

### In series

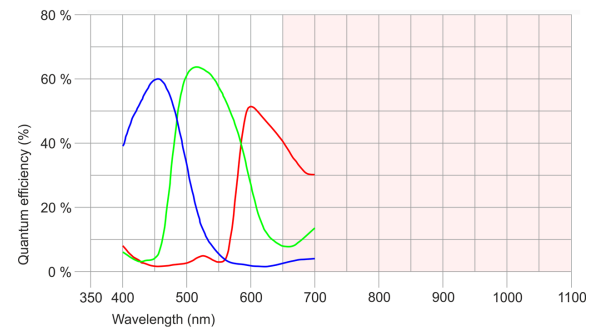
The model is in series and available for the long term.



## Specification

### Sensor

Sensor type	CMOS Color
Shutter	Rolling shutter
Sensor characteristic	Linear
Readout mode	Progressive scan
Pixel Class	6 MP
Resolution	6.41 Mpix
Resolution (h x v)	3088 x 2076 Pixel
Aspect ratio	3:2
ADC	12 bit
Color depth (camera)	12 bit
Optical sensor class	1/1.8"
Optical Size	7.411 mm x 4.982 mm)
Optical sensor diagonal	8.93 mm (1/1.79")
Pixel size	2.4 µm
Manufacturer	Sony
Sensor Model	IMX178LQJ-C
Gain (master/RGB)	14.5x/5x
AOI horizontal	same frame rate
AOI vertical	increased frame rate
AOI image width / step width	88 / 8
AOI image height / step width	2 / 2
AOI position grid (horizontal/vertical)	8 / 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



## Model

Frame rate freerun mode	59 fps
Frame rate trigger (continuous)	57 fps
Frame rate trigger (maximum)	57 fps
Exposure time (minimum - maximum)	0.013 ms - 1060 ms
Long exposure (maximum)	60000 ms
Power consumption	1.7 W - 3.2 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 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	-
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 BayerRG8 BayerRG10 BayerRG10p BayerRG12 BayerRG12p BGR8 RGB8 BGR10p32 RGB10p32
Region of interest	✓
Decimation (FPGA)	✓
Decimation (Sensor)	-
Binning (FPGA)	✓
Binning (Sensor)	2x2 Frame rate does not increase. Horizontal and vertical binning can only be applied jointly.

Others

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



**VISION CONSULTANCY**  
MAKING THE UNSEEN VISIBLE

Thank you for downloading this document from  
[www.machine-vision-shop.com](http://www.machine-vision-shop.com)

If you have any questions, you need help composing the  
right package for your application or do you want to order?

Feel free to contact us via e-mail at [sales@vision-consultancy.nl](mailto:sales@vision-consultancy.nl) or visit our webshop.

Our vision experts are happy to help you.



Natascha Overhof



Christian Cromptoets



**VISION CONSULTANCY**

Robert Schumandomein 2  
6229 ES Maastricht  
The Netherlands

+31 (0) 438 522 651

[sales@vision-consultancy.nl](mailto:sales@vision-consultancy.nl)

Scan me to visit  
[machine-vision-shop](http://machine-vision-shop.com)

