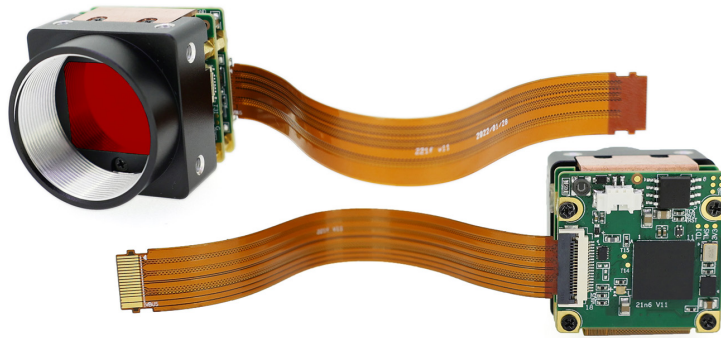


# VEN-1220-32U3M/C-FPC

VENUS Series 12MP CMOS USB3.0 Area Scan Camera



The all-in-one board level camera is a major member of DAHENG IMAGING's VENUS family industry camera, providing an excellent good choice for users with minimal space, low weight, low power consumption and low heat.

The VEN-1220-32U3M/C-FPC is a monochrome/color USB3.0 Vision camera with Sony IMX226 CMOS sensor, featuring flexible installation, powerful extensibility and suitable for limited space application.

## Applications

Suitable for machine vision applications such as industrial inspection, medical, scientific research, education and so on.

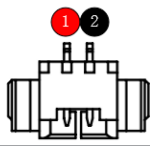
## Features

- FPC cable: 10cm / 20cm / 50cm optional
- Gamma, Decimation, Binning, Black Level, Digital Shift
- Color models support Light source preset, Color Transformation Control and Saturation
- Monochrome models support Sharpness and Noise Reduction
- The Sequencer Control supports multiple sets of parameters configuration
- Timer, Counter, LUTs and User Set Control
- Global Reset Release Shutter exposure
- Support Remove Parameter Limit to expand the range of exposure, gain, white balance, and so on
- 16KB data storage area for saving algorithm coefficients and parameter configuration

## Specifications

Model	VEN-1220-32U3C-FPC	VEN-1220-32U3M/C-FPC
Resolution	4024(H) × 3036(V)	
Sensor	Sony IMX226 Rolling shutter CMOS	
Sensor Format	1/1.7"	
Pixel Size	1.85μm × 1.85μm	
Frame Rate	32.3 fps	
ADC	12 bit	
Pixel Bit Depth	8 bit, 12 bit	
Mono/Color	Color	Mono
Pixel Formats	Bayer RG8 / Bayer RG12	Mono8 / Mono12
SNR	40.61 dB	40.77 dB
Exposure Time	10μs ~ 1s , Actual Steps: 1 row period	
Gain	0dB ~ 24dB, Default: 0dB, Steps: 0.1dB	
Binning	1×1, 1×2, 1×4, 2×1, 2×2, 2×4, 4×1, 4×2, 4×4	
Decimation	FPGA: 1×1, 1×2, 1×4, 2×1, 2×2, 2×4, 4×1, 4×2, 4×4	
Synchronization	Hardware trigger, software trigger	
Acquisition Mode	Single frame, Continuous, Software trigger, Hardware trigger	
Reverse X/Y	Reverse X/Y	
I/O Interface	1 programmable GPIO	
Data Interface	USB3.0 (horizontal FPC)	
Power Supply	Powered by the USB 3.0 bus	
Typical Power	1.79 W @ 5VDC	
Operating Temp.	0° C ~ +45° C	
Storage Temp.	-20° C ~ +70° C	
Operating Humidity	10% ~ 80%	
Lens Mount	C/S	
Dimensions	29(W) × 29(H) × 25.1 ± 1(L) mm (without C Mount) 29(W) × 29(H) × 24.5 ± 1(L) mm (without S Mount)	
Weight	C Mount: 36 g; S Mount: 38 g	
Software	3rd-party software such as HALCON, MERLIC and LabVIEW	
OS	32bit / 64bit Windows, Linux, Android, ARMv7, ARMv8	
Conformity	CE, RoHS, USB3 Vision®, GenICam®	

