MER3-321-91G3M-P-SWIR F02

MERCURY3 Series 3MP CMOS 2.5GigE SWIR Camera

The MER3-321-91G3M-P-SWIR F02 camera is a SWIR GigE Vision camera with Sony IMX993 global shutter CMOS sensor featuring SenSWIR technology and high performance FPGA, capable of capturing wide-band image information from 400nm to 1700nm, covering both visible light and short-wave infrared (SWIR) spectra. The camera is capable of 2.5Gbit/s maximum transfer data rate, and has opto-isolated I/Os that adapt to specific needs. Four-side mounting holes provide maximum installation fexibility for camera. Thanks to the extremely compact (29mm × 29mm), robust metal housings and locking screw connectors, the MERCURY3 cameras can secure the reliability of cameras deployed in harsh environments.

Applications

Suitable for machine vision applications such as wafer inspection, AOI inspection, spots inspection, medical inspection and so on.

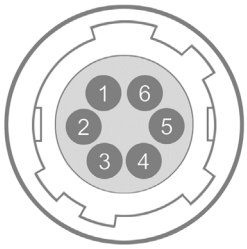
Features

- The Sequencer Control supports multiple sets of parameters configuration
- Trigger mode: Frame Start /Frame Burst Start
- Two exposure modes: Standard / UltraShort
- Decimation, Gamma, Digital Shift, Black Level and Burst Acquisition
- Timer, Counter, LUTs and User Set Control
- Support Remove Parameter Limit to expand the range of exposure, gain and so on
- 512K data storage area for saving algorithm coefficients and parameter configuration

Specifications

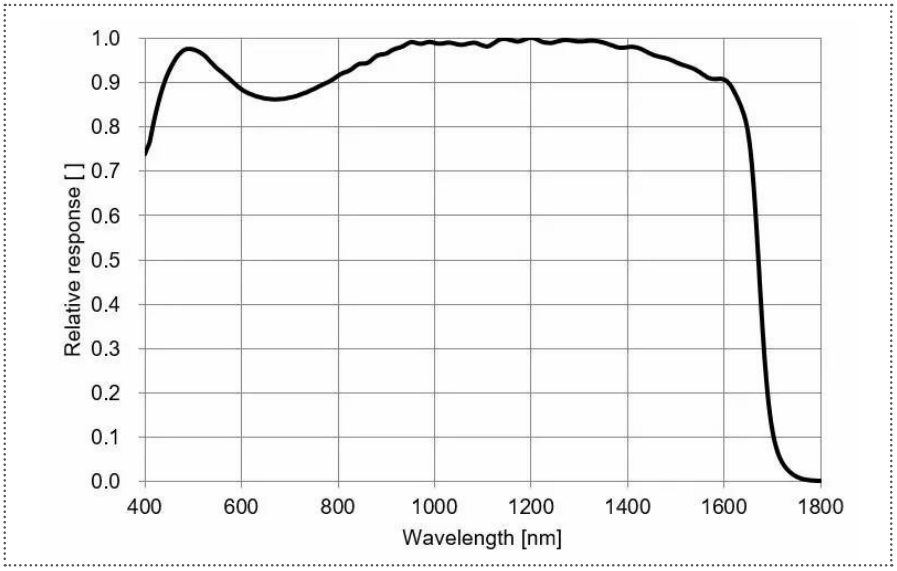
Model	MER3-321-91G3M-P-SWIR F02
Resolution	2080(H) × 1544(V)
Sensor	Sony IMX993 Global shutter CMOS
Sensor Format	1/1.8"
Pixel Size	3.45μm × 3.45μm
Frame Rate	91 fps (Under acquisition burst high speed mode, acquisition frame rate up to 93.26fps)
ADC	12 bit
Pixel Bit Depth	8 bit, 12 bit
Mono/Color	Mono, SWIR
Pixel Formats	Mono8 / Mono12
SNR	47.29 dB
Exposure Time	UltraShort: 6μs ~ 100μs, Actual Steps: 1μs, Standard: 28μs ~ 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	Sensor: 1×1, 2×2
Synchronization	Hardware trigger, software trigger
Acquisition Mode	Single frame, Continuous, Software trigger, Hardware trigger
Reverse X/Y	Reverse X/Y
I/O Interface	1 input with opto-isolated, 2 programmable GPIOs
Data Interface	2.5GigE
Power Supply	PoE (Power over Ethernet, IEEE802.3af compliant) or 12VDC-10% ~ 24VDC+10%
Typical Power	4.9 W @ 12V / PoE
Operating Temp.	0°C ~ +50°C
Storage Temp.	-20°C ~ +70°C
Operating Humidity	10% ~ 80%
Cooling	Passive Cooling, optional: Heat Dissipation Fins
Lens Mount	C
Filters / Transparent Glass	-
Dimensions	29(W) × 29(H) × 50.6(L) mm (without lens adapter, connectors or Heat Dissipation Fins) 85.2(W) × 29(H) × 50.6(L) mm (without lens adapter or connectors, with Heat Dissipation Fins)
Weight	69 g
Software	3rd-party software such as HALCON, VisionPro and LabVIEW
OS	32bit / 64bit Windows, Linux, Mac OS
Conformity	CE, RoHS, FCC, ICES, UKCA, GigE Vision®, GenICam®

