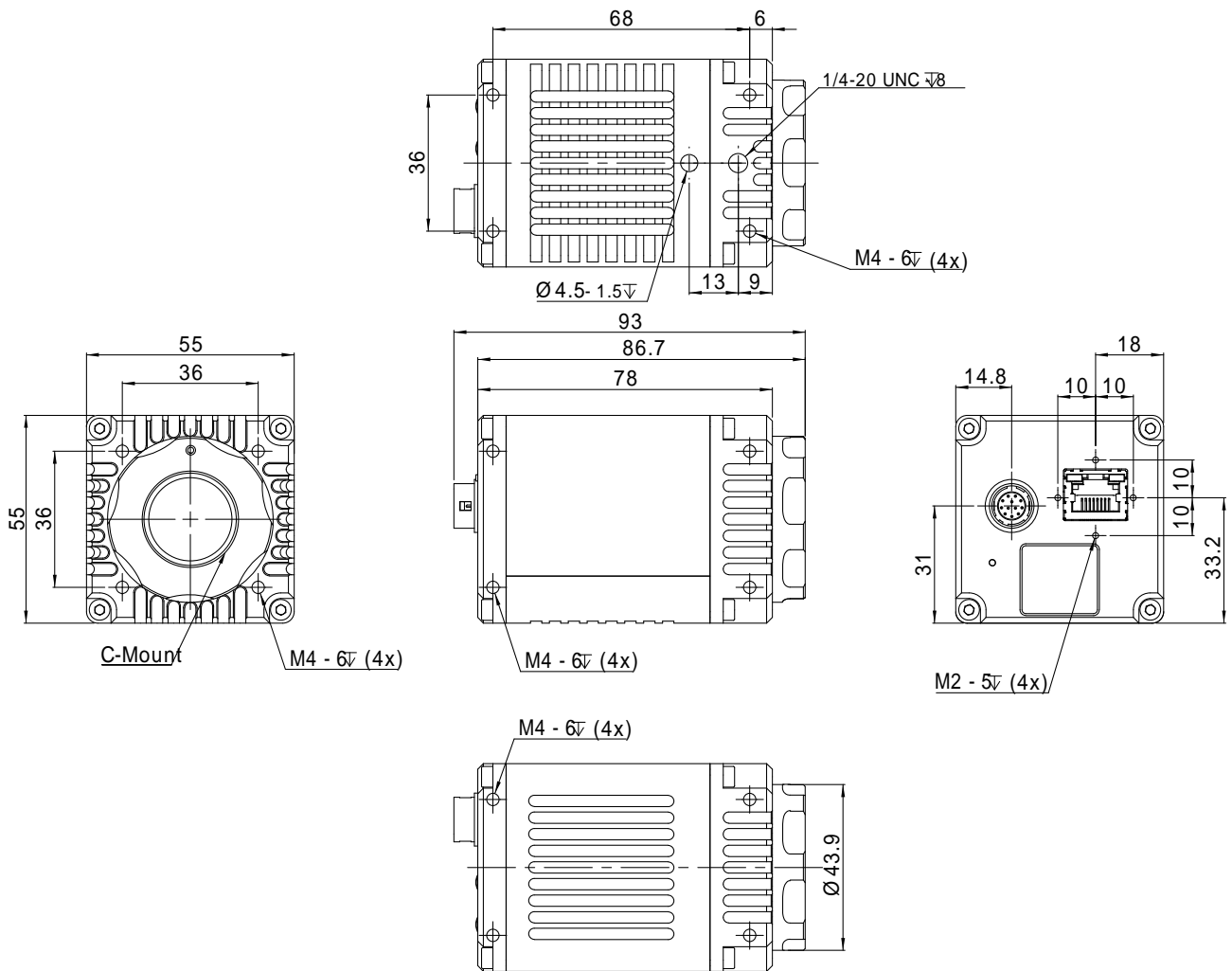
Goldeye cameras are compatible with Allied Vision's Vimba SDK. Moreover, in combination with Allied Vision's AcquireControl software, extensive image analysis functions are available:

