

# VE2S-501-23GM/C-P

## VENUS Super Series 5MP CMOS GigE Area Scan Camera



VE2S-501-23GM/C-P is DAHENG IMAGING's industry camera of VENUS family. The camera uses design of "Camera body + FPC cable + GigE adapter board", which provides more flexibility for embedded visual applications.

VE2S-501-23GM/C-P camera is a monochrome/color GigE Vision camera with the Sony CMOS sensor, featuring outstanding performance, ease of installation and use.

### Applications

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

### Features

- FPC cable length between sensor and acquisition board: 2.9cm / 15cm
- FPC cable length between acquisition board and adapter board: 20cm, customizable
- Support Decimation, Black Level, Gamma, Counter, LUTs and User Set Control
- Color models support Light source preset, Color Transformation Control and Saturation
- Monochrome models support Binning, Digital Shift
- 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	VE2S-501-23U3C-P	VE2S-501-23U3M-P
Resolution	2448(H) × 2048(V)	
Sensor	Sony Global shutter CMOS	
Sensor Format	2/3"	
Pixel Size	3.45μm × 3.45μm	
Frame Rate	22.23 fps	
ADC	12 bit	
Pixel Bit Depth	8 bit, 12 bit	
Mono/Color	Color	Mono
Pixel Formats	Bayer RG8 / Bayer RG12	Mono8 / Mono12
SNR	40.55 dB	40.32dB
Exposure Time	UltraShort: 1μs ~ 100μs, Actual Steps: 1μs, Standard: 20μs ~ 1s, Actual Steps: 1 row period	
Gain	0dB ~ 24dB; Default: 0dB, Steps: 0.1dB	
Binning	-	FPGA: 1×1, 1×2, 2×1, 2×2
Decimation	Sensor: 1×1, 2×2	
Synchronization	Hardware trigger, software trigger	
Acquisition Control	Single frame, Continuous, Software trigger, Hardware trigger	
Reverse X/Y	Reverse X/Y	
I/O Interface	1 input and 1 output with opto-isolated, 1 programmable GPIO	
Data Interface	GigE PoE	
Power Supply	12VDC-10% ~ 24VDC+10% supplied via the camera's Hirose connector or PoE (Power over Ethernet, IEEE802.3af compliant)	
Typical Power	2.53W @ 12VDC, 2.93W @ PoE	
Operating Temp.	0° C ~ +45° C	
Storage Temp.	-20° C ~ +70° C	
Operating Humidity	10% ~ 80%	
Lens Mount	C	
Dimensions	31(W) × 29(H) × 30.9(L) mm (without lens adapter)	
Weight	49 g	
Software	3rd-party software such as HALCON, VisionPro and LabVIEW	
OS	32bit / 64bit Windows, Linux, Mac OS	
Conformity	RoHS, GigE Vision®, GenICam®	

### I/O Connector



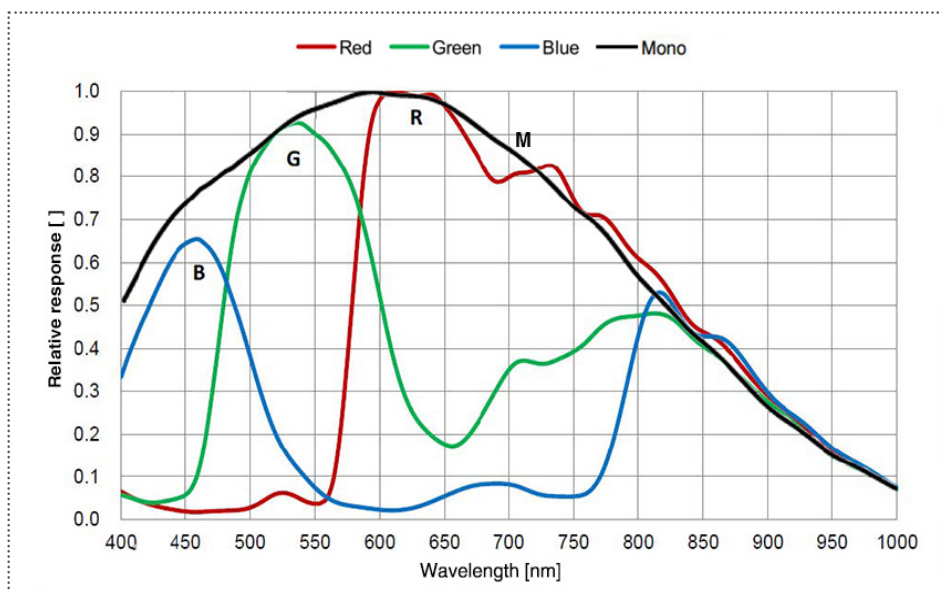
Pin	Definition	Description
1	POWER_IN	Camera external power, +12V DC~+24V DC
2	Line0+	Opto-isolated input +
3	Line2	GPIO input/output
4	Line1+	Opto-isolated output +
5	Line0-/Line1-	Line0-: Opto-isolated input - Line1-: Opto-isolated output -
6	GND	PWR GND & GPIO GND