### I/O Connector

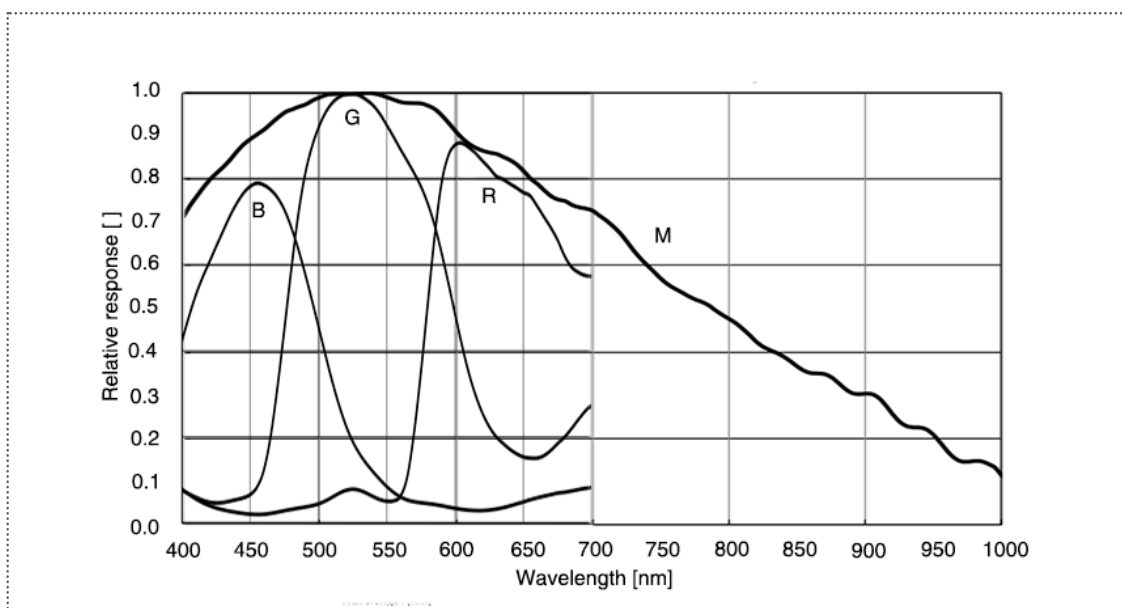
	Pin	Definition	Description
	1	Line2	GPIO Input/Output
	2	GND	GPIO Ground

### FPC Connector

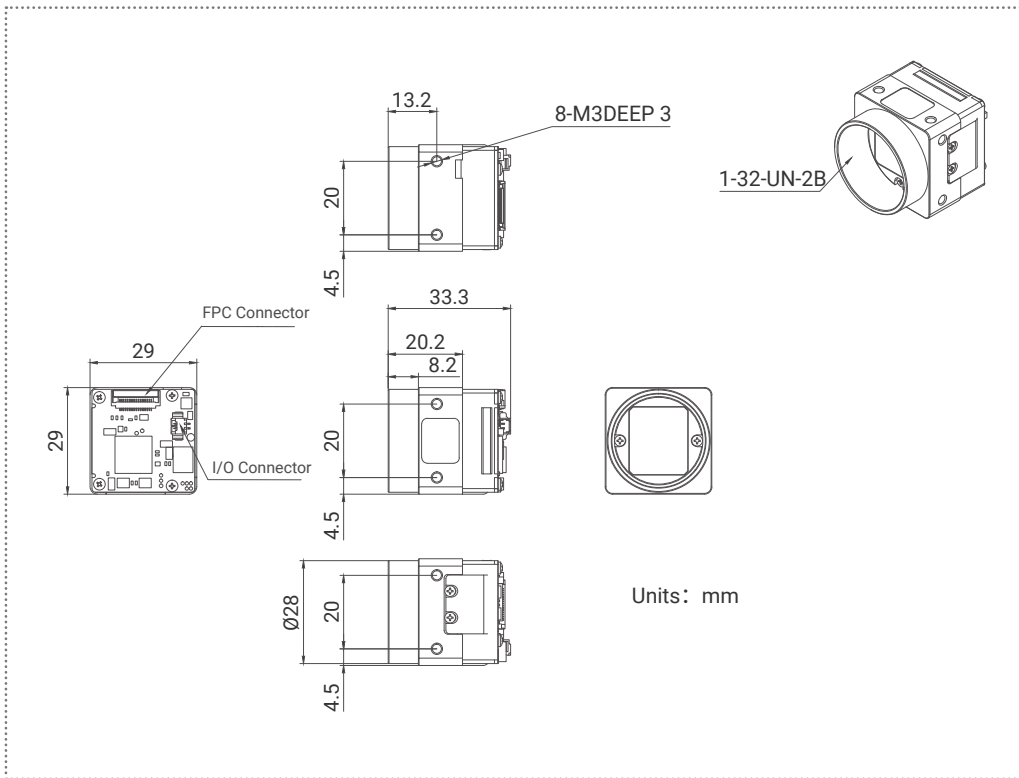
Connector model: TF31-18S-0.5SH(800)