- Pseudo color LUT with several color profiles
- Auto contrast
- Auto brightness



- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display

## Technical drawing





## Applications

Goldeye cameras are very sensitive in the SWIR spectrum. They can be used in an extended operating temperature range. Thanks to TEC cooling and integrated image correction, Goldeye cameras achieve an outstanding image quality with little noise and a high dynamic range. They are well-suited for many typical SWIR applications in various industry branches:

- Semiconductor industry: solar cell and chip inspection
- Recycling industry: plastics sorting
- Medical imaging, sciences: hyperspectral imaging, microscopy, OCT
- Metal and glass industry: thermal imaging of hot objects (250 °C to 800 °C)
- Agriculture industry: airborne remote sensing
- Printing industry: banknote inspection
- Electronics industry: laser beam profiling
- Surveillance and security: vision enhancement (e.g., through fog or night vision)

### **White Paper**

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# Goldeye

## G-032 Cool

- GigE Vision SWIR camera
- Power over Ethernet (PoE+)
- Very strong sensor cooling

## Description

### Goldeye G-032 TEC cooled InGaAs camera

The Goldeye G-032 SWIR Cool is a short-wave infrared camera that is optimized for scientific grade applications often requiring long exposure times. To enable low-noise imaging in the spectral range from 900 nm to 1700 nm the camera is equipped with a nitrogen filled cooling chamber and enables via the dual-stage thermo-electric cooler (TEC) a very strong sensor cooling of up to -60 °C towards the housing temperature.

The standardized GigE Vision interface and comprehensive I/O control options simplify the connection to many software solution and the synchronization with other system components.

In addition several automated on-board image correction features contribute to the Goldeye's outstanding image quality.

Reveal more of the invisible with Goldeye SWIR cameras!

### Benefits and features

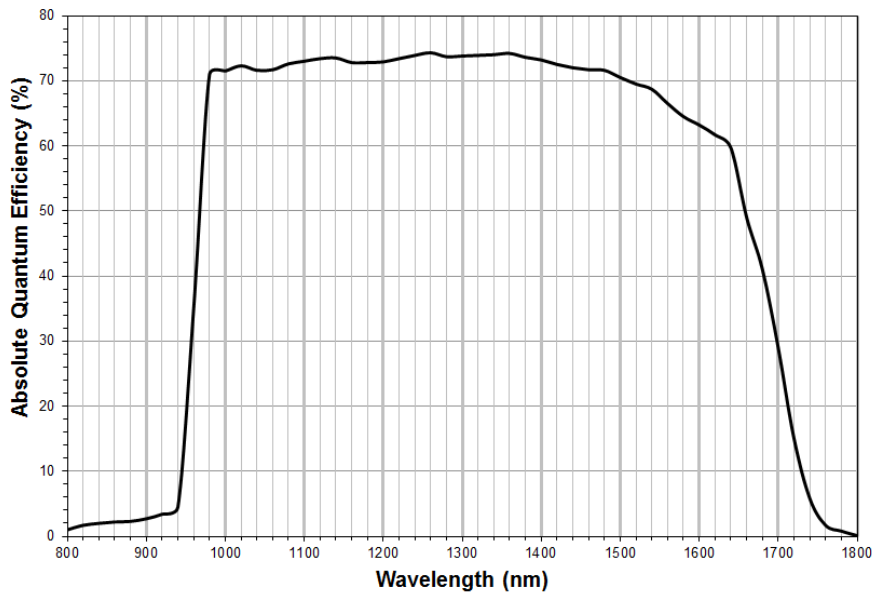
- Very strong sensor cooling for low-noise imaging with long exposure times
- GigE Vision interface with PoE+
- Comprehensive I/O control options
- Automated on-board image correction
- Extended operating temperature range

