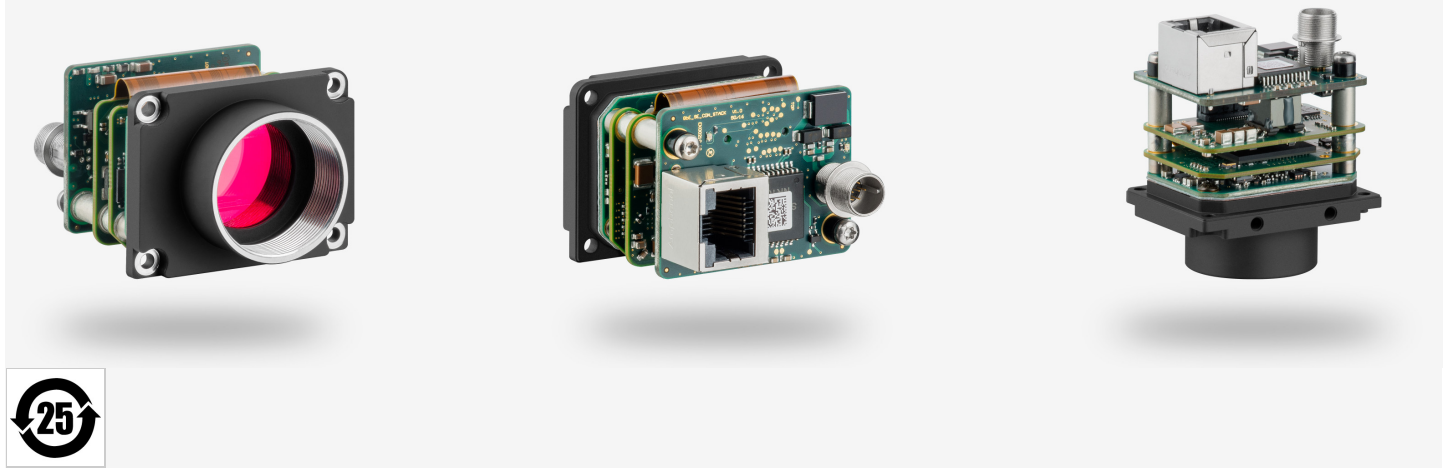


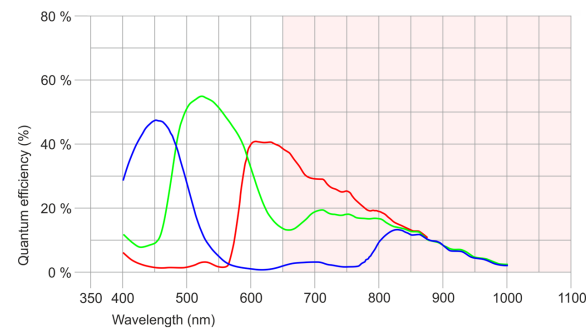
**In series**  
The model is in series and available for the long term.



Specification

Sensor

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Sensor type                             | CMOS Color                                |
| 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-AAQJ-C                             |
| Gain (master/RGB)                       | 16x/16x                                   |
| AOI horizontal                          | same frame rate                           |
| AOI vertical                            | increased frame rate                      |
| AOI image width / step width            | 256 / 2                                   |
| AOI image height / step width           | 2 / 2                                     |
| AOI position grid (horizontal/vertical) | 2 / 2                                     |
| Binning horizontal                      | -                                         |
| Binning vertical                        | -                                         |
| Binning method                          | Horizontal: addition / Vertical: addition |
| Binning factor                          | -                                         |
| Decimation (subsampling) horizontal     | increased frame rate                      |
| Decimation (subsampling) vertical       | increased frame rate                      |
| Decimation (subsampling) method         | M/C automatic                             |
| Decimation (subsampling) factor         | 2x2                                       |



## 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                 | 1.8 W - 5.1 W      |
| Image memory                      | 128 MB             |

## HDR

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

## Ambient conditions

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

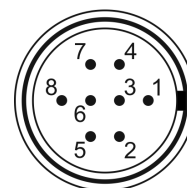
|                                             |                                 |
|---------------------------------------------|---------------------------------|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F   |
| Allowed device temperature during storage   | -20 °C - 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).

|                   |                             |   |
|-------------------|-----------------------------|---|
| Image Acquisition | Freerun                     | ✓ |
|                   | Software trigger            | ✓ |
|                   | Hardware trigger            | ✓ |
|                   | Trigger controlled exposure | ✓ |
|                   | Denoiser                    | ✓ |
|                   | Long exposure               | ✓ |
|                   | Line scan                   | - |

Subject to technical modifications (2026-07-13)

## GV-51N1SE-C-HQ Rev.4.2 (1010111)

|                           |                                |                                                                                         |
|---------------------------|--------------------------------|-----------------------------------------------------------------------------------------|
| 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                  | BayerRG8<br>BayerRG10<br>BayerRG10p<br>BayerRG12<br>BayerRG12p<br>RGB8<br>BGR8<br>Mono8 |
|                           | Region of interest             | ✓                                                                                       |
|                           | Decimation (FPGA)              | ✓                                                                                       |
|                           | Decimation (Sensor)            | 2x2                                                                                     |
|                           | Binning (FPGA)                 | ✓                                                                                       |
|                           | Binning (Sensor)               |                                                                                         |
|                           |                                |                                                                                         |
| Others                    | IP settings                    | ✓                                                                                       |
|                           | Bandwidth management           | ✓                                                                                       |
|                           | Chunks                         | ✓                                                                                       |
|                           | Sequencer                      | ✓                                                                                       |
|                           | PTP                            | ✓                                                                                       |
|                           | Firmware update                | ✓                                                                                       |
|                           | 1st supported firmware version | 3.31                                                                                    |