U3-36P1XLS-C Rev.1.2 (1009698)

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

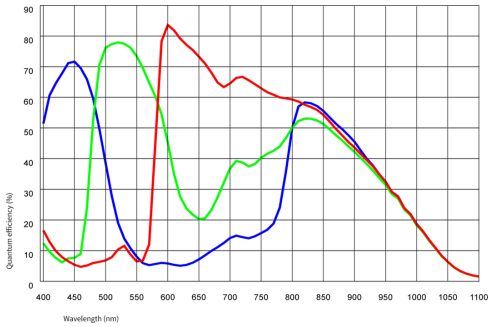




Specification

Sensor

Sensor type	CMOS Color
Shutter	Rolling shutter
Sensor characteristic	Linear
Pixel Class	20 MP
Resolution	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	7.168 mm x 5.376 mm
Optical sensor diagonal	8.96 mm 1/1.8"
Pixel size	1.4 µm
CRA (Chief Ray Angle)	13 °
Manufacturer	Onsemi
Sensor Model	AR2020CSSC13SMTA0
Gain (master/RGB)	8x/16x
AOI horizontal	same frame rate
AOI vertical	increased frame rate
AOI image width / step width	648 / 12
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	Horizontal: mean / Vertical: mean
Binning factor	2x2
Decimation (subsampling) horizontal	-
Decimation (subsampling) vertical	-
Decimation (subsampling) method	-



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Model

Frame rate freerun mode	14 fps
Frame rate trigger (continuous)	14 fps
Frame rate trigger (maximum)	14 fps
Exposure time (minimum - maximum)	0.017 ms - 1144 ms
Power consumption	0.5 W - 1 W
Image memory	-

Ambient conditions

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

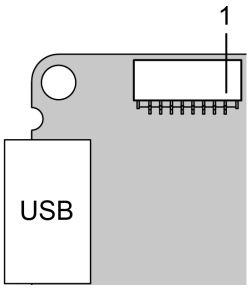
Allowed device temperature during operation	0 °C - 85 °C / 32 °F - 185 °F
Allowed device temperature during storage	-20 °C - 80 °C / -4 °F - 176 °F
Humidity (relative, non-condensing)	20 % - 80 %

Connectors

Interface connector	USB 3.0 micro-B
I/O connector	8-pin Wuerth connector
Power supply	USB cable

Pin assignment I/O connector

1	Voltage output 3.3 V
2	Ground (GND)
3	Flash output without optocoupler - Line 1
4	Trigger input without optocoupler - Line 0
5	General Purpose I/O (GPIO) 1 - Line 2
6	General Purpose I/O (GPIO) 2 - Line 3
7	Ground (GND)
8	USB Power: 5 V, max. 400 mA



Design

Lens Mount	S-Mount
IP code	-
Dimensions H/W/L	32.5 mm x 32.5 mm x 14.0 mm
Mass	8 g
Housing material	-

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	X/Y
On-board Image Processing	Pixel formats	BayerGR8 BayerGR10g40IDS
	Region of interest	✓
	Decimation (FPGA)	-
	Decimation (Sensor)	
	Binning (FPGA)	-
	Binning (Sensor)	2x2 Increases frame rate.
Others	Chunks	-
	Sequencer	-
	Events	-
	Firmware update	✓
	1st supported firmware version	3.21

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