### Options

- Available with C-Mount, F-Mount, M42-Mount

## Specifications

<b>Goldeye</b>	<b>G-032 Cool</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3at (PoE+)
Resolution	636 (H) × 508 (V)
Spectral range	900 nm to 1700 nm
Sensor	InGaAs FPA 636 x 508
Sensor type	InGaAs
Cell size	25 μm x 25 μm
Cooling temperature	-20 °C, -5 °C, +10 °C, or user-configurable
Temporal dark noise	400 e <sup>-</sup> (Gain0), 170 e <sup>-</sup> (Gain1)
Dark current	30 ke <sup>-</sup> /s (@ -20 °C FPA temperature)
Saturation capacity	1.9 Me <sup>-</sup> (Gain0), 39 ke <sup>-</sup> (Gain1),
Dynamic range	73 dB (Gain0), 47 dB (Gain1),
Lens mount	C-Mount, F-Mount, M42-Mount
Max frame rate at full resolution	100 fps
Netd	256
ADC	14 bit
Image buffer (RAM)	256 MByte
<b>Output</b>	
Bit depth	8 - 14 bit
Mono modes	Mono8, Mono12, Mono12Packed, Mono14
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	LVTTL I/Os: 1 Input, 1 Output
Opto-isolated I/Os	1 Input, 2 Outputs
RS-232	115 200 Baud, 8N1 (adjustable)
<b>Operating conditions/dimensions</b>	
Operating temperature	-20 °C to +55 °C (Case)
Power requirements (DC)	10.8 V to 30.0 V or via PoE+
Power consumption (@12 V)	19 W (@ 12 V DC), 22 W (@ PoE+)
Mass	810 g (w/ C-Mount adapter)
Body dimensions (L × W × H in mm)	90 × 80 × 80
Regulations	CE (2004/108/EC), RoHS (2011/65/EU), WEEE (2012/19/EU), FCC Class B



## Features

### IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogenities and underlying structure (non-uniformity correction, NUC )
- Defect pixel correction
- Background correction
- Automated and manual sensor temperature management via TEC Features
- Temperature status LED

### General features

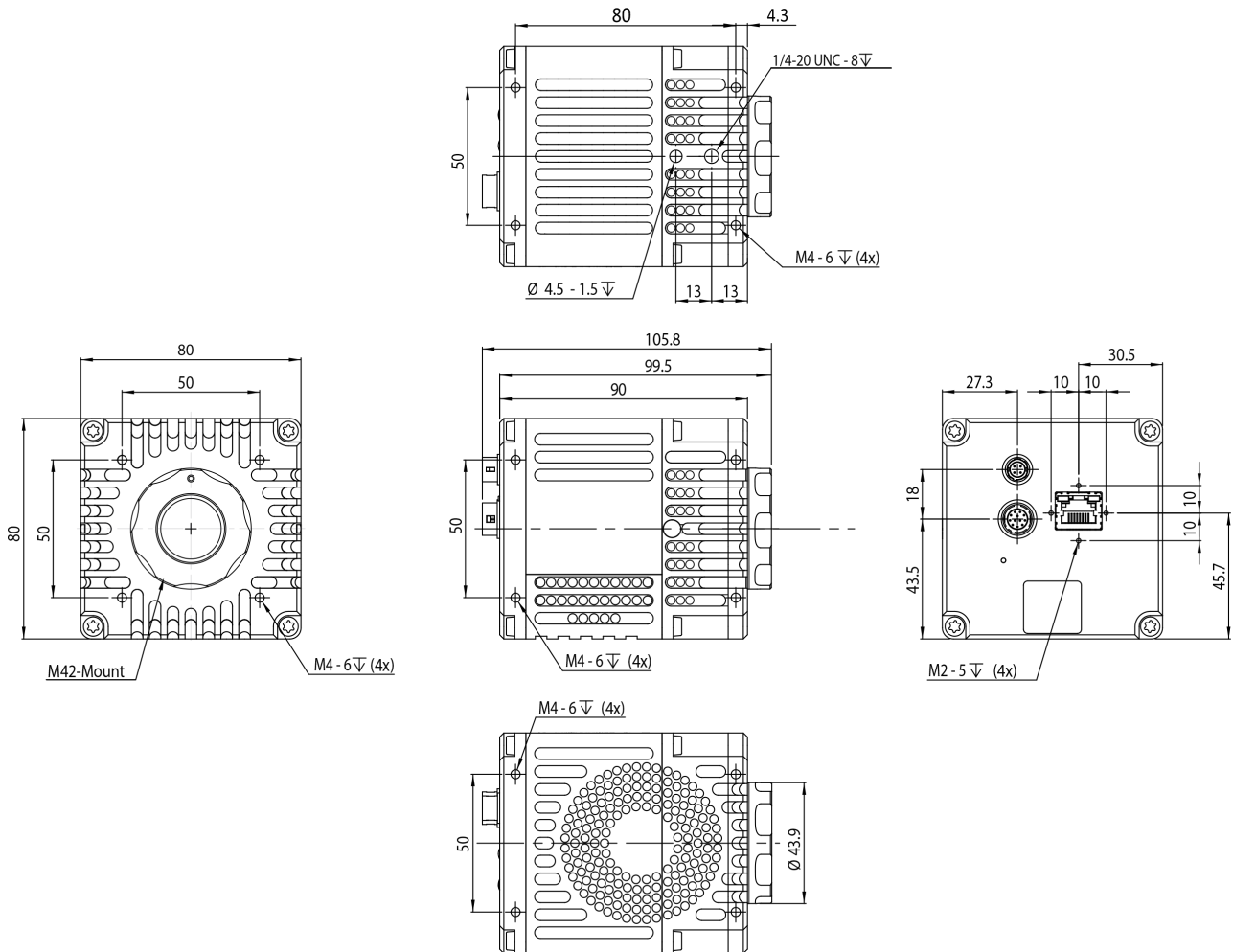
- Exposure time control
- Gain (analog)
- I/O configuration and trigger control
- Stream hold (deferred image output)
- Storable user sets
- Firmware update in the field

