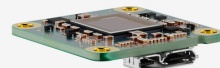
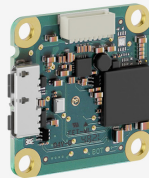
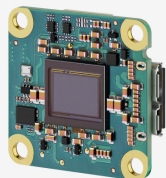


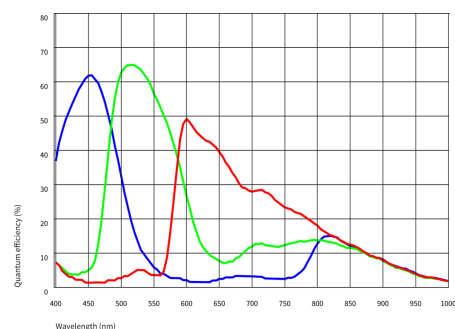
Not recommended for new designs  
The camera model is no longer recommended for new application development.



## Specification

### Sensor

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Sensor type                             | CMOS Color                        |
| Shutter                                 | Rolling shutter                   |
| Sensor characteristic                   | Linear                            |
| Pixel Class                             | 12 MP                             |
| Resolution                              | 12.33 Mpix                        |
| Resolution (h x v)                      | 4056 x 3040 Pixel                 |
| Aspect ratio                            | 4:3                               |
| ADC                                     | 12 bit                            |
| Color depth (camera)                    | 12 bit                            |
| Optical sensor class                    | 1/2.3"                            |
| Optical Size                            | 6.287 mm x 4.712 mm               |
| Optical sensor diagonal                 | 7.86 mm 1/2.3"                    |
| Pixel size                              | 1.55 µm                           |
| CRA (Chief Ray Angle)                   | 12 °                              |
| Manufacturer                            | Sony                              |
| Sensor Model                            | IMX412-AACK-D                     |
| Gain (master/RGB)                       | 22.3x/15.8x                       |
| AOI horizontal                          | same frame rate                   |
| AOI vertical                            | increased frame rate              |
| AOI image width / step width            | 24 / 12                           |
| AOI image height / step width           | 32 / 8                            |
| AOI position grid (horizontal/vertical) | 4 / 4                             |
| 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         | -                                 |



### Model

|                                   |                    |
|-----------------------------------|--------------------|
| Frame rate freerun mode           | 18 fps @ 10Bit     |
| Frame rate trigger (continuous)   | 18 fps @ 10Bit     |
| Frame rate trigger (maximum)      | 18 fps @ 10Bit     |
| Exposure time (minimum - maximum) | 0.017 ms - 1146 ms |
| Power consumption                 | 0.5 W - 1 W        |
| Image memory                      | -                  |

### Ambient conditions

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

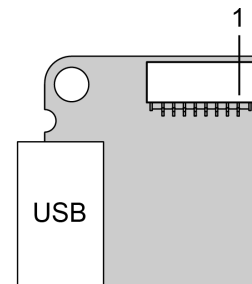
|                                             |                                 |
|---------------------------------------------|---------------------------------|
| Allowed device temperature during operation | 0 °C - 75 °C / 32 °F - 167 °F   |
| Allowed device temperature during storage   | -20 °C - 80 °C / -4 °F - 176 °F |
| Humidity (relative, non-condensing)         | 20 % - 80 %                     |

### Connectors

|                     |                        |
|---------------------|------------------------|
| Interface connector | USB 3.0 micro-B        |
| I/O connector       | 8-pin Wuerth connector |
| Power supply        | USB cable              |

### Pin assignment I/O connector

|   |                                            |
|---|--------------------------------------------|
| 1 | Voltage output 3.3 V                       |
| 2 | Ground (GND)                               |
| 3 | Flash output without optocoupler - Line 1  |
| 4 | Trigger input without optocoupler - Line 0 |
| 5 | General Purpose I/O (GPIO) 1 - Line 2      |
| 6 | General Purpose I/O (GPIO) 2 - Line 3      |
| 7 | Ground (GND)                               |
| 8 | USB Power: 5 V, max. 400 mA                |



### Design

|                  |                            |
|------------------|----------------------------|
| Lens Mount       | No mount                   |
| IP code          | -                          |
| Dimensions H/W/L | 29.0 mm x 29.0 mm x 6.4 mm |
| Mass             | 7 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                   | - |
| Global start                | - |

#### Flashing

|              |   |
|--------------|---|
| Flashing     | - |
| PWM flashing | - |

## U3-38L2XLS-C Rev.1.2 (1009173)

|                           |                                |                                    |
|---------------------------|--------------------------------|------------------------------------|
| Image Adjustments         | Auto exposure                  | -                                  |
|                           | Auto gain                      | -                                  |
|                           | Auto whitebalance              | -                                  |
|                           | Color correction               | -                                  |
|                           | Gamma                          | -                                  |
|                           | LUT                            | -                                  |
|                           | Mirror/flip                    | X/Y                                |
| On-board Image Processing | Pixel formats                  | BayerRG10g40IDS<br>BayerRG12g24IDS |
|                           | Region of interest             | ✓                                  |
|                           | Decimation (FPGA)              | -                                  |
|                           | Decimation (Sensor)            |                                    |
|                           | Binning (FPGA)                 | -                                  |
|                           | Binning (Sensor)               | 2x2<br>Increases frame rate.       |
| Others                    | Chunks                         | -                                  |
|                           | Sequencer                      | -                                  |
|                           | Events                         | -                                  |
|                           | Firmware update                | ✓                                  |
|                           | 1st supported firmware version | 3.3                                |