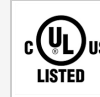
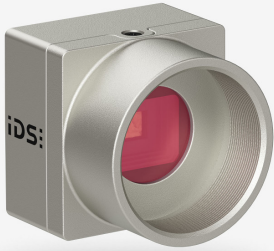


**In series**

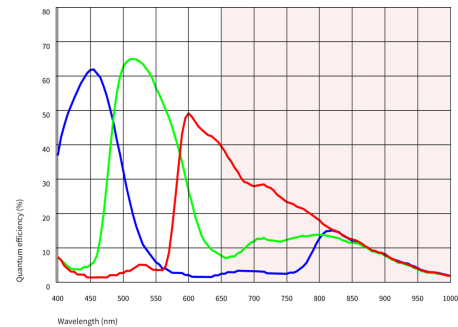
The model is in series and available for the long term.



## Specification

### Sensor

Sensor type	CMOS Color
Shutter	Rolling shutter
Sensor characteristic	Linear
Readout mode	Progressive scan
Pixel Class	12 MP
Resolution	12.33 Mpix
Resolution (h x v)	4056 x 3040 Pixel
Aspect ratio	4:3
ADC	12 bit
Color depth (camera)	12 bit
Optical sensor class	1/2"
Optical Size	6.287 mm x 4.712 mm
Optical sensor diagonal	7.86 mm (1/2.04")
Pixel size	1.55 µm
Micro lens shift	12.00
Manufacturer	Sony
Sensor Model	IMX412-AACK-D
Gain (master/RGB)	-/-
AOI horizontal	same frame rate
AOI vertical	increased frame rate
AOI image width / step width	24 / 12
AOI image height / step width	32 / 8
AOI position grid (horizontal/vertical)	2 / 4
Binning horizontal	increased frame rate
Binning vertical	increased frame rate
Binning method	M/C automatic
Binning factor	2
Subsampling horizontal	-
Subsampling vertical	-
Subsampling method	-
Subsampling factor	-



## Model

Frame rate freerun mode (in 8-bit mode)	18 fps
Frame rate trigger (continuous)	18 fps
Frame rate trigger (maximum)	18 fps
Exposure time (minimum - maximum)	0.032 ms - 1900 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.

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 3.0 micro-B, screwable
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 - 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	C-Mount
IP code	IP30
Dimensions H/W/L	29.0 mm x 29.0 mm x 17.0 mm
Mass	61 g

## Features

Image Acquisition	Freerun	✓
	Software trigger	✓
	Hardware trigger	✓
	Trigger controlled exposure	-
	Denoisier	-
	Long exposure	-
	Line scan	-
	Line scan highspeed	-
Flashing	Global start	-
	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	BayerGR10g40IDS BayerGR12g24IDS
	Region of interest	✓
	Decimation (FPGA)	-
	Decimation (Sensor)	-
	Binning (FPGA)	-
	Binning (Sensor)	2x2 Horizontal and vertical binning can only be applied jointly.
Others	Chunks	-
	Sequencer	-
	Events	-
	Firmware update	✓
	1st supported firmware version	3.20