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- Pseudo color LUT with several color profiles
- Auto contrast
- Auto brightness

- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display

## Technical drawing



## Applications

Goldeye cameras are very sensitive in the SWIR spectrum. They can be used in an extended operating temperature range. Thanks to TEC cooling and integrated image correction, Goldeye cameras achieve an outstanding image quality with little noise and a high dynamic range. They are well-suited for many typical SWIR applications in various industry branches:

- Semiconductor industry: solar cell and chip inspection
- Recycling industry: plastics sorting



- Medical imaging, sciences: hyperspectral imaging, microscopy, OCT
- Metal and glass industry: thermal imaging of hot objects (250 °C to 800 °C)
- Agriculture industry: airborne remote sensing
- Printing industry: banknote inspection
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# Goldeye

## G-033

- Fastest GigE Vision SWIR camera
- Power over Ethernet
- Compact industrial design, no fan

## Description

### Goldeye G-033 - High-speed short-wave infrared camera

The new Goldeye G-033 high-speed camera is the fastest VGA resolution short wave infrared camera (SWIR) with GigE Vision interface. Frame rates up to 301 fps at full resolution enable you to access versatile application fields and to speed up your processes.

Save time and money to integrate the camera into your system: A small form factor and multiple mounting options let the camera fit easily into compact system designs. In addition, its standardized GigE Vision interface including Power over Ethernet (PoE) and comprehensive I/O control options simplify the connection to your software solution and the synchronization with other system components.

The integrated thermo-electric sensor cooling and several on-board image correction features contribute to the Goldeye's outstanding image quality.

Reveal more of the invisible with Goldeye SWIR cameras!

