# U3-3800SE-C-HQ Rev.1.2 (AB12875)

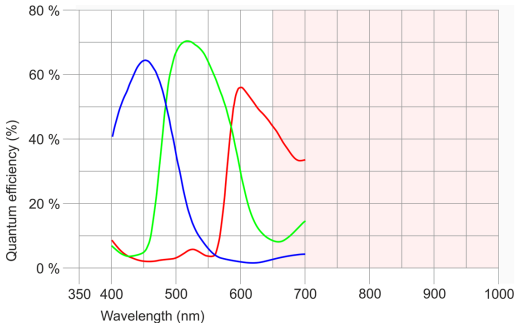
**In series**
The model is in series and available for the long term.



## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Color |
| Shutter | Rolling shutter |
| Sensor characteristic | Linear |
| Pixel Class | 20 MP |
| Resolution | 20.44 Mpix |
| Resolution (h x v) | 5536 x 3692 Pixel |
| Aspect ratio | 3:2 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1" |
| Optical Size | 13.286 mm x 8.861 mm |
| Optical sensor diagonal | 15.97 mm 1" |
| Pixel size | 2.4 µm |
| CRA (Chief Ray Angle) | 0 ° |
| Manufacturer | Sony |
| Sensor Model | IMX183CQK-J |
| Gain (master/RGB) | -/- |
| 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 | Horizontal: mean / Vertical: mean |
| Binning factor | 2x2_constrain |
| Decimation (subsampling) horizontal | same frame rate |
| Decimation (subsampling) vertical | same frame rate |
| Decimation (subsampling) method | M/C automatic |







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## Model

| | |
|---|---|
| Frame rate freerun mode | 19 fps |
| Frame rate trigger (continuous) | 10 fps |
| Frame rate trigger (maximum) | 10 fps |
| Exposure time (minimum - maximum) | 0.053 ms - 814 ms |
| Long exposure (maximum) | 30000 ms |
| Power consumption | 1.6 W - 3.4 W |
| Image memory | 128 MB |

## Ambient conditions

The temperature values given below refer to the outer device temperature of the camera housing.

| | |
|---|---|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F |
| Allowed ambient temperature during storage | -20 °C - 60 °C / -4 °F - 140 °F |
| Humidity (relative, non-condensing) | 20 % - 80 % |

## Connectors

| | |
|---|---|
| Interface connector | USB Type-C, screwable |
| 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 | IP30 |
| Dimensions H/W/L | 34.0 mm x 44.0 mm x 47.0 mm |
| Mass | 110 g |
| Housing material | Aluminum |

## 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 | ✓ |


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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 | BayerRG8<br>BayerRG10p<br>BayerRG12<br>BayerRG12p<br>BayerRG10 |
| | 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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