# GV-51F1ACP-M-GL Rev.1.2 (1009871)

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

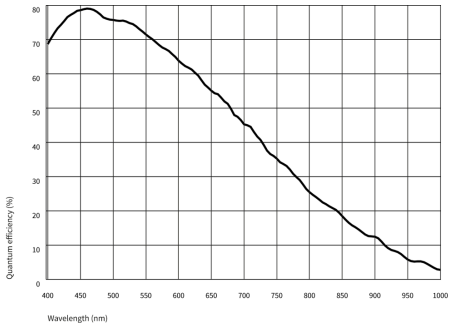




## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Mono |
| Shutter | Global Shutter |
| Sensor characteristic | Linear |
| Pixel Class | 5 MP |
| Resolution | 5.10 Mpix |
| Resolution (h x v) | 2472 x 2064 Pixel |
| Aspect ratio | 5:4 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1/1.8" |
| Optical Size | 6.773 mm x 5.655 mm |
| Optical sensor diagonal | 8.82 mm 1/1.8" |
| Pixel size | 2.74 µm |
| CRA (Chief Ray Angle) | 0 ° |
| Manufacturer | Sony |
| Sensor Model | IMX547-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 | 24 fps |
| Frame rate trigger (continuous) | 24 fps |
| Frame rate trigger (maximum) | 26 fps |
| Exposure time (minimum - maximum) | 0.02 ms - 2000 ms |
| Long exposure (maximum) | 120000 ms |
| Line rate freerun mode (line scan) | 612 1/s |
| Line rate trigger mode (line scan) | 618 1/s |
| Lines per frame (line scan) | 8000 |
| Power consumption | 1.5 W - 4.2 W |
| Image memory | 128 MB |

## 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 % |

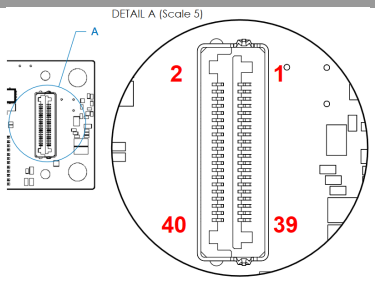
## Connectors

| | |
|---|---|
| Interface connector | Samtec LSHM 40-pin |
| I/O connector | 40-pin header (Samtec LSHM-120-L2.5-L-DV-A-S-K-TR) |
| Power supply | 12 V - 24 V |



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## Pin assignment I/O connector




| | |
|---|---|
| 1 | Input power supply (VCC) 12-24 V DC ± 10 % |
| 2 | Do not connect (for future use) |
| 3 | Input power supply (VCC) 12-24 V DC ± 10 % |
| 4 | Do not connect (for future use) |
| 5 | Ground (GND) |
| 6 | Do not connect (for future use) |
| 7 | Flash output without optocoupler 3.15 V 8 mA |
| 8 | Do not connect (for future use) |
| 9 | Trigger input without optocoupler 3.15 V |
| 10 | Ground (GND) |
| 11 | Do not connect (for future use) |
| 12 | Ground (GND) |
| 13 | Do not connect (for future use) |
| 14 | Do not connect (for future use) |
| 15 | I2C SDA (signal data) 3.15 V |
| 16 | Do not connect (for future use) |
| 17 | I2C SCL (signal clock) 3.15 V |
| 18 | Do not connect (for future use) |
| 19 | Do not connect (for future use) |
| 20 | RJ45 MX0 (-) |
| 21 | Do not connect (for future use) |
| 22 | RJ45 MX0 (+) |
| 23 | General Purpose I/O (GPIO) 2, 3.15 V 8 mA |
| 24 | Do not connect (for future use) |
| 25 | General Purpose I/O (GPIO) 1, 3.15 V 8 mA |
| 26 | RJ45 MX1 (-) |
| 27 | Ethernet, LED green, output 3.15 V |
| 28 | RJ45 MX1 (+) |
| 29 | Power, LED green, output 3.15 V |
| 30 | Do not connect (for future use) |
| 31 | Power, LED red, output 3.15 V |
| 32 | RJ45 MX2 (+) |
| 33 | Ethernet, LED red, output 3.15 V |
| 34 | RJ45 MX2 (-) |
| 35 | Do not connect (for future use) |
| 36 | Do not connect (for future use) |
| 37 | Do not connect (for future use) |
| 38 | RJ45 MX3 (+) |
| 39 | Ground (GND) |
| 40 | RJ45 MX3 (-) |

## Design

| | |
|---|---|
| Lens Mount | C-Mount |
| IP code | - |
| Dimensions H/W/L | 84.0 mm x 40.0 mm x 29.7 mm |
| Mass | 34 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-51F1ACP-M-GL Rev.1.2 (1009871)

| | | |
|---|---|---|
| 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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