### Benefits and features

- Compact industrial design
- Up to 301 fps at full resolution
- GigE Vision interface with Power over Ethernet
- Comprehensive I/O control options
- Automated on-board image correction
- Stabilized sensor cooling, no fan
- Extended operating temperature range

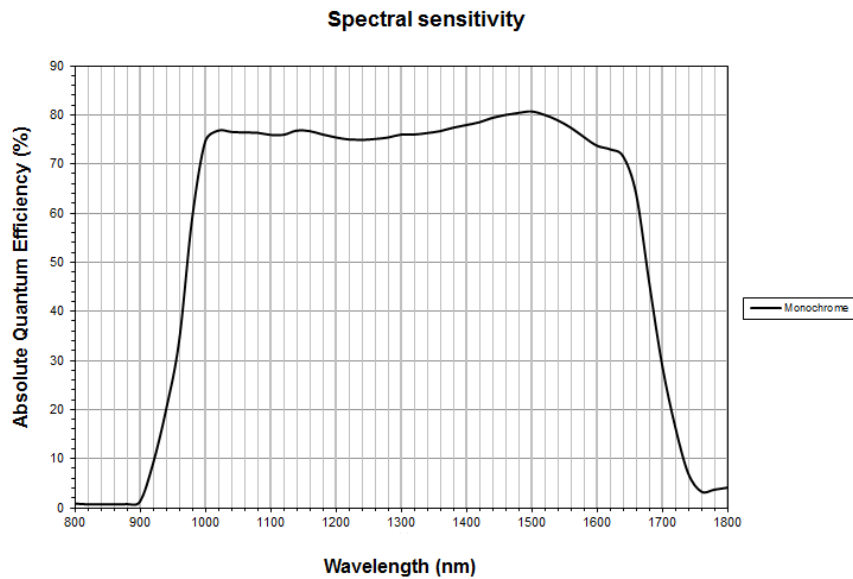
### Options

- Available with C-Mount, F-Mount, M42-Mount



## Specifications

<b>Goldeye</b>	<b>G-033</b>
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	640 (H) × 512 (V)
Spectral range	900 nm to 1700 nm
Sensor	InGaAs FPA 640 x 512
Sensor type	InGaAs
Cell size	15 µm x 15 µm
Cooling temperature	+5 °C, +20 °C +35 °C, +50 °C, or user-configurable
Temporal dark noise	390 e <sup>-</sup> (Gain0), 32 e <sup>-</sup> (Gain2)
Dark current	110 ke <sup>-</sup> /s (@ +20 °C FPA Temperatur)
Saturation capacity	1.2 Me <sup>-</sup> (Gain0), 25 ke <sup>-</sup> (Gain2)
Dynamic range	69 dB (Gain0), 59 dB (Gain2)
Lens mount	C-Mount, F-Mount, M42-Mount
Max frame rate at full resolution	301 fps
ADC	14 bit
Image buffer (RAM)	256 MByte
<b>Output</b>	
Bit depth	8 - 14 bit
Mono modes	Mono8, Mono12, Mono12Packed, Mono14
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	LVTTL I/Os: 1 input, 1 output
Opto-isolated I/Os	1 Input, 2 Outputs
RS-232	115 200 Baud, 8N1 (adjustable)
<b>Operating conditions/dimensions</b>	
Operating temperature	-20 °C to +55 °C (Case)
Power requirements (DC)	10.8 V DC to 30.0 V or via PoE
Power consumption (@12 V)	10.8 W (@ 12 V DC), <12.95 W (@ PoE)
Mass	370 g (with C-Mount adaptor)
Body dimensions (L × W × H in mm)	78 × 55 × 55
Regulations	CE (2004/108/EC), RoHS (2011/65/EU), WEEE (2012/19/EU), FCC Class B



## Features

### IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogeneity and underlying structures (non-uniformity correction - NUC )
- Defect pixel correction
- Background correction
- Automated and manual sensor temperature management via TEC Features
- Temperature status LED

