# IDS

## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Color |
| Shutter | Rolling shutter |
| Sensor characteristic | Linear |
| Readout mode | - |
| 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 |
| Manufacturer | Sony |
| Sensor Model | IMX412-AACK-D |
| Gain (master/RGB) | -/- |
| 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) | 2 / 4 |
| Binning horizontal | increased frame rate |
| Binning vertical | increased frame rate |
| Binning method | M/C automatic |
| Binning factor | 2x2_constrain |
| Decimation (subsampling) horizontal | - |
| Decimation (subsampling) vertical | - |
| Decimation (subsampling) method | - |
| Decimation (subsampling) factor | - |

Subject to technical modifications (2026-01-22)

Page 1 of 3                                                                 www.ids-imaging.com

IDS Imaging Development Systems GmbH
Dimbacher Str. 10   ·   74182 Obersulm   ·   Germany   ·   Phone +49 7134 96196-0   ·   E-mail info@ids-imaging.com
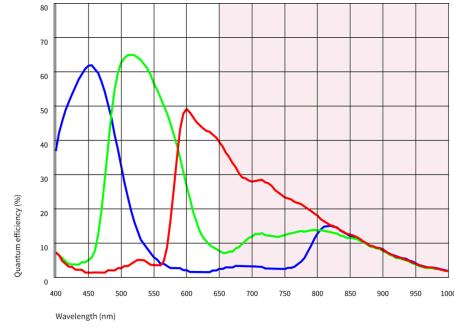
## Model

| | |
|---|---|
| Frame rate freerun mode | 18 fps |
| Frame rate trigger (continuous) | 18 fps |
| Frame rate trigger (maximum) | 18 fps |
| Exposure time (minimum - maximum) | 0.032 ms - 1900 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 |
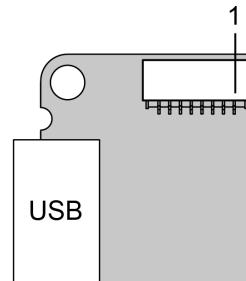
## Design

| | |
|---|---|
| Lens Mount | CS- / C-Mount |
| IP code | - |
| Dimensions H/W/L | 32.5 mm x 32.5 mm x 14.0 mm |
| Mass | 20 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 | - |

Subject to technical modifications (2026-01-22)

| Image Adjustments | | |
| --- | --- | --- |
| | Auto exposure | - |
| | Auto gain | - |
| | Auto whitebalance | - |
| | Color correction | - |
| | Gamma | - |
| | LUT | - |
| | Mirror/flip | X/Y |

| On-board Image Processing | | |
| --- | --- | --- |
| | Pixel formats | BayerGR10g40IDS<br>BayerGR12g24IDS |
| | Region of interest | ✓ |
| | Decimation (FPGA) | - |
| | Decimation (Sensor) | - |
| | Binning (FPGA) | - |
| | Binning (Sensor) | 2x2<br>Horizontal and vertical binning can only be applied jointly. |

| Others | | |
| --- | --- | --- |
| | Chunks | - |
| | Sequencer | - |
| | Events | - |
| | Firmware update | ✓ |
| | 1st supported firmware version | 3.3 |

Subject to technical modifications (2026-01-22)