

VE2S-042-121GM/C-P

VENUS Super Series 0.4MP CMOS GigE Area Scan Camera



VE2S-042-121GM/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-042-121GM/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
- Trigger mode: Frame Start / Frame Burst Start
- Two exposure time modes: Standard / UltraShort
- Support Gamma, Digital Shift, Black Level
- Counter, LUTs, Decimation, Binning and User Set Control
- Color models support Light source preset, Color Transformation Control and Saturation
- 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-042-121GC-P	VE2S-042-121GM-P
Resolution	720(H) × 540(V)	
Sensor	Sony IMX297 Global shutter CMOS	
Sensor Format	1/2.9"	
Pixel Size	6.9μm × 6.9μm	
Frame Rate	121.8 fps	
ADC	10 bit	
Pixel Bit Depth	8 bit, 10 bit	
Mono/Color	Color	Mono
Pixel Formats	Bayer RG8 / Bayer RG10	Mono8 / Mono10
SNR	43.13 dB	43.18 dB
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, 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 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	2.10W @ 12VDC, 2.48W @ 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) × 30.3(L) mm (without lens adapter)	
Weight	47 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



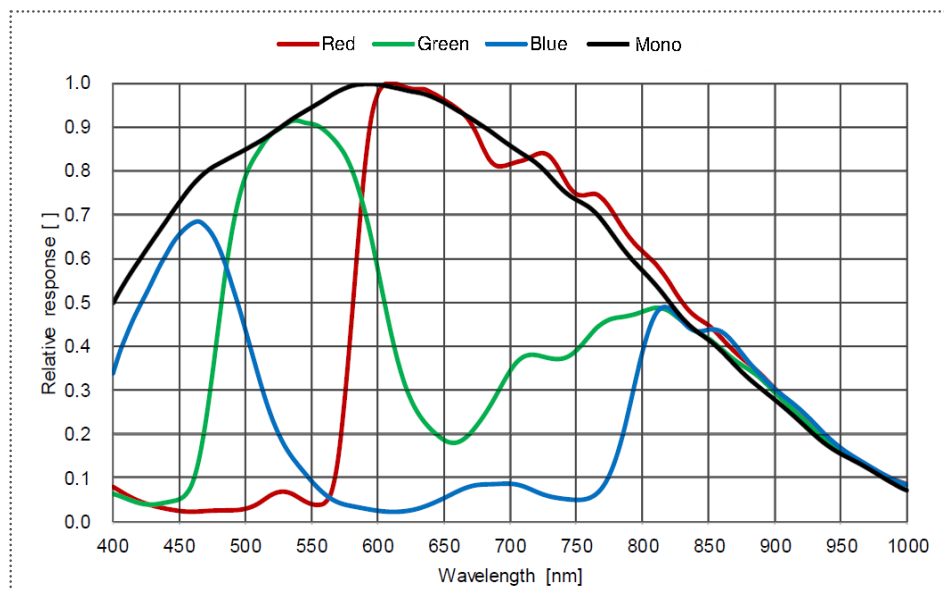
Pin	Definition	Description
1	POWER_IN	Camera external power, +12V DC~+24V DC
2	Line0+	Opto-isolated input +
3	Line2	GPIO input/output
4	Line1+	Opto-isolated output +
5	Line0-/Line1-	Line0-: Opto-isolated input - Line1-: Opto-isolated output -
6	GND	PWR GND & GPIO GND