### General features

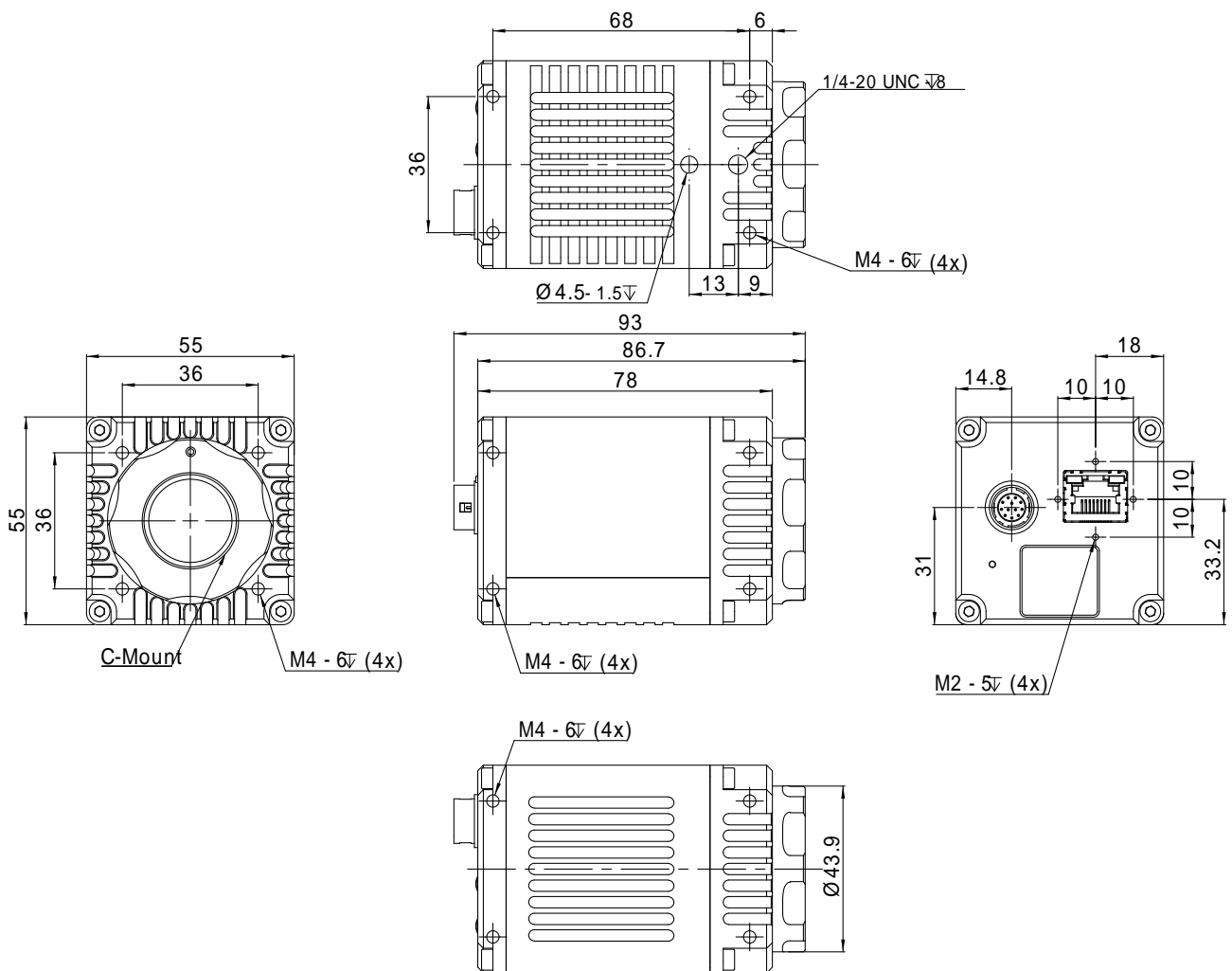
- Exposure time control
- Gain (analog)
- I/O configuration and trigger control
- Stream hold (deferred image output)
- Storable user sets
- Firmware update in the field
- Region of interest (ROI) control, Look-up table (LUT) support, as well as various Auto-Features

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- Pseudo color LUT with several color profiles
- Auto contrast

- Auto brightness
- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display

## Technical drawing





## Applications

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- Recycling industry: plastics sorting
- Medical imaging, sciences: hyperspectral imaging, microscopy, OCT
- Metal and glass industry: thermal imaging of hot objects (250 °C to 800 °C)
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