



# Goldeye

## CL-033 TECless

- Fastest Camera Link InGaAs SWIR camera
- VGA resolution
- TECless
- Compact industrial design, no fan
- Simple camera configuration via GenCP

### Goldeye CL-033 TECless - High-speed TECless VGA InGaAs camera

The Goldeye CL-033 TECless high-speed camera is the fastest VGA resolution short wave infrared camera (SWIR) with Camera Link interface. Frame rates up to 301 fps at full resolution enable you to access versatile application fields and to speed up your processes. Thanks to its very affordable price, many cost-sensitive applications 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. In addition, its standardized Camera Link interface with GenCP support and comprehensive I/O control options simplify the connection to your software solution and the synchronization with other system components.

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
- Simple camera configuration via GenCP
- Comprehensive I/O control options
- Automated on-board image correction

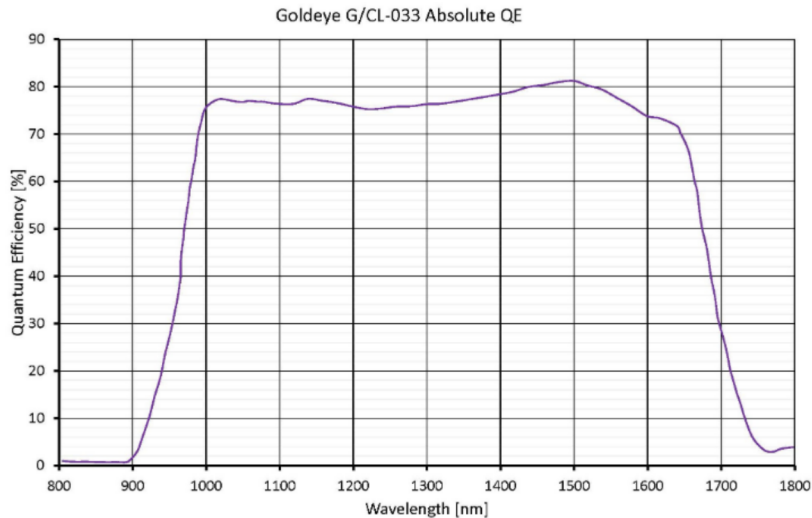
#### Hardware options

- Various lens mounts: Available with C-Mount, F-Mount and M42-Mount available on request

## Specifications

<b>Goldeye</b>	<b>CL-033 TECless</b>
Interface	Camera Link Base
Resolution	640 (H) × 512 (V)
Spectral range	900 nm to 1700 nm
Sensor	InGaAs FPA 640 × 512
Sensor type	InGaAs
Sensor size	No standard size
Pixel size	15 µm × 15 µm
Lens mounts (available)	C-Mount, F-Mount, M42-Mount
Max. frame rate at full resolution	301 fps
ADC	14 Bit
Image buffer (RAM)	256 MByte
<b>Imaging performance</b>	
Cooling temperature	(Not available)
Dark current	430 ke <sup>-</sup> /s (at +45 °C FPA temperature)
Temporal dark noise	390 e <sup>-</sup> (Gain0), 53 e <sup>-</sup> (Gain1), 32 e <sup>-</sup> (Gain2)
Saturation capacity	1.2 Me <sup>-</sup> (Gain0), 84.8 ke <sup>-</sup> (Gain1), 25 ke <sup>-</sup> (Gain2)
Dynamic range	69 dB (Gain0), 64 dB (Gain1), 59 dB (Gain2)
<b>Output</b>	
Bit depth	8 - 14 Bit
Monochrome pixel formats	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
RS232	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
Power consumption	6.0 W (at 12 VDC)
Mass	320 g (with C-Mount adapter)
Body dimensions (L × W × H in mm)	78 × 55 × 55
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU (RoHS); FCC Class B

## Quantum efficiency



## 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 indicator
- Temperature specific events

### General features

- Automatic 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
- Adjustable pixel clock frequency
- Support for Camera Control (CC ports) signals

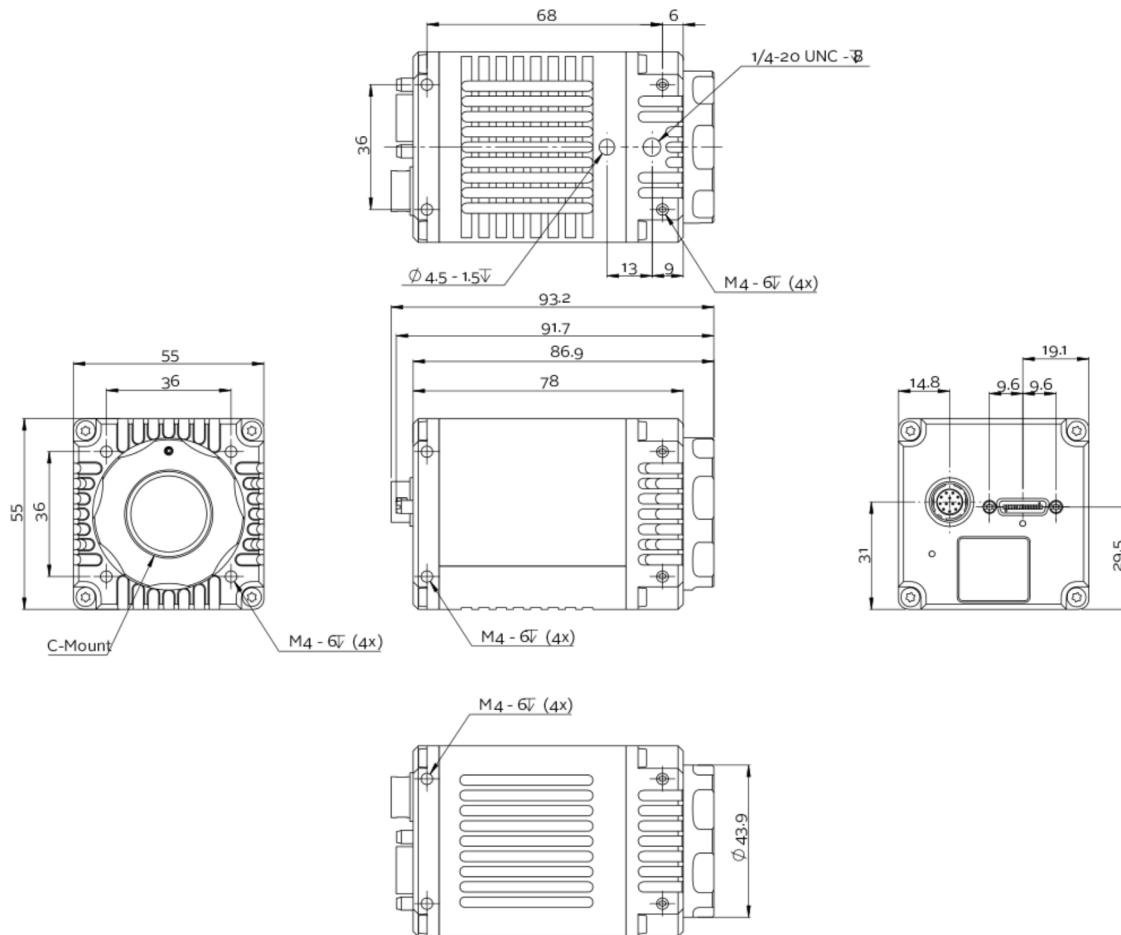


- Automatic acquisition start after booting the cameras

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 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 (for example, 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](#)