I/O Interface

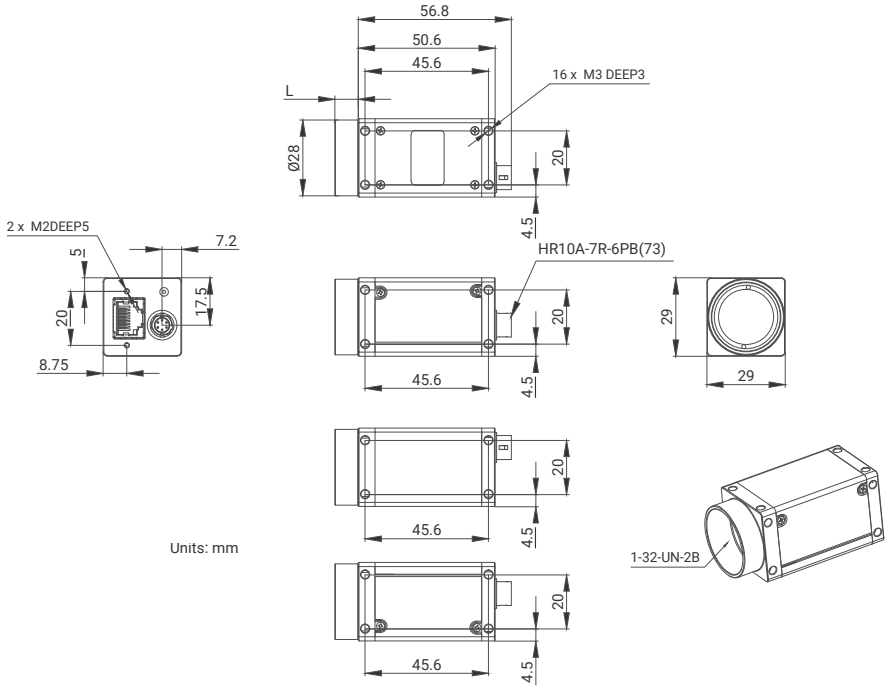


Pin	Definition	Description
1	POWER_IN	Camera external power, +12V DC~+24V DC
2	Line0+	Opto-isolated input +
3	Line2	GPIO0 input/output
4	Line3	GPIO1 input/output
5	Line0-	Opto-isolated input -
6	GND	PWR GND & GPIO GND

Spectral Response

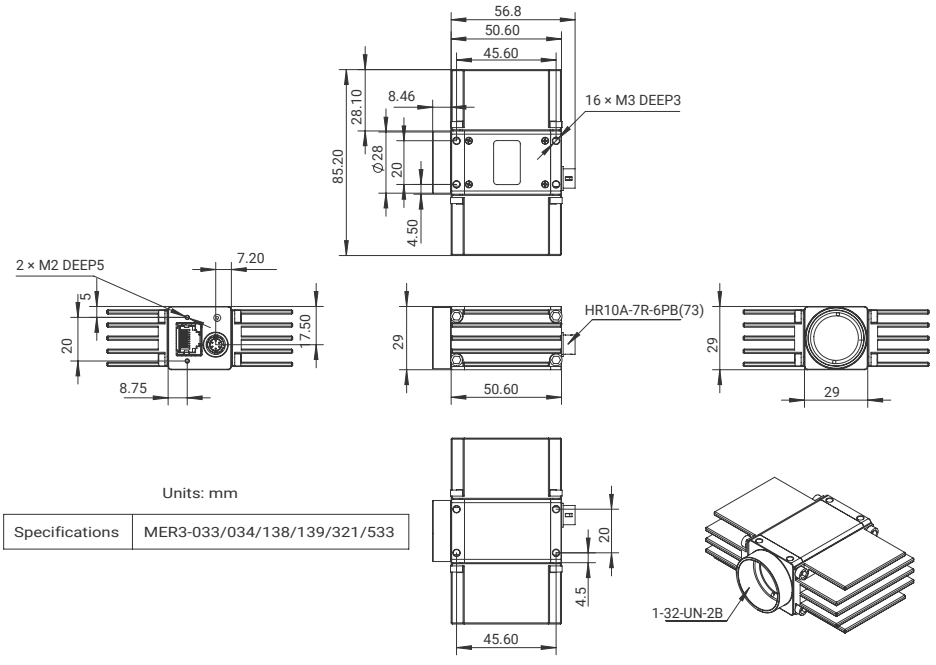


Technical Drawing



	MER3-506/800/1221/1610/2020/2440/2560	MER3-033/034/138/139/321/533/810/811
L	8.7	8.46

Without Heat Dissipation Fins



Specifications	MER3-033/034/138/139/321/533

With Heat Dissipation Fins

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