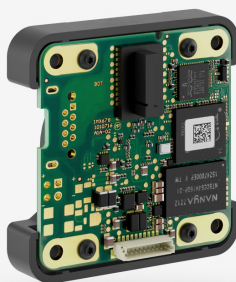
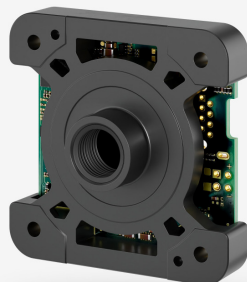


### In series

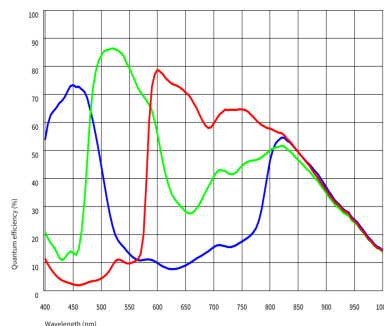
The model is in series and available for the long term.



## Specification

### Sensor

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Sensor type                             | CMOS Color                        |
| Shutter                                 | Rolling shutter                   |
| Sensor characteristic                   | Linear                            |
| Pixel Class                             | 8 MP                              |
| Resolution                              | 8.39 Mpix                         |
| Resolution (h x v)                      | 3856 x 2176 Pixel                 |
| Aspect ratio                            | 16:9                              |
| ADC                                     | 12 bit                            |
| Color depth (camera)                    | 12 bit                            |
| Optical sensor class                    | 1/1.8"                            |
| Optical Size                            | 7.712 mm x 4.352 mm               |
| Optical sensor diagonal                 | 8.86 mm 1/1.8"                    |
| Pixel size                              | 2 µm                              |
| CRA (Chief Ray Angle)                   | 0 °                               |
| Manufacturer                            | Sony                              |
| Sensor Model                            | IMX678-AAQR1-C                    |
| Gain (master/RGB)                       | 26.6x/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                      | increased frame rate              |
| Binning vertical                        | increased frame rate              |
| Binning method                          | Horizontal: mean / Vertical: mean |
| Binning factor                          | 2x2                               |
| Decimation (subsampling) horizontal     | -                                 |
| Decimation (subsampling) vertical       | -                                 |
| Decimation (subsampling) method         | M/C automatic                     |
| Decimation (subsampling) factor         | -                                 |



## Model

|                                   |                   |
|-----------------------------------|-------------------|
| Frame rate freerun mode           | 14 fps            |
| Frame rate trigger (continuous)   | 14 fps            |
| Frame rate trigger (maximum)      | 21 fps            |
| Exposure time (minimum - maximum) | 0.02 ms - 1999 ms |
| Long exposure (maximum)           | 119978 ms         |
| Power consumption                 | 2.3 W - 3.6 W     |
| Image memory                      | 128 MB            |

## HDR

|      |          |
|------|----------|
| Mode | ClearHDR |
|------|----------|

## Ambient conditions

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

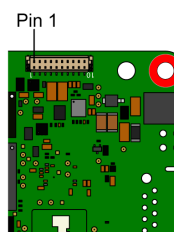
|                                              |                                 |
|----------------------------------------------|---------------------------------|
| Allowed device temperature during operation  | 0 °C - 85 °C / 32 °F - 185 °F   |
| Allowed ambient temperature during operation | 0 °C - 40 °C / 32 °F - 104 °F   |
| Allowed ambient temperature during storage   | -20 °C - 60 °C / -4 °F - 140 °F |
| Humidity (relative, non-condensing)          | 20 % - 80 %                     |

## Connectors

|                     |                                          |
|---------------------|------------------------------------------|
| Interface connector | ZIF                                      |
| I/O connector       | 10-pin Wuerth connector (WR-WTB 1.00 mm) |
| Power supply        | 12 V - 24 V                              |

## Pin assignment I/O connector

|    |                                                  |
|----|--------------------------------------------------|
| 1  | Power supply (VCC) 12-24 V                       |
| 2  | Power supply, ground                             |
| 3  | General Purpose I/O (GPIO) 2, 3.3 V - Line 3     |
| 4  | General Purpose I/O (GPIO) 1, 3.3 V - Line 2     |
| 5  | I2C SCL (signal clock) 3.3 V                     |
| 6  | I2C SDA (signal data) 3.3 V                      |
| 7  | Trigger input without optocoupler 3.3 V - Line 0 |
| 8  | Flash output without optocoupler 3.3 V - Line 1  |
| 9  | Ground (GND)                                     |
| 10 | Voltage output 3.3 V, max. 100 mA                |



## Design

|                  |                             |
|------------------|-----------------------------|
| Lens Mount       | S-Mount                     |
| IP code          | -                           |
| Dimensions H/W/L | 50.0 mm x 50.0 mm x 23.5 mm |
| Mass             | 27 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).

## GV-54J1LE-C-MB Rev.2 (1011661)

|                           |                                |                                                                |
|---------------------------|--------------------------------|----------------------------------------------------------------|
| Image Acquisition         | Freerun                        | ✓                                                              |
|                           | Software trigger               | ✓                                                              |
|                           | Hardware trigger               | ✓                                                              |
|                           | Trigger controlled exposure    | -                                                              |
|                           | Denoiser                       | ✓                                                              |
|                           | Long exposure                  | ✓                                                              |
|                           | Line scan                      | -                                                              |
|                           | Global start                   | -                                                              |
| 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>BayerRG10p<br>BayerRG12<br>BayerRG12p<br>BayerRG10 |
|                           | Region of interest             | ✓                                                              |
|                           | Decimation (FPGA)              | ✓                                                              |
|                           | Decimation (Sensor)            |                                                                |
|                           | Binning (FPGA)                 | -                                                              |
|                           | Binning (Sensor)               | 2x2<br>Increases frame rate.                                   |
| Others                    | IP settings                    | ✓                                                              |
|                           | Bandwidth management           | ✓                                                              |
|                           | Chunks                         | -                                                              |
|                           | Sequencer                      | -                                                              |
|                           | PTP                            | ✓                                                              |
|                           | Firmware update                | ✓                                                              |
|                           | 1st supported firmware version | 3.60                                                           |