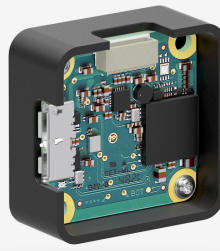


In series

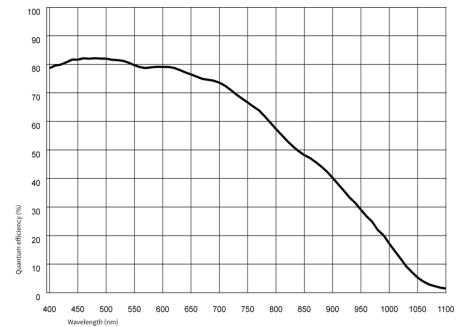
The model is in series and available for the long term.



Specification

Sensor

| | |
|---|----------------------|
| Sensor type | CMOS Mono |
| Shutter | Rolling shutter |
| Sensor characteristic | Linear |
| Readout mode | Progressive scan |
| Pixel Class | 20 MP |
| Resolution | 19.80 Mpix |
| Resolution (h x v) | 5136 x 3856 Pixel |
| Aspect ratio | 4:3 |
| ADC | 10 bit |
| Color depth (camera) | 10 bit |
| Optical sensor class | 1/1.8" |
| Optical Size | 7.190 mm x 5.399 mm |
| Optical sensor diagonal | 8.99 mm (1/1.78") |
| Pixel size | 1.4 μ m |
| Micro lens shift | 13.00 |
| Manufacturer | Onsemi |
| Sensor Model | AR2020CSSM13SMTA0-DP |
| Gain (master/RGB) | 8x/- |
| AOI horizontal | same frame rate |
| AOI vertical | increased frame rate |
| AOI image width / step width | 276 / 12 |
| AOI image height / step width | 2 / 2 |
| AOI position grid (horizontal/vertical) | 4 / 2 |
| Binning horizontal | increased frame rate |
| Binning vertical | increased frame rate |
| Binning method | M/C automatic |
| Binning factor | 2 |
| Subsampling horizontal | increased frame rate |
| Subsampling vertical | same frame rate |
| Subsampling method | M/C automatic |
| Subsampling factor | 2 |



Subject to technical modifications (2023-12-13)

Model

| | |
|---|--------------------|
| Frame rate freerun mode (in 8-bit mode) | 15 fps |
| Frame rate trigger (continuous) | 14 fps |
| Frame rate trigger (maximum) | 14 fps |
| Exposure time (minimum - maximum) | 0.035 ms - 2000 ms |
| Power consumption | 0.5 W - 1 W |

Ambient conditions

The temperature values given below refer to the outer device temperature of the camera housing.
For PCB versions, refer to the separate hints in the respective documentation.

| | |
|-------------------------------------|---------------------------------|
| Device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F |
| 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 connector |
| Power supply | USB cable |

Pin assignment I/O connector

| | |
|---|-----------------------------------|
| 1 | Voltage output 3.3 V |
| 2 | Ground (GND) |
| 3 | Flash output without optocoupler |
| 4 | Trigger input without optocoupler |
| 5 | General Purpose I/O (GPIO) 1 |
| 6 | General Purpose I/O (GPIO) 2 |
| 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 | 15 g |

Features

Image Acquisition

| | |
|-----------------------------|---|
| Freerun | ✓ |
| Software trigger | ✓ |
| Hardware trigger | ✓ |
| Trigger controlled exposure | - |
| Denoisier | - |
| Long exposure | - |
| Line scan | - |
| Line scan highspeed | - |
| Global start | - |

Flashing

| | |
|--------------|---|
| Flashing | ✓ |
| PWM flashing | - |

| | | |
|---------------------------|--------------------------------|------------------------------|
| Image Adjustments | Auto exposure | - |
| | Auto gain | - |
| | Auto whitebalance | - |
| | Color correction | - |
| | Gamma | - |
| | LUT | - |
| | Mirror/flip | X/Y |
| On-board Image Processing | Pixel formats | Mono8 Mono10g40IDS |
| | Region of interest | ✓ |
| | Decimation (FPGA) | - |
| | Decimation (Sensor) | 2x2 |
| | Binning (FPGA) | - |
| | Binning (Sensor) | 2x2 Increases frame rate. |
| Others | Chunks | - |
| | Sequencer | - |
| | Events | - |
| | Firmware update | ✓ |
| | 1st supported firmware version | 3.21 |