Pin	Definition	Description	Pin	Definition	Description
1	GND	Ground	10	NC	NC
2	SSRX_P	USB3.0 Differential data	11	GND	Ground
3	GND	Ground	12	USB2D_P	USB2.0 Differential data
4	SSRX_N	USB3.0 Differential data	13	GND	Ground
5	GND	Ground	14	USB2D_N	USB2.0 Differential data
6	SSTX_P	USB3.0 Differential data	15	GND	Ground
7	GND	Ground	16	GND	Ground
8	SSTX_N	USB3.0 Differential data	17	Vbus	VBUS Power
9	GND	Ground	18	Vbus	VBUS Power

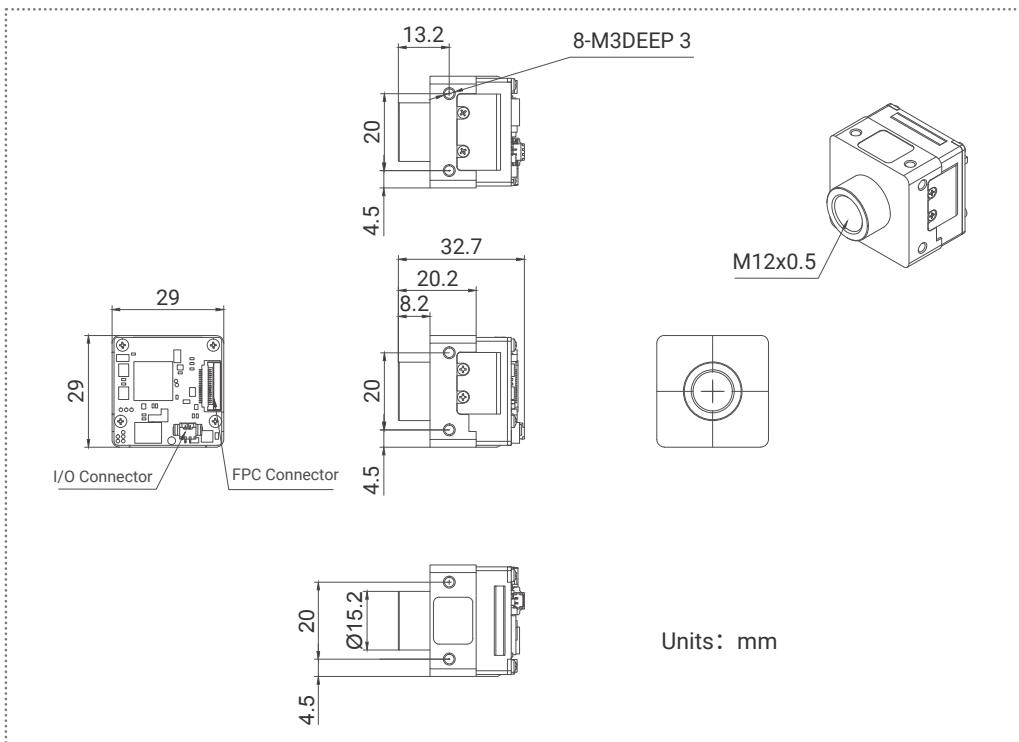
### Spectral Response



Technical Drawing



VEN-1220-32U3M/C-FPC C Mount



VEN-1220-32U3M/C-FPC S Mount

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