

Specifications

| | |
|------------------------------------|---|
| Interface | IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) |
| Resolution | 320 (H) × 256 (V) |
| Spectral range | 1200 nm to 2200 nm |
| Sensor | FPA 320 × 256 30 μm Extended Range InGaAs |
| Sensor type | InGaAs |
| Sensor size | No standard size |
| Pixel size | 30 μm × 30 μm |
| Lens mounts (available) | C-Mount |
| Max. frame rate at full resolution | 344 fps |
| ADC | 14 Bit |
| Image buffer (RAM) | 256 MByte |
| Cooling temperature | -30 °C (default and calibrated) -20 °C, -10 °C, 0 °C (uncalibrated) User configurable |
| Dark current | 15.3 Me ⁻ /s (at -30 °C FPA temperature) |
| Temporal dark noise | 2.5 ke ⁻ (Gain0), 200 e ⁻ (Gain1) |
| Saturation capacity | 5.0 Me ⁻ (Gain0), 110 ke ⁻ (Gain1) |
| Dynamic range | 68 dB (Gain0), 57 dB (Gain1) |

Output

| | |
|--------------------------|---|
| Bit depth | 8 - 14 Bit |
| Monochrome pixel formats | Mono8, Mono10, Mono10p, Mono10Packed, Mono12, Mono12p, 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 |
| RS232 | 115 000 Baud, 8N1 (adjustable) |

Operating conditions/dimensions

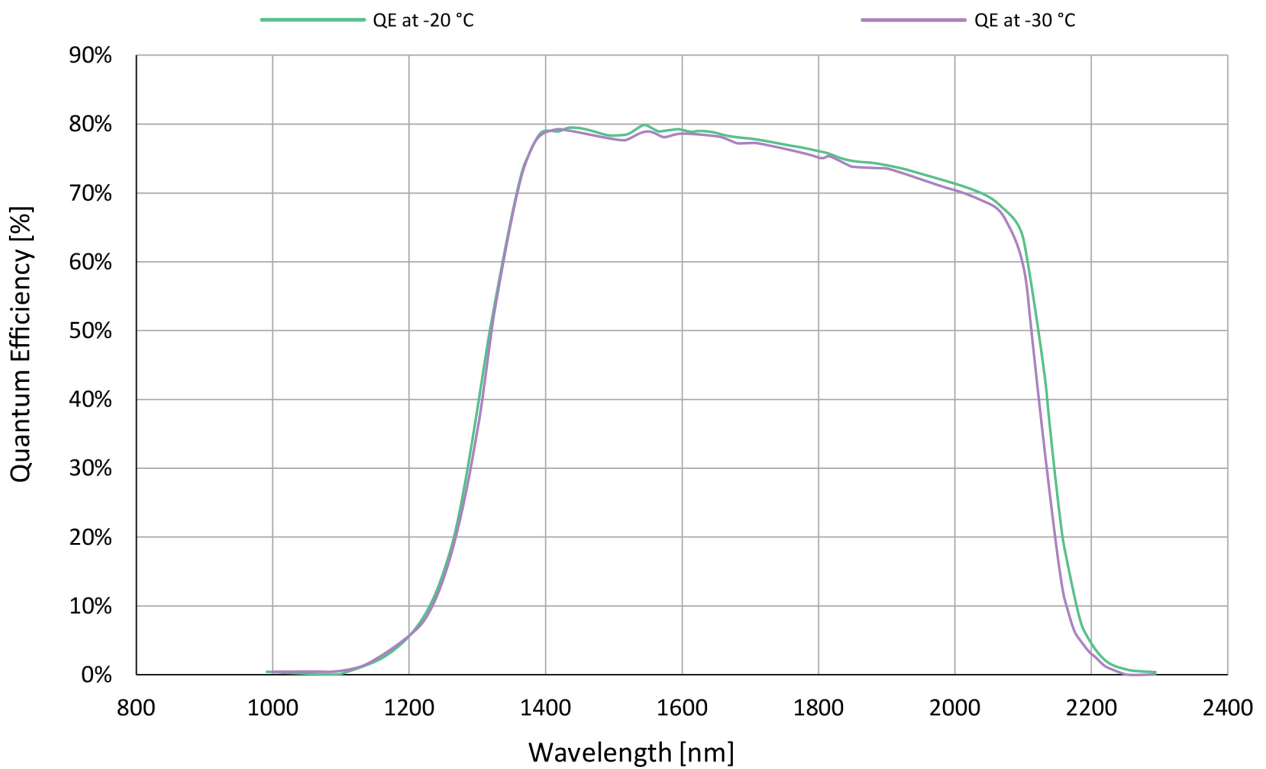
| | |
|-------------------------|-----------------------------|
| Operating temperature | -20 °C to +55 °C (housing) |
| Power requirements (DC) | 10.8 V to 30.0 V or via PoE |

Power consumption 20 W (at 12 VDC), <21 W (PoE)

Mass 740 g (with C-Mount adapter)

Body dimensions (L × W × H in mm) 90 × 80 × 80

Quantum efficiency



Features

Image control: Auto

- Auto contrast
- Auto exposure

Image control: Other

- Background correction
- Binning
- DPC (defect pixel correction)
- LUT (look up table)
- Multiple ROIs (regions of interest)
- NUC (non-uniformity correction)

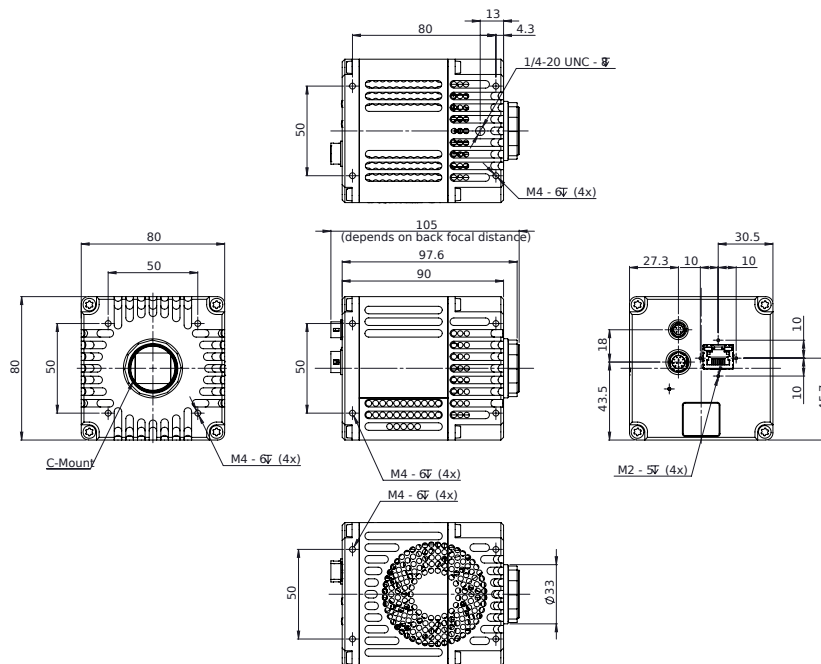
Camera control

- Acquisition frame rate
- Bandwidth control
- Event channel
- Firmware update in the field
- I/O and trigger control
- Image chunk data
- Stream hold
- User sets

Sensor temperature control

- Temperature management by TEC
- Temperature status indicator

Technical drawing



Applications

Goldeye cameras are very sensitive in the SWIR spectrum. They can be used in an extended operating temperature range. Thanks to temperature stabilization 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: Hyper- and multi-spectral imaging, microscopy, optical coherence tomography (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, seeing through fog)

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](#)