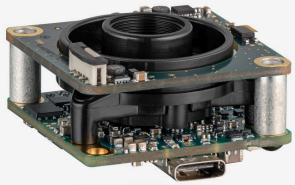
# U3-3881LE-C-HQ-AF Rev.1.2 (1008106)

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



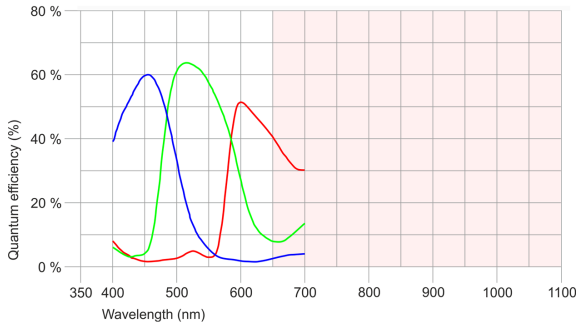




## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Color |
| Shutter | Rolling shutter / Global Start Shutter |
| Sensor characteristic | Linear |
| Pixel Class | 6 MP |
| Resolution | 6.41 Mpix |
| Resolution (h x v) | 3088 x 2076 Pixel |
| Aspect ratio | 3:2 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1/1.8" |
| Optical Size | 7.411 mm x 4.982 mm |
| Optical sensor diagonal | 8.93 mm 1/1.8" |
| Pixel size | 2.4 µm |
| CRA (Chief Ray Angle) | 0 ° |
| Manufacturer | Sony |
| Sensor Model | IMX178LQJ-C |
| Gain (master/RGB) | 11.1x/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: addition / Vertical: addition |
| Binning factor | 2x2 |
| Decimation (subsampling) horizontal | - |
| Decimation (subsampling) vertical | - |
| Decimation (subsampling) method | M/C automatic |







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## Model

| | |
|---|---|
| Frame rate freerun mode | 58 fps |
| Frame rate trigger (continuous) | 56 fps |
| Frame rate trigger (maximum) | 56 fps |
| Exposure time (minimum - maximum) | 0.013 ms - 1063 ms |
| Long exposure (maximum) | 60043 ms |
| Power consumption | 0.8 W - 1.7 W |
| Image memory | - |

## Ambient conditions

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

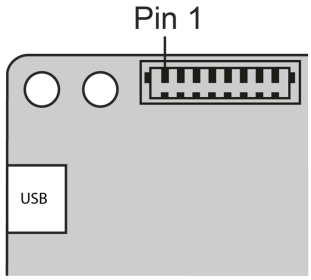
| | |
|---|---|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F |
| Allowed device temperature during storage | -20 °C - 80 °C / -4 °F - 176 °F |
| Humidity (relative, non-condensing) | 20 % - 80 % |

## Connectors

| | |
|---|---|
| Interface connector | USB Type-C |
| I/O connector | 10-pin Wuerth connector (WR-WTB 1.00 mm) |
| Power supply | USB cable |

## Pin assignment I/O connector

| | |
|---|---|
| 1 | Voltage output 5 V, max. 400 mA |
| 2 | Ground (GND) |
| 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 clock signal - requires USB3 Vision Firmware 3.2 or higher |
| 6 | I2C data signal - requires USB3 Vision Firmware 3.2 or higher |
| 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 |




## Design

| | |
|---|---|
| Lens Mount | S-Mount |
| IP code | - |
| Dimensions H/W/L | 36.0 mm x 36.0 mm x 19.9 mm |
| Mass | 16 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 | ✓ |


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| | | |
|---|---|---|
| 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 | Chunks | - |
| | Sequencer | - |
| | Events | - |
| | Firmware update | ✓ |
| | 1st supported firmware version | 2.20 |



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