



Goldeye

G-032

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

Description

Goldeye G-032 short-wave infrared camera

The Goldeye G-032 SWIR camera supports Power over Ethernet (PoE) and data transmission with up to 100 m distance. Thanks to the integrated image optimization, the Goldeye is distinguished by an excellent image quality.

The fanless model is optimized especially for industrial applications. It enables an easy system integration thanks to various mounting options, screw locks, extensive I/O control as well as many machine vision features.

Benefits and features

- InGaAs Sensor, spectral range 900 nm – 1700 nm (Shortwave infrared)
- 25 #m x 25 #m cell size, 636 x 508 pixels, effective chip size 15,9 mm x 12.7 mm
- Temperature stabilisation through thermo-electric cooling elements (TEC)
- More than 99.5% pixel operability
- 14-bit digital signal processing
- 100 fps (100 Hz)

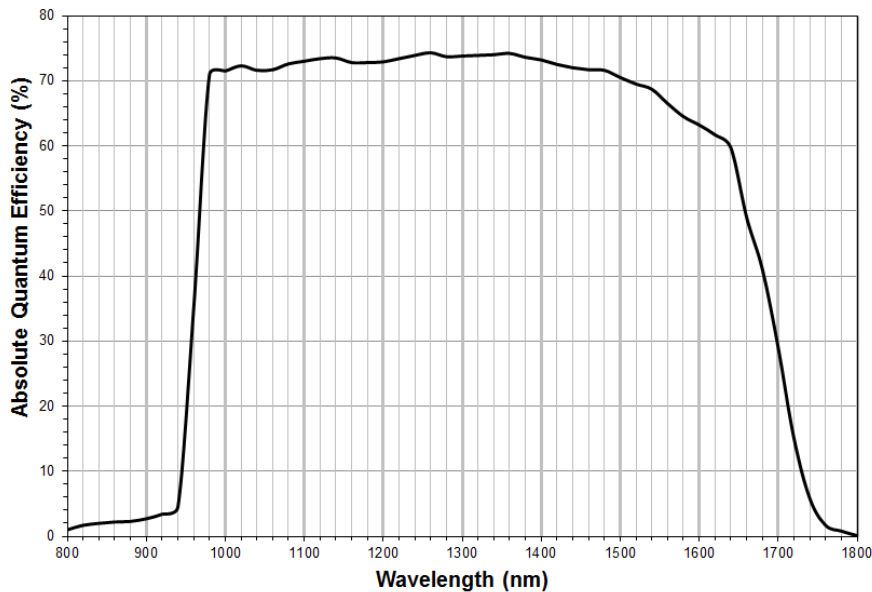
Options

- Available with C-/F-/M42 Mount

Specifications

Goldeye	G-032
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	636 × 508

Goldeye	G-032
Spectral range	900 nm – 1700 nm
Sensor	InGaAs FPA 636 x 508
Sensor type	InGaAs
Sensor size	No standard size
Cell size	25 #m x 25 #m
Cooling temperature	+5 °C, +20 °C, +35 °C, +50 °C, or user-configurable
Dark noise	400 e ⁻ (Gain0), 170 e ⁻ (Gain1)
Dark current	380 ke ⁻ /s (@ +20 °C FPA Temperature)
Saturation capacity	1.9 Me ⁻ (Gain0), 39 ke ⁻ (Gain1)
Dynamic range	73 dB (Gain0), 47 dB (Gain1)
Lens mount	C-/F-/M42 Mount
Max frame rate at full resolution	100 fps
ADC	14 bit
On-board FIFO	265 Mbyte
Output	
Bit depth	8 - 14 bit bit
Mono modes	Mono8, Mono12, Mono12Packed, Mono14
General purpose inputs/outputs (GPIOs)	
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)
Operating conditions/dimensions	
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, RoHS (2011/65/EU), WEEE, FCC part 15 class B



Features

IR-specific features (camera and sensor)

- Integrated correction data sets, compensation of sensor inhomogeneities 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
- ... and more

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)
- ... and many more

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](#)