### FPC Connector

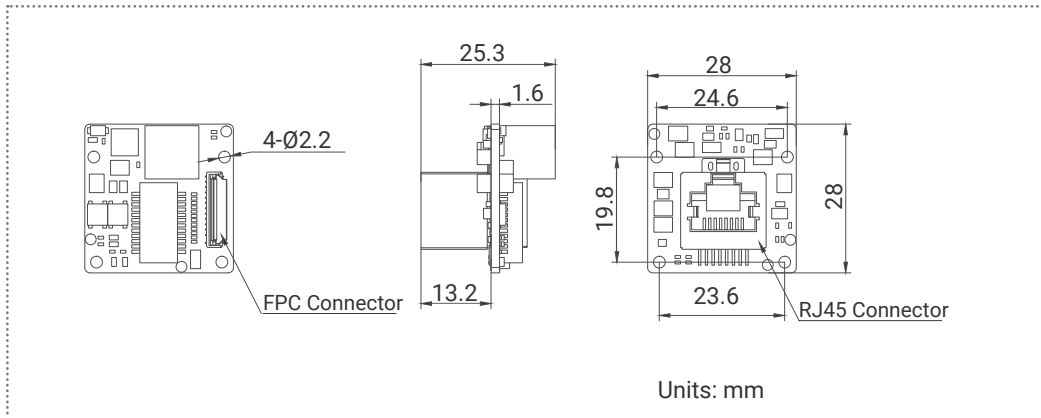
Connector model: TF38-22S-0.5SV

Pin	Definition	Description	Pin	Definition	Description
1	GND	Ground	12	MDI2-	PHY Differential Data
2	MDI0+	PHY Differential Data	13	GND	Ground
3	GND	Ground	14	MDI3+	PHY Differential Data
4	MDI0-	PHY Differential Data	15	GND	Ground
5	GND	Ground	16	MDI3-	PHY Differential Data
6	MDI1+	PHY Differential Data	17	GND	Ground
7	GND	Ground	18	F_LED_RED	Red LED
8	MDI1-	PHY Differential Data	19	VCC_4V5_POE	Power
9	GND	Ground	20	F_LED_GRE	Green LED
10	MDI2+	PHY Differential Data	21	VCC_4V5_POE	Power
11	GND	Ground	22	GND	Ground

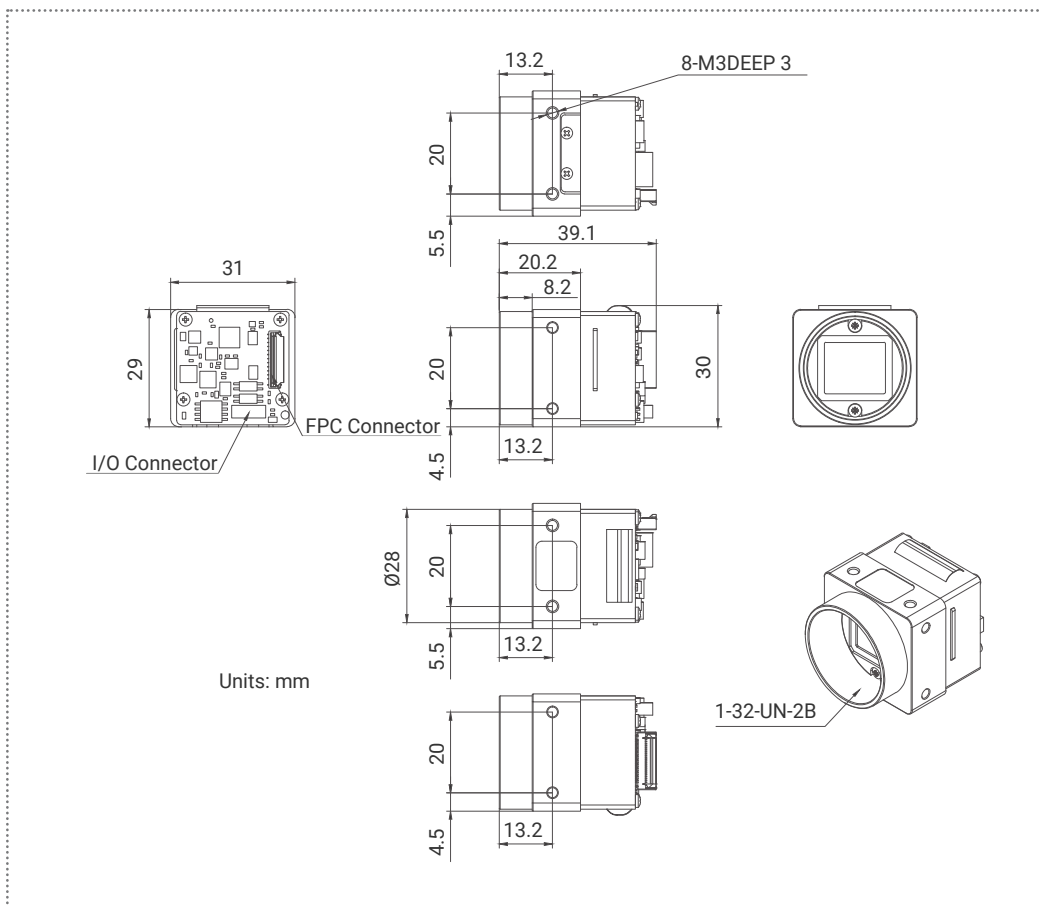
### Spectral Response



Technical Drawing



Adapter Board



Camera

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