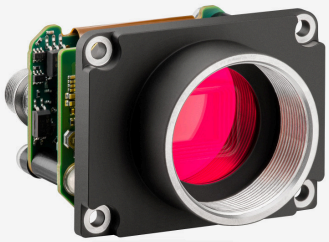
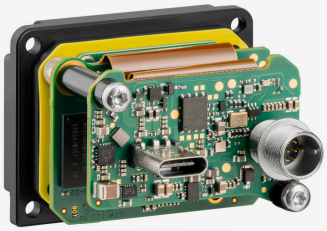
# U3-3891SE-C-HQ Rev.1.2 (AB12790)

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

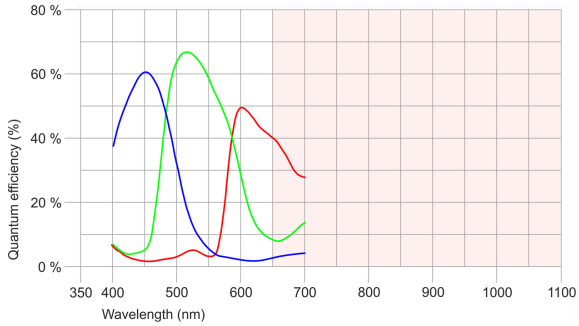




## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Color |
| Shutter | Rolling shutter |
| Sensor characteristic | Linear |
| Readout mode | Progressive scan |
| Pixel Class | 12 MP |
| Resolution | 12.00 Mpix |
| Resolution (h x v) | 4000 x 3000 Pixel |
| Aspect ratio | 4:3 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1/1.7"" |
| Optical Size | 7.400 mm x 5.550 mm) |
| Optical sensor diagonal | 9.25 mm (1/1.73") |
| Pixel size | 1.85 µm |
| Manufacturer | Sony |
| Sensor Model | IMX226CQJ-C |
| Gain (master/RGB) | 17x/15x |
| AOI horizontal | same frame rate |
| AOI vertical | same frame rate |
| AOI image width / step width | 256 / 16 |
| AOI image height / step width | 2 / 2 |
| AOI position grid (horizontal/vertical) | 16 / 2 |
| Binning horizontal | increased frame rate |
| Binning vertical | increased frame rate |
| Binning method | M/C automatic |
| Binning factor | 2 / 4 / 8 |
| Subsampling horizontal | same frame rate |
| Subsampling vertical | same frame rate |
| Subsampling method | M/C automatic |
| Subsampling factor | 2, 4, 8 |







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 | 33 fps |
| Frame rate trigger (continuous) | 17 fps |
| Frame rate trigger (maximum) | 17 fps |
| Exposure time (minimum - maximum) | 0.040 ms - 609 ms |
| Long exposure (maximum) | 30000 ms |
| Power consumption | 2 W - 3.6 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 | USB Type-C |
| I/O connector | 8-pin Hirose connector (HR25-7TR-8PA(73)) |
| Power supply | USB cable |

## Pin assignment I/O connector

| | |
|---|---|
| 1 | Ground (GND) |
| 2 | Flash output with optocoupler (-) - Line 1 |
| 3 | General Purpose I/O (GPIO) 1, 3.3 V - Line 2 |
| 4 | Trigger input with optocoupler (-) - Line 0 |
| 5 | Flash output with optocoupler (+) - Line 1 |
| 6 | General Purpose I/O (GPIO) 2, 3.3 V - Line 3 |
| 7 | Trigger input with optocoupler (+) - Line 0 |
| 8 | Output supply voltage, 5 V (100 mA) |


## Design

| | |
|---|---|
| Lens Mount | C-Mount |
| IP code | - |
| Dimensions H/W/L | 34.0 mm x 44.0 mm x 31.0 mm |
| Mass | 45 g |

## Features

| | | |
|---|---|---|
| Image Acquisition | Freerun | ✓ |
| | Software trigger | ✓ |
| | Hardware trigger | ✓ |
| | Trigger controlled exposure | - |
| | Denoiser | ✓ |
| | Long exposure | ✓ |
| | Line scan | - |
| | Line scan highspeed | - |
| | Global start | - |
| Flashing | Flashing | ✓ |
| | PWM flashing | ✓ |



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## Image Adjustments

| | |
|---|---|
| Auto exposure | ✓ |
| Auto gain | ✓ |
| Auto whitebalance | ✓ |
| Color correction | ✓ |
| Gamma | ✓ |
| LUT | ✓ |
| Mirror/flip | Y |

## On-board Image Processing

| | |
|---|---|
| Pixel formats | Mono8<br>BayerRG8<br>BayerRG10<br>BayerRG10p<br>BayerRG12<br>BayerRG12p<br>BGR8<br>RGB8<br>BGR10p32<br>RGB10p32 |
| 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 | 2.20.17746 |



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Natascha Overhof

Christian Crompvoets

**VISION** CONSULTANCY

Robert Schumandomein 2
6229 ES Maastricht
The Netherlands

+31 (0) 438 522 651

sales@vision-consultancy.nl

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