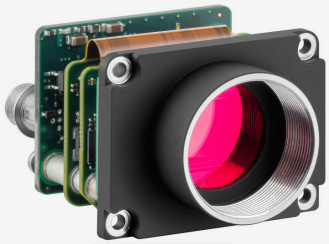
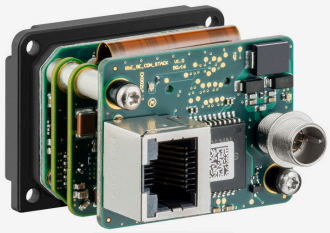
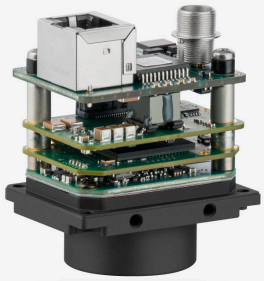
# GV-51N1SE-M-GL Rev.4.2 (1010112)

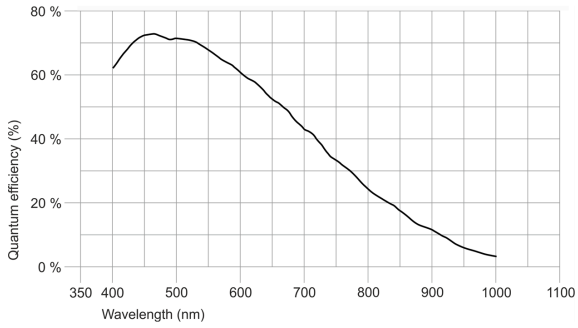
**In series**
The model is in series and available for the long term.

## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Mono |
| Shutter | Global Shutter |
| Sensor characteristic | Linear |
| Pixel Class | 16 MP |
| Resolution | 16.20 Mpix |
| Resolution (h x v) | 5328 x 3040 Pixel |
| Aspect ratio | 16:9 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1.1" |
| Optical Size | 14.599 mm x 8.330 mm |
| Optical sensor diagonal | 16.81 mm 1.1" |
| Pixel size | 2.74 µm |
| CRA (Chief Ray Angle) | 0 ° |
| Manufacturer | Sony |
| Sensor Model | IMX542-AAMJ-C |
| Gain (master/RGB) | 16x/- |
| AOI horizontal | same frame rate |
| AOI vertical | increased frame rate |
| AOI image width / step width | 256 / 2 |
| AOI image height / step width | 1 / 1 |
| AOI position grid (horizontal/vertical) | 2 / 1 |
| Binning horizontal | increased frame rate |
| Binning vertical | increased frame rate |
| Binning method | Horizontal: addition / Vertical: addition |
| Binning factor | 2x2 |
| Decimation (subsampling) horizontal | increased frame rate |
| Decimation (subsampling) vertical | increased frame rate |
| Decimation (subsampling) method | M/C automatic |







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## Model

| | |
|---|---|
| Frame rate freerun mode | 7.7 fps |
| Frame rate trigger (continuous) | 7.7 fps |
| Frame rate trigger (maximum) | 9.7 fps |
| Exposure time (minimum - maximum) | 0.035 ms - 2000 ms |
| Long exposure (maximum) | 120000 ms |
| Power consumption (Power over Ethernet) | 5.1 W |
| Power consumption (external power supply) | 4.2 W |
| Image memory | 128 MB |

## HDR

| | |
|---|---|
| Mode | Sequencer |

## Ambient conditions

For PCB versions, refer to the separate hints in the respective documentation.

| | |
|---|---|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F |
| Allowed device temperature during storage | -20 °C - 60 °C / -4 °F - 140 °F |
| Humidity (relative, non-condensing) | 20 % - 80 % |

## Connectors

| | |
|---|---|
| Interface connector | GigE RJ45 |
| I/O connector | 8-pin Hirose connector (HR25-7TR-8PA(73)) |
| Power supply | 12 V - 24 V or PoE |

## Pin assignment I/O connector

| | |
|---|---|
| 1 | Ground (GND) |
| 2 | Flash output with optocoupler (-) - Line 1 |
| 3 | General Purpose I/O (GPIO) 1 - Line 2 |
| 4 | Trigger input with optocoupler (-) - Line 0 |
| 5 | Flash output with optocoupler (+) - Line 1 |
| 6 | General Purpose I/O (GPIO) 2 - Line 3 |
| 7 | Trigger input with optocoupler (+) - Line 0 |
| 8 | Input power supply (VCC) 12-24 V DC |




## Design

| | |
|---|---|
| Lens Mount | C-Mount |
| IP code | - |
| Dimensions H/W/L | 34.0 mm x 44.0 mm x 35.0 mm |
| Mass | 48 g |
| Housing material | - |

## Features

List of on-camera image pre-processing features.
All features of the table are available via our IDS peak software for image pre-processing on the host computer (sensor model dependent).


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## GV-51N1SE-M-GL Rev.4.2 (1010112)

| | | |
|---|---|---|
| Image Acquisition | Freerun | ✓ |
| | Software trigger | ✓ |
| | Hardware trigger | ✓ |
| | Trigger controlled exposure | ✓ |
| | Denoiser | ✓ |
| | Long exposure | ✓ |
| | Line scan | - |
| Flashing | Flashing | ✓ |
| | PWM flashing | ✓ |
| Image Adjustments | Auto exposure | ✓ |
| | Auto gain | ✓ |
| | Auto whitebalance | - |
| | Color correction | - |
| | Gamma | ✓ |
| | LUT | ✓ |
| | Mirror/flip | X/Y |
| On-board Image Processing | Pixel formats | Mono8<br>Mono10<br>Mono10p<br>Mono12<br>Mono12p |
| | Region of interest | ✓ |
| | Decimation (FPGA) | ✓ |
| | Decimation (Sensor) | 2x2 |
| | Binning (FPGA) | ✓ |
| | Binning (Sensor) | 2x2<br>Increases frame rate. |
| Others | IP settings | ✓ |
| | Bandwidth management | ✓ |
| | Chunks | ✓ |
| | Sequencer | ✓ |
| | PTP | ✓ |
| | Firmware update | ✓ |
| | 1st supported firmware version | 3.31 |



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