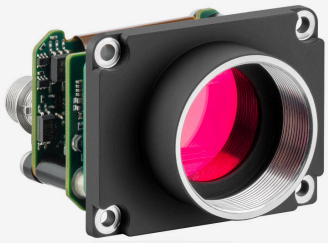
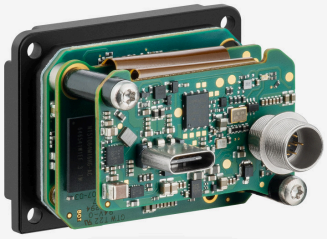
U3-31N1SE-M-GL Rev.1.2 (1009994)

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



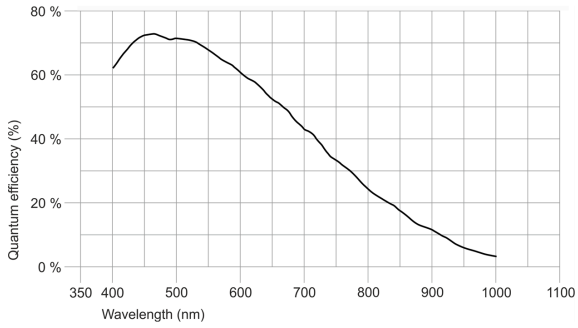




Specification

Sensor

Sensor type	CMOS Mono
Shutter	Global Shutter
Sensor characteristic	Linear
Pixel Class	16 MP
Resolution	16.20 Mpix
Resolution (h x v)	5328 x 3040 Pixel
Aspect ratio	16:9
ADC	12 bit
Color depth (camera)	12 bit
Optical sensor class	1.1"
Optical Size	14.599 mm x 8.330 mm
Optical sensor diagonal	16.81 mm 1.1"
Pixel size	2.74 µm
CRA (Chief Ray Angle)	0 °
Manufacturer	Sony
Sensor Model	IMX542-AAMJ-C
Gain (master/RGB)	16x/-
AOI horizontal	same frame rate
AOI vertical	increased frame rate
AOI image width / step width	256 / 2
AOI image height / step width	1 / 1
AOI position grid (horizontal/vertical)	2 / 1
Binning horizontal	increased frame rate
Binning vertical	increased frame rate
Binning method	Horizontal: addition / Vertical: addition
Binning factor	2x2
Decimation (subsampling) horizontal	increased frame rate
Decimation (subsampling) vertical	increased frame rate
Decimation (subsampling) method	M/C automatic



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Model

Frame rate freerun mode	24 fps
Frame rate trigger (continuous)	24 fps
Frame rate trigger (maximum)	26 fps
Exposure time (minimum - maximum)	0.015 ms - 2000 ms
Long exposure (maximum)	120000 ms
Power consumption	1.6 W - 4.4 W
Image memory	128 MB

HDR

Mode	Sequencer

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	USB Type-C
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	-
Dimensions H/W/L	34.0 mm x 44.0 mm x 31.0 mm
Mass	48 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	-

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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 Mono10 Mono10p Mono12 Mono12p
	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	3.31

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