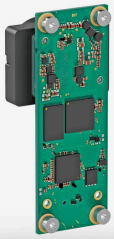
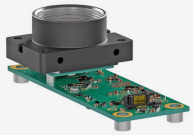
# U3-3041ACP-C-HQ Rev.1.2 (AB11360)

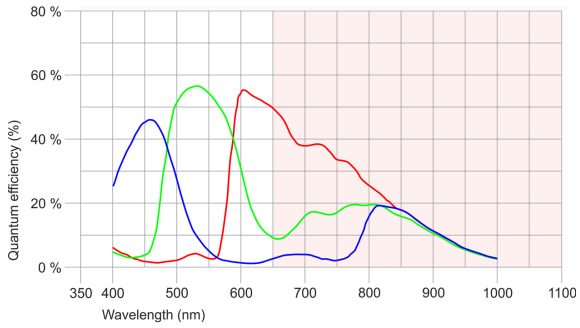
**In series**
The model is in series and available for the long term.

## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Color |
| Shutter | Global Shutter |
| Sensor characteristic | Linear |
| Pixel Class | 1.6 MP |
| Resolution | 1.58 Mpix |
| Resolution (h x v) | 1456 x 1088 Pixel |
| Aspect ratio | 4:3 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1/2.9" |
| Optical Size | 4.996 mm x 3.747 mm |
| Optical sensor diagonal | 6.25 mm 1/2.9" |
| Pixel size | 3.45 µm |
| CRA (Chief Ray Angle) | 0 ° |
| Manufacturer | Sony |
| Sensor Model | IMX273LQR-C |
| Gain (master/RGB) | 25.4x/16x |
| AOI horizontal | same frame rate |
| AOI vertical | increased 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 | - |
| Binning vertical | - |
| Binning method | Horizontal: addition / Vertical: addition |
| Binning factor | - |
| Decimation (subsampling) horizontal | same frame rate |
| Decimation (subsampling) vertical | increased frame rate |
| Decimation (subsampling) method | M/C automatic |







IDS Imaging Development Systems Inc.
800 W Cummings Park Ste 2950 · Woburn, MA 01801-7221 · Phone +1 (781) 787-0048 · E-Mail usasales@ids-imaging.com

## Model

| | |
|---|---|
| Frame rate freerun mode | 254 fps |
| Frame rate trigger (continuous) | 255 fps |
| Frame rate trigger (maximum) | 264 fps |
| Exposure time (minimum - maximum) | 0.021 ms - 2000 ms |
| Long exposure (maximum) | 30606 ms |
| Line rate freerun mode (line scan) | 6577 1/s |
| Line rate trigger mode (line scan) | 7047 1/s |
| Lines per frame (line scan) | 8000 |
| Power consumption | 1.6 W - 3.6 W |
| Image memory | 128 MB |

## Ambient conditions

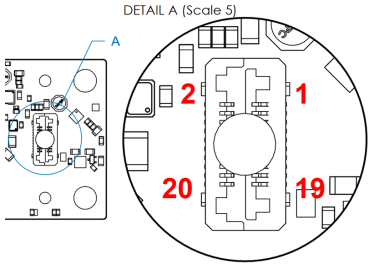
For PCB versions, refer to the separate hints in the respective documentation.

| | |
|---|---|
| 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 | Samtec LSHM 20-pin |
| I/O connector | 20-pin header (Samtec LSHM-110-L02.5-L-DV-A-N-K-TR) |
| Power supply | USB cable |

## Pin assignment I/O connector




| | |
|---|---|
| 1 | Input power supply (VCC), 5 V DC USB |
| 2 | Do not connect (for future use) |
| 3 | Input power supply (VCC), 5 V DC USB |
| 4 | Do not connect (for future use) |
| 5 | USB 2 data (-) |
| 6 | I2C SDA (signal data) 3.3 V |
| 7 | USB 2 data (+) |
| 8 | I2C SCL (signal clock) 3.3 V |
| 9 | Ground (GND) |
| 10 | Trigger input without optocoupler 3.3 V |
| 11 | USB 3 TX (-) |
| 12 | Flash output without optocoupler 3.3 V 8 mA |
| 13 | USB 3 TX (+) |
| 14 | General Purpose I/O (GPIO) 1, 3.3 V |
| 15 | Ground (GND) |
| 16 | General Purpose I/O (GPIO) 2, 3.3 V |
| 17 | USB 3 RX (-) |
| 18 | Do not connect (for future use) |
| 19 | USB 3 RX (+) |
| 20 | Output power voltage, 5 V (900 mA – camera current depending on sensor) |

## Design

| | |
|---|---|
| Lens Mount | C-Mount |
| IP code | - |
| Dimensions H/W/L | 84.0 mm x 40.0 mm x 29.7 mm |
| Mass | 45 g |
| Housing material | - |



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# 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 | ✓ |
| 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<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) | 2x2 |
| | Binning (FPGA) | ✓ |
| | Binning (Sensor) | |
| Others | Chunks | ✓ |
| | Sequencer | ✓ |
| | Events | ✓ |
| | Firmware update | ✓ |
| | 1st supported firmware version | 2.20.17926 |


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