U3-3800CP-M-GL Rev.2.2 (AB12832)

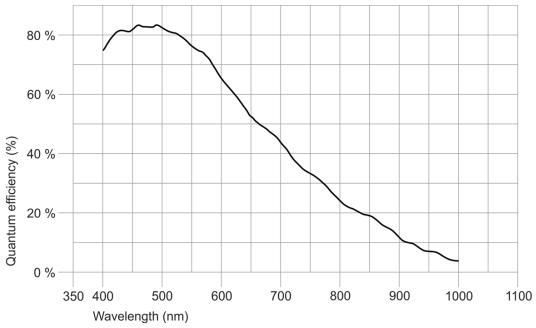
In series
The model is in series and available for the long term.



Specification

Sensor

Sensor type	CMOS Mono
Shutter	Rolling shutter
Sensor characteristic	Linear
Pixel Class	20 MP
Resolution	20.44 Mpix
Resolution (h x v)	5536 x 3692 Pixel
Aspect ratio	3:2
ADC	12 bit
Color depth (camera)	12 bit
Optical sensor class	1"
Optical Size	13.286 mm x 8.861 mm
Optical sensor diagonal	15.97 mm 1"
Pixel size	2.4 µm
CRA (Chief Ray Angle)	0 °
Manufacturer	Sony
Sensor Model	IMX183CLK-J
Gain (master/RGB)	16x/-
AOI horizontal	same frame rate
AOI vertical	same 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: weighted / Vertical: weighted
Binning factor	2x2
Decimation (subsampling) horizontal	-
Decimation (subsampling) vertical	-
Decimation (subsampling) method	M/C automatic



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Model

Frame rate freerun mode	19 fps
Frame rate trigger (continuous)	10 fps
Frame rate trigger (maximum)	10 fps
Exposure time (minimum - maximum)	0.053 ms - 814 ms
Long exposure (maximum)	30000 ms
Power consumption	1.8 W - 3.5 W
Image memory	128 MB

Ambient conditions

The temperature values given below refer to the outer device temperature of the camera housing.

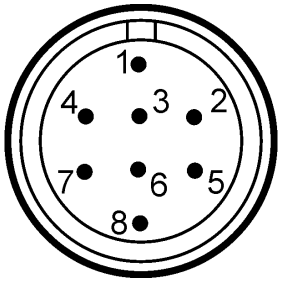
Allowed device temperature during operation	0 °C - 55 °C / 32 °F - 131 °F
Allowed ambient temperature during storage	-20 °C - 60 °C / -4 °F - 140 °F
Humidity (relative, non-condensing)	20 % - 80 %

Connectors

Interface connector	USB 3.0 micro-B, screwable
I/O connector	8-pin 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 - Line 2
4	Trigger input with optocoupler (-) - Line 0
5	Flash output with optocoupler (+) - Line 1
6	General Purpose I/O (GPIO) 2
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	29.0 mm x 29.0 mm x 29.0 mm
Mass	49 g
Housing material	Magnesium / stainless steel

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	Y

On-board Image Processing	Pixel formats	Mono8 Mono10 Mono10p Mono12 Mono12p
	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	2.20

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