FPC Connector

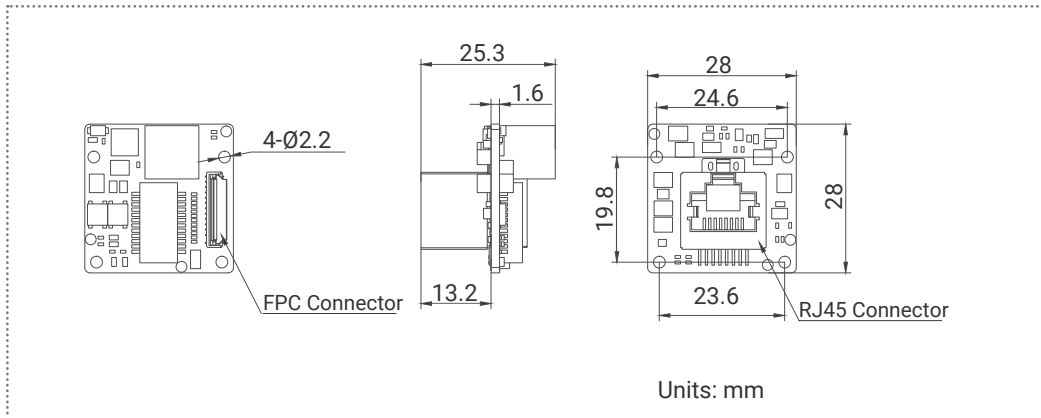
Connector model: TF38-22S-0.5SV

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

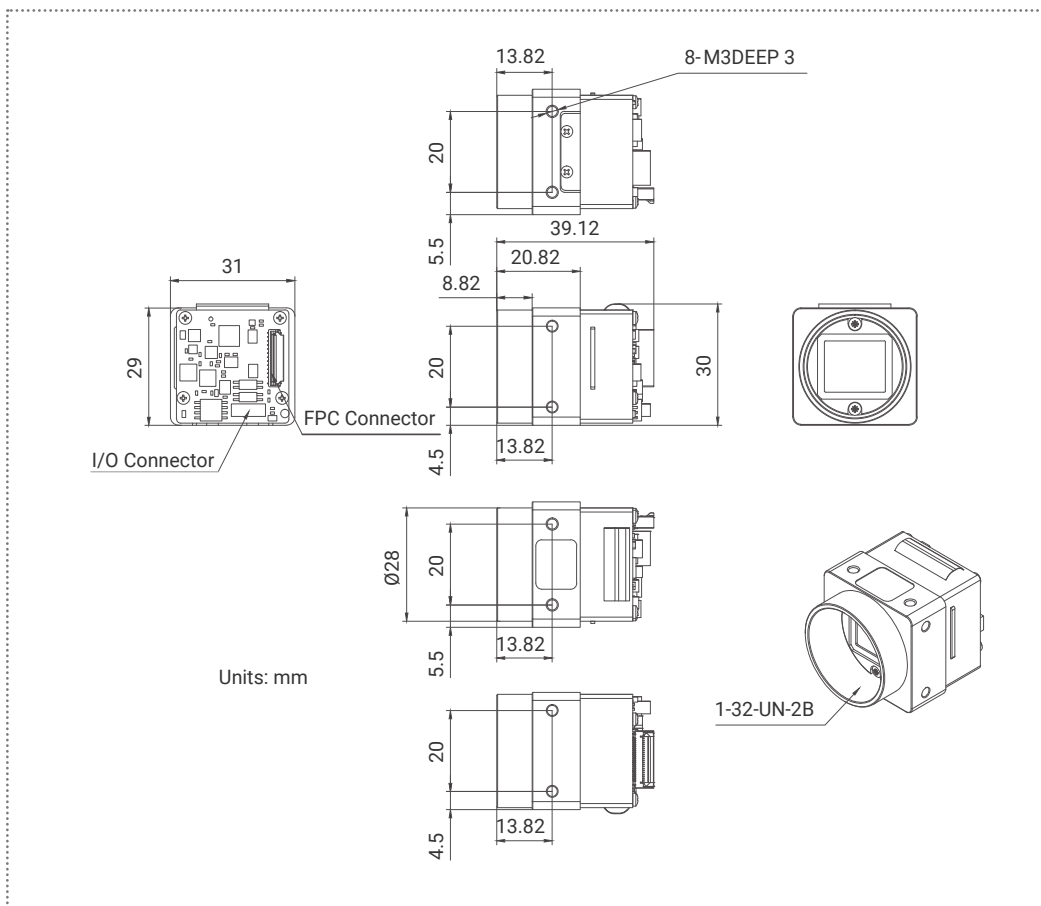
Spectral Response



Technical Drawing



Adapter Board



Camera

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