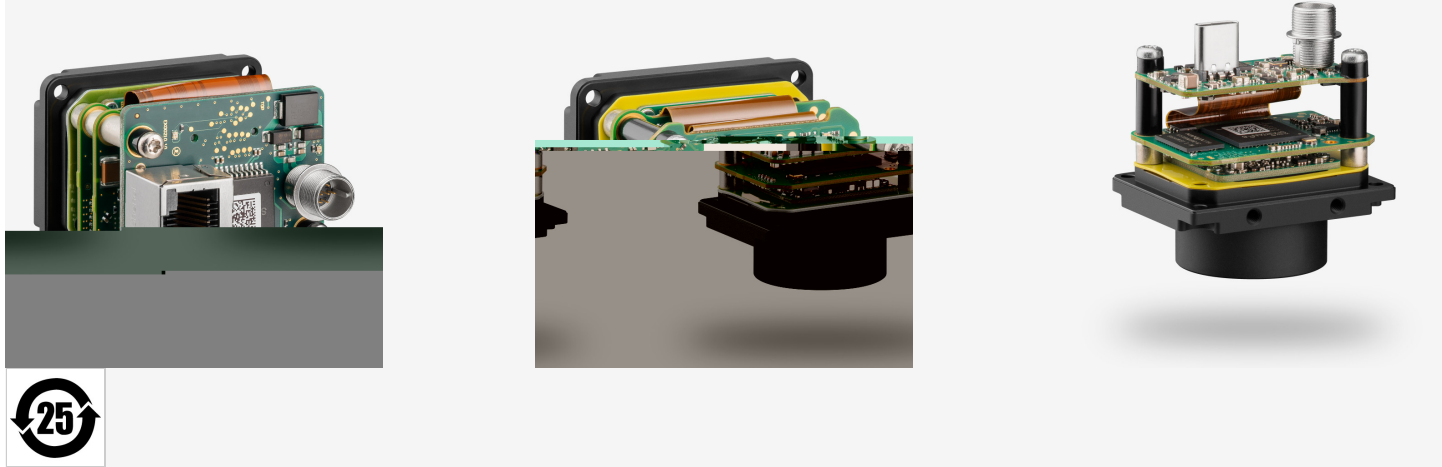


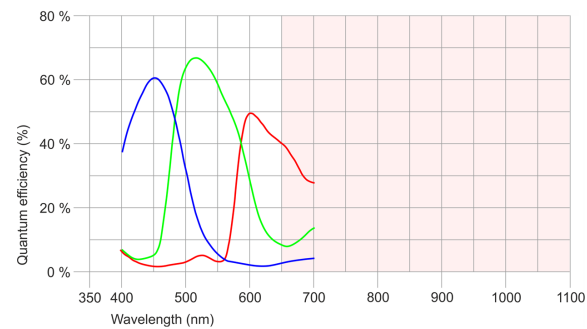
In series

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



Specification

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Sensor                                  |                                   |
| Sensor type                             | CMOS Color                        |
| Shutter                                 | Rolling shutter                   |
| Sensor characteristic                   | Linear                            |
| 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 1/1.7"                    |
| Pixel size                              | 1.85 µm                           |
| CRA (Chief Ray Angle)                   | 0 °                               |
| Manufacturer                            | Sony                              |
| Sensor Model                            | IMX226CQJ-C                       |
| Gain (master/RGB)                       | 16x/16x                           |
| AOI horizontal                          | same frame rate                   |
| AOI vertical                            | same 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: mean / Vertical: mean |
| Binning factor                          | 2x2                               |
| Decimation (subsampling) horizontal     | -                                 |
| Decimation (subsampling) vertical       | -                                 |
| Decimation (subsampling) method         | M/C automatic                     |



### Model

|                                   |                  |
|-----------------------------------|------------------|
| Frame rate freerun mode           | 33 fps           |
| Frame rate trigger (continuous)   | 17 fps           |
| Frame rate trigger (maximum)      | 17 fps           |
| Exposure time (minimum - maximum) | 0.04 ms - 610 ms |
| Long exposure (maximum)           | 30000 ms         |
| Power consumption                 | 1.9 W - 3.1 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                        |
| 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 (2026-09-12)

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

### 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>Increases frame rate.                                                                                    |

### Others

|                                |            |
|--------------------------------|------------|
| Chunks                         | ✓          |
| Sequencer                      | -          |
| Events                         | ✓          |
| Firmware update                | ✓          |
| 1st supported firmware version | 2.20.17746 |