

MER3-321-176X2M-SWIR F02

MERCURY3 3MP CMOS CXP2.0 SWIR Camera



The MER3-321-176X2M-SWIR F02 camera is equipped with a Sony IMX993 global shutter sensor, capable of capturing wide-band image information from 400nm to 1700nm, covering both the visible light and short-wave infrared spectra. The camera uses a CoaXPress2.0 interface for high-speed image data transmission, featuring high quality images, ultra-low power consumption, a compact housing, and stable operation. It supports a maximum data transfer rate of 12.5Gbit/s and PoCXP, ensuring reliable performance even in harsh industrial environments. This is an industrial camera with high reliability, fast transmission speed, and high image quality.

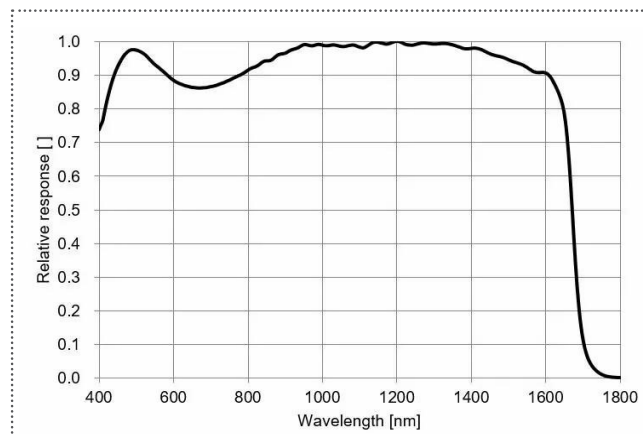
Applications

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

Features

- Static Defect Pixel Correction: correct sensor defect pixels, freely added or deleted defect pixels coordinates
- The Sequencer Control supports multiple sets of parameters configuration
- Hot Pixel Correction, Sharpness, Noise Reduction, Black Level, User Set Control, Timer and Counter
- Brightness, Contrast, Gamma, LUTs
- DAHENG IMAGING or third-party frame grabbers are available

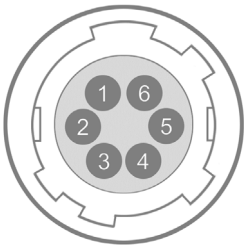
Spectral Response



Specifications

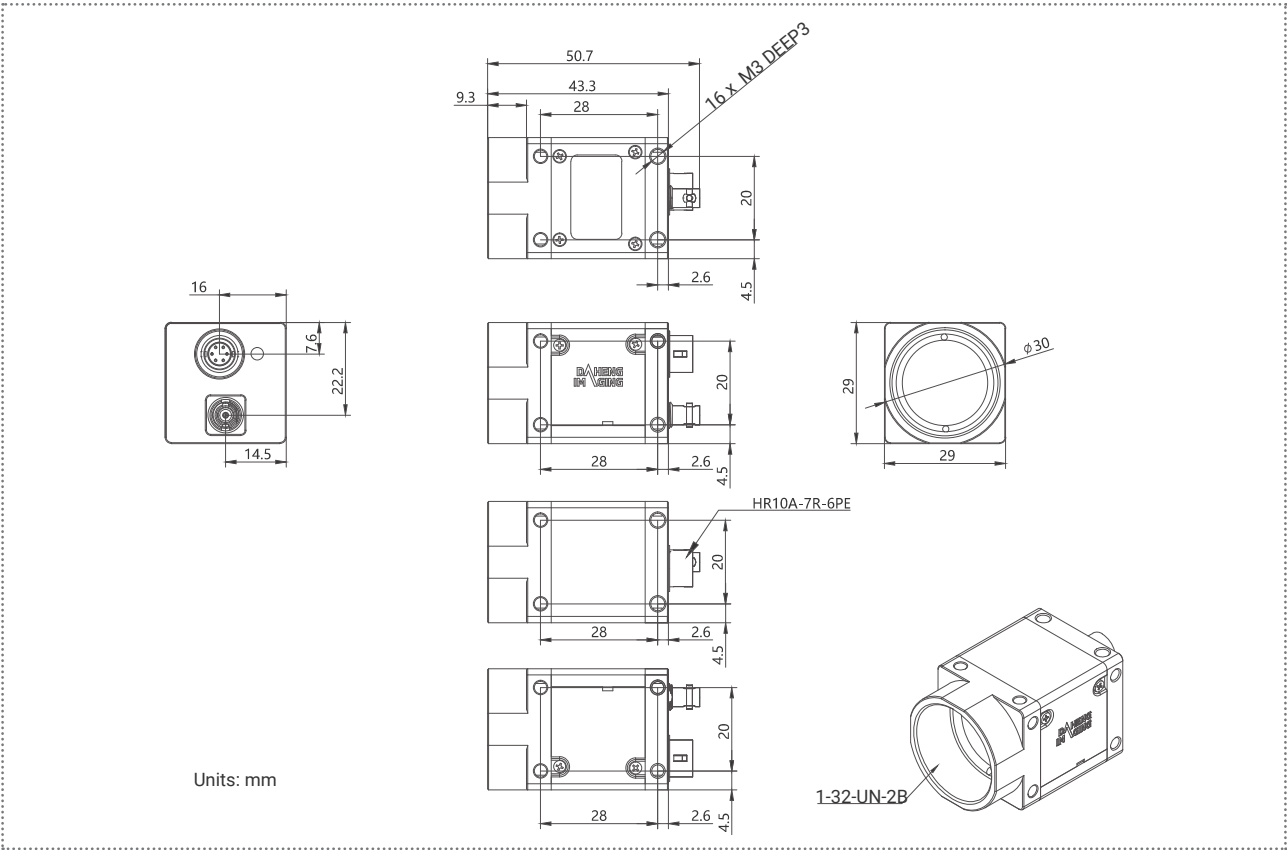
Model	MER3-321-176X2M-SWIR F02
Resolution	2080(H) × 1544(V)
Sensor	Sony IMX993 Global shutter CMOS
Sensor Format	1/1.8"
Pixel Size	3.45μm × 3.45μm
Frame Rate	176.30 fps
ADC	8 bit, 10 bit, 12 bit
Pixel Bit Depth	8 bit, 10 bit, 12 bit
Mono/Color	Mono, SWIR
Pixel Formats	Mono8 / Mono10 / Mono12
SNR	46.252 dB
Exposure Time	UltraShort: 6μs ~ 26μs, Actual Steps: 1μs; Standard: 27μs ~ 1s, Actual Steps: 1μs
Gain	Digital Gain: 0dB~16dB, Default: 0dB, Steps: 0.1dB
Binning	-
Decimation	Sensor: 1×1, 2×2
Synchronization	Hardware trigger, software trigger
Acquisition Mode	Single frame, Continuous, Software trigger, Hardware trigger, CXP trigger
Reverse X/Y	Reverse X/Y
I/O Interface	1 input with opto-isolated, 2 programmable GPIOs
Data Interface	CXP-12 × 1 (HDBNC)
Power Supply	PoCXP
Power Consumption	3.76 W @ PoCXP
Operating Temp.	0°C ~ +45°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	29mm × 29mm × 34mm (without lens adapter or connectors)
Weight	60 g
Software	DAHENG IMAGING or third-party frame grabbers supporting software
OS	Win7 / Win8 / Win10 / Win11
Conformity	CE, RoHS, FCC, ICES, UKCA, CoaXPress2.0, GenICam

I/O Interface



Pin	Definition	Description
1	—	—
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

Technical Drawing



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