

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

### In series

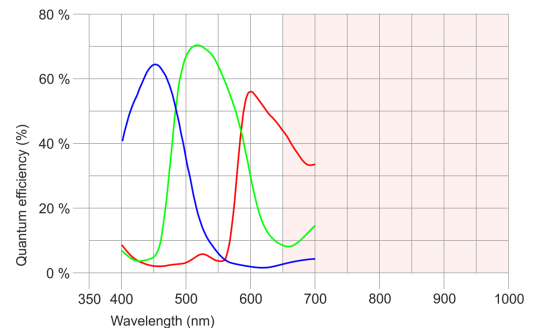
The model is in series and available for the long term.



## Specification

### Sensor

|   |                      |
|---|----------------------|
| Sensor type                             | CMOS Color           |
| Shutter                                 | Rolling shutter      |
| Sensor characteristic                   | Linear               |
| Readout mode                            | Progressive scan     |
| 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 (1/1")      |
| Pixel size                              | 2.4 µm               |
| Micro lens shift                        | 0.00                 |
| 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                          | 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              |



Subject to technical modifications (2023-12-14)

## Model

|   |                   |
|---|-------------------|
| Frame rate freerun mode (in 8-bit 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                       | 2 W - 3.6 W       |
| Image memory                            | 128 MB            |

## Ambient conditions

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

|                                     |                                 |
|-------------------------------------|---------------------------------|
| Device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F   |
| Device 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                       |

## Features

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

Subject to technical modifications (2023-12-14)

|                           |                                |   |
|---------------------------|--------------------------------|---